

Article

Digital marketing for sustainable tourism village in Bali: A mixed methods study

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Abstract: This study examines the crucial role of digital marketing in promoting sustainable tourism in the villages of Bali. It adopts a mixed methods approach, using qualitative and quantitative data collection and analysis. The qualitative data were obtained from semi-structured interviews with management teams who have experience in implementing digital marketing strategies for village tourism. The interviewees were selected using a purposive sampling technique. The quantitative data were gathered from questionnaires distributed to domestic tourists who visited the villages. The questionnaires measured the tourists' perceptions of digital marketing as a tool for village tourism marketing. The study found that digital marketing plays a vital role in promoting tourism villages, as most tourists learned about the villages through online media. The study also identified five dimensions of digital marketing, namely website media, social media, search engines, email marketing, and online advertising, which have potential effects on the sustainability of tourism villages. The study conducted statistical tests to examine the effects of 20 indicators of digital marketing on village tourism marketing. The results showed that 16 indicators had a significant positive effect, while four indicators had no effect. These findings suggest that digital marketing is an effective way to market tourism villages and enhance their sustainability.

Keywords: digital marketing; crucial role; tourism village; sustainable marketing; Bali tourism; promotion

1. Introduction

Bali tourism has a distinctive and unique identity, based on the rich Balinese culture that is exceptional even among other top tourist destinations worldwide. The Bali provincial administration and the Ministry of Tourism have efficiently endorsed Community-Based Tourism (CBT) as a means of preserving local cultures through involvement of the local community and environmental conservation. Additionally, CBT addresses economic, social, and aesthetic concerns while meeting the interests of visitors (Mataram et al., 2019). Subadra (2019a) has demonstrated the successful application of CBT in Bali to promote sustainable tourism development. This approach not only benefits the local communities but also provides visitors with authentic cultural experiences and a deeper understanding of the Balinese way of life.

Furthermore, CBT has proven effective in reducing the negative impacts of mass tourism on the environment and cultural heritage sites. Community-based tourism (CBT) fosters sustainable economic development by generating employment opportunities for local communities, as tourism stakeholders, and empowering them to participate in decision-making processes related to tourism (Byrd, 2007). This results in a fairer distribution of benefits and a decline in poverty levels. Technical

abbreviations, when first used, will always be explained by this text. Ecology, biodiversity, culture, and living systems can be preserved and their integrity upheld (Nala et al., 2021). This entails endorsing sustainable tourism and eco-tourism. Salazar (2011) has thoroughly addressed all the pertinent concerns regarding CBT, which is intricately linked with tourism villages. The government of Bali has recognised the tourism village as an exemplar of sustainable community-based tourism, which endeavours to encompass all the nearby communities. In essence, this approach to sustainable tourism oriented towards the local community ensures that the community reaps the rewards of tourism while simultaneously preserving their cultural heritage.

Bali has experienced a quick expansion of tourism villages, rising from 189 in 2019 to an estimated 294 by 2023. This rise is credited to the heightened fascination of foreign visitors in the distinctive experiences provided by these villages (Kadafi, 2022). These destinations engross tourists in Balinese customs and traditions, leading to cultural preservation and the strengthening of local communities. A tourism village refers to a unique geographical area that has the potential to offer visitors distinctive attractions based on the customs of its community. By providing diverse tourist activities and supporting amenities, such villages can attract tourists. The concept of tourism villages has become increasingly popular, as it facilitates the preservation of local heritage and traditions while concurrently promoting economic growth through tourism. The villages offer an authentic and immersive experience unlike more commercialised tourist destinations (Wiryantini et al., 2022). In summary, Bali's thriving tourism villages boast a harmonious fusion of preserving culture, financial success, and genuine visitor encounters.

The community is devoted to advertising tourism in their region, and it is imperative to sustain this impetus to fully capitalise on tourism's expansion. By establishing eco-friendly tourism villages, the community aims to achieve optimal outcomes, particularly in regions that have yet to draw in a significant number of guests. Sustainable and environmentally friendly practices take precedence in green tourism villages, with an emphasis on conserving the locality's natural beauty and offering prospects for economic development and cultural exchange between visitors and residents. Green tourism appeals to visitors who prioritize ethical and ecological considerations, and support small businesses while practicing responsible travel to preserve the area's natural resources. According to various experts (Agarwal, 2012; Alavalapati and Adamwicz, 2000; Suasapha and Paturusi, 2015), the development of tourism destinations can positively impact the income of the local community. The community is dedicated to promoting sustainable tourism in their village with a focus on conserving the area's natural and cultural resources. The example of Batur Village in Bali portrays the proactive measures taken by its local community to manage and promote CBT. Collaboration with local government agencies and non-profit organisations has facilitated necessary training and resources for community members involved in tourism, alongside the implementation of responsible tourism practices that mitigate negative impacts on the environment and local culture (Subadra, 2019a).

The village government and tourism awareness groups in each village are exploring options to enhance the well-being of their residents through the development of tourism attractions. One group, the Tourism Awareness Group (Pokdarwis), is focused on exploring and utilizing the potential of village tourism in Tabanan Regency.

The Pokdarwis community is dedicated to conserving the region's customs and habitats whilst simultaneously devising sustainable tourism schemes that support the local economy. Their objective is to display the peculiar traditions and innate charm of Tabanan Regency to global visitors. The Tabanan Regency provides an array of unique tourist attractions, including paths for cycling and jogging through rice fields, exciting adventure activities, cultural experiences, and delectable local cuisine and beverages. Additionally, 23 villages in Tabanan Regency have presently been designated as official tourism villages (Darmayanti et al., 2022). For example, the research focused on Jatiluwih, Mengesta, and Biaung tourism villages which located in Penebel District, Tabanan Regency as case studies as illustrated in **Figure 1**.

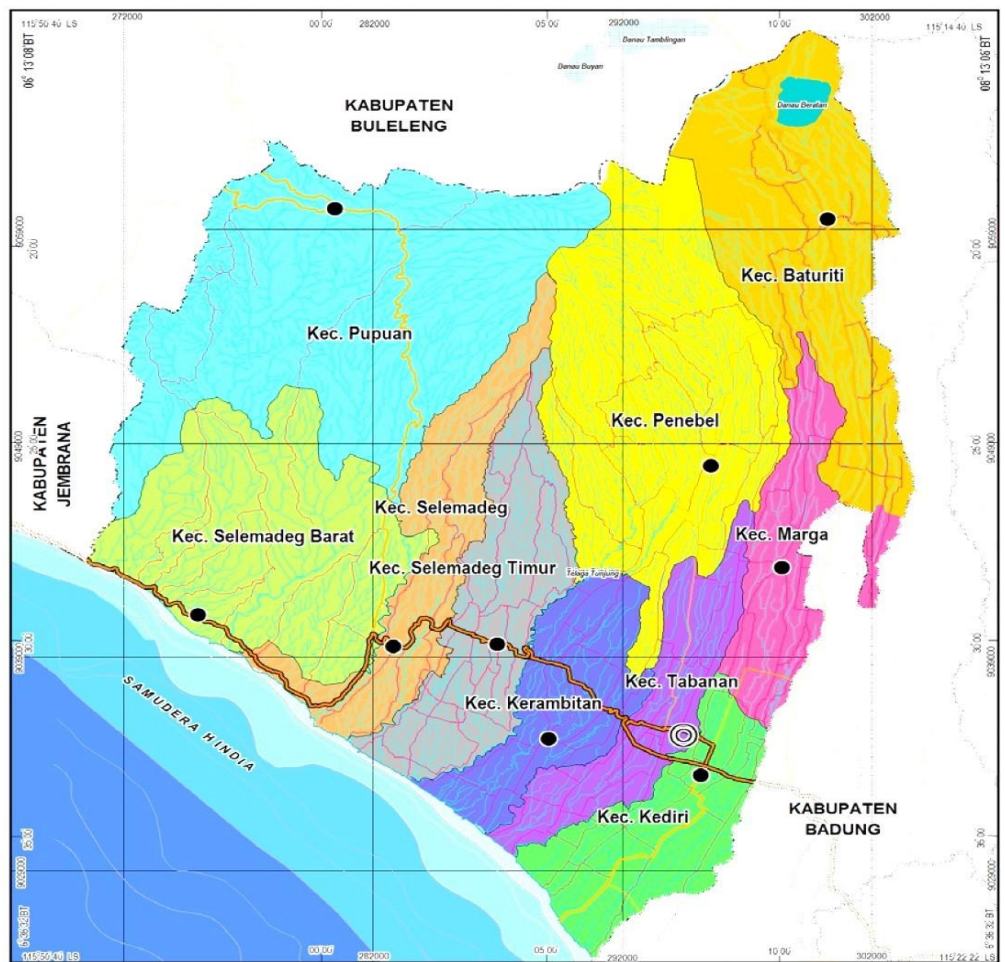


Figure 1. The locations of the three tourism villages: Jatiluwih, Mengesta, and Biaung (Facebook, n.d.).

The management of these tourist villages is continuously attempting to enhance their marketing strategies to appeal to a greater number of tourists. Nevertheless, preliminary research demonstrated that the present marketing tactics are outdated and unprogressive. The local government does not have a comprehensive promotion plan for the village, and the community has limited knowledge in this domain. Insufficient funding and an absence of innovative solutions due to a lack of academic support impeded promotion efforts. Consequently, the village failed to meet its visitor target. Therefore, the management acknowledged the village's distinct assets and potential

would remain unknown if a clear and precise marketing concept was not implemented. This aligns with Mataram et al.'s (2019) findings that Google comprised 19% of tourists' online promotional media whereas Detiktravel, Kompas travel, and Instagram each accounted for 3%.

Marketing is essential for the success of a tourism village. The management of the village acknowledges the significance of investing in digital resources to drive innovation and growth. The integration of technology as a fundamental asset for business development is becoming increasingly prevalent in today's digital age. Digitising the tourism village significantly improves customer satisfaction, streamlines operations, and increases revenue. Furthermore, this development widens the village's appeal to a broader range of tourists and enhances its competitive advantage in the industry. Tohanean et al. (2018) state that adapting to technological changes demands corporate flexibility towards creating innovative business models. Such a response brings challenges that need to be comprehended and addressed in line with customer needs and organizational strategies. The significance of adapting to changes to remain competitive and satisfy shifting market demands was also stressed. It was suggested that companies should prioritise comprehending their customers' needs and preferences to align their business models accordingly.

To achieve business development, creativity, and market readiness, digital tools are indispensable for tourism village managers. Digitisation helps organisations to streamline their operations, increase their online visibility and reach a wider tourist market. According to Lee et al. (2023) and Wisnawa et al. (2023), personalised tourism marketing can enhance customer satisfaction and loyalty by recommending products or activities that match individual preferences.

The development of innovative and technological products or services in the tourism sector is critical. Tourism businesses need to embrace digital transformation and integrate innovative technologies to enhance their offerings and remain competitive in the market. They also need to adapt to evolving consumer preferences and behaviours towards technology in the tourism industry. Numerous studies have investigated the effects of technology and innovation on the tourism industry (Bigné and Decrop, 2019; Huang et al., 2009; Rusu, 2016; Souto, 2020; Williams and Shaw, 2011).

The effect of digital technologies on sustainable tourism is a subject of disagreement amongst academics. Buhalis and Amaranggana (2015) and Alegro et al. (2023) claim that digital tools improve the tourist experience by presenting tailored recommendations, interactive maps, virtual tours, and current details about attractions, which enhance the journey. Additionally, digital technologies can support sustainable destination management by enabling improved monitoring and control of tourist flows, resource management and waste reduction (Khan et al., 2021; Kouroupi and Metaxas, 2023). Conversely, some scholars argue that excessive digitisation can compromise the authenticity and character of tourism destinations. García-Hernández et al. (2017) and Poort et al. (2021) argue that digital experiences can detract from a location's authentic cultural and natural heritage.

Tourism managers in the Tabanan Regency acknowledge that digital marketing plays a vital role in attracting visitors. Nevertheless, these managers often face challenges in determining the most effective marketing techniques and strategies to

utilise. The leader of the tourism village is contemplating collaboration with digital marketing professionals to obtain directions on enhancing their online visibility and attracting their intended visitor demographic. Furthermore, conducting market research is essential to gain insight into the interests and behaviours of potential tourists and customize their promotional strategies correspondingly. Currently, the tourism village relies solely on word-of-mouth marketing, which entails the recommendations from satisfied customers, to attract new visitors. However, the COVID-19 pandemic has resulted in a noteworthy decrease in the number of tourists (Subadra and Heather 2021). Consequently, it is imperative to investigate the potential of digital marketing strategies, which can be executed by the tourism village manager, to efficaciously market the village as a tourism destination.

The research generates critical insight for marketing managers promoting tourism products. The study by Rybina and Lee in 2021 explores the role of digital marketing in promoting sustainable tourism in Balinese villages. Its aim is to identify the key factors shaping tourists' decision-making processes and perceptions of tourism products. The findings from this study will aid in developing efficient marketing approaches adapted to reach the fitting audience and promote sustainable tourism methods. It's essential to note that Bali holds worldwide acclaim as a distinguished cultural tourist hotspot, drawing in millions of visitors annually, as underlined by Subadra in 2022. Hence, tourism developments and discoveries pertinent to Bali are substantial and captivating for the global tourism sector. Digitalising Bali's tourism marketing has the potential to reach beyond the local boundaries, particularly if the results and strategies can be implemented in other destinations confronting comparable predicaments.

The absence of research regarding the efficacy of digital marketing methods in Bali's tourism villages is a substantial obstacle to the advancement and welfare of these local communities (Wiryantini et al., 2022). Even though digital marketing has become a powerful instrument for promoting tourism destinations around the globe, its probable influence on tourism villages is mostly unknown. The lack of comprehensive research hampers the capacity of different actors in the tourism industry, such as local governing bodies, business owners, and advertising experts, to make well-informed choices and allocate resources efficiently (Byrd, 2007; Subadra, 2019a). The efficacy of using digital marketing strategies to reach target audiences, increase visibility, and enhance tourist numbers within tourism villages remains unclear and inconclusive (Schouten et al., 2020; Sakas, 2022). Therefore, there is a pressing need for extensive research to investigate the particular obstacles, possibilities, and potential results of digital marketing ventures in these unique locations (Subadra, 2024). Conducting such studies could enable the identification of best practices, the creation of customised strategies, and the formulation of evidence-based policies that would ultimately promote sustainable development and economic growth in tourism villages in Bali.

This study utilizes appropriate theoretical frameworks to provide insight into the promotion of sustainable community-based tourism development in Bali through digital marketing. The theoretical framework employed in this research includes Destination Marketing Theory, which emphasises the methods and strategies employed to promote tourism destinations. This theory aims to comprehend how

digital marketing tools, including websites, social media, search engines, email marketing, and online advertising, are utilised to entice tourists and boost marketing endeavours in tourism villages. Relevant literature on the subject includes Kozak and Andreu (2006), Kotler et al. (2016), Sotiriadis (2020), Alegro et al. (2023) and Subadra (2024).

Moreover, sustainable tourism theory, which includes diverse sustainability frameworks and principles, constitutes the basis to comprehend the role of digital marketing in promoting sustainable tourism practices. This involves reducing environmental impacts, safeguarding local culture, and advancing economic advantages for nearby communities (Liu and Marcerinskiene, 2016; Subadra and Nadra, 2006; Poort and Persson-Fischier et al., 2021). Additionally, the study utilizes Consumer Behaviour Theory to examine the motivations, attitudes, and decision-making processes of domestic tourists. This examination facilitates an understanding of domestic tourists' perceptions and preferences towards digital marketing within tourism village marketing and its impact on their decision-making and behaviour (Buhalis and Amaranggana, 2015; Lee et al., 2023; Rybina and Lee, 2021; Subadra, 2022).

Building on these theoretical foundations, this study aims to extend the existing literature by investigating the impact of advancements and digitalisation in the tourism industry on tourism, specifically focusing on tourism villages in Bali. The study also aims to contribute to the literature by utilizing appropriate theoretical frameworks, including destination marketing theory, sustainable tourism theory, and consumer behavior theory. The insights gained from this study will provide recommendations on utilizing digital resources for marketing purposes and promoting sustainable community-based tourism development in Bali.

2. Literature review

Tourist destination managers are implementing extensive digital marketing plans. These plans aim to ensure prolonged economic success and prevent potential client loss by utilizing innovative technological tools. A triumphant digital marketing strategy enables destination marketers to gather crucial information on prospective travellers and utilize it to make informed decisions. Consequently, they can comprehend traveller demand better and customize their marketing endeavours accordingly. This empirically-based approach enhances customer engagement and augments revenue potential. Companies utilise digital marketing technologies to establish focused schemes that captivate their intended travellers and attain quantifiable outcomes (Alegro et al., 2023). To effectively execute digital marketing, tourism marketers need to initially comprehend the advancement of the digital market and the influence of technology on tourism business expansion, brand augmentation, and customer retention. The increasing use of technology provides greater opportunities for tourism marketers to investigate, review, and analyse the services they offer to their target market. To remain competitive, tourism marketers must also possess up-to-date knowledge of the latest digital marketing tools and techniques to engage with their travellers effectively. By adapting to the constantly evolving digital environment, tourism marketers can develop effective campaigns that connect with

their desired audience (Buhalis and Amaranggana, 2015; Carlisle et al., 2020).

Unlike conventional marketing methods, internet-based digital marketing allows for wider marketing coverage. Digital technology also enables marketers to overcome geographic and time constraints. Therefore, in addition to using the internet as a central tool, marketers must have a well-defined marketing strategy to improve focus, ensure marketing activities align with business objectives, and above all, to ensure appropriate targeting of consumers (Alegro et al., 2023; Sakas et al., 2022). In other words, while digital technology enables marketers to reach a broader range of travellers, it also intensifies competition. Therefore, it is imperative to have a well-defined audience of travellers and a deep understanding of their requirements and preferences to distinguish oneself in the digital marketplace.

Tourism destination managers endeavour to augment the quantity of visitors to their villages, utilizing both digital and face-to-face advertising approaches. Effective and productive promotion is vital for tourist destinations to gain a competitive edge within the tourism industry, drawing the focus of prospective tourists (Kozak and Andreu, 2006; Sotiriadis, 2020). Popular marketing techniques employed by tourist destination managers include social media advertising, email marketing, and collaboration with travel bloggers and influencers. To attract visitors, it is imperative for them to offer exclusive experiences and activities that cannot be found elsewhere. Technological advancements further enhance the interaction between tourism providers and consumers (Neuhofer et al., 2014; Subadra, 2022). Travellers are now able to view films showcasing the destinations they wish to visit or highlighting different cultural aspects of a country on digital platforms, including laptops, televisions, tablets and mobile phones. This advancement offers advantages, as it aids in preserving cultural heritage for future generations to admire (Yeniasır et al., 2022). Furthermore, it allows those who are unable to physically visit such destinations the chance to experience and learn about various cultures, increasing diversity and understanding among individuals from different backgrounds. Additionally, the growing popularity of virtual reality technology is promising for the effective advertising, protection, and promotion of tourism-related products in the future (Arat et al., 2016; Rofi'i et al., 2019).

The incorporation of intelligent tourism applications, digital tourism, and principles of Tourism 4.0 stands as a crucial aspect of the digitalisation process within the tourism sector (Dulgaroglu, 2021). As stated by Kotler et al. (2016), the creation of a rapid and suitable marketing strategy model goes hand in hand with digital transformation, which acts as a precursor for the emergence of marketing 4.0, a trend that is presently gaining traction, particularly in the tourism industry. Kotler's argument emphasises the significance of digital transformation in developing a swift and accurate marketing strategy model. This implies that tourism enterprises can presently connect with their target visitors more proficiently and effectively, owing to the advent of digital technology that underscores the usage of social media, mobile applications, and other digital platforms to engage with tourists and establish customised experiences. Recent research conducted by Bramantyo and Ismail (Bramantyo and Ismail, 2021) has shown that virtual museum tours offered by the National Museum of Indonesia have succeeded in extending services to the public, while maintaining interest and promoting museum visits during the COVID-19

pandemic. This study highlights the achievements of the virtual tour initiated by the National Museum of Indonesia, which offers visitors access to diverse exhibitions and collections that may have been out of reach otherwise. Not only has this contributed to maintaining museum visits in times of the pandemic, it has also enriched research and academic studies. Furthermore, Pencarelli (2020) posits that the terminology and concepts within the tourism and travel industry have undergone fundamental changes due to the digital revolution paradigm. As such, this study seeks to expand on the existing literature by examining the impact of digitalisation and advancements in the tourism industry on tourism villages in Bali.

Marketing strategy plays a crucial role in ensuring the long-term sustainability of a company, including those in the future tourism industry, by guiding, packaging, and effectively selling their products (Hanggraito et al., 2020). A competitive marketing strategy model is necessary for the development of tourism destinations to survive in a competitive market (Pratiwi et al., 2020). The formulation of an effective marketing strategy model requires objective identification of the features of the 7Ps marketing mix (product, price, place, promotion, people, physical evidence, and process) and their alignment with digital content, as described by Sotiriadis (2020). Furthermore, the partnership between digitalisation strategies and tourism marketing holds great potential for enhancing the growth of tourism, particularly amidst the COVID-19 pandemic. This study demonstrates the correlation between digital marketing strategies and the primary elements of a product, namely price, people, and location. Tourism organisers' online services lower costs and provide an exceptional experience that is impossible to duplicate offline (Subadra, 2024). Furthermore, As Subadra (2024) noted, social media and peer-to-peer platforms offer access to numerous potential travellers without requiring intermediaries like hotels and travel agencies in the host country and destination. Overall, digitisation has fundamentally transformed the way in which tourism businesses reach and engage with travellers, and those that adopt such changes may have a competitive edge in the tourism market.

By extending marketing reach through online channels, digital marketing provides significant advantages over traditional methods. This innovative technology surpasses the constraints of time and geography, making it a crucial component of any successful marketing strategy. By focusing on particular demographics, such as age, gender and interests, digital marketing can efficiently reach smaller cohorts. Tourist organisers employ digital marketing strategies, including email and social media, in establishing client trust and forging relationships with prospective patrons (Alegro et al., 2023; Subadra, 2019; Sotiriadis, 2020). Simply put, tourism digital marketing presents an exceptional approach to engaging with tourists by directly conversing with potential and current tourists online through online adverts and compelling content that shapes the identity of the destination.

Effective tourism village marketing requires careful selection of digital marketing strategies that target potential consumers and generate interest in the local attractions. This approach will improve the success of tourism promotion initiatives. One particularly effective tactic is search engine optimisation (SEO), which involves optimising website content and structure to improve search engine rankings. Another strategy that can be utilised is social media marketing, encompassing the creation of captivating content that is disseminated across prevalent social media platforms like

Facebook, Instagram, TikTok, and Twitter. Moreover, direct marketing by email can be employed to communicate personalised messages to prospective clients and underline the distinctiveness of each tourist locality. Finally, utilising influencer marketing can prove to be an efficacious strategy in promoting holiday destinations by collaborating with renowned travel bloggers or social media influencers who possess a substantial following of potential customers. This amalgamation of tactics enables tourism marketers to reach their intended audience and heighten the effectiveness of their promotional endeavours. Wati et al. (2020) have identified five digital marketing techniques that can be utilised to promote tourism village products and services—websites, social media marketing, search engines, email marketing, and online advertising. The selection of these techniques depends on the characteristics of both the visiting tourists and the tourism village industry. Digital marketing has emerged as a crucial tool for promoting tourism. Websites are particularly useful for offering comprehensive information on village attractions and services. Social media marketing is an effective approach to engaging with potential visitors and fostering a feeling of community within the village. Search engines serve as a tool for enhancing visibility and drawing more traffic to village sites. The use of email marketing provides an excellent avenue for keeping in contact with past visitors and offering them exclusive deals or promotions. Finally, online advertising can be utilised to target specific demographics and bolster brand awareness.

Furthermore, in recent years, marketing researchers have continued to highlight the important function of social media influencers in digital marketing, particularly in advertising. Individuals or groups of individuals who have a large following on their social media sites are referred to as influencers (Gross and Wangenheim, 2022). Tourism companies are also increasingly turning to social media influencers such as vloggers and ‘Instafamous’ personalities to promote their destination branding, in addition to ‘conventional’ celebrities such as actresses, supermodels and athletes, to add value to their destination branding strategies (Schouten et al., 2020). Social media influencers have a significant impact on the promotion of destinations and tourist attractions, attracting a wider range of travellers and also increasing brand awareness of the destination. Influencers generate interest in a particular destination among their followers by sharing their experiences through pictures and videos. Obviously, the flow of tourists recommended by influencers increases tourism revenues in the destination and also popularises tourism branding, which is positioned in the minds of tourists to formulate a destination image.

The use of social media influencers is more cost-effective than traditional marketing methods. Influencers are often willing to promote a destination or attraction in exchange for free accommodation or experiences. However, it is important to note that there are potential downsides to relying solely on social media influencers to promote tourism. As noted by Schouten et al. (2020), social media endorsements are often perceived as more authentic and trustworthy than traditional promotional methods, as they are endorsed by real people who have had real experiences with the tourism product or service. This typically leads to higher levels of engagement and stronger emotional connections between travellers and branded destinations. In other words, social media endorsement has proven to be a powerful tool to increase advertising effectiveness and should be considered as part of a comprehensive

destination branding strategy.

Moreover, ChatGPT holds significant potential to revolutionise the manner in which tourism destinations engage with their audiences and market their services. Functioning as a customised virtual aide, ChatGPT offers tailored assistance, addresses queries and provides real-time support to prospective travellers (Buhalis and Foerste, 2021; Sigala, 2018). This Artificial Intelligent (AI)-driven technology allows tourism professionals to enhance customer engagement, deliver precise and current information, and offer tailored experiences to potential visitors of a specific location. ChatGPT's capacity to scrutinise significant volumes of data and produce contextually appropriate responses also enables effective targeting and segmentation of the tourism industry (Sigala, 2020; Xiang et al., 2017). Furthermore, this innovative tool has the capability to enhance marketing campaigns by acquiring knowledge from user interactions, detecting trends, and producing insights that can educate strategic decision-making. Ultimately, ChatGPT holds potential as an essential asset in the tourism industry, revolutionising destination marketing and enhancing more immersive travel experiences for global travellers (Buhalis and Foerste, 2021; Xiang et al., 2017; Sigala, 2020).

Most recently, Gursoy and Song's (2023) research asserts a pronounced link between marketing and traveller behaviour in selecting holiday destinations, wherein ChatGPT plays a significant part. This paper investigates the advantages and potential challenges posed to the hospitality and tourism industry by generative trained transformers (GPTs), and evaluates their feasibility for integration into different travel stages. It is crucial to exercise caution and consider practical implications thoroughly. ChatGPT is viewed as a major innovation and has the potential to revolutionize several industries, hospitality and tourism included. The use of ChatGPT is contributing to significant changes across the tourism industry by transforming the way travellers search for destination information, make choices, and receive tailored services and experiences while on holiday at a chosen travel destination.

The implementation of ChatGPT has certainly brought significant changes to the hospitality and tourism industry. This innovative technology empowers tourism establishments to deliver individualised services to travellers and improve their overall travel experience (Buhalis and Foerste, 2021; Sigala, 2018; Sigala and Chalkiti, 2015). Furthermore, these applications assist tourism businesses in streamlining their operations by decreasing the requirement for human resources. More importantly, this allows companies to obtain valuable information on travellers' preferences and behaviour in order to enhance service quality and marketing strategies. Additionally, it aids the booking process by furnishing real-time availability and pricing data, making decision-making easier for travellers. The implementation of ChatGPT in the tourism sector has the ability to transform the hospitality and tourism industry by offering proficient and customised services that fulfil the requirements of contemporary tourists (Buhalis and Foerste, 2021; O'Connor et al., 2020; Sigala and Chalkiti, 2015).

3. Aims

The study seeks to examine the influence of digital marketing on the promotion

of tourism villages in Tabanan Regency, Bali, Indonesia. The investigation will focus on the use of five digital marketing dimensions, specifically website media, social media, search engines, email marketing, and online advertising. It will evaluate the effectiveness of these channels in promoting three chosen tourism villages, namely Jatiluwih, Mengesta, and Biaung, which serve as models for tourism in Tabanan Regency.

4. Methodology

The study was conducted from June 2022 to March 2023 in three tourism villages, namely Jatiluwih, Mengesta, and Biaung, officially designated by the Regent of Tabanan Regency to promote tourism development in the region. The study's objective was to discover the potential of these villages in terms of tourism attractions, facilities, and services from a marketing perspective while exploring how digital marketing is employed in the designated tourism villages. It also aimed to provide recommendations for improving the tourism village marketing strategies to attract more tourists to visit in order to boost the economy of the local communities while preserving their cultural and natural heritage.

The study utilised a mixed-method. Mixed method is a research approach that combines both qualitative and quantitative methods to collect and analyze data from multiple sources and perspectives. It provides a comprehensive and holistic understanding of a complex phenomenon, such as the role of digital marketing in promoting sustainable tourism in the villages of Bali. The qualitative data were gathered from nine informants in three tourism villages, comprising community leaders, managers, and employees. The selection of informants from diverse backgrounds within the tourism villages ensures a comprehensive exploration of the local tourism ecosystem. Their input enriches the qualitative data collected and facilitates a nuanced understanding of the opportunities and challenges associated with tourism development in the respective communities. The data were gathered through in-depth face-to-face interviews and observations and selected according to the purposive sampling method, as individuals believed to have knowledge about the implementation of digital marketing strategies in the tourism industry (Patton, 2015; Subadra, 2019b). Qualitative data was collected through interviews with nine informants, including staff and managers from three selected tourism villages. The informants were intentionally chosen to represent a range of perspectives and insights. Thematic analysis was used to examine the transcribed audio recordings of the interviews. The study involved analyzing informant responses regarding digital marketing and aligning them with the research objectives. Moreover, in order to gain a thorough comprehension of current digital marketing strategies in tourism villages, it was necessary to compare and contrast various perspectives. The sources utilized for this task comprise of Babbie (2016), Subadra (2019b), and Yin et al. (2020).

In addition, the survey questionnaire was distributed to 225 domestic visitors who had visited the three villages, and quantitative data was collected. The research employed stratified random sampling to enhance the generalizability of the findings. This method ensured that the sample was representative of the entire population, enabling me to draw more vigorous conclusions about the tourism villages. The use of

stratified random sampling enhances the credibility and reliability of the research findings and allows for more accurate generalizations to be made about the broader population of interest. (Patton, 2014). The survey comprised 20 variables (X1 to X20) representing the five components of digital marketing, specifically website (F1), social media (F2), search engines (F3), email marketing (F4), and online advertising (F5). To determine the sample sufficiency for the variables, quantitative data underwent confirmatory factor analysis. The rationale for selecting these methods lies in their ability to assess the adequacy of the measurement model and identify potential problems such as misspecification or underprivileged fit. By assessing the amount of shared variance between variables, CFA helped researchers determine whether the observed variables accurately reflect the underlying constructs intended to measure. This ensured the reliability and validity of the measurement instruments used in the study and strengthened the overall quality of the research findings. This analysis assessed the suitability of variables for factor analysis by measuring the degree of common variance among them. Additionally, it aimed to investigate the significance of digital marketing applied in tourism villages (Timothy, 2015). The test results were interpreted by considering their value, significance level and established thresholds for sampling adequacy, enabling researchers to determine if their dataset was appropriate for factor analysis.

This mixed-methods research offers a comprehensive exploration of digital marketing strategies in tourism villages, combining qualitative insights from informant interviews with quantitative data gathered from surveys of domestic visitors. By interviewing staff and managers from three selected villages, the qualitative component provides nuanced perspectives on digital marketing practices, enriched by thematic analysis of interview transcripts. Comparing and contrasting these perspectives against established research objectives enhances the depth of understanding. Meanwhile, the quantitative survey offers broader insights into visitor perceptions of digital marketing across the villages. The survey questionnaire, grounded in Patton's methodology, captures a range of variables representing different components of digital marketing (Patton, 2002). Confirmatory factor analysis ensures the reliability and validity of the survey data, aligning with Timothy's approach to assessing sampling sufficiency. This meticulous integration of qualitative and quantitative methods not only elucidates current digital marketing practices but also underscores the significance and relevance of digital strategies in enhancing tourism experiences within these villages.

The qualitative and quantitative methods used in this research have some limitations. The qualitative method, which involved a small sample size, as in this study with only nine informants. As a result, the findings may not be representative of all perspectives within the tourism villages, limiting the generalisability of the findings. In addition, the purposive sampling method used to select informants may introduce bias into the data collection process. Individuals selected based on their perceived knowledge of digital marketing strategies may have biased or subjective views, potentially skewing the results. In addition, the quantitative method of random sampling used to distribute the survey questionnaire may introduce sampling bias, as it relied on chance rather than deliberate selection. This resulted in the under-representation or over-representation of certain visitor demographics, affecting the

generalisability of the survey results. In addition, the survey relied on self-reported perceptions of digital marketing by domestic visitors, which are subject to social desirability bias or respondent fatigue. This affected the accuracy and reliability of the quantitative data collected.

The combination of qualitative and quantitative data provided valuable insights into digital marketing strategies in tourism villages. The qualitative data, gathered through in-depth interviews with community leaders, managers, and employees, offered nuanced perspectives on the implementation and effectiveness of digital marketing practices. Thematic analysis aligned the insights with research objectives, enabling a deeper exploration of the opportunities and challenges associated with digital marketing in tourism. Additionally, the survey questionnaires collected quantitative data from domestic visitors, providing broader insights into perceptions and preferences regarding digital marketing in tourism villages. The sample's representativeness was ensured through the use of stratified random sampling, which enhanced the generalizability of the findings. The measurement model was validated and the significance of digital marketing components was assessed by analyzing quantitative data through confirmatory factor analysis. In other words, combining these data types allowed for triangulation, where findings from one method could be corroborated or complemented by findings from the other. Quantitative data showing visitor perceptions and preferences can confidently support qualitative insights on the effectiveness of digital marketing strategies. Likewise, qualitative insights into the implementation challenges faced by tourism village stakeholders can confidently enrich quantitative data on visitor preferences.

5. Results

5.1. Characteristics of respondents

The research examined participants according to four criteria: occupational group, age, gender, marital status, and education, as seen in **Table 1**. The findings demonstrate that most respondents who appraised the application of digital marketing were students (36.00%), with private employees (25.78%) and civil servants/businesspeople (16.89%) following closely. This implies that students are the most inclined towards exploring tourism villages compared to other professions. Overall, these findings emphasise the significance of comprehending the characteristics of respondents to attain insightful knowledge about consumer behaviour.

Moreover, the analysis of the demographics reveals that the individuals who responded to the survey on the effectiveness of digital marketing of tourist villages are predominantly below 25 years of age (32.0%), trailed by those aged between 25 and 34 (23.11%), and those aged between 35 and 44 (20.89%). This illustrates a growing trend of young tourists seeking relief from the monotony of urban life in the countryside.

The results show that a significant proportion of the tourists surveyed were unmarried (61.78%) compared to those who were married (38.22%). In terms of education, the data shows that 30.67% of the tourists had a high school diploma, 28.44% had a diploma, 23.56% had a bachelor's degree, 15.56% had a master's degree and the

same percentage had a doctorate.

Table 1. Characteristics of respondents.

No	Criteria	Jatiluwih		Mengesta		Biaung		Amount		
		Frequency	%	Frequency	%	Frequency	%	Total	%	
1	Occupation	Farmer	2	2.67	4	5.33	4	5.33	10	4.44
		Employee	15	20.00	22	29.33	21	28.00	58	25.78
		Businessman	16	21.33	12	16.00	10	13.33	38	16.89
		Civil servant	13	17.33	16	21.33	9	12.00	38	16.89
		Student	29	38.67	21	28.00	31	41.33	81	36.00
Total		75	100.00	75	100.00	75	100.00	225	100.00	
2	Age	< 25	24	32.00	22	29.33	26	34.67	72	32.00
		25–34	19	25.33	17	22.67	16	21.33	52	23.11
		35–44	14	18.67	18	24.00	15	20.00	47	20.89
		45–54	11	14.67	12	16.00	13	17.33	36	16.00
		≥ 55	7	9.33	6	8.00	5	6.67	18	8.00
Total		75	100.00	75	100.00	75	100.00	225	100.00	
3	Marital status	Married	24	32.00	33	44.00	29	38.67	86	38.22
		Unmarried	51	68.00	42	56.00	46	61.33	139	61.78
Total		75	100.00	75	100.00	75	100.00	225	100.00	
4	Education	Junior High School	4	5.33	0	0.00	0	0.00	4	1.78
		Senior High School	24	32.00	25	33.33	20	26.67	69	30.67
		Diploma 1/2/3	26	34.67	22	29.33	16	21.33	64	28.44
		Applied Bachelor / Bachelor	12	16.00	17	22.67	24	32.00	53	23.56
		Master / Doctoral	9	12.00	11	14.67	15	20.00	35	15.56
Total		75	100.00	75	100.00	75	100.00	225	100.00	

Source: Data analysis by the authors, 2022.

5.2. Validity and reliability test

The results of the validity test show that the 20 questions in the questionnaire, that represent each variable indicator, are validated with an r-count value greater than 0.30. Furthermore, a positive correlation and magnitude greater than 0.3 suggest a well-constructed instrument, indicating a strong construct. The validity of the test was assessed through SPSS for Windows software on every question item categorized into five types: website, social media, search engine, email marketing, and online advertising. Moreover, the test for reliability evaluated the consistency of the obtained results when measuring the same subject multiple times. The analysis of questionnaires with a scale ranging from 0 to 1 utilises the Cronbach alpha formula to conduct a one-time data collection reliability test. An instrument is considered reliable in this context when the Cronbach alpha value exceeds 0.6, according to Simamora's (2001) research.

Tests were conducted on the five methods of digital marketing, specifically websites, social media, search engines, email marketing, and online advertising. The

evaluations were objective and excluded any subjective opinions, unless indicated otherwise. The information provided was clear, concise, and presented in simple sentences with a logical flow of information and causal connections between statements. Technical terminology was explained when first used, and standard language was employed with consistent technical terms. The text adhered to conventional academic structure with common sections and maintained regular author and institution formatting. The use of clear, objective, and value-neutral language was prioritised, avoiding biased, emotional, figurative, or ornamental language, and employing passive and impersonal construction. The text has been written with attention to grammatical correctness, using precise vocabulary and avoiding any extraneous words. The language is formal in register, free of contractions, colloquialisms, informal expressions, and unnecessary jargon. Positions on issues have been made clear by the use of appropriate hedging.

This online marketing platform consists of four primary statements. Firstly, the site enables tourists to discover tourism villages (X1). Secondly, promotional content (X2) is readily available on the website at all times. Thirdly, (X3) the website's media provides accurate information to visitors. Finally, advertising through the website offers a cost and time-effective approach (X4). Digital marketing through social media includes a range of strategies, including the promotion of tourism villages to tourists (X5), advertising products through easily accessible 24-hour media (X6), providing trustworthy information to tourists (X7), and attaining cost and time efficiency in marketing endeavours (X8). The different components of digital marketing via search engines include: tourists acquiring information about holiday resorts (X9); advertising media accessible through search engines at all times (X10); search engines delivering dependable information to tourists (X11); additionally, marketing via search engines is highly cost and time efficient (X12). The various types of email marketing comprise informing tourists about tourism villages' presence (X13), providing easy-to-access promotional materials through email marketing that are available 24/7 (X14), furnishing reliable information to tourists (X15), and the effectiveness of email marketing in terms of cost and time savings (X16). The different forms of marketing through online advertising entail the following: online advertising (X17) makes tourists cognizant of the existence of tourism villages; online advertising (X18) provides uninterrupted access to promotional material around the clock; online advertising (X19) offers tourists dependable information; online advertising (X20) is exceedingly effective, potentially reducing costs and saving time.

The research findings demonstrate that the use of the five digital marketing methods, as indicated by the four statements above, results in a significance level of 0.978. This suggests that the questionnaire is a reliable instrument for research purposes. The validity and reliability tests support the inference that the research tool is valid and generates a favourable score, with a consistent value greater than 0.60. Following an assessment of reliability and validity, this study has incorporated a questionnaire as a research instrument. The questionnaire has generated statistically significant outcomes, confirming its credibility as a research tool. In addition, reliability and validity tests have demonstrated that the questionnaire can produce consistent results, supporting its reliability as a reliable method of measuring digital marketing. The high reliability of the questionnaire guarantees accuracy and

consistency in the obtained results, and its validity ensures it measures the intended aspects. Therefore, a significance level of 0.978 for the five digital marketing types demonstrates that the questionnaire serves as a dependable and valid research tool. The results indicate that the questionnaire specifically measures what it has been designed to evaluate, as evidenced by the validity test. Additionally, the test of reliability has shown that the questionnaire consistently produces a value higher than 0.60. These results inspire trust in the questionnaire’s reliability as a research tool. The significant level endorses the dependability of the research tool and its ability to produce noteworthy results repeatedly. The appraisals of the survey’s reliability and validity reinforce its consistency and precision, thus confirming the credibility of the obtained outcomes. These evaluations reassert the survey’s bona fide nature.

5.3. Rating of tourist perception

The evaluation of tourists’ perceptions of digital marketing in popular villages depends on five key components: websites, social media, search engines, email marketing, and online advertising. A Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), is utilized to establish the level of perception. The results are presented in **Table 2**, providing a comprehensive view of electronic marketing implementation in holiday destinations as perceived by travellers.

Table 2. Tourist Perceptions of DM implementation in tourism villages.

Item	Indicators	Option					Σ	Average	Criteria
		5	4	3	2	1			
Website	Tourists know the existence of tourism villages through the website	60	76	78	66	47	327	2,39	Less
	Promotional media through the website is easy to access for 24 hours	85	92	69	62	43	351	2,56	Less
	Media website provides valid information to tourists	185	132	54	64	17	452	3,30	Fair
	Marketing through the website is very efficient because it can save costs and time	95	124	87	62	27	395	2,88	Fair
Social Media	Tourists know the existence of tourism villages through social media	260	284	30	4	2	580	4,23	Very Good
	Promotional media through social media is easy to access for 24 hours	275	292	21	4	0	592	4,32	Very Good
	Social media provides valid information to tourists	280	296	9	8	0	593	4,33	Very Good
	Marketing through social media is very efficient because it can save costs and time	255	304	24	4	0	587	4,28	Very Good
Search Engine	Tourists know the existence of tourism villages through search engines	75	76	78	66	0	295	2,15	Less
	Promotional media through search engines is easy to access for 24 hours	60	76	78	66	47	327	2,39	Less
	Search engines provide valid information to travelers	135	92	69	62	33	391	2,85	Fair
	Marketing through search engines is very efficient, it can save costs and time	195	132	54	64	0	445	3,25	Good

Table 2. (Continued).

Item	Indicators	Option					Σ	Average	Criteria
		5	4	3	2	1			
Email Marketing	Tourists know the existence of tourism villages through email marketing	75	76	78	68	43	340	2,48	Fair
	Promotional media via email marketing is easy to access for 24 hours	75	84	78	62	44	343	2,50	Fair
	Email marketing provides valid information to travelers	165	92	72	24	45	398	2,91	Fair
	Marketing through email marketing is very efficient because it can save costs and time	195	132	84	64	5	480	3,50	Good
On Advertizing	Tourists know the existence of tourism villages through online advertisements	135	76	72	66	34	383	2,80	Fair
	Promotional media through online advertising is easy to access for 24 hours	110	76	78	66	37	367	2,68	Fair
	Online advertising provides travelers with valid information	185	92	54	62	28	421	3,07	Fair
	Marketing through online advertising is very efficient because it can save costs and time	195	152	54	60	12	473	3,45	Good

Source: Data processed by the authors, 2022.

5.4. Factor analysis

Table 3 illustrates the results of the survey on tourist perceptions of DM implementation in tourism villages. The survey assessed the views of tourists on the use of DM in five different categories: website, social media, search engines, email marketing and online advertising, measured across 20 research variables. The benchmarks provided by the 20 variables enabled thorough evaluation of tourists’ perspectives about DM in tourism villages. To ascertain the presence of any correlation, a range of tests were carried out, including the Kaiser Meyer Olkin (KMO) test to evaluate the sample’s suitability. The Barlett’s test of sphericity was also employed to verify that the variables in the sample are distinct. If the KMO value exceeds 0.05, factor analysis can proceed.

Table 3. KMO and Barlett’s test tourist perceptions of DM implementation.

No	Types of measurement	Elements of digital marketing				
		Website	Social media	Search engine	Email marketing	Online advertizing
1	Kaiser-Meyer Olkin Measure of Sampling Adequacy	0.856	0.804	0.834	0.844	0.836
	Approx. Chi-Square	949.229	1010.358	948.745	1225.315	1073.591
2	Bartlett’s Test of Sphericity	Df	6	6	6	6
	Sig.	0.000	0.000	0.000	0.000	0.000

Source: SPSS data processed by the authors, 2022.

Interrelated connections can be established among various marketing mediums,

including websites, social media, search engines, email marketing, and online advertising, by means of the correlation matrix. Furthermore, the Kaiser-Meiyer-Olkin (KMO) test and the Bartlett test were executed on all research factors and variables to determine the correlation between variables and ascertain model accuracy. The model's accuracy yielded a 0.957 result, with a significance value of 0.000 according to the Bartlett test. Subsequently, a partial test was conducted to accurately evaluate each factor's model. The KMO test revealed that website media type variables scored an outcome of 0.856, with the Bartlett test producing a significance value of 0.000. Moreover, social media variables earned 0.804 on the KMO test, with the Bartlett test leading to another significance value of 0.000. Notably, the KMO media search engine test obtained a score of 0.834, indicating an extremely low p-value of 0.000. Moreover, the KMO test outcomes for email marketing were 0.844 with a significance value of 0.000. Furthermore, the KMO test findings for online advertising media generated results of 0.836 with a significance value of 0.000. Based on these outcomes, it can be concluded that the value produced by each type of digital marketing surpasses 0.05. The data suggests that the implementation of five distinct media types provides a meticulous framework for analysis, which in turn denotes that each variable significantly influences the perspectives of tourist actors regarding the integration of digital marketing in tourism villages. These findings shall be presented and deliberated further in the outcomes and discoveries sections.

Furthermore, the study's interpretation is based on objective values that were carefully considered to evaluate the precision of the model. Technical abbreviations are defined when first used, and the formal language remains concise, unbiased, and free of filler words. The text follows conventional academic structure and citations, utilizing language that is clear, precise and avoids colloquialisms and ornamental language. Furthermore, the analysis incorporates valuable insights obtained from expert interviews and qualitative data sources. Moreover, the sentences and paragraphs display a logical structure with causal connections. The interpretation of each factor, including the statistical analyses and frequency data for all variables, is presented clearly and concisely in **Table 4**.

Table 4. Total variance explained tourist perceptions of DM.

No	Elements	Initial Eigenvalues		
		Total	% of Variance	Cumulative %
1	Website	3.800	94.999	94.999
2	Social media	3.823	95.563	95.563
3	Search engine	3.773	94.321	94.321
4	Email marketing	3.881	97.027	97.027
5	Online advertizing	3.849	96.321	96.321

Sources: SPSS data processed by the authors, 2022.

- **Media website**

The analysis of four variables (X1, X2, X3, and X4) conducted on the media website indicates that this type of media significantly influences tourists' perceptions of digital marketing implementation in tourism villages. The cumulative value

contribution of the variables associated with this factor is 94.999%, as shown in **Table 4**. The study shows that the eigenvalue of each variable greatly affects tourist perceptions of digital marketing implementation in tourism villages. Moreover, the overall value contribution of each element of website media stresses the significance of every variable in shaping such opinions. Therefore, it is crucial to account for the impact of each variable while devising digital marketing strategies for tourism villages. The study shows a significant positive correlation between the implementation of digital marketing strategies and tourists’ overall satisfaction. To enhance their visitors’ experiences, tourism villages should prioritize their digital marketing efforts.

Moreover, **Table 5** demonstrates that each variable indicator on the media website holds a significant impact, as indicated by the corresponding correlation coefficient value. **Table 2** supports the notion that tourists have a lower awareness of tourism villages when using the website (2.39 rating) compared to the accessibility of promotional media, which receives a fair rating of 2.56 when available for 24 hours. Moreover, the media website offers valuable information to tourists at a reasonable cost of £3.50, which is judged fairly. In addition, marketing through the website provides an effective way of saving both time and money, receiving a fair rating of £2.88. Although the site provides information rated as “fair”, it is still a useful resource for tourists. This suggests that the website’s marketing strategies are a good value proposition due to low costs and a user-friendly interface. Improving the website’s image in the future should be a priority for tourism villages. The tourism village manager has confirmed this:

Table 5. The analysis factor of the tourist’s perception of the implementation of DM.

Media	Variable	Coefficient correlations	Determined	Remark
Website	Tourists know the existence of tourism villages through the website	0.974	> 0.60	Significant
	Promotional media through the website is easy to access for 24 hours	0.982	> 0.60	Significant
	Media website provides valid information to tourists	0.966	> 0.60	Significant
	Marketing through the website is very efficient because it can save costs and time	0.977	> 0.60	Significant
Social Media	Tourists know the existence of tourism villages through social media	0.975	> 0.60	Significant
	Promotional media through social media is easy to access for 24 hours	0.985	> 0.60	Significant
	Social media provides valid information to tourists	0.972	> 0.60	Significant
	Marketing through social media is very efficient because it can save costs and time	0.979	> 0.60	Significant
Search Engine	Tourists know the existence of tourism villages through search engines	-0.951	< 0.60	Not Significant
	Promotional media through search engines is easy to access for 24 hours	0.964	> 0.60	Significant
	Search engines provide valid information to travelers	0.987	> 0.60	Significant
	Marketing through search engines is very efficient, it can save costs and time	-0.983	< 0.60	Not Significant

Table 5. (Continued).

Media	Variable	Coefficient correlations	Determined	Remark
Email Marketing	Tourists know the existence of tourism villages through email marketing	0.989	> 0.60	Significant
	Promotional media via email marketing is easy to access for 24 hours	0.992	> 0.60	Significant
	Email marketing provides valid information to travelers	0.978	> 0.60	Significant
	Marketing through email marketing is very efficient because it can save costs and time	-0.982	< 0.60	Not Significant
Online Advertizing	Tourists know the existence of tourism villages through email marketing	0.973	> 0.60	Significant
	Promotional media through online advertising is easy to access for 24 hours	-0.985	< 0.60	Not Significant
	Online advertising provides travelers with valid information	0.987	> 0.60	Significant
	Marketing through online advertising is very efficient because it can save costs and time	0.979	> 0.60	Significant

Sources: SPSS data processed by the authors, 2022.

We began to market our program on website to allow prospective tourists reading the information of the tourism village prior to their visit...more information...detailed and attractive...ideas to gaze, learn and experience... We hope to build a significant presence in the tourism business and ensure that our unique offers are recognised globally through online promotion. (Kartika, 2023).

This view was supported by tourism village managers (Nengah Kartika from Jatiluwih village; Made Bakti Wiyasa from Biaung village; Nengah Darma from Mengesta village), who argued that the creation of websites for tourism villages could enhance their visibility. According to these managers, the websites showcase the unique cultural and natural attractions of their respective villages, thereby attracting more tourists. The researchers observed that the websites enabled seamless communication between tourists and local residents, fostering a genuine and captivating travel experience. Additionally, the integration of technology in tourism villages facilitated improved planning and organisation of tourism-related activities, consequently ameliorating the environmental and social impact. The tourism village managers have expressed their optimism about the future, anticipating growth in technology and sustainable practices to enhance their global appeal. They emphasised the importance of preserving local customs and cultures while promoting innovation, to provide an unparalleled and unforgettable travel experience. Subsequently, the tourism village manager affirmed this stance:

The use of this digital marketing...easier to communicate ... expect more tourists visiting our village...learning about our cultures...to support cultural tourism development in Bali...So, the uniqueness of our village globally known..., the uniqueness of our village globally known. Social media platforms have a broad reach and may successfully target potential tourists, particularly the younger generations who spend more time on these platforms. (Made Bakti Wiyasa, 2023).

According to Ali and Frew's (2013) research, the internet allows companies to engage with their customers more actively and respond more quickly by shortening the time between conversations. Being widely used in the tourism industry during this

era of globalization, the internet offers a means for tourism enterprises to broaden their audience reach and promote their offerings on the web. With the use of online reservation tools, tourists can efficiently arrange and coordinate their trips, as social media networks enable direct communication with prospective visitors in real-time. Moreover, the internet furnishes proprietors of tourism towns with crucial data and analytics to elevate their promotional techniques and enhance the quality of the travellers' stay. Additionally, virtual reality technology can enrich the travel experience by providing tourists with previews of destinations prior to their bookings. This demonstrates how the internet has revolutionised the operations and interactions of tourism establishments, including the management of tourism village marketing, rendering it an essential tool for achieving success in the current global tourism sphere (Carlisle et al., 2020; Hanggraito et al., 2020; Liu and Marcerinskiene, 2016; Toubes et al., 2021).

- **Social media**

The testing of social media produced a value of 0.804, surpassing the specified value of 0.05 in the analytical model, demonstrating the statistical significance of model precision at a significance level of 0.000. Additionally, a factor analysis of variables X5, X6, X7, and X8 unveiled an economic factor segment with an eigenvalue accounting for 95.563% of the total variability (refer to **Table 4**). It can be inferred that the eigenvalue of each variable, which is indicated by the total value contribution of every social media component, has a significant impact on tourists' perceptions of digital marketing implementation in tourism villages. Furthermore, a correlation coefficient value > 0.60 indicates that the elements of all variables in this factor have significant effects (see **Table 5**). This information is supported by **Table 2**, which presents a cross-tabulation of tourist viewpoints and their associated marketing variables via social media. These variables consist of tourists' excellent attainment of knowledge concerning tourism villages through social media, promotional media being available around-the-clock, accurate and reliable information being provided to tourists via social media (also excellent), as well as very effective marketing via social media which can mitigate both costs and time. It is notable that the majority of promotions are now disseminated online. However, research conducted on Pinge tourism village revealed that only a small proportion of visitors (28%) were influenced by online promotions, while a significant proportion relied on travel agents (47%) and a few on guides (25%). This indicates that there is currently untapped potential in online promotional operations. (Mataram et al., 2019). This highlights the function of tour operators and guides in drawing tourists towards a location, particularly in the Pinge context.

- **Search engine**

The obtained value for cultural elements is 0.834 (> 0.05), indicating that this digital media component exhibits high accuracy in the factor analysis model with a significance value of 0.000. The analysis found one component factor with an eigenvalue of 94.321% which specifies the variables included in the cultural factor, namely X9, X10, X11, and X12. The overall impact of this media type significantly influences how tourist professionals perceive the use of search engines in tourist villages. Therefore, it is imperative to consider these factors to optimize search engine usage in tourist villages. The tourism village manager affirmed:

We intend to improve Mengesta tourism village's online exposure and rating on search engine results pages by using SEO tactics ... bring more organic traffic to Mengesta's website and social media platforms, attracting potential travellers to visit and enjoy ... (I Made Rony Mulia Kusuma, 2023).

The statement implies that it is essential to use SEO tactics to enhance the online visibility and ranking of Mengesta tourism village. To promote contemporary tourism villages, having an effective online presence is crucial to attract a broader audience and potential travellers. This strategic approach adheres to the sustainable cultural tourism principles and highlights the evolving nature of marketing destinations in the digital era.

- **Email marketing**

The statistical analysis indicates that the email marketing element has a result greater than 0.05, with a value of 0.844. The components of these factors are statistically significant in the factor-analysed model assessed at a significance level of 0.000. Through factor analysis, one component factor governing the variables X13, X14, X15, and X16 has been determined, and it accounts for 97.027% of the observed variables (see **Table 4**). The factors in this category exert a significant impact on the community's evaluation of the execution of email marketing in tourist villages, dependent on their magnitude of influence. This suggests that the facet of email marketing is crucial in making tourist decisions. The Tourism Village Manager claimed:

In order to develop tourism communities in the future ... email marketing should be promoted. Email marketing is an effective strategy for reaching out to potential tourists and informing them about the newest specials, events, and attractions in the tourist village (Nengah Darma, 2023).

Furthermore, all variable indicators in this factor have a correlation coefficient value greater than 0.60, except for the email marketing marketing variable, which is highly effective in terms of cost and time-saving (**Table 5**). This implies that three of the variable indicators in the email marketing factor have a significant effect, while one variable shows no real effect. **Table 2** illustrates that tourists have positive perceptions towards email marketing based on the cross-tabulation analysis of local people's perspectives. Furthermore, technical abbreviation definitions are explained upon initial usage. Tourist reviews support this as they suggest that email marketing informs them about the presence of tourism villages (fair); promotional material via email is accessible at all times (fair); and email marketing provides factual information to tourists.

- **Online advertising**

The statistical significance value of 0.000 confirms that the analyzed online advertising elements or factors exhibit high accuracy, with a value greater than 0.05 or 0.836. Abbreviations will be explained upon first use. The statistical significance value of 0.000 confirms that the analyzed online advertising elements or factors exhibit high accuracy, with a value greater than 0.05 or 0.836. The results of the factor analysis on four observed variables, including X17, X18, X19, and X20, demonstrated a single component factor with an eigenvalue of 96.321% (**Table 4**). This factor specifies the variables that are included in it. The variables in this category greatly impact the community's evaluation of the uptake of internet advertising in villages that attract

tourism, depending on the scale of this impact. This indicates that marketing implications can sway travellers in their choice of location for tourism visits. Moreover, all the variable indicators in this factor demonstrate a correlation coefficient value greater than 0.60 except for the media promotion through online advertising variable, which is always obtainable (as shown in **Table 5**). This finding suggests that three indicators of the variable in online advertising factors are highly significant, while one variable appears to have no effect. **Table 2** presents a cross-tabulation analysis of local residents' attitudes, indicating that tourists view the email marketing element positively. These findings are corroborated by visitor perspectives that highlight the role of internet advertisements in promoting tourism villages. Notably, online platforms serve as an effective promotional medium to reach potential tourists. Tourists report that they discover tourism villages via online advertisements (fair). Online promotions provide 24-hour access to promotional media (fair). Such advertising furnishes accurate information to tourists (fair) and marketing through online advertisements is cost and time effective (good).

The findings illustrate that various marketing mediums, such as websites (25%), social media (37.5%), search engines (6.25%), email marketing (18.75%), and online advertising (12.5%), exhibit an interdependent connection displayed in Graph 1. These outcomes propose that the cumulative utilization of these digital marketing approaches works towards the perception of tourism stakeholders concerning the deployment of digital marketing in tourism villages (**Figure 2**).

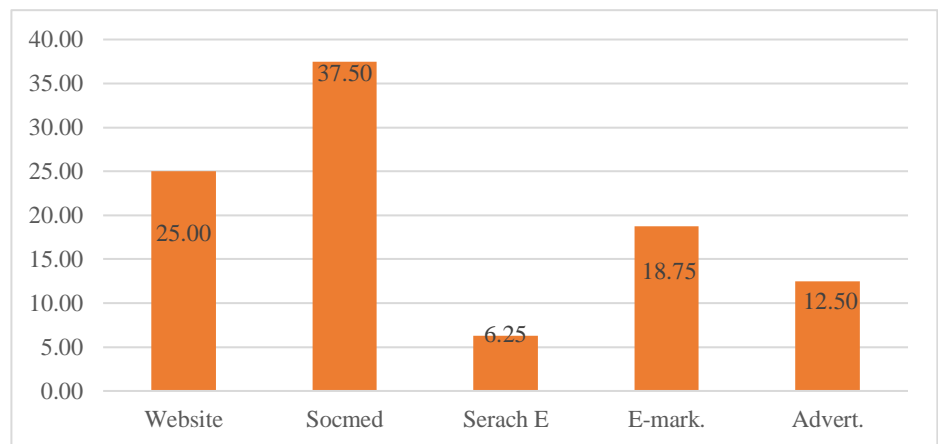


Figure 2. The opinions of informants on dm implementation in tourism village. Source: Data analysis by the authors, 2023.

6. Discussion

While recognizing the efficacy of digital marketing, it stresses that relying wholly on these methods is inadequate. A continuous process of monitoring, analysis, and adjustments is indispensable for the triumph of digital marketing tactics. Emphasis is given to the significance of market research and visitor feedback to comprehend their experiences and preferences. This facilitates the modification of marketing approaches to fulfil the demands of the targeted tourists. It implies that tourism village managers could utilise these insights to develop efficient digital marketing strategies, catering to a broader audience while boosting engagement.

Notably, online reservation tools and social media networks aid trip coordination

and direct communication with potential visitors. The internet provides essential data and analytics allowing tourism village managers to enhance promotional techniques and heighten travellers' experience quality. Virtual reality technology is acknowledged for enhancing the travel experience by enabling previews of destinations before bookings. The passage highlights how the internet has transformed the operations and interactions of tourism establishments, rendering it a crucial tool for triumph in the global tourism domain. This finding corresponds to the previous study on the impact of the internet on tourism establishments which indicated that it has transformed their operations and interactions. In 2008, Buhalis and Law conducted a review and analysis of prior studies on the use of internet applications in tourism. They projected future developments and challenges in eTourism. It has been observed that the Internet has facilitated tourism businesses in enhancing their efficiency, effectiveness, and competitiveness. Furthermore, it has enabled the development of novel products, services, and markets. The Internet has also empowered consumers by granting them access to a wider range of information, choices, and opportunities, as well as the capacity to participate and cooperate in the tourism value chain. Similarly, Andariesta and Wasesa (2022) employed machine learning models to predict international tourist arrivals in Indonesia during the COVID-19 pandemic by utilizing multisource Internet data. The authors discovered that Internet data, such as search queries and online forum posts, can offer valuable insights into the trends and preferences of tourists, thereby enhancing the accuracy and performance of prediction models. Previous studies have suggested that information technology and eTourism have the potential to benefit the tourism industry. It is widely acknowledged that the internet has transformed the operations and interactions of tourism establishments.

The general findings emphasise the importance of digital marketing in enticing visitors to rural tourism destinations and advertising distinctive goods. Although a range of media channels are pivotal in broadening appeal, the text underscores that adopting digital marketing strategies alone is insufficient. Consistent evaluation, scrutiny, and modifications are indispensable to guarantee the effectiveness of these methods. Understanding the preferences and experiences of specific tourists is considered essential for tailoring effective marketing strategies. The study highlights the significance of expertly executed digital marketing campaigns in advancing the prosperity of tourism hubs, increasing tourist footfall, and fostering greater engagement. Continuous attentiveness, evaluation and understanding of the particular tourist industry are essential for improving the effectiveness of digital marketing strategies for villages catering to tourism.

The discovery that digital marketing is crucial for attracting visitors to rural tourism destinations and promoting unique products aligns with prior research on the significance and influence of digital marketing on rural tourism growth. For instance, Maquera et al. (2022) proposed a model for developing an intelligent digital platform for community-based rural tourism in Peru. The model aims to integrate tourism products and services with the different actors of rural tourism, offering a personalized tourist experience. The authors' objective is to visualize and articulate this integration. It has been argued that digital marketing can enhance the efficiency, effectiveness, and competitiveness of rural tourism businesses, as well as facilitate the creation of new products, services, and markets. Similarly, Rodrigues et al. (2023) investigated the

influence of digital marketing on the image, intention to visit, and sustainability of rural destinations. The study discovered that digital marketing can improve the perception and appeal of rural areas, as well as encourage tourists to travel and behave in ways that support the sustainability of rural destinations. However, it is important to note that previous research has also identified the challenges and limitations of relying solely on digital marketing strategies for rural tourism. Andariesta and Wasesa (2022) analysed the challenges and opportunities of digital marketing for tourism villages in East Java, Indonesia. They found that digital marketing requires adequate infrastructure, skills, and resources, which are often lacking in rural areas. The authors also noted that digital marketing needs to be integrated with other marketing mix elements, such as product, price, place, and promotion, to achieve optimal results. Juliana et al. (2023) investigated the optimal digital marketing strategies for rural tourism destinations in Indonesia using social media applications. The study highlights the importance of aligning digital marketing with the preferences and experiences of the target market, as well as the characteristics and values of the rural tourism products and services. It is suggested that digital marketing should be continuously evaluated and improved based on customer and market feedback. Previous studies have demonstrated the benefits and challenges of digital marketing for rural tourism businesses and destinations. Therefore, the finding that digital marketing is important but insufficient for rural tourism development is supported.

The implementation of digital marketing strategies in Bali Tourism Villages faces several challenges that need to be addressed to ensure effectiveness and success. One significant challenge is the availability and quality of digital infrastructure, including internet connectivity and access to technology. In some rural tourism villages in Bali, internet access may be limited or unreliable, hindering the adoption of digital marketing platforms and tools. Another challenge is the level of digital literacy among stakeholders in tourism villages. Community leaders, managers, and employees may lack the necessary skills and knowledge to effectively utilize digital marketing channels and technologies.

To ensure the effectiveness and success of digital marketing strategies in Bali tourism villages, it is imperative to address the challenges that hinder their implementation. One of the most significant challenges is the availability and quality of digital infrastructure, including internet connectivity and access to technology. In the three rural tourism villages in Bali, internet access is limited or unreliable, which impede the adoption of digital marketing platforms and tools. The level of digital literacy among stakeholders in tourism villages is a challenge. However, community leaders, managers, and employees should acquire the necessary skills and knowledge to effectively use digital marketing channels and technologies. To address these challenges, collaborative efforts are required between government authorities, tourism stakeholders, digital marketing experts, and local communities. Tailored strategies must be developed that leverage Bali's unique cultural and natural assets while addressing the complexities of the digital landscape.

7. Conclusion

The research highlights the increasing adoption of digital marketing techniques

in tourism villages to attract new visitors and to retain existing ones. Based on a tourist survey, 60.89% of respondents discovered the village through online channels, whereas 39.11% became aware of it offline. Social media platforms, such as Facebook and Instagram, play a pivotal part in promoting the unique features of tourism villages and connecting with prospective visitors. To guarantee maximum visibility for tourism villages on search engine results pages, we are employing search engine optimization (SEO) techniques. Additionally, mobile applications will provide tourists with real-time information about local landmarks and events. However, some tourism villages still rely on traditional marketing methods like brochures and flyers, which may not be as effective in reaching a wider audience. The study highlights the importance of adopting a comprehensive digital marketing strategy in tourist villages to remain competitive in today's digital tourism landscape.

The significant finding that 60.89% of tourists were drawn to the villages through online platforms emphasizes the considerable impact of digital marketing on attracting visitors. On the other hand, the inconspicuous 39.11% of tourists who arrived via offline sources emphasises the implicit correlation between digital marketing and the environmentally friendly growth of tourist towns. Without a doubt, the increasing utilisation of digital channels to entice visitors undoubtedly illustrates the growing prevalence of digital platforms in visitor interaction.

Demonstrating the distinct characteristics of tourism villages through social media platforms aligns perfectly with our commitment to sustainability. Tourism village managers utilise social media platforms, such as Facebook and Instagram to engage in constructive discussions with potential visitors. This method not only establishes a connection with tourists but also sustains their interest, increasing the likelihood of future visitation.

The utilization of search engine optimization (SEO) strategies alongside the creation of mobile applications exemplify the cohesive relationship between sustainable tourism practices and digital marketing. By integrating the villages into the top search engine results, abundant opportunities arise for enhancing their visibility and discoverability. Mobile apps with up-to-date information allow travellers to fully explore and understand their surroundings, resulting in a more immersive experience and potential interest in future trips.

The tourism village managers have successfully promoted their locations through both traditional and online media. The villages are predominantly discovered by tourists through online media—60.89% of respondents report doing so, while offline sources are cited by 39.11%. This is corroborated by tourism village managers, who confirm utilizing both promotional mediums. The significance of employing digital marketing techniques such as website media, social media, search engines, email marketing, and online advertising has been highlighted in online media promotions. These five digital marketing methods have demonstrated their effectiveness in promoting village tourism products. This assertion is supported by tourist feedback obtained from a 20-statement questionnaire, which substantiates their recognition of the positive influence digital marketing has had on the eco-friendliness of the tourism village.

In summary, statistical analysis demonstrates that industry professionals perceive the five factors of website media, social media, search engines, email marketing, and

online advertising to have a significant impact on the marketing of tourism villages. Technical term abbreviations are explained upon first usage throughout the manuscript, and the formatting adheres to standard academic conventions. In addition, our study confirms the significant impact of all 16 variables examined on tourism village marketing, with the exception of four variables that displayed no significant effect. These four factors include tourists obtaining information on tourism villages through search engines, the effectiveness of using search engine marketing, the efficiency of email marketing, and the accessibility of promotional media via online advertising. The data suggests that digital marketing has been utilised by tourists and can play a crucial role in sustaining tourism villages in the future.

The study's discoveries on the impact of digital marketing in boosting sustainable tourism in Bali's villages can potentially benefit policymakers, businesses, and tourism practitioners. The research provides policymakers with valuable insights into the efficacy of digital marketing tactics to promote tourism in villages. The text adheres to the provided principles. Therefore, the improved version in British English is: It highlights the necessity for policy support for incorporating digital marketing initiatives into tourism development plans to encourage the adoption of digital marketing practices in village tourism. This integration will enhance the overall sustainability of tourism destinations. The above-mentioned discovery offers useful assistance for managing village tourism, empowering enterprises to enhance their websites, exploit social media platforms, enforce search engine optimisation strategies, implement email marketing initiatives and online advertising, thereby reinforcing their marketing campaigns and expanding their outreach towards a broader tourist demographic.

Nevertheless, limitations emerge in the research, mostly with respect to sample size and sampling methodology. The size of the sample, consisting of 225 domestic sightseers, which was collected for the purpose of obtaining quantitative data, may not provide adequate scope for making inferences about the larger group of travellers visiting the three villages. Besides, the careless random sampling method applied while selecting individuals for the survey may lead to partiality and hamper the sample's capacity for being representative. Expanding the sample size and utilizing a more systematic and structured sampling methodology, like stratified random sampling, could have strengthened the reliability of the outcomes.

The investigation proposes that additional exploration is required in different regions of Bali, suggesting that employing digital marketing to promote sustainable tourism extends beyond the examined villages. This study reveals the possibility for further investigation and analysis of digital marketing strategies in various tourism destinations in Bali and other regions. This study reveals the possibility for further investigation and analysis of digital marketing strategies in various tourism destinations in Bali and other regions. Such research could facilitate the discovery of fresh outlooks, validation of this study's findings, and a holistic understanding of how digital marketing contributes to sustainable tourism.

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writing—review and editing, INS; visualization, IMDO; supervision, INS; project administration, INS; funding acquisition, IMDO. All authors have read and agreed to the published version of the manuscript.

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