

Digital Marketing Strategy for Sustainable Ecotourism Development: A BCG Matrix Analysis to Support SDG 8 and SDG 11

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ABSTRACT

Objective: To identify the business position of Ciwaluh Ecotourism Village and formulate an appropriate digital tourism marketing strategy to support its development and competitiveness. **Method:** A case study approach was employed using digital marketing strategy analysis through the Boston Consulting Group (BCG) Matrix. The analysis assessed market growth rate and relative market share by comparing Ciwaluh Ecotourism Village with its competitors. **Results:** The BCG Matrix analysis revealed a market growth rate of 12.81% and a relative market share of 1.82, placing Ciwaluh Ecotourism Village in the "Star" quadrant. The findings indicate the need for business expansion, government support, infrastructure development, and the utilization of digital platforms to improve tourism information access and marketing effectiveness. **Novelty:** BCG Matrix as a strategic digital marketing framework to support sustainable ecotourism village development. By integrating market growth and competitive positioning with digital marketing strategies, the study provides a data-driven decision-making model that contributes to the achievement of SDG 8 (Decent Work and Economic Growth) and SDG 11 (Sustainable Cities and Communities) through sustainable tourism development and improved destination competitiveness.

INTRODUCTION

Bogor is one of the most popular tourist destinations for tourists to spend their holidays, this can be seen from the dense number of tourists who come during the holidays. However, Bogor faces challenges, the lack of facilities and infrastructure to accommodate the high number of tourists. The absence of planning in the development of tourist villages, low human resources, and poor institutional governance have caused some of the potentials of these tourist village to be poorly managed and competitive (Balqis & Saroso, 2024; Yuliarni et al., 2023).

To increase the number of tourists visiting Ciwaluh Village, it is necessary to design a unique and interesting type of tourism that characterizes the village. One type of tourism that can be explored is ecotourism. To ensure the success of the ecotourism business, the ecotourism development strategy must be designed properly, in detail integrated with other related programs, and involve various stakeholders. The ecotourism ecosystem needs to be designed and created together by the local government, central government, business people, and other related parties (Gul, 2020). One of the ecosystem efforts that is built is the development of a program to build attractive promotions to attract visitors. Ciwaluh Tourism Village is managed by a group of young people from Ciwaluh Village, who together manage Ciwaluh Village into an innovative and competitive agrotourism destination. The young people believe that their village area has enormous agribusiness potential (Green et al., 2021). With the background of the conditions above, this study aims to analyze the ecotourism business map of Ciwaluh Village to develop the right marketing strategy according to business trends and market needs. The research analysis was carried out using the BCG Matrix analysis approach or the Boston Consulting Group.

The results of this analysis will be useful and provide important contributions to the development of Ecotourism in Ciwaluh Village, especially for investors. So the questions of this research are first, how is the position of business growth and market share relative to the Ciwaluh Bogor tourist village through the Boston Consulting Group (BCG) matrix? Second, what is the marketing strategy of Ciwaluh Bogor Village based on the Boston Consulting Group (BCG) model?

Therefore, this study aims to analyze the business position of Ciwaluh Ecotourism Village using the Boston Consulting Group (BCG) Matrix and formulate an appropriate digital marketing strategy to strengthen its competitiveness and sustainable development. The findings are expected to provide practical recommendations for tourism managers and policymakers while contributing to the implementation of SDG 8 (Decent Work and Economic Growth) and SDG 11 (Sustainable Cities and Communities) through sustainable and digitally driven ecotourism development.

LITERATURE REVIEW

Marketing is dynamic, and must always prioritize the company's good at and continuously innovate to keep in the competitive advantage phase. In increasingly fierce business competition, we must be able to develop strategies to compete. Strategy plays an important role in determining detailed activities and actions that must be taken to achieve the intended target. The better and more appropriate the business strategy implemented, the stronger it is in facing business competition and being able to excel in competition (Zéman & Bogdan, 2019; Feng, 2022).

Marketing strategy is the formulation of decisions made by companies regarding products, markets, persons in charge, and resources in their marketing activities (Miles & Covin, 2000). Consumers are the market or center that is the object of marketing managerial decisions, the aim is to create value for customers and build profitable customer relationships. Marketing strategy logically creates value for customers to achieve profitable relationships. The company decides which customers to serve (segmentation and target) (Huang, et al., 2020) and how (differentiation and positioning) (Kotler & Armstrong, 2017; Theocharous et al., 2023). The success of the marketing strategy to be implemented, two important & interrelated things are needed, (1) the intended marketing target, and (2) the marketing mix implemented to reach the target market. This marketing mix consists of product, price, promotion, place, people, process, and physical evidence (Kotler & Armstrong, 2017; Van der Merwe, 1972).

Tourism is an activity that directly touches and involves the community so that it has various impacts on the local community, tourism can be said to be a driving force for development in an area that involves the local community. Tourism is an important sector in economic development because tourism is closely related to all economic sectors, so it makes many important contributions to the regional economy. The tourism sector contributes to foreign exchange earnings, increasing business opportunities and various employment fields, and increasing income for the central and regional governments ((Huang, et al., 2020; Theocharous et al., 2023; Nekmahmud et al., 2022).

As stated in the beginning, digital technology has interrupted almost all business sectors, including tourism. Due to digitalization, the tourism business has undergone many changes and transformations in its business model (Jiang & Zhang, 2023; El Archi et al., 2023). Many tourism businesses rely on digital technology, especially for promotional purposes and related services like ticket reservations, accommodation, or other services. Because the tourism business is believed to boost the regional economy,

with a low growth rate so the contribution given is not significant to the development of the unit as a whole. The second quadrant of a business is categorized in a question mark position, because the market share is relatively low, but has high growth. The next quadrant is called the star quadrant, where businesses already have a high market share and also a high growth rate. While the last quadrant is called the cash cow category, businesses that are in this condition have a relatively high market share but have small growth (Yahya et al., 2020; Bernal et al., 2021).

Five phases in developing the BCG matrix in this study. First, we analyzed the business conditions of the Ciwaluh ecotourism village service, Watesjaya village, Cigombong sub-district, Bogor district. Then, business performance indicators will be categorized as the number of visitors from 2021 to 2022. Continued by calculating the growth rate of visitors to the Ciwaluh Ecotourism Village using the market growth rate. The fourth phase is calculating the relative market share, which is obtained based on the number of visitors to the Ciwaluh Tourism Village compared to the total number of visitors from 55 tourism villages in the Bogor Regency area. The last phase is to place the business position on the Boston Consulting Group (BCG) Matrix.

RESULTS AND DISCUSSION

Results

Up to here, it is illustrated that the output of this study is an input for the preparation of marketing strategies so that business entities can determine the stages of strategy and targets to be achieved. The results of this study are important as part of the initial data and information in building a marketing strategy. As it is believed that good data accuracy and validity will make a good strategy (Liu et al., 2023; Hendrawan et al., 2023). Where a good strategy is to have accurate data, the measurement approach used, and the analysis and measurement of the progress of implementing a strategy (Yuliani et al., 2023; Guo & Gu, 2022). The following presentation below discusses research results using the Boston Consulting Group (BCG) Analysis tool in other case studies.

Digital marketing analysis of Ciwaluh tourism village

Based on the results of field observations and interviews with various related parties, several alternative solutions to marketing problems in Ciwaluh Village can be identified, as follows: 1) More efforts and actions are needed to exploit digital technology to promote the potential of alternative tourism attractiveness that they have in the village, such as ecotourism (Zhang & Deng, 2024); 2) Reshaping and strengthening the management systems of tourism village institutions (Purnomo & Purwandari, 2025); 3) optimizing local products (Saraswati et al., 2025); and 4) Tourism program development planning must be carried out in a participatory manner by related parties, including central government, regional government, academician, private business sector and village communities (Taufik et al., 2023).

Boston Consulting Group (BCG) analysis

In building the BCG Matrix, it is determined by two factors, first is Market Growth Rate, which is the percentage of market growth represented by the vertical axis (Gorb et al., 2022). The second is Market Share, which is the strength of the market share depicted on the horizontal axis. In this study, the growth indicator is measured based on the volume of visitors to Ciwaluh Tourism Village.

a. Business growth rate.

The visitor growth rate of Ciwaluh Tourism Village can be calculated using the following formula:

$$TPP = \frac{(VPN - VPN_1)}{VPN_1} \times 100\% \quad (1)$$

TPP : Visitor Growth Rate

VPN : Visitor Volume in Year N

VPN₁ : Visitor Volume in Year N-1

$$\begin{aligned} TPP &= \frac{(145,604 - 129,066)}{129,066} \times 100\% \\ TPP &= 0.1281 \times 100\% = 12.81\% \end{aligned} \quad (2)$$

Therefore, the figure above tells us that the visitor growth of Ciwaluh Village by 12.81% has increased from 2021 to 2022. Since the number is above 10%, the Business Growth is considered high:

b. Relative market share.

Measuring the relative market share in Ciwaluh Tourism Village in the BCG matrix analysis is:

$$\begin{aligned} \text{Relative Market Share} &= \frac{100 \times \text{Total Visitors to the Ciwaluh Tourism Village}}{\text{Total Visitors to Bogor Tourism Village}} \\ \text{Relative Market Share} &= \frac{100 \times 145,604}{8,008,266} = \frac{14,560,400}{8,008,266} = 1.82 \end{aligned} \quad (3)$$

Based on the formula above, it is known that the relative market share of the competition for village tourism services for Ciwaluh Tourism Village is in a position above 1, which is 1.82x, which is considered high.

c. BCG matrix position of Ciwaluh Bogor Tourism village.

Based on the division of quadrants in the Boston Consulting Group (BCG) matrix, the position of the Ciwaluh Tourism Village tourism business is in the 'STAR' quadrant. This indicates that the tourism business in Ciwaluh Bogor Village is in a position to have a high market share and a high level of business growth (Yudha et al., 2025). In this position, it can be concluded that this tourist attraction requires business development. The development of Ciwaluh Ecotourism Village must be supported by local government policies, building access to the location, and inviting investors to provide adequate facilities and infrastructure (Andika et al., 2023). All of this must be stated in an accurate and comprehensive strategic plan in order to increase the number of visitors so that the level of regional income growth increases. Furthermore, in the end, a marketing system is needed by utilizing a digital platform to make it easier for prospective tourists to get information related to the attractions of Ciwaluh ecotourism (Tahir et al., 2024).

Discussion

The findings indicate that Ciwaluh Ecotourism Village possesses strong market potential, as reflected by its high visitor growth rate (12.81%) and high relative market share (1.82), placing the destination in the Star quadrant of the Boston Consulting Group (BCG) Matrix. This position suggests that the village has successfully established a competitive

market position while maintaining rapid growth. According to the BCG framework, organizations in the Star quadrant require continuous investment to sustain market leadership, improve service quality, and strengthen competitiveness in increasingly dynamic tourism markets. Therefore, the strategic priority for Ciwaluh Ecotourism Village should focus on maintaining growth momentum while expanding its digital marketing capabilities and tourism services.

The digital marketing analysis further reveals that the primary challenges are not associated with tourism potential but with destination management, digital promotion, institutional capacity, and stakeholder collaboration. Although Ciwaluh Village possesses attractive natural resources and ecotourism assets, limited utilization of digital platforms restricts destination visibility and reduces its ability to compete with other tourism destinations. Previous studies have emphasized that digital technologies have become essential instruments for tourism promotion because they increase destination accessibility, improve customer engagement, and facilitate broader market reach. Consequently, strengthening digital marketing strategies through websites, social media, digital storytelling, and online tourism platforms is expected to improve destination competitiveness and attract more visitors.

Another important finding concerns the need for integrated governance in ecotourism development. The results demonstrate that sustainable tourism development cannot rely solely on promotional activities but also requires collaboration among local governments, tourism managers, private investors, local communities, and academic institutions. Such collaboration enables the development of tourism infrastructure, institutional strengthening, community capacity building, and innovation in tourism products. This collaborative approach supports the long-term sustainability of ecotourism villages by balancing economic growth with environmental conservation and community participation.

The strategic recommendations identified in this study—including strengthening digital promotion, improving institutional management, optimizing local products, and implementing participatory tourism planning—are consistent with sustainable tourism principles. Rather than merely increasing visitor numbers, these strategies encourage the creation of value-added tourism experiences that generate economic benefits for local communities while preserving environmental and cultural resources. This finding reinforces previous studies highlighting that competitive advantage in ecotourism increasingly depends on innovation, digital transformation, and stakeholder collaboration rather than solely on natural attractions.

From the perspective of the Sustainable Development Goals (SDGs), the findings directly contribute to SDG 8 (Decent Work and Economic Growth) by demonstrating how digital marketing strategies can stimulate local economic development, increase tourism competitiveness, create employment opportunities, and strengthen community-based enterprises. Simultaneously, the study supports SDG 11 (Sustainable Cities and Communities) by promoting sustainable ecotourism management that preserves local heritage, encourages community participation, and improves destination resilience. Furthermore, the integration of digital platforms into tourism management aligns with SDG 9 (Industry, Innovation and Infrastructure) by encouraging technological innovation and digital transformation within rural tourism destinations.

Overall, the application of the BCG Matrix provides practical evidence that strategic business analysis can support evidence-based decision-making in sustainable tourism development. By combining market growth analysis with digital marketing strategies,

tourism managers and policymakers can formulate more effective development priorities, allocate resources efficiently, and enhance the long-term competitiveness of ecotourism villages. Accordingly, the proposed framework offers a practical contribution for achieving sustainable tourism development while advancing the implementation of the Sustainable Development Goals through digitally driven and community-oriented tourism management.

CONCLUSION

Fundamental Finding: The BCG analysis revealed that Ciwaluh Ecotourism Village is positioned in the “Star” quadrant, with a business growth rate of 12.81% and a relative market share of 1.82. This indicates that the tourism village has strong growth potential and a competitive market position. **Implication:** The findings imply that a Hold Strategy should be adopted to sustain and strengthen the market performance of Ciwaluh Ecotourism Village. This strategy can be implemented by enhancing human resource competencies, improving tourism infrastructure and accessibility, expanding the utilization of digital technologies, and differentiating tourism services. Furthermore, strengthening digital marketing and fostering active collaboration among government, local communities, and private stakeholders are essential for enhancing destination competitiveness and long-term sustainability. These strategic efforts contribute to the achievement of SDG 8 (Decent Work and Economic Growth) by stimulating local economic development and employment opportunities, SDG 9 (Industry, Innovation and Infrastructure) through digital innovation and technological adoption, and SDG 11 (Sustainable Cities and Communities) by promoting sustainable, inclusive, and resilient community-based tourism development. **Limitation:** The study does not explicitly discuss its limitations. However, it appears to be limited to a single tourism village case study and relies mainly on BCG Matrix analysis, which focuses on market growth and relative market share without considering other strategic, financial, customer, or sustainability indicators. **Future Research:** Future studies could evaluate the effectiveness of specific digital marketing strategies, compare multiple tourism villages, and integrate other strategic analysis tools to provide a more comprehensive assessment of tourism business development. Research may also examine the long-term impact of government support, technological innovation, and social media promotion on tourism performance and sustainability.

AUTHOR CONTRIBUTIONS

Anang Martoyo contributed to the conceptualization of the study, research design, data collection, and project administration. **Neneng Rachmalia Feta** contributed to the research methodology, formal analysis, data interpretation, manuscript drafting, correspondence, and overall supervision of the study. **Rika Astuti** contributed to data collection, literature review, validation, and manuscript review and editing. **Siti Nuryati** contributed to data analysis, visualization, manuscript review and editing, and validation. All authors have read, reviewed, and approved the final version of the manuscript.

CONFLICT OF INTEREST STATEMENT

The authors state that no financial or personal conflicts of interest exist that may have affected the content or findings of this research.

STATEMENT ON THE USE OF AI OR DIGITAL TOOLS IN WRITING

The authors declare that no artificial intelligence (AI) tools or other digital writing assistants were used in the preparation, analysis, or writing of this manuscript. All stages of the research process, including data analysis, interpretation, and manuscript writing, were conducted solely by the authors. The authors take full responsibility for the originality, accuracy, and integrity of the content presented in this article.

REFERENCES

- Andika, A., Nisa, K., Sudarijati, S., Didi, D., Hidayah, A. D. N., Maspupah, S., & Putri, A. K. (2023). Tourism development of Ciwaluh Ecotourism Village in Watesjaya Village Cigombong Bogor District. *Jurnal Pengabdian Masyarakat Formosa*, 2(6), 379–386. <https://doi.org/10.55927/jpmf.v2i6.6800>
- Balqis, F., & Saroso, D. S. (2024). The influence of social commerce construct on social shopping intention: The mediating effects of customers' trust. *International Research Journal of Innovations in Engineering and Technology*, 8(8), 1–9. <https://doi.org/10.47001/IRJIET/2024.808001>
- Bernal Escoto, B. E., Montero Delgado, N. I., & Rivera Aguirre, F. A. (2021). Strategic analysis of sustainable tourism in Baja California against COVID-19. *Sustainability*, 13(7), 3948. <https://doi.org/10.3390/su13073948>
- El Archi, Y., Benbba, B., Zhu, K., El Andaloussi, Z., Pataki, L., & Dávid, L. D. (2023). Mapping the nexus between sustainability and digitalization in tourist destinations: A bibliometric analysis. *Sustainability*, 15(12), 9717. <https://doi.org/10.3390/su15129717>
- Errichiello, L., & Micera, R. (2021). A process-based perspective of smart tourism destination governance. *European Journal of Tourism Research*, 29, 2909. <https://doi.org/10.54055/ejtr.v29i.2436>
- Feng, L. (2022). Application analysis of artificial intelligence algorithms in image processing. *Mathematical Problems in Engineering*, 2022, Article 7382938, 1–10. <https://doi.org/10.1155/2022/7382938>
- Gorb, O., Dorohan-Pysarenko, L., Yehorova, O., Yasnolob, I., & Doroshenko, A. (2022). Boston Consulting Group matrix: Opportunities for use in economic analysis. *Scientific Horizons*, 25(7), 20–30. [https://doi.org/10.48077/scihor.25\(7\).2022.xx-xx](https://doi.org/10.48077/scihor.25(7).2022.xx-xx)
- Green, A. G., Abdulai, A.-R., Duncan, E., Glaros, A., Campbell, M., Newell, R., Quarshie, P., KC, K. B., Newman, L., Nost, E., & Fraser, E. D. G. (2021). A scoping review of the digital agricultural revolution and ecosystem services: Implications for Canadian policy and research agendas. *FACETS*, 6, 1955–1985. <https://doi.org/10.1139/facets-2021-0017>
- Gul, M. (2020). Digital business strategies and competitive superiority. *International Journal of Business Ecosystem & Strategy*, 2(1), 17–31. <https://doi.org/10.36096/ijbes.v2i1.106>
- Guo, K., & Gu, Y. (2022). [Retracted] The construction of smart tourism city and digital marketing of cultural tourism industry under network propaganda strategy. *Security and Communication Networks*, 2022, Article 4932415, 1–12. <https://doi.org/10.1155/2022/4932415>
- Hendrawan, S. A., Trihandoyo, A., & Saroso, D. S. (2023). Implementing technology acceptance model to measure ICT usage by smallholder farmers. *SINERGI*, 27(1), 123–132. <https://publikasi.mercubuana.ac.id/index.php/sinergi/article/view/17486>

- Huang, H., Zhong, W., Lai, Q., Qiu, Y., & Jiang, H. (2020). The spatial distribution, influencing factors, and development path of inbound tourism in China – An empirical analysis of market segments based on travel motivation. *Sustainability*, 12(6), 2508. <https://doi.org/10.3390/su12062508>
- Jiang, Y., & Zhang, N. (2023). Does commerce promote theft? A quantitative study from Beijing, China. *Humanities and Social Sciences Communications*, 10, Article 203. <https://doi.org/10.1057/s41599-023-01706-x>
- Kotler, P., & Armstrong, G. M. (2017). *Principles of marketing* (17th ed.). Pearson Higher Education.
- Liu, C.-H., Horng, J.-S., & Chou, S.-F. (2023). Integrating big data and marketing concepts into tourism, hospitality operations and strategy development. *Quality & Quantity*, 57, 1905–1922. <https://doi.org/10.1007/s11135-022-01426-5>
- Miles, M. P., & Covin, J. G. (2000). Environmental marketing: A source of reputational, competitive, and financial advantage. *Journal of Business Ethics*, 23(3), 299–311. <https://doi.org/10.1023/A:1006214509281>
- Mtisi, S. (2022). The qualitative case study research strategy as applied on a rural enterprise development doctoral research project. *International Journal of Qualitative Methods*, 21, 16094069221145849. <https://doi.org/10.1177/16094069221145849>
- Nekmahmud, M., Ramkissoon, H., & Fekete-Farkas, M. (2022). Green purchase and sustainable consumption: A comparative study between European and non-European tourists. *Tourism Management Perspectives*, 43, Article 100980. <https://doi.org/10.1016/j.tmp.2022.100980>
- Popova, P., Marinova, K., & Popov, V. (2023). Internet of Things and big data analytics for risk management in digital tourism ecosystems. *Risks*, 11(10), 180. <https://doi.org/10.3390/risks11100180>
- Purnomo, S., & Purwandari, S. (2025). A comprehensive micro, small, and medium enterprise empowerment model for developing sustainable tourism villages in rural communities: A perspective. *Sustainability*, 17(4), 1368. <https://doi.org/10.3390/su17041368>
- Saraswati, A. I., Rizqia, Z. N., Kurniawati, L., & Fauzan, F. (2025). The optimization of digital marketing strategy for tourist destination in Ciliang Village, Pangandaran. *ICEETE Conference Series*, 3(1), 112–119. <https://doi.org/10.36728/iceete.v3i1.237>
- Tahir, M. M. F., Suardana, I. W., & Sudana, I. P. (2024). Ecotourism marketing mix strategy in Malagufuk Village, Sorong Regency, Southwest Papua Province. *International Journal of Innovative Science and Research Technology*, 9(7), 603–613. <https://doi.org/10.38124/IJISRT/IJISRT24JUL613>
- Taufik, M., Ibrahim, M. A., Ahmad, B., Suni, M., & Nur, M. (2023). Collaborative government in tourism sector development. *KnE Social Sciences*, 8(17), 530–547. <https://doi.org/10.18502/kss.v8i17.14148>
- Theocharous, A., Kosmas, P., Panagopoulou, M., Andreev, H., Giannoulis, P., Pericleous, K., & Lorentz, K. (2023). Reviving ancient life: Segmentation analysis of the ancient life story tourism prospects. *Academica Turistica: Tourism and Innovation Journal*, 16(1), 103–119. <https://doi.org/10.26493/2335-4194.16.103-119>
- Van der Merwe, A. (1972). Management marketing. *Agrekon*, 11(1), 21–22. <https://doi.org/10.1080/03031853.1972.9523871>
- Yahya, I., Anizar, Khatami, G., & Al Khansa, T. (2020). Development strategy analysis of fertilizer company using BCG matrix method. *IOP Conference Series: Materials Science*

- and Engineering, 851(1), Article 012015. <https://doi.org/10.1088/1757-899X/851/1/012015>
- Yudha, A. P., Andria, F., & Salsabila, A. S. (2025). Analysis of potential and development Purwabakti Tourism Village, Bogor District. *JHSS (Journal of Humanities and Social Studies)*, 9(1), 013–020. <https://doi.org/10.33751/jhss.v9i1.23>
- Yuliarni, N., Hurriyati, R., Disman, D., Hendrayati, H., & Warlina, L. (2023). Marketing strategy of ecotourism in Uzbekistan and Indonesia. *Journal of Eastern European and Central Asian Research*, 10(4), 638–649. <https://doi.org/10.15549/jeecar.v10i4.1359>
- Zéman, Z., & Bogdan, A. (2019). Marketing strategy and building brand value on the Hungarian market. *Ekonomicko-Manazerske Spektrum*, 13(2), 1–9. <https://doi.org/10.26552/ems.2019.2.1-9>
- Zhang, Y., & Deng, B. (2024). Exploring the nexus of smart technologies and sustainable ecotourism: A systematic review. *Heliyon*, 10(11), e31996. <https://doi.org/10.1016/j.heliyon.2024.e31996>

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