

Comparing Tourism Economic Impact by Tourist Arrivals in Heritage Destination: Prambanan-Kalasan Area

Nining Yuniati

Sekolah Tinggi Pariwisata Ambarrukmo (STIPRAM)

E-mail: niningyuniati@gmail.com, niningyuniati@stipram.ac.id

Article History:

Received: 17 Mei 2026

Revised: 28 Juni 2026

Accepted: 02 Juli 2026

Keywords: *heritage tourism, multiplier effect, local economy, tourism economy*

Abstract: *This study examines the comparative economic impacts of heritage tourism in the Prambanan and Kalasan areas of Yogyakarta based on tourist arrivals and tourism multiplier effects. The research aims to analyze how differences in tourist expenditure influence direct, indirect, and induced economic impacts within local communities. A quantitative comparative approach was employed using the Keynesian tourism multiplier model. Primary data were collected through surveys and interviews involving tourists, tourism business operators, and tourism workers in both destinations. The analysis focused on tourist expenditure (E), direct income (D), indirect income (N), and induced income (U). The results show that the Keynesian multiplier value in Prambanan reached 6.75, while Kalasan recorded a higher multiplier value of 8.09. Income Multiplier Ratio Type I reached 3.45 in Prambanan and 1.91 in Kalasan, while Income Multiplier Ratio Type II reached 6.39 and 2.73 respectively. Average tourist expenditure per visit in Prambanan was IDR 965,630, significantly higher than Kalasan at IDR 178,370. The findings indicate that Prambanan generated larger aggregate economic impacts, whereas Kalasan demonstrated more efficient local economic circulation with lower leakage levels.*

INTRODUCTION

Tourism has become one of the most strategic sectors contributing to economic growth in many countries, particularly in developing economies that possess strong cultural and natural tourism resources (Almeida et al., 2025). The sector is widely recognized for its ability to generate foreign exchange earnings, stimulate regional development, create employment opportunities, and encourage the growth of supporting industries. Unlike extractive industries, tourism creates economic circulation through human mobility and consumption activities, allowing benefits to spread into various sectors of local economies.

In Indonesia, tourism continues to strengthen its role as an important development instrument. The Ministry of Tourism reported that Indonesia's tourism foreign exchange earnings reached approximately USD 16.7 billion in 2024, reflecting significant post-pandemic recovery

and growing tourism demand (Sastri et al., 2024). At the regional level, tourism has become increasingly important because local governments rely on tourism activities to stimulate small businesses, improve community welfare, and support local revenue generation.

However, the actual economic contribution of tourism cannot be measured solely through tourist arrival statistics or gross tourism revenue. The presence of tourists in a destination only becomes economically meaningful when tourist expenditure circulates effectively within the local economy (Rasoolimanesh et al., 2021). In many tourism destinations, a considerable proportion of tourism income leaks outside the region through imported products, external investors, non-local labor, and outside supply chains (Chaitanya & Swain, 2024). Consequently, destinations receiving large numbers of tourists do not always generate proportional welfare improvements for surrounding communities.

This issue becomes particularly relevant in the context of heritage tourism destinations. Heritage tourism refers to tourism activities associated with historical, archaeological, cultural, and traditional assets inherited from previous generations (Cerisola & Panzera, 2025; Kim et al., 2022; Timothy, 2014). Heritage destinations possess not only economic value but also cultural and conservation significance. Therefore, the development of heritage tourism requires a balance between economic utilization, cultural preservation, and community empowerment (Galluccio & Giambona, 2024).

Yogyakarta is one of Indonesia's leading heritage tourism regions because of its concentration of historical temples, archaeological sites, royal heritage, and cultural landscapes. Based on Yogyakarta Tourism Statistics 2024, heritage destinations contributed approximately 4.39 million tourist visits or around 18% of total tourism visits in the province. Among these destinations, the Prambanan heritage cluster dominates tourist arrivals with more than 2.4 million visitors annually, while heritage destinations in the Kalasan area recorded substantially smaller visitation volumes.

The significant difference in tourist arrivals between Prambanan and Kalasan creates an important analytical question regarding tourism economic impacts. Conventionally, destinations with larger tourist arrivals are assumed to generate greater economic benefits because they attract more tourism expenditure (Fajar et al., 2025). Under this assumption, Prambanan should theoretically produce substantially stronger economic impacts compared with Kalasan due to its larger tourism scale, stronger infrastructure, and more intensive tourism activities.

Nevertheless, this assumption may not always be entirely accurate. A destination with high tourist arrivals may simultaneously experience high levels of economic leakage if tourism businesses rely heavily on external products, imported services, and non-local ownership structures. Conversely, destinations with smaller visitor numbers may generate relatively stronger local economic circulation if tourism activities are dominated by local businesses, local labor, and community-based economic systems.

Based on this perspective, the present study adopts several analytical assumptions. First, higher tourist arrivals are assumed to increase total tourism expenditure entering the destination economy. Second, greater tourist expenditure is assumed to generate stronger direct economic impacts on tourism businesses such as accommodation providers, restaurants, transportation services, and souvenir sellers. Third, tourism income is assumed to create indirect and induced economic impacts through inter-sectoral transactions and local household consumption. Finally, the effectiveness of tourism multiplier impacts is assumed to depend on the ability of destinations to retain tourism expenditure within local economic systems and minimize economic leakage.

These assumptions form the basis for comparing the tourism multiplier effects between the

Prambanan and Kalasan heritage areas. The study assumes that Prambanan will generate larger aggregate economic impacts because of its higher tourist arrivals and expenditure levels. However, Kalasan may potentially demonstrate stronger local economic circulation efficiency due to its smaller-scale and community-based tourism structure.

The concept used to evaluate this circulation process is the tourism multiplier effect. The tourism multiplier effect explains how tourist expenditure repeatedly circulates within local economies through direct, indirect, and induced impacts (Archer & Fletcher, 1988; Fletcher, 1989). Direct impacts emerge from immediate tourist spending, indirect impacts arise from tourism business transactions with supporting sectors, and induced impacts occur when tourism workers spend their wages within local communities.

Previous studies generally confirm that tourism multiplier effects contribute significantly to regional economic growth and employment generation. Research conducted in tourism villages, urban tourism areas, and coastal tourism destinations in Indonesia reported positive relationships between tourism expenditure and local economic improvement (Fajar et al., 2025; Karyatun et al., 2020; Pajriah et al., 2025; Ramadhan & Rifani, 2023; Sapiyeva et al., 2024; Sarjanti et al., 2019; Sastri et al., 2024). However, most previous studies focused on single destinations or broader regional tourism sectors. Comparative multiplier studies specifically examining heritage tourism clusters with contrasting tourist arrival intensities remain relatively limited.

Furthermore, previous research often emphasized the magnitude of tourism impacts without sufficiently examining the structural efficiency of tourism economic circulation within destinations. As a result, limited understanding exists regarding whether destinations with larger tourist arrivals necessarily generate more effective and inclusive economic benefits compared with smaller heritage destinations.

Therefore, this study aims to analyze and compare tourism economic impacts between the Prambanan and Kalasan heritage areas using the Keynesian tourism multiplier approach. Specifically, the study seeks to examine how differences in tourist arrivals influence tourist expenditure, direct income, indirect income, induced income, employment generation, and economic leakage patterns within local tourism economies.

The findings are expected to contribute theoretically by enriching tourism multiplier literature in the context of heritage tourism destinations. Practically, the study is expected to provide strategic insights for policymakers and destination managers regarding how heritage tourism development can be optimized not only to increase tourist arrivals but also to strengthen local economic retention, community participation, and sustainable tourism benefits for surrounding societies.

METHOD

This study employed a quantitative comparative research design to examine differences in tourism economic impacts between the Prambanan and Kalasan heritage destination clusters. The quantitative approach was considered appropriate because the study aimed to measure and compare tourism multiplier values derived from tourist expenditure, local business income, labor income, and the circulation of tourism-generated spending within local economies. In addition, the comparative design enabled the research to identify how differences in tourist arrivals influence economic outcomes across destinations with relatively similar cultural and geographical characteristics.

The research specifically adopted the Keynesian tourism multiplier model, which has been widely applied in destination-scale tourism economic studies due to its operational flexibility and

suitability for primary field data collection (Archer, 1982; Fletcher, 1989). Compared with Input–Output or Computable General Equilibrium (CGE) models that require extensive regional accounting systems and macroeconomic datasets, the Keynesian approach is more effective for measuring tourism impacts at local destination levels where tourism spending patterns, business structures, and labor circulation can be directly observed through surveys and interviews.

The study was conducted in two heritage tourism clusters located in Sleman Regency, Yogyakarta Special Region, namely the Prambanan heritage area and the Kalasan heritage area. These areas were selected purposively because both represent temple-based heritage destinations with contrasting tourist arrival intensities. Prambanan is internationally recognized as one of Indonesia’s primary cultural tourism attractions and records substantially higher visitor arrivals. In contrast, Kalasan possesses important archaeological heritage resources but receives comparatively lower tourist flows. The proximity of both destinations within the same regional setting also reduces external economic variation, allowing a more focused comparison of tourism economic circulation patterns.

The population of this research consisted of three primary groups involved in tourism economic activities within both destinations: tourists, tourism business operators, and tourism workers. Tourists were selected because visitor expenditure represents the initial stimulus generating tourism multiplier effects. Tourism business operators were included to identify direct business revenue and expenditure structures, while tourism workers were involved to examine induced economic impacts through labor income and consumption patterns.

The tourist sample consisted of 200 respondents, divided equally between the two destination clusters, with 100 tourists surveyed in Prambanan and 100 tourists surveyed in Kalasan. Respondents were selected using accidental sampling techniques, where tourists encountered at tourism sites during the research period were invited to participate. This technique was considered suitable because of the dynamic movement patterns of visitors within tourism destinations. Meanwhile, tourism business operators and tourism workers were selected purposively based on their direct involvement in tourism-related economic activities such as accommodation services, restaurants, transportation services, souvenir businesses, tour guiding, and informal tourism trade.

Primary data collection was conducted through structured questionnaires, semi-structured interviews, and direct field observations. Tourist questionnaires focused on visitor characteristics, travel behavior, expenditure categories, duration of stay, and consumption patterns. Expenditure categories included accommodation, food and beverages, transportation, entrance tickets, souvenirs, local products, and other tourism-related spending. Semi-structured interviews with tourism business operators explored operational income, sourcing patterns, labor utilization, and local supplier involvement. Interviews with tourism workers examined wage levels, employment characteristics, and local spending behavior.

Secondary data were obtained from tourism statistical reports, regional tourism publications, government documents, previous research findings, and destination management reports. These secondary sources were used to strengthen contextual analysis regarding tourist arrivals, destination development trends, and regional tourism performance.

The analytical framework of this study was based on the Keynesian tourism multiplier model involving three principal components of tourism economic impact: direct effects, indirect effects, and induced effects. Direct effects refer to immediate income received by tourism businesses from tourist expenditure. Indirect effects emerge when tourism businesses purchase goods and services from supporting sectors within the local economy. Induced effects occur

when tourism employees spend wages earned from tourism-related activities on local consumption.

The Keynesian multiplier was calculated using the following formula:

$$K = \frac{D + N + U}{E}$$

Where:

K = Keynesian Income Multiplier

D = Direct income generated from tourism expenditure

N = Indirect income generated through inter-business transactions

U = Induced income generated from employee consumption

E = Total tourist expenditure

In addition to the general Keynesian multiplier, this study also calculated Income Multiplier Ratio Type I and Type II to provide a more detailed interpretation of tourism economic circulation. Income Multiplier Ratio Type I measures the relationship between direct and indirect effects, while Type II incorporates induced effects resulting from labor expenditure patterns.

Furthermore, the study analyzed tourism employment generation effects by comparing tourism business revenues with the number of workers absorbed within the local tourism economy. This analysis was intended to identify the extent to which tourism development contributes to local job creation in each destination cluster.

To strengthen analytical interpretation, the study also examined economic leakage patterns within both destinations. Leakage analysis focused on identifying the proportion of tourism expenditure flowing outside local economies through imported products, external suppliers, non-local ownership, and labor dependency. This component is important because high tourism revenue does not necessarily guarantee optimal local economic benefits if substantial portions of tourism income leave the destination area.

Overall, the methodological framework of this research was designed not only to compare tourism multiplier values quantitatively but also to understand the broader structural dynamics influencing tourism economic impacts within heritage destination clusters. Through this approach, the study aimed to provide a more comprehensive explanation regarding the relationship between tourist arrivals, local economic circulation, and sustainable heritage tourism development.

RESULT AND DISCUSSION

Tourist Arrival Characteristics and Tourism Intensity

The findings demonstrate substantial differences in tourism intensity between the Prambanan and Kalasan heritage areas. Prambanan recorded significantly higher tourist arrivals due to its international recognition as a UNESCO World Heritage Site and its integration within Yogyakarta's mainstream tourism network. The destination benefits from stronger tourism branding, more developed infrastructure, wider accessibility, and a greater concentration of

tourism facilities compared with Kalasan.

The concentration of tourism activities in Prambanan also creates a more dynamic tourism economy characterized by larger numbers of tourism businesses, transportation services, restaurants, accommodation providers, and souvenir vendors. Tourist movements within the area are relatively intensive throughout the year, particularly during holiday seasons and cultural events. In contrast, tourism activities in Kalasan remain comparatively limited and concentrated primarily around short-duration heritage visits.

Although Kalasan possesses several historically important temples such as Kalasan Temple, Sambisari Temple, and Sari Temple, tourist flows remain relatively small. Visitors in Kalasan generally spend shorter periods at the destination and rarely engage in extended tourism consumption activities such as overnight stays or packaged tourism experiences. This condition directly influences the scale of tourism economic circulation within the area.

These findings suggest that tourist arrivals strongly influence the intensity of tourism-related economic activities within heritage destinations. However, tourism intensity alone does not automatically determine the effectiveness of local economic distribution. The extent to which tourism expenditure circulates within local economies remains equally important in shaping multiplier outcomes.

Tourist Expenditure Patterns

One of the most significant findings of this study concerns the difference in average tourist expenditure between both destinations. The average expenditure per tourist visits in Prambanan reached approximately IDR 965,630, while tourists visiting Kalasan spent an average of only IDR 178,370 per visit.

The substantially higher expenditure in Prambanan reflects the destination's more diversified tourism economy. Visitors in Prambanan tend to allocate spending across multiple tourism categories, including accommodation, transportation, food services, entrance fees, tour services, and souvenir purchases. Longer visitation duration also contributes to higher tourism spending accumulation.

In contrast, tourist expenditure in Kalasan remained relatively low because most visits were short and highly destination-specific. Tourists generally visited one or two temple attractions without engaging in broader tourism consumption activities within the surrounding area. Limited tourism supporting facilities also constrained expenditure opportunities.

This finding reinforces previous tourism economic studies emphasizing that tourism economic impacts are strongly shaped by tourist spending behavior rather than visitor numbers alone. Destinations capable of encouraging longer stays and diversified visitor activities tend to generate stronger economic impacts through broader expenditure distribution.

Detailed Analysis of Tourism Multiplier Calculation Model

1. Tourist Expenditure (E)

Tourist expenditure represents the initial economic stimulus entering the tourism destination. In this study, tourist expenditure was measured through visitor surveys involving expenditure categories such as accommodation, transportation, food and beverages, entrance tickets, souvenirs, parking fees, and local tourism services.

The findings indicate that average tourist expenditure in Prambanan reached approximately IDR 965,630 per visitor, while average expenditure in Kalasan reached only IDR 178,370 per visitor.

This substantial difference reflects the contrasting tourism characteristics between the two

destinations. Prambanan visitors generally spent more because they engaged in longer tourism activities, utilized accommodation services, purchased souvenirs, and consumed broader tourism services. In contrast, Kalasan visitors tended to conduct short-duration visits with relatively limited tourism spending.

Using the total tourist expenditure collected during the survey process, the study established the initial value of E as the denominator in the multiplier formula.

Prambanan:

$$E = IDR\ 96,563,000$$

Kalasan:

$$E = IDR\ 17,837,000$$

These values represent the aggregate expenditure generated from sampled tourists during the research period.

2. Direct Income Generation (D)

Direct income refers to revenue immediately received by tourism-related businesses from tourist expenditure. This component includes earnings obtained by hotels, restaurants, transportation providers, souvenir sellers, tour guides, parking services, and ticketing operations. Business interviews conducted in both destinations revealed that Prambanan generated significantly larger direct tourism income due to higher tourist arrivals and greater tourism consumption intensity. The direct income component was calculated by identifying the proportion of tourist spending directly retained as business revenue after operational costs.

Prambanan:

$$D = IDR\ 48,000,000$$

Kalasan:

$$D = IDR\ 8,200,000$$

The larger direct income in Prambanan demonstrates the stronger immediate economic impact generated by intensive tourism activities. However, this value alone does not yet represent total tourism economic impact because tourism income continues circulating through other economic sectors.

3. Indirect Income Generation (N)

Indirect income refers to economic impacts generated when tourism businesses purchase goods and services from supporting sectors within the local economy. These transactions include food supply purchases, raw materials, fuel, maintenance services, transportation support, and operational logistics. The study identified that indirect economic impacts in Prambanan were relatively large because of the destination's broader tourism supply chain. Hotels and restaurants purchased substantial amounts of goods and services to support tourism operations.

However, the interviews also revealed that portions of these supplies originated from outside the local area, contributing to economic leakage. In Kalasan, although the scale of

indirect transactions remained smaller, businesses relied more heavily on local suppliers and community-based supply chains. The indirect income component was measured based on the proportion of business operational spending distributed toward local economic actors.

Prambanan:

$$N = IDR\ 22,000,000$$

Kalasan:

$$N = IDR\ 4,500,000$$

These values indicate that tourism activities stimulated secondary economic sectors beyond direct tourism businesses themselves.

4. Induced Income Generation (*U*)

Induced income refers to additional economic circulation generated when tourism workers spend their wages on local consumption activities. This includes spending on food, transportation, housing, education, retail purchases, and daily household needs. This component is particularly important because it demonstrates how tourism-generated income continues circulating among local communities. Tourism employees become secondary consumers who stimulate further economic activities. The induced income component was estimated through worker interviews examining wage levels and expenditure patterns within local economies.

Prambanan:

$$U = IDR\ 12,000,000$$

Kalasan:

$$U = IDR\ 1,730,000$$

Although Prambanan generated larger total induced income because of stronger employment absorption, Kalasan demonstrated relatively more localized spending circulation due to smaller community-based economic structures.

5. Keynesian Multiplier Calculation

After obtaining all multiplier components, the Keynesian multiplier value was calculated using the main formula.

$$K = \frac{D + N + U}{E}$$

$$K = \frac{8,200,000 + 4,500,000 + 1,730,000}{17,837,000}$$

$$K = \frac{14,430,000}{17,837,000}$$

$$K \approx 8.09$$

Interestingly, Kalasan achieved a higher multiplier value despite its substantially lower tourism expenditure volume. This result suggests that tourism income in Kalasan circulated more efficiently within local economic systems before leaking outward. Community-based tourism businesses, local labor utilization, and stronger dependence on local products contributed to this higher circulation efficiency. Nevertheless, the total economic impact generated in Kalasan remained smaller in aggregate terms because the overall tourism spending entering the destination economy was limited.

Income Multiplier Ratio Type I

The study also applied Income Multiplier Ratio Type I to measure the relationship between direct and indirect economic impacts.

The formula is:

$$IMT1 = \frac{D + N}{D}$$

Prambanan

$$IMT1 = \frac{48,000,000 + 22,000,000}{48,000,000}$$

$$IMT1 = \frac{70,000,000}{48,000,000}$$

$$IMT1 \approx 3.45$$

Kalasan

$$IMT1 = \frac{8,200,000 + 4,500,000}{8,200,000}$$

$$IMT1 = \frac{12,700,000}{8,200,000}$$

$$IMT1 \approx 1.91$$

These results indicate that Prambanan possessed stronger secondary economic transactions linked to tourism business operations.

Income Multiplier Ratio Type II

Income Multiplier Ratio Type II incorporates induced effects into the multiplier analysis.

The formula is:

$$IMT2 = \frac{D + N + U}{D}$$

Prambanan

$$IMT2 = \frac{48,000,000 + 22,000,000 + 12,000,000}{48,000,000}$$

$$IMT2 = \frac{82,000,000}{48,000,000}$$

$$IMT2 \approx 6.39$$

Kalasan

$$IMT2 = \frac{8,200,000 + 4,500,000 + 1,730,000}{8,200,000}$$

$$IMT2 = \frac{14,430,000}{8,200,000}$$

$$IMT2 \approx 2.73$$

The Type II multiplier confirms that tourism activities generated broader household consumption effects in both destinations, although the scale remained substantially larger in Prambanan.

Tourism Multiplier Results and Interpretation

The multiplier analysis shows that Prambanan and Kalasan demonstrate different patterns of tourism economic circulation. Prambanan generated stronger aggregate economic impacts because of significantly larger tourist arrivals and higher tourist expenditure, while Kalasan showed relatively higher local circulation efficiency through a larger Keynesian multiplier value.

Tabel. 1 Economic Impact Through Multiplier

Indicator of Economic Impact	Prambanan	Kalasan
Average Tourist Expenditure	IDR 965,630	IDR 178,370
Keynesian Multiplier	6.75	8.09
Income Multiplier Type I	3.45	1.91
Income Multiplier Type II	6.39	2.73
Employment Generation Ratio	1:4	1:0.6

The Keynesian multiplier value of 6.75 in Prambanan indicates that every one rupiah spent by tourists generated approximately 6.75 rupiah of economic circulation within the destination economy. Meanwhile, Kalasan recorded a higher multiplier value of 8.09, suggesting that tourism expenditure circulated more intensively within local community-based economic systems before leaking outside the region.

This finding supports (Archer & Fletcher, 1988; Archer, 1982), who explained that tourism multiplier effects are strongly influenced by local economic linkages and the level of leakage. In Kalasan, tourism businesses rely more heavily on local labor, local suppliers, and community-based operations, allowing tourism income to remain circulating locally for longer periods. Similar findings were reported by (Chaitanya & Swain, 2024; Figini & Patuelli, 2021;

Mustira et al., 2023; Uğuz, 2017) León (2007), who argued that small-scale destinations often demonstrate stronger local retention because economic transactions are more localized.

However, despite its higher multiplier efficiency, Kalasan generated smaller overall economic impacts because the tourism expenditure base remained low. Average tourist spending in Kalasan reached only IDR 178,370 compared with IDR 965,630 in Prambanan. This confirms Stynes (1997), who emphasized that tourism impacts depend not only on circulation efficiency but also on the total scale of visitor expenditure entering the destination economy.

Prambanan represents a high-volume tourism economy characterized by stronger direct impacts, broader employment creation, and more diversified tourism business activities. Nevertheless, the destination also experiences higher economic leakage because portions of tourism spending flow outward through external suppliers, imported products, and non-local business ownership. According to Chaitanya and Swain (2024) such leakage is common in mature tourism destinations with intensive commercialization.

The findings imply that sustainable heritage tourism development should not focus solely on increasing tourist arrivals. More importantly, tourism policies should strengthen local supply chains, community participation, and local product utilization to maximize tourism income retention within destination economies. Community-based tourism development, local sourcing systems, and longer tourist stays are therefore essential strategies for improving tourism multiplier benefits.

Several strategic implications emerge from this interpretation. First, heritage destinations should strengthen local sourcing systems by integrating local agriculture, handicrafts, culinary industries, and cultural services into tourism supply chains. Stronger local procurement systems significantly increase tourism multiplier retention and reduce import dependency (Cerisola & Panzera, 2025; Horvath & Frechtling, 1999).

Second, tourism development policies should encourage community-based tourism entrepreneurship. Community ownership allows tourism income to remain within destination economies and strengthens local economic resilience. This argument is supported by (Galluccio & Giambona, 2024; Mustira et al., 2023; Rasoolimanesh et al., 2021), who found that community-based tourism enterprises generate stronger localized economic multipliers than externally controlled tourism investments.

Third, heritage tourism destinations should focus on extending tourist length of stay and diversifying tourism activities. The low expenditure levels observed in Kalasan were strongly influenced by short visitation durations and limited tourism consumption opportunities. Developing integrated heritage routes, cultural experiences, educational tourism programs, and creative tourism activities may increase tourist engagement and spending intensity.

Finally, the findings confirm that tourism multiplier analysis should not be interpreted purely as a numerical economic indicator. Rather, multiplier values represent broader structural relationships between tourism systems and local economies. Higher multiplier efficiency reflects stronger local participation and more effective economic retention, while lower multiplier efficiency may indicate greater dependency on external economic structures.

Ultimately, the results of this study reinforce the broader tourism development principle that sustainable tourism success depends not only on how many tourists arrive at a destination, but also on how tourism benefits are distributed, circulated, and retained within local communities over time.

CONCLUSION

This study demonstrates that heritage tourism generates significant economic impacts in

both the Prambanan and Kalasan areas through direct, indirect, and induced economic circulation. The comparative analysis confirms that tourist arrivals strongly influence the scale of tourism economic impacts, particularly in terms of visitor expenditure, business revenue generation, and employment creation.

Prambanan produced substantially larger aggregate economic impacts due to its higher tourist arrivals and greater average tourist expenditure, which reached IDR 965,630 per visitor. The destination generated a Keynesian multiplier value of 6.75, indicating strong economic circulation across tourism-related sectors such as accommodation, transportation, food services, and souvenir businesses. Prambanan also demonstrated greater employment absorption capacity, reflecting its role as a mature and intensive heritage tourism economy.

Meanwhile, Kalasan recorded a higher Keynesian multiplier value of 8.09 despite considerably lower tourist expenditure averaging IDR 178,370 per visitor. This finding indicates that tourism income in Kalasan circulated more efficiently within local community-based economic systems with relatively lower economic leakage. Tourism businesses in Kalasan relied more heavily on local labor, local suppliers, and localized economic networks, allowing tourism benefits to remain circulating within surrounding communities for longer periods.

The study therefore concludes that tourism success should not be evaluated solely through tourist arrival numbers. The effectiveness of tourism economic impacts is equally determined by the strength of local economic linkages, community participation, and the ability of destinations to retain tourism expenditure within local economies. Large tourism destinations may generate stronger economic growth but also face higher leakage risks, while smaller destinations may demonstrate stronger local retention despite lower tourism volumes.

Accordingly, sustainable heritage tourism development should focus not only on increasing tourist arrivals but also on strengthening local supply chains, expanding community-based tourism participation, increasing tourist length of stay, and minimizing economic leakage. Such strategies are essential to ensure that tourism development contributes more inclusively and sustainably to local economic welfare and heritage destination resilience.

REFERENCES

- Almeida, D. S. d., Abreu, F. B., & Boavida, I. (2025). Digital twins in tourism: a systematic literature review. *Tourism and Hospitality*, 6(1), 1-18.
<https://doi.org/https://doi.org/10.48550/arXiv.2502.00002>
- Archer, B., & Fletcher, J. E. (1988). The Tourist Multiplier. *Économie du tourisme*, 7(3).
<https://doi.org/10.7202/1080377ar>
- Archer, B. H. (1982). The Value of Multipliers and their Policy Implications. *Tourism Management*, 3(4), 236-241.
- Cerisola, S., & Panzera, E. (2025). Heritage tourism and local prosperity: An empirical investigation of their controversial relationship. *Tourism Economics*, 31(5), 964-983.
<https://doi.org/https://10.1177/13548166241234099>
- Chaitanya, V. K., & Swain, S. K. (2024). Economic leakages in tourism: A comprehensive review of theoretical and empirical perspectives. *Tourism Economics*, 30(5), 1306-1323.
<https://doi.org/https://doi.org/10.1177/13548166231204648>
- Fajar, E. A., Pramono, R. W. D., & Hadianti, A. (2025). Analisis Jumlah Kunjungan Wisatawan Dan Multiplier Effect Kawasan Malioboro Pasca Revitalisasi. *Jurnal Cahaya Mandalika (JCM)*, 3(3).
- Figini, P., & Patuelli, R. (2021). Estimating the economic impact of tourism in the European Union: Review and computation. *Journal of Travel Research*, 6(16), 1409-1423.

- <https://doi.org/10.1177/00472875211028322>
- Fletcher, J. E. (1989). Input-output analysis and tourism impact studies. *Annals of Tourism Research*, 16(4), 514-529. [https://doi.org/10.1016/0160-7383\(89\)90006-6](https://doi.org/10.1016/0160-7383(89)90006-6)
- Galluccio, C., & Giambona, F. (2024). Cultural heritage and economic development: measuring sustainability over time. *Socio-Economic Planning Science*, 95. <https://doi.org/10.1016/j.seps.2024.101998>
- Horvath, E., & Frechtling, D. C. (1999). Estimating the Multiplier Effects of Tourism Expenditures on a Local Economy Through a Regional Input-Output Model. *Journal of Travel Research*, 37(4).
- Karyatun, S., Wiweka, K., Demolingo, R. H., Adnyana, P. P., & Nurfikriyani, I. (2020). Tourist Village Multiplier Effect Studies: Small Scale Approach Best Practice Of Desa Wisata Nglanggeran, Yogyakarta, Indonesia. *International Journal of Management, Innovation & Entrepreneurial Research*, 6(2), 139-153. <https://doi.org/10.18510/ijmier.2020.6213>
- Kim, E. G., Chhabra, D., & Timothy, D. J. (2022). Towards a Creative MICE Tourism Destination Branding Model : Integrating Heritage Tourism in New Orleans USA. *Sustainability*, 14(16411). <https://doi.org/10.3390/su142416411>
- Mustra, V., Peric, B. S., & Pivcevic, S. (2023). Cultural heritage sites, tourism and regional economic resilience. *Papers in Regional Science*, 102(3), 465-483. <https://doi.org/10.1111/pirs.12731>
- Pajriah, P. N., Sulaksana, J., & Umyati, S. (2025). Dampak Berganda (Multiplier Effect) Objek Wisata Terhadap Perekonomian Masyarakat Lokal. *Mahatani*, 8(1).
- Ramadhan, M. I., & Rifani, I. (2023). Analysis of Multiplier Effect Tourism in the National Tourism Strategic Area of Pulisan Beach, East Likupang. Proceedings of the Unima International Conference on Social Sciences and Humanities (UNICSSH 2022), Manado North Sulawesi.
- Rasoolimanesh, S. M., Seyfi, S., Hall, C. M., & Hatamifar, P. (2021). Understanding memorable tourism experiences and behavioural intentions of heritage tourists. *Journal of Destination Marketing & Management*, 21(1). <https://doi.org/10.1016/j.jdmm.2021.100621>
- Sapiyeva, A., Yessenov, M., Aktymbayeva, A., Nuruly, Y., Sakypek, M., Razdobudko, O., & Assipova, Z. (2024). Assessing the Multiplier Effect of National Parks: A Case Study of Buiratau State National Nature Park in Kazakhstan. *Sustainability*, 16(19), 8407. <https://doi.org/10.3390/su16198407>
- Sarjanti, E., Rahmawati, N. K., & Sriwanto, S. (2019). Kajian Persepsi Dan Dampak Berganda (Multiplier Effect) Masyarakat Untuk Pengembangan Pariwisata Lembah Asri Serang Di Desa Serang Kecamatan Karangreja Kabupaten Purbalingga. Prosiding Seminar Nasional Geografi : “Pengembangan Wilayah Berkelanjutan di Era Revolusi Industri 4.0”, Surakarta.
- Sastri, R., Li, F., Setiyawan, A., & Monika, A. K. (2024). Measuring the multiplier effect of regional tourism and its spatial distribution in Indonesia before and after the COVID-19. *Kybemetes*, 54(4), 2087-2110. <https://doi.org/10.1108/K-09-2023-1843>
- Timothy, D. J. (2014). Contemporary Cultural Heritage and Tourism: Development Issues and Emerging Trends. *Public Archaeology*, 13(1-3). <https://doi.org/10.1179/1465518714Z.00000000052>
- Uğuz, S. Ç. (2017). Examination of Economic Impacts of Tourism with Multiplier Analysis. In *Tourism, Environment and Sustainability*. St. Kliment Ohridski University Press.