



How Sustainable is Tourism in Bali? Study of the Contribution of the Tourism Sector in the Sarbagita Region-Bali

P. A. S. M. Putri, A. A. S. M. Srihandari, I. G. A. A. Wulandari^(✉), I. K. Darma, A. A. S. Purnami, and I. K. Putra

Department of Economic Development, Warmadewa University, Denpasar, Indonesia
athina.wuland@gmail.com

Abstract. Bali is a tourist island with a lengthy history in the tourism industry. Bali's tourist boom, which has been ongoing since the early 1900s, has enticed capitalists to invest in the island's tourism sector. The increasing rise of the tourist sector raises concerns about the tourism sector's contribution to local communities in Bali, given that the center of international tourism is now sustainable tourism that focuses on economic, social, and environmental elements. This study focuses on the economic component of tourism, specifically how it impacts the welfare of local populations and the rise in Bali's human development index. Based on this, this study intends to assess the contribution of the tourist industry and investment in job opportunities human development indices by focusing on the Sarbagita Region (Denpasar, Badung, Gianyar, Tabanan). Secondary data was employed in this study, which was evaluated using structural equation modeling (SEM). The analytical results demonstrate that the tourist sector's contribution has a direct impact on the Human Development Index but also has a major impact through job possibilities. Direct investment, on the other hand, has a little influence on the Human Development Index but has a big impact on job prospects. This indicates that job opportunities are a full-mediating variable since they can accelerate the impact of the tourist and investment sectors on the Human Development Index.

Keywords: tourism sector contribution · investment · employment opportunities · human development index

1 Introduction

The tourist industry in Bali has a lengthy history. The Dutch colonial authority and its Netherland East Indies Company (VOC) marketed Bali as a tourist destination relatively early in the twentieth century. Bali was formerly an island with distinct customs and cultures, which drew artists and authors from all over the world to visit and eventually reside for a period of time. After experiencing shocks during the independence struggle, the Asian-African Summit in 1955 provided energy for the gradual emergence of Bali tourism until it reached a stage of tremendous development in the early 1970s [1, 2].

Tourism-based development planning became more serious when the Indonesian government commissioned a French consultant to design a master plan for Bali's tourist-based growth (SCETO 1971). The proposal designated Nusa Dua, a region on the island's south coast focused on a desolate and dry peninsula with little human activity and no agriculture, as the location for the intended concentrated large-scale tourism complexes (hotels, spas, entertainment establishments, etc.) Kuta and Sanur, two more nearby villages, were to be developed with infrastructure and hotels [3]. South Bali's economic growth and development are unavoidable. The tourist industry has grown to be the most important part of Bali's economy. According to Harrod-Growth Domar's Model Theory, investment and economic growth are positively associated [4]. To put it another way, the rate of economic growth equals the sum of the saving rate and the output-capital ratio [5].

Profitable capitalists descended in Bali to invest. It becomes appropriate to note the growth of tourist lodging and entertainment in Bali as it gradually became a hill. The annual growth in investment is greater than 30% (estimated year on year from investment realization statistics at the Central Statistics Agency) [6]. Hotel, restaurant, and entertainment facilities are mushrooming in Bali as the years pass. When regarded from one perspective, Bali's moldy hotel, restaurant, and entertainment facilities have a good influence on the community by creating job opportunities. This phenomena has the ability to entice individuals from beyond South Bali and even from outside Bali to come to Bali in the hope of finding a better career. As unemployment falls and people's buying power rises, more and more people will be able to access higher-level education and health-care services, boosting people's well-being and leading to an increase in the human development index. At first sight, the tourist industry in Bali appears to be quite favorable, however the contribution to economic growth is no longer the main measure in determining the contribution of the tourism sector. The substantial and quick changes that have occurred in the world during the last two decades have been paralleled in tourist trends [7].

There is fear that the rise of international tourism toward mass tourism would have a detrimental impact on tourist attractions and environmental sustainability. Sustainable tourism has emerged in the last decade as a result of discussions from the report *Our Common Future* [7], which means that tourism activities must make a positive contribution to the environment of the tourist destination area, improve the economy sustainably, and respect the authenticity of the local community's socio-cultural community. It is commonly referred to as a responsible tourist activity. The issue then becomes, what about Bali tourism, whether it is a tourist activity based on the core idea of sustainable tourism, or how sustainable the tourism sector in Bali is. This is a logical question to arise, given that the tourist industry in Bali is the backbone of the Bali economy, which was previously suspended to death when hit by the covid-19 pandemic wave and is now crawling to recover. This study will look at sustainable tourism from an economic standpoint, namely the impact of the tourist sector and investment to job creation and the human development index.

2 Methods

The trend of sustainable tourism requires all stakeholders to rethink the kontribusi of the tourism sector. Tourism operations must be responsible in a sustainable setting, minimizing negative social, economic, and environmental repercussions. As a result, the purpose of this study is to examine the impact of the tourist and investment sectors to job opportunities and the human development index in the Sarbagita Area (Denpasar, Badung, Gianyar, Tabanan). The Sarbagita region was chosen since it is where the majority of Bali's tourism activities are located. The contribution of the tourist sector in this research refers to the contribution of the lodging and food and beverage supply sectors to the GRDP in the Sarbagita Area for the period 2016–2020. The investment referred to in this study is domestic investment and foreign investment in the Sarbagita Area in 2016–2020. The job opportunities referred to in this study are the large number of people aged 15 years and over who worked in the business field of providing accommodation and drinking food in the Sarbagita Area of Bali Province in 2016–2020, and the Human Development Index is an indicator of human development achievements compiled based on three basic dimensions, namely life expectancy, school life expectancy, average length of schooling and average expenditure per capita in Sarbagita friends from 2016–2020. The data for this study comes from the Bali Province's Central Statistics Agency and was examined using inferential structural equation modeling analysis with Smart PLS analytic tools. The following experiments were carried out: Because the data in this study are secondary, the assessment of the measurement model (outer model) is used to analyze the validity and reliability of the latent variables or indicators utilized in the inquiry, as well as the tests used in this study, specifically as follows.

2.1 Discriminant Validity

Discriminant validity may also be used to assess the reliability of indicators that include latent variables. Cross loading techniques might be used to produce validity discriminants. The AVE Root (Average Variance Extracted or Square Root).

2.1.1 Structural Model Evaluation (Inner Model)

The structural model assessment (Structural Model/Inner Model) is a measurement used to assess the correctness of the model in the context of the entire investigation. The methodologies outlined below will be used to evaluate this structural model.

2.1.2 Structural Model Evaluation Through R-Square (R^2)

The construction of structural models is based on the formulation of research questions or hypotheses (inner models). The structural model's goal is to generate predictions between latent variables. The R Square (R^2) value for each endogenous latent variable as the structural model's predictive force demonstrates this link. R-Square (R^2) is a measure of the strength and weakness of exogenous factors' effect on endogenous variables. Lathan and Ghozali grade R-square as 0.75 (Strong model), 0.50 (Moderate model), and 0.50 (Weak model) (2012).

2.1.3 Structural Model Evaluation via Q-Square Predictive Relevance (Q²)

The Q-Square Predictive Relevance (Q²) statistic is used to assess how well data fits the research model. The value of Q-Square Predictive Relevance (Q²) is 0 (zero) - 1 (one); the closer it is to one (one), the better the research model; the closer it is to zero (zero), the poorer the model. Lathan and Ghozali (2012) define strong weak Q-Square Predictive Relevance (Q²) as 0.35 (Strong model), 0.15 (Moderate model), and 0.02 respectively (Weak model). The Q-Square formula is as follows:

$$Q^2 = 1 - (1 - Rn^2)(1 - Rn^2) \dots (1 - Rn^2) \tag{1}$$

2.2 Hypothesis Test

This test utilizes a statistical test t (t-test) with a significant threshold of 5% to evaluate the relevance of the variables evaluated. (0.05). If the p-value is less than 0.05, the test result is significant. If the p-value is more than 0.05, the test result is insignificant.

3 Results and Discussion

3.1 Outer Model

3.1.1 Discriminant Validity

In this study, discriminant validity was tested, which may be accomplished using cross loading approaches. The analysis yielded the following findings.

Table 1 shows that the loading factor value for each variable’s indication is greater than the loading factor value when they are coupled with other variables. This means that all of the latent variable indicators are accurate and have good discriminant validity.

3.2 Inner Model

3.2.1 Structural Model Evaluation Through R-Square (R²)

R-Square (R²) is a measure of the strength and weakness of exogenous factors’ effect on endogenous variables. The analysis findings indicate the R-Square (R²) values for each endogenous variable as shown below.

Table 1. Cross Loading

	IPM	Investasi	Kesempatan Kerja	Kontribusi Sektor Pariwisata
X2	0,432	1,000	0,513	0,385
Y1	0,773	0,513	1,000	0,720
Y2	1,000	0,432	0,773	0,452
X1	0,452	0,385	0,720	1,000

Table 2. R-Square (R^2)

	R Square	R Square Adjusted
IPM	0,622	0,551
Kesempatan Kerja	0,584	0,535

According to Table 2, the R-Square of each endogenous variable is the Human Development Index (HDI) variable and the employment opportunity variable. In this investigation, the R-Square value was R-Square Adjusted. The adjusted R-Square for the variable HDI is 0.551, or 55.1%. This means that 55.1% of the factors impacting tourism, investment, and job possibilities may explain the HDI variables in the Sarbagita Region, whereas the remaining 44.9% can be explained by variables not included in this study model. The job opportunity variable's adjusted R-Square value is 0.535, or 53.5%. This means that the variable contribution of the tourism and investment sectors explains 53.5% of the variable of job opportunities in the Sarbagita Region, with the remaining 46.5% explained by other factors not included in this study model.

3.2.2 Structural Model Evaluation via Q-Square Predictive Relevance (Q^2)

The Q-Square Predictive Relevance (Q^2) metric measures how well observations on the research model create results. The following formula is used to determine Q-Square Predictive Relevance (Q^2):

$$Q^2 = 1 - (1 - R1^2)(1 - R2^2)$$

$$Q^2 = 1 - (1 - 0.535^2)(1 - 0.551^2)$$

$$Q^2 = 1 - (0.713775)(0.696399)$$

$$Q^2 = 1 - 0.497$$

$$Q^2 = 0.503$$

Based on the previous computations, the value of Q-Square Predictive Relevance (Q^2) is 0.503. Strong weak Q-Square Predictive Relevance (Q^2) is defined by Lathan and Ghozali (2012) as 0.35 (Strong model), 0.15 (Moderate model), and 0.02 correspondingly (Weak model). Q^2 for this research model is 0.503, suggesting that the research model is already highly good, and a Q-Square value more than 0.35 implies a powerful model research model, according to Lathan and Ghozali (2012). Figure 1 illustrates a research model that examines the influence of the tourism industry's contribution and investment on employment and the human development index (HDI).

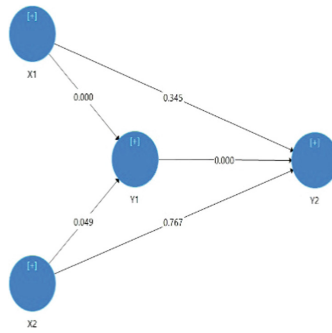


Image Caption :
 X1 : tourism sector contribution
 X2 : investment
 Y1 : job opportunities
 Y2 : human development index (HDI)

Fig. 1. Structural Model of the Relationship Between The Contribution of The Tourism and Investment Sectors With Employment Opportunities and the Human Development Index (HDI)

Table 3. Hypothesis Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Investasi -> IPM	0,052	0,086	0,152	0,341	0,733
Investasi -> Kesempatan Kerja	0,278	0,308	0,131	2,111	0,036
Kesempatan Kerja -> IPM	0,903	0,915	0,205	4,411	0,000
Kontribusi Sektor Pariwisata -> IPM	-0,218	-0,233	0,234	0,932	0,353
Kontribusi Sektor Pariwisata -> Kesempatan Kerja	0,613	0,601	0,111	5,504	0,000

The interpretation of each value contained in each variable will be described in the next section, namely in the hypothesis testing section.

3.3 Hypothesis Testing

The hasisl hypothesis test was derived from the analysis results as shown in Table 3.

3.3.1 The Effect of Tourism Sector Contribution on Employment Opportunities in Sarbagita Region

For the tourist sector contribution variable, the initial sample size was 0.613, and the significant T-table was $5\% = 1.96$. The tourist sector contribution variable (X1) has a T Statistics value of $5.504 > 1.96$. Tourism sector contribution variable values of 0.000

0.005. Based on the findings of the investigation, it is possible to infer that the tourist industry has a favorable and considerable impact on job prospects in the Sarbagita Area.

3.3.2 The Effect of Investment on Job Opportunities in the Sarbagita Area

The initial sample size for the investment variable was 0.278, and the T-table was $5\% = 1.96$ significant. The investment variable (X_2) has a T Statistics value of $2.111 > 1.96$. Investment variable values of 0.036 0.05 Based on the findings, it is possible to infer that investment has a favorable and considerable impact on job prospects in the Sarbagita Area.

3.3.3 The Effect of Employment Opportunities on the Human Development Index (HDI) in the Sarbagita Region

The initial sample size for the investment variable was 0.903, and the T-table was $5\% = 1.96$. The employment opportunity variable (Y_1) has a T Statistics value of $4.411 > 1.96$. 0.0005 values from the employment opportunity variable According to the findings of the investigation, work possibilities have a significant and considerable influence on the human development index (HDI) in the Sarbagita Area.

3.3.4 The Effect of Tourism Sector Contribution on Human Development Index

The original sample for the investment variable was -0.218, and the T-table was $5\% = 1.96$ significant. The tourist sector contribution variable (X_1) has a T Statistics value of $-0.218 < 1.96$. Values from the tourist sector's variable contribution of $0.353 > 0.05$. Based on the findings of the investigation, it is possible to infer that the tourist industry has a negative and minor impact on the human development index (HDI) in the Sarbagita Region.

3.3.5 The Effect of Investment on the Human Development Index

The initial sample size for the investment variable was 0.052, and the T-table was statistically significant at $5\% = 1.96$. The investment variable (X_2) has a T Statistics value of $0.341 < 1.96$. The investment variable has a P Value of $0.733 > 0.05$. Based on the findings, it is possible to infer that investment has a positive but negligible influence on the human development index (HDI) in the Sarbagita Area.

3.4 The Effect of Tourism and Investment Sector Contribution on Employment Opportunities

According to the study's findings, the tourist sector's contribution has a favorable and considerable impact on the sector's job chances. This implies that if the tourism sector's contribution rises, so will the tourism sector's job chances in tourist locations. This is due to the fact that the Sarbagita Area has a large number of tourism enterprises that may absorb workers to work in the hotel or tourism sectors. The tourist business, as the sector that contributes the most to economic growth in Bali and Sarbagita in particular,

is undeniably important in terms of the availability of commodities that support tourism, such as transportation, housing, entertainment, and services. As a result, the availability of supporting elements for the tourism sector may affect job opportunities. The more a region's tourist business offers, the more job possibilities it creates, which can boost regional welfare by increasing labor absorption. According to Shavinia Fitri's (2018) study, *The Influence of the Tourism Industry on Job Opportunities in the Tourism Sector in Bali Province in 2012–2015*, the number of hotels and restaurants, tourist attractions, and tourist travel agencies all have a significant effect on job opportunities in the tourism sector in Bali Province.

According to the findings of the study, investment has a favorable and considerable impact on job chances. Investment is a crucial aspect in achieving economic growth and overall economic development. Why are economic growth and economic development distinguished in this discussion. Economic development success is more qualitative, including changes in the organization of production and the distribution of inputs in numerous sectors, including tourism. The increase in investment in the Sarbagita Area is inextricably linked to the rapid development of demand for the tourism sector in the Sarbagita Area, particularly in Badung regency, so that investment or investment taps are opened both domestically and internationally to accelerate the development process of the Sarbagita Area. Investments are made in order to optimize total output at a certain point in time or over a specific time period. The amount of investment made or realized has a substantial influence on labor absorption in a society, and a lack of investment leads to unemployment (Sukirno, 1994: 117). This is confirmed by data from the Central Statistics Agency of Bali Province, which reveals that labor absorption in the commerce, restaurant, and hotel sectors is the largest dynamically in the year compared to employment in other sectors. The findings of this study are supported by prior research by Dharma and Johan, which found that investment had a favorable and substantial influence on job chances [19].

3.5 The Effect of Tourism and Investment Sector Contribution on Human Development Index Through Employment Opportunities

The tourist sector's contribution has a negative and minor influence on HDI. According to the findings of this study, the contribution of the tourist industry has no direct influence on HDI. The negative impact of the tourist sector's contribution to HDI contradicts the welfare hypothesis, which states that the more the sector's contribution to the economy, the higher the region's opinion. This occurred as a result of the Covid-19 Pandemic, which pioneered Bali tourism, with an emphasis on the Sarbagita Area. The same is true for investing. Investment has a small but favorable impact on HDI. According to the HDI idea, the indicators that comprise the HDI are the average length of education, life expectancy, and average per capita spending, hence the conclusions of this study are rational in principle because the tourist and investment industries are not HDI shapers/indicators. In actuality, even if the tourist and investment sectors are not the shapers/indicators of HDI, they nonetheless have an impact on HDI, although slowly since the study's findings show that the effect is modest.

Based on data from the Central Statistics Agency of Bali Province, investment in the Sarbagita Area moves dynamically in a time series; however, investment in Badung

Regency is far above the other three regencies/cities in the Sarbagita Area, causing development patterns to be non-uniform and employment to be uneven, affecting community welfare. According to Hendri Panggayuh's [20] study titled *The Effect of Capital Expenditure and Investment on the Economic Development of Regencies/Cities in Central Java Province* "Investment did not affect the rate of economic growth. The allocation of capital expenditures and investments affect the income per capita together and partially. The allocation of capital expenditures and investment affect poor people together, if partially obtained that the investment variables that negatively affect the percentage of poor people, while the variable capital expenditure does not affect the percentage of poor people. The allocation of capital expenditures and investments do not affect the level of unemployment together and partially."

Job possibilities have a large and favorable impact on HDI. This might be due to the high elasticity of labor demand, which means that an increase in job prospects will be followed by a fall in salary levels, or vice versa. Economic growth, as a result of increased investment, creates more job opportunities for local communities, and this is one of the primary means for human development to occur in a sustainable manner. In this case, the employment of bridges between economic growth and human development is an important pillar in development. Growing work options that can boost employment in the process of increasing labor absorption in its course would raise the per capita income of the community and reduce unemployment, allowing individuals to access higher education and health care facilities.

According to the study's findings, the tourism sector in Kawasab Sarbagita contributes to the realization of sustainable tourism from an economic standpoint because it meets the criteria of promoting proper long-term economic operations, providing equitably distributed socio-economic benefits to all stakeholders, including stable employment and income opportunities and social services to accommodate communities, and contributing to poverty alleviation. The contribution, however, should be reviewed because the study did not quantify the socioeconomic benefits distributed fairly to all stakeholders. Similarly, the evaluation of job stability in the tourism sector as a consequence of significant momentums such as the 1997 Asian monetary crisis, the Bali Bombings 1 and 2, and the Covid-19 Pandemic demonstrate how sensitive the tourism industry is because to its reliance on the outside world.

Acknowledgments. The authors thanked The 3rd International Conference on Business Law and Local Wisdom in Tourism for the opportunity that has been given so that we can disseminate the results of our research.

Authors' Contributions. The author's contribution to this study issue is that he discovered the impact of the tourist and investment sectors on job chances and HDI, where these variables are connected to sustainable tourism. The authors discovered that the tourist industry has a direct impact on HDI but also has a major impact on HDI through job possibilities. Similarly, investment has an impact on HDI, but it has a considerable impact on HDI through job prospects.

References

1. Picard, M. (1996). *Bali. Cultural tourism and touristic culture* (p. 231). Archipelago Press.

2. Vickers, A. (2013). Bali Membangun kembali Industri Pariwisata: 1950-an. *Journal of Bali Studies*, 3(2), 1-38.
3. Romanos, M., & Jenkins, L. D. (2013). Changing cultural developments along a tourist route in Bali. *Almatourism-Journal of Tourism, Culture and Territorial Development*, 4(8), 19-31.
4. Najeb, M. (2014). A contribution to the theory of economic growth: Old and New. *Journal of Economics and International Finance*, 6(3), 47-61.
5. Boianovsky, M. (2018). Beyond capital fundamentalism: Harrod, Domar and the history of development economics. *Cambridge Journal of Economics*, 42(2), 477-504.
6. <https://bali.bps.go.id/publication/download.html?nrbvfeve=ODBjMjJiNTZkZjc1ODg4ZmYyZWZlZTRl&xzmn=aHR0cHM6Ly9iYWxpLmJwcy5nby5pZC9wdWJsaWNhdGlvbI8yMDIyLzAyLzI1LzgwYzIyYjU2ZGY3NTg4OGZmM2VjZWU0ZS9wcm92aW5zaS1iYWxpLWRhbGFTLWZ2thLTIwMjJuaHRtbA%3D%3D&twoadfnoarfeauf=MjAyMi0wNy0yOSAxMDoxODoxNQ%3D%3D>
7. Butler, R. W. (1999). Sustainable tourism: A state-of-the-art review. *Tourism geographies*, 1(1), 7-25.
8. United Nations. Rio+20. Report on the UN Conference on Sustainable Development. Available online: <http://www.uncsd2012.org/content/documents/814UNCSDD%20REPORT%20final%20revs.pdf>
9. <https://www.unwto.org/sustainable-development>
10. <https://sustainabletourism.net/definitionsandresource/>
11. Lewis, William Arthur. "Economic development with unlimited supplies of labour." (1954): 139-91.
12. Widiastuti, N. K. (2013). Pengaruh Sektor Pariwisata Terhadap Kinerja Keuangan Daerah Dan Kesejahteraan Masyarakat Kabupaten/Kota Di Provinsi Bali. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, 2(5), 292-311.
13. Mudrikah, A. (2014). Kontribusi sektor pariwisata terhadap GDP Indonesia tahun 2004-2009. *Economics Development Analysis Journal*, 3(2).
14. Soritua, Y. (2017). Analisis Peran Sektor Pariwisata Menjadi Pendapatan Utama Daerah (Studi Banding: Peran Sektor Pariwisata di Provinsi Bali). *Referensi: Jurnal Ilmu Manajemen dan Akuntansi*, 3(2), 1-7.
15. Rivera, M. A. (2017). The synergies between human development, economic growth, and tourism within a developing country: An empirical model for Ecuador. *Journal of destination marketing & management*, 6(3), 221-232.
16. Hakim, M. A. A., Suryantoro, A., & Rahardjo, M. (2021). Analysis of the Influence of Tourism Growth on Economic Growth and Human Development Index in West Java Province 2012-2018. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Vol, 4(1)*, 160-169.
17. Fitri, S. (2018). *Pengaruh industri pariwisata terhadap kesempatan kerja di sektor pariwisata di Provinsi Bali Tahun 2012-2015* (Bachelor's thesis, Jakarta: Fakultas Ekonomi dan Bisnis UIN Syarif Hidayatullah).
18. Krismiyanti, N. M. E., & Utama, M. S. Pengaruh Sektor Pariwisata Dan Kualitas Sumber Daya Manusia Terhadap Kesempatan Kerja Dan Ketimpangan Distribusi Pendapatan. *E-Jurnal EP Unud*, 9(6)
19. Dharna, B. D., & Djohan, S. (2016). Pengaruh investasi dan inflasi terhadap kesempatan kerja melalui pertumbuhan ekonomi di Kota Samarinda. *KINERJA*, 12(1).
20. Panggayuh, H. (2016). Pengaruh Belanja Modal dan Investasi terhadap Pembangunan Ekonomi Kabupaten/Kota di Provinsi Jawa Tengah. *Eko-Regional: Jurnal Pembangunan Ekonomi Wilayah*, 11(1).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

