

# A Structural Equation Modeling Approach to Assess Tourism Business Perception and Financial Influences in The Andaman Islands

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## Abstract

The research investigates tourist business perception (TBP) and its influences on important financial performance and growth factors in the tourism industry in the Andaman Islands. The study examined how TBP is mediated through three topics: Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variation (FSV) using a technique called structural equation modeling. It also investigates how these influence TDS (Tourism Development Support). Hotels, homestays, and travel businesses, among other tourist businesses in the Andaman Islands, were surveyed. What they found was that TBP had a big effect on ATF, EI, and FSV. These three factors also show that they are very good at predicting TDS. This shows how important how businesses see things and how their finances are for encouraging tourism growth. It is quite solid that the model can explain all endogenous variables, making them even more significant. People responsible for policy, as well as people who work with tourists, can learn more about how the views of the private sector relate to funding for projects and their outcomes. It states that to sustainably develop tourism in the Andaman Islands, one should focus on liaising with businesses that deal with tourists and conserving funds.

**Keywords:** *Access to Financing(ATF); Andaman Tourism; Economic Impact (EI); Financial Structure Variation(FSV); Sustainable Tourism Development; Tourism Business Perception(TBP); Tourism Development Support(TDS); Tourism Financing.*

## 1. Introduction

The perception of tourism businesses helps to define the future course of tourism development, especially in unique, sensitive ecosystems like the Andaman Islands. Understanding the perceptions of local tourism businesses about the environment in which they operate is vital when devising strategies to promote sustainable development and realize the maximum socio-economic benefits of the tourism sector(To-sun, 2001). The views of tourism businesses, such as hotels and homestays, to travel agents, can affect their decisions about investments, efficiency of operations, and involvement in broader development and tourism initiatives (Rajasekaran & Kannan, 2011; Mohandas et al., 2024). Access to finance, a key enabler of business development, could depend on how stable or potentially profitable the tourism sector is viewed, which is added to by the general views about tourism businesses (Nunkoo & Ramkissoon, 2010).

The economic advantages of tourism, including job creation and revenue generation, are directly related to the attitudes and engagement of the local tourism business stakeholders (Prasad & Kumar, 2022). Variations in financial structures, which represent the structural differences in the resources and investment management, individual businesses can also be influenced by the perceived risk and opportunity in the tourism market(Rahim, 2024). Tourism Development Support, in the form of policy and infrastructure and community interest, is effective when there is considerable knowledge of tourism business stakeholders' perceptions, to ensure that development matches the interests and needs of the private sector(Wilamowski, 2025). The relationships between these three aspects of tourism development again highlight the need for a structural analysis of the relationships that make up tourism development in the Andaman Islands.

A structural equation modeling approach is useful for examining the multi-dimensional relationships between the Tourism Business Perception, Access to Financing, Economic Impact, Financial Structure Variation, and Tourism Development Support (Latip et al., 2018). In this way, we can study all significant pathways simultaneously to gain a more holistic view of the various relationships, including both direct and indirect relationships. For example, we examine the impact of TBP on ATF, EI, and FSV, and consider the various pathways in terms of how business perception translates into results (Johanne et al., 2025). We also assessed the overall impact of all four constructs on TDS, including how business perception and financial structure-specific created action (Danh, 2025). The overall model fit of the explained model (the degree of variance accounted for in the endogenous variables) represents the structural overall merit of the stated relationships, providing evidence of the importance of TBP to tourism development.

The information derived from this structural analysis has serious implications for government and tourism stakeholders (Danh, 2025). If decision-makers understand the relevance of the private sector's perspectives in creating access to finance and tourism development

outcomes, they will be able to take a more sophisticated and advantageous approach to initiating tourism planning. Engaging tourism enterprises in the decision-making process will be vital to creating an environment that brings to bear private sector concerns and needs in the formation of policy (Calef, 2025). The perception analysis would provide useful information to develop specific financial strategies that would position the sector for growth and promote sustainable tourism development in the Andaman Islands (Madhushree et al., 2025). To further examine tourism development and financing, specifically from the viewpoint of private sector participants, the study attempted to answer the following questions:

- 1) To what extent does Access to Financing (ATF) affect Tourism Development Support (TDS), in the case of tourism development in the Andaman tourism sector?
- 2) What roles do Economic Impact (EI) and Financial Structure Variation (FSV) play in predicting TDS?
- 3) What is the influence of Tourism Business Perception (TBP) on ATF, EI, and FSV?

To address these questions, a quantitative research methodology was employed, involving Partial Least Squares Structural Equation Modeling (PLS-SEM) in order to evaluate data collected from 130 tourism businesses' representatives, including owners and managers of hotels, homestays, and travel agencies in the Andaman Islands. The use of PLS-SEM allowed for the evaluation through both direct and indirect effects among the constructs involved and gained valuable insights into the financial and perceptual influences of tourism development in the area.

### 1.1. Research objectives

- 1) To evaluate the effect of Tourism Business Perception (TBP) on Tourism Development Support (TDS) in the Andaman tourism industry directly (as the dependent variable).
- 2) To examine Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variation (FSV) as mediating variables relating to the TBP to support TDS.
- 3) To evaluate how these mediators collectively influence the strength and direction of TBP's impact on development outcomes.

This research provides insights into the important relationship among business perception, financing conditions, and developmental support of tourism businesses existing in island environments using the Andaman Islands as a case study. The incorporation of ATF, EI, and FSV as mediators adds a greater depth of understanding about the structural relationships in tourism development support. The findings of this research will be particularly useful for decision-makers and regional planners with a focus on sustainable tourism development in naturally sensitive areas. This paper has also put forward a notion for considering the evaluation of stakeholder perception and financial readiness in the context of business operational readiness. While it recognizes the capacity challenges of implementing this notion of financial readiness in island-based tourism systems, it has proposed a model that takes into consideration both the capacity of stakeholders and whether they are engaged in perceived relevant businesses.

### 1.2. Theoretical framework

This study is situated within the Resource-Based View perspective and incorporates Stakeholder Theory to provide a basis for understanding how internal resources and external perceptions influence tourism development outputs. The RBV states that organizations achieve a sustainable competitive advantage via a deliberate and systematic approach towards utilizing valuable, rare, inimitable, and non-substitutable (VRIN) resources (Barney, 1991). In the tourism sector, TBP can be conceptualized as an intangible strategic resource that represents the knowledge, flexibility, and preparedness of businesses to respond to development and financial opportunities.

Additionally, the RBV framework advances the notion that business performance and organizational performance in the long term depend on business internal resource management and utilization: access to finance and flexible use of financial structures (Wernerfelt, 1984; Barney & Clark, 2007). The present study identifies Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variability (FSV) as key mediators of resources and capabilities that condition the purchasing potential of business perception that can eventually be transformed into actionable Tourism Development Support (TDS).

Further, Stakeholder Theory (Freeman, 1984) describes the influence of external actors, including government departments, funding agencies, and policy environments, on the strategic decisions of tourism businesses. TBP captures the different ways tourism businesses conceptualize their own internal abilities and the external stakeholder pressures they face around financial decisions relating to support for tourism development. The conceptual model proposed, therefore, includes the internal resource-based logic of RBV, and stakeholder response behavior, and has TDS as the outcome of perceptual and financial mediated behavior.

Hypothesis 1 (H<sub>1</sub>): Access to financing (ATF) has a significant and positive influence on tourism development support (TDS) as perceived by tourism business organizations.

### 1.3. Literature review

#### 1.3.1. Access to financing (ATF) → tourism development support (TDS)

Access to financing (ATF) is an essential enabler of tourism development, particularly in emerging economies where the engagement of the public and private sectors in terms of infrastructure, capacity building, and service improvement is critical (Tosun, 2001). When it comes to tourism businesses, access to sufficient financing impacts their ability to grow their operations; finance for sustainable development is also necessary when supporting tourism actors, and access to financing will impact the ability and opportunity to promote quality improvements (in terms of long-term Tourism Development Support [TDS] outcomes) in tourism (Hall, 2008). Small and medium-sized tourism enterprises (SMTEs) make up a majority in most regions, such as in the Andaman Islands, where the lack of adequate access to institutional credit and capital investment means financial access issues will remain a governance concern (Dredge et al., 2011). This is a structure within which SMTEs can support most aspects of the regional development goals outlined in the respective plans, especially through the capital investment or policy incentives for sustainable tourism (Ritchie & Crouch, 2003).

Research has validated that better access to financing can improve relationships among stakeholders engaging in tourism development because they are more likely to participate in community-level initiatives, work collaboratively on infrastructure projects, and work collaboratively to build capacity (Morrison et al., 1999). Additionally, access to financing can promote innovation and risk-taking, both of which are necessary to respond to the unique environmental and logistical barriers presented by island tourism contexts (Blake & Sinclair, 2003). Nonetheless, there are severe gaps in the literature regarding examining the role of an ATF in stimulating tourism development in India's island system, which involves unique functions of economic, geographic, and institutional considerations that have presented

financing challenges in these environments. The purpose of the study to address this gap is to explore how ATF, as perceived by the tourism business organizations, has influenced their support for tourism development efforts in the Andaman Islands.

Hypothesis 2 (H<sub>2</sub>): Perceived economic impact (EI) does have a positive effect on tourism development support (TDS)

### 1.3.2. EI and tourism development

Stakeholder perceptions of tourism's economic impact (EI) influence their attitudes to perceived tourism development support (TDS). When tourism businesses view positive economic returns, including increased incomes, new jobs, and improved infrastructure, they are more likely to support development opportunities in the sector (Baum & Lundtorp, 2001). The perspective on tourism adding value to a local economy, particularly among isolated or undeveloped areas like the Andaman Islands, where there are limited economic options, can seem transferable to the community and typically perceived positively as aligned with long-term sustainability (Afthanorhan et al., 2017). Having positive perceptions can create legitimacy for tourism policies, encourage collaboration among stakeholders, and encourage businesses to see themselves as players in development planning and implementation (Assaker et al., 2011). Furthermore, if stakeholders believe there is an equitable economic benefit in tourism for their community, then this will enhance local support for destination branding, regulatory compliance, and investment in tourism infrastructure (Fernando, 2021). In situations where a perceived economic benefit aligns with development action, it is particularly strong when tourism is framed as more than a business opportunity, namely, as a vehicle for local or regional uplift (Latip et al., 2018).

Nevertheless, there is still very little empirical research examining the direct influence of EI on TDS in spatial and economically sensitive contexts such as the Andaman Islands. This research aims to address this issue by assessing how tourism businesses' perceptions of economic outcomes affect their willingness to support and be involved in tourism development.

Hypothesis 3 (H<sub>3</sub>): Financial structure variation (FSV) has a positive effect on tourism development support (TDS).

### 1.3.3. FSV and relationship with TDS

Financial Structure Variation (FSV) is the variety and flexibility in the way an enterprise or a tourism business manages and allocates its financial resources. A flexible and diversified financial structure enables an enterprise to be more responsive to market demands, contribute to sustainability investments, and align with the broader context of Tourism Development Support (TDS). For example, tourism businesses located in isolated areas such as the Andaman Islands can increase their resilience and capacity for development by adjusting their financial structures through alternative forms of revenue and partnerships or through active budgeting systems.

Empirical research indicates that firms with diversified or adaptable financial structures have an improved opportunity to participate in community-based tourism, infrastructure development, and civil society projects (Morrison et al., 1999). Such firms are also more likely to access public and private funding sources due to the credibility of their finances and their arrangement with development stakeholders (Wilamowski, 2025). In developing parts of the world, variations in financial structures allow SMEs to avoid capital constraints, run effectively, and play their role in regional tourism development (Mohandas et al., 2024). While its potential is evident, the flexibility of financial structures in fostering TDS in island tourism contexts remains largely unexplored. The purpose of this research is to determine how tourism enterprises in the Andaman Islands understand, perceive, and harness FSV to promote sustainable tourism development. This study will help fill the literature gap with respect to the financial underpinnings of larger local tourism growth.

Hypothesis 4 (H<sub>4</sub>): Tourism business perception (TBP) will have a significant influence on access to financing (ATF).

### 1.3.4. Tourism business perception (TBP) → access to financing (ATF)

The second main contributor to the ease of access to capital is Tourism Business Perception (TBP). When tourism operators view the sector as stable or expanding, they tend to look for investments and enhanced financial support (Dredge et al., 2011). Additionally, when tourism operators have an optimistic view of the evolution and stability of the sector, lenders also invest with greater confidence, thus improving access to credit and attraction of investment funds (Rahim, 2024). In areas like the Andaman Islands, where tourism is key in the economy, a favorable perception attracts support from financial businesses to invest in tourism enterprises. Overall, clarified business confidence in tourism positively contributes towards improved access to financial, for growth and development (Tosun, 2001; Morrison et al., 1999).

Hypothesis 5 (H<sub>5</sub>): Tourism business perception (TBP) has a significant effect on perceived economic impact.

### 1.3.5. Tourism business perception (TBP) → economic impact

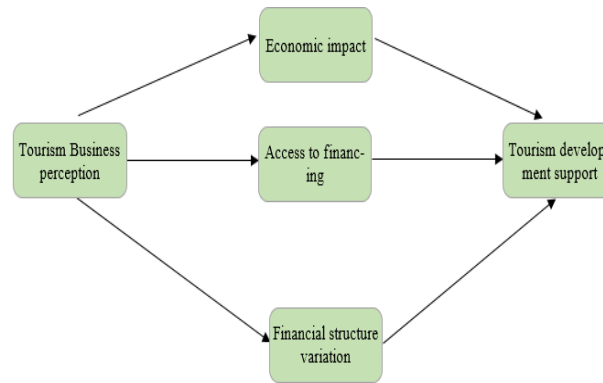
Tourism Business Perception (TBP) can influence tourism operators' perceptions of the economic consequences of tourism. When businesses have a generally positive TBP that reflects on tourism, making local economic impacts, such as jobs created, investments made in local infrastructure, and collectively, other things of value, it instills confidence (Baum & Lundtorp, 2001). Businesses that perceive tourism as economically beneficial are also more likely to champion tourism and be involved in strategies to enhance the positive influences of tourism on the local economy (Johanne et al., 2025). In policy environments like the Andaman Islands, where tourism is a major contributor to the economy, the businesses' more positive perceptions had direct implications for the enterprise support for initiatives related to maximizing the economic benefits (Morrison et al., 1999).

Hypothesis 6 (H<sub>6</sub>): Tourism business perception (TBP) has a positive effect on financial structure variation (FSV).

### 1.3.6. Tourism business perception (TBP) → financial structure variation (FSV)

The effect of Tourism Business Perception (TBP) influences how tourism businesses diversify their Financial Structure Variation (FSV). When tourism operators have a positive perception of the future of the tourism sector, they may also be more willing to diversify their financial structure, diversify funding sources, and mitigate risks by investing in emerging or alternative financial models (Dredge et al., 2011). Having a positive attitude toward the future of tourism encourages businesses to pursue multiple funding options, including partnerships, loans (which find their way into financial plans), equity investments from private or institutional capital partners, which serve to balance financial risks while supporting tourism destination development (Morrison et al., 1999). Tourism is the crucial sector for human and economic growth in regions like the Andaman Islands; thus, positive business perceptions directly facilitate adopting more varied and adaptable financial structures (Baum & Lundtorp, 2001).

### 1.3.7. Conceptual model



## 2. Methodology

### 2.1. Research design

The research design of the study implemented a quantitative approach using data from tourism business organizations from the Andaman Islands, a Union Territory of India. The survey-based approach enabled the researchers to collect primary data from relevant stakeholders with an active role in the tourism industry. To evaluate ATR method relationships, cross-sectional research was considered, as it collected data from respondents at one specific point in time. This quantitative design assessed the relationships empirically between Access to Financing (ATF), Economic Impact (EI), Financial Structure Variation (FSV), Tourism Business Perception (TBP), and Tourism Development Support (TDS). Participants in this study were business owners, managers, and some other key staff of the tourism business sectors on the islands.

### 2.2. Subject groups

Participants were assured that the responses provided would remain anonymous to protect confidentiality. The questionnaire contained no identifiable questions. All respondents received an informed consent form in advance of participating, either orally or in writing, that included the purpose of the research and stated that all information would be treated confidentially. All data collected was stored in a password-protected file, which only the research team had access to. To further protect the identity of respondents, data were analyzed in aggregate form, so that individual scores could not be identified with a specific participant.

The study examined data from 130 respondents from tourism organizations, such as hotels, homestays, and travel agencies, from the Andaman Islands. The respondents were all in a variety of roles (owners, managers, financial and operations staff), and they provided the most nuanced points of view or articulations of tourism growth and financing. Respondents' roles also provided a differentiated approach through a diverse perspective. Stratified random sampling was used to ensure appropriate representation across businesses and types of roles. A sample of 130 is an acceptable sample size for analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) according to the "10-times rule". This rule of thumb maintains that the sample size should be at least 10 times the maximum number of paths directed at only one construct in the model. PLS is also well-equipped to manage complex models and formative measurement structures.

### 2.3. Hypothesis

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test the proposed hypotheses and relationships among the constructs: Tourism Business Perception (TBP), Access to Financing (ATF), Economic Impact (EI), Financial Structure Variation (FSV), and Tourism Development Support (TDS). PLS-SEM was chosen because it is appropriate for moderate sample sizes and is good at estimating models with multiple endogenous variables and complex paths.

The structural model was analyzed with R-square values for the explained variance of the dependent variables and model fit indices such as Normed Fit Index (NFI) and Standardized Root Mean Square Residual (SRMR). This helped in understanding the direct and indirect effects of the constructs in the model, particularly the effect of TBP on ATF, EI, FSV, and TDS, which encouraged a full understanding of the perception of financing and development in the tourism sector of the Andaman Islands.

### 2.4. Empirical validation

The dominant method of analysis employed in this research was Partial Least Squares Structural Equation Modeling (PLS-SEM). The use of PLS-SEM was warranted because it allows for the testing of models with multiple constructs and both direct and indirect paths. Thus, it was particularly useful in exploring the relationships between constructs that are Tourism Business Perception (TBP), Access to Financing (ATF), Economic Impact (EI), Financial Structure Variation (FSV), and TDS, and supporting TBP like TDS. PLS-SEM has an advantage in predictive research designs or supportive systems (as this research aims to do) because, rather than stating how well parameters estimate a model fit (i.e., adequate fit indices), it minimizes the sum of the squared errors by maximizing the explained variance in the dependent variables.

This was especially helpful as this study was exploratory in nature, and thus these outcomes are important. PLS-SEM is also less restricted than Covariate-based SEM in terms of sample size, and can provide the same or very similar results with small to moderate sample sizes (130 in our research study), where Covariate SEM may not be stable. PLS-SEM is also very useful in production and process research, like this study. The five-point Likert-type scale used in our research permitted tourism operators to respond within a continuum of agreement or disagreement about questions related to tourism development and financing in the Andaman Islands. Thus, even if there was a high concentration of tourism operators who believed they had access to financing, there could have been very various nuances and complexities

of beliefs and perceptions in the limitations of that financing for some operators; enough to provide a detailed understanding of tourism operator perceptions, attitudes, and evaluations related to access to financing and development support with their businesses.

## 2.5. Indicators

The goal of this research is to assess how certain constructs influence support for tourism development (TDS) as defined in this study. TDS is based on the perceived availability of institutional, financial, and/or infrastructural support for promoting tourism in the Andaman Islands. The construct is based on literature existing at the time of study inception, with each selected item adapted from studies examining stakeholder and government support for sustainable tourism development (Prasad & Kumar, 2022). "Tourism Business Perception" (TBP) is a key independent variable encompassing tourism operators' (i.e., hotel owners, homestay operators, travel agency personnel) perceptions of tourism's significance to economic growth, funding availability, and institutional support, and includes items with respect to public-private cooperation, investment climate, and tourism policy support (Rahim, 2024).

"Access to Financing" (ATF), "Economic Impact" (EI), and "Financial Structure Variation" (FSV) are mediating variables that provide insight into the construct's indirect contributions to development outcomes through tourism business perception.

ATF assesses how easily tourism companies can access financial or credit for growth and operations (Morrison et al., 1999). EI considers how the economic value of tourism is perceived by the local community in terms of income and jobs (Wilamowski, 2025). FSV evaluates how tourism firms are responsive by adapting their financial means or developing options to meet changing demands in the tourism sector (Baum & Lundtorp, 2001). Each mediating construct will be evaluated as a mediated variable using previously validated items from previous studies that have been shown to develop and shape tourism policy.

## 2.6. Preliminary test

A structured questionnaire was constructed using existing scales that have been validated in previous studies and adapted to this study. We pre-tested the questionnaire on 30 subjects to ensure all measurement constructs passed internal reliability, with Cronbach's alpha ( $\alpha$ ) scores above 0.70. This enabled us to test the clarity and reliability of the items we generated. The demographic characteristics of the participants, including Sex, geography zone, type of Business in terms of size (those with more than or less than 15 employees), type of Business (Nonprofit, for-profit, cooperative), years of operation (leap-year companies with rare irregularity), and the respondent level overview in Table 1. It is important to obtain an ample amount of variation in our sample. Too little variation gives rise to any biases or influences resulting from a narrow contextual limit imposed by the tourism business context.

## 2.7. Integrity standards

All ethical guidelines were followed when carrying out the research. The research authorization was first obtained from the relevant authorities of the Andaman Tourism Ministry during the data collection phase. The research objectivity and possible research findings were clearly explained to those officials who signed the research permission. This study rigorously followed data collection processes and used tools that are ethical to be transparent and to protect the rights of respondents. These factors are important for developing trustworthiness and credibility towards the respondents and, more broadly, the outcomes of the research. Data for this study were from the Andaman Tourism Ministry and IP & T.

## 2.8. The consistency and dependability of results

Factor analysis (FA) was performed to evaluate construct validity (CV) for the measurement model. For internal consistency, Cronbach's alpha ( $\alpha$ ) was used to measure the reliability of the constructs; composite reliability (CR) was used to not only measure the reliability of the constructs (i.e., internal consistency) but also their reliability. All constructs have an average variance extracted (AVE)  $> 0.5$ , indicating that each construct appropriately measures its respective dimensions. The exposure analysis was highly reliable for model evaluation with a minimum sample size of 130.

## 2.9. Survey bias

To test for multicollinearity for each item, the Variance Inflation Factor (VIF) was calculated. Results indicated that there was no indication of multicollinearity as all items had a VIF value less than 5. In this study, VIF values ranged from 1.325 to 2.704. The absence of multicollinearity ensured that there were no problematic associations between the independent variables. Finally, Harman's Single Factor Test examined Common Method Bias (CMB). The results of this test showed that the value was 49.834 for the variables, the variation caused by a single factor was less than 50 percent, and thus, establishing that CMB was not an issue in the study.

# 3. Result Analysis

## 3.1. Descriptive analysis

**Table 1:** Tourism Operators' Demographic Overview

Variable	Particulars	No. of Respondents	Percentage
Gender	Female	10	7.69%
	Male	120	92.31%
Geographical Zone	South Andaman	90	69.2%
	North Andaman	40	30.8%
	Medium Enterprise	65	50.0%
Business Size	Large Enterprise	45	34.6%
	Small Enterprise	20	15.4%
	Hotels	75	57.7%
Types of Business	Homestays	23	17.7%
	Travel Agencies	32	24.6%

Years in Operation	Over 10 Years	70	53.8%
	6-10 Years	35	26.6%
	1-5 Years	20	15.4%
	Less than 1 Year	5	3.8%
Primary Source of Revenue	Mixed Revenue	75	57.7%
	Domestic Tourists	35	26.9%
	International Tourists	20	15.4%
	Owner	55	42.3%
Respondent's Position	Manager	45	34.6%
	Finance Officer	15	11.5%
	Marketing head	10	7.7%
	Staff	5	3.8%

Source: Created by Researcher.

Table 1 shows the demographic profile of tourism operators in this study reveals a significant gender disparity, with 92.31% of respondents being male and only 7.69% female. This suggests that tourism entrepreneurship or leadership roles in the region are predominantly held by men, potentially highlighting barriers to entry for women in the industry. Geographically, most tourism businesses (69.2%) are based in South Andaman, while 30.8% operate in North Andaman. This indicates that South Andaman serves as the primary hub for tourism-related activities, possibly due to higher tourist inflows, better infrastructure, or greater business opportunities. Regarding business size, medium enterprises represent the largest portion at 50%, followed by large enterprises at 34.6% and small enterprises at 15.4%. This distribution suggests a strong presence of established businesses, with fewer small-scale enterprises entering the market, possibly due to financial or operational challenges. The most common type of tourism business is hotels, which account for 57.7% of the sample. Travel agencies make up 24.6%, while homestays represent 17.7%. This dominance of hotels implies that traditional accommodation models remain the preferred choice for both business owners and tourists, while alternative lodging options like homestays are less widespread. In terms of longevity, most businesses (53.8%) have been operating for over 10 years, demonstrating industry stability. A smaller percentage (26.9%) have operated for 6-10 years, while 15.4% have 1-5 years of experience. Only 3.8% have been established for less than 1 year, indicating that tourism businesses tend to be long-term investments rather than short-lived ventures. Revenue sources are diverse, with 57.7% of businesses relying on mixed revenue streams. 26.9% primarily serve domestic tourists, while 15.4% depend on international tourists. This suggests that businesses prefer diversified income models rather than depending solely on one market segment. The roles of respondents within their businesses vary, with 42.3% being owners, followed by 34.6% as managers. Finance officers (11.5%), marketing heads (7.7%), and staff (3.8%) make up smaller portions, indicating that decision-makers and senior roles dominate the surveyed group. Overall, the findings highlight a male-dominated industry with well-established businesses, a preference for mixed revenue streams, and South Andaman as the primary tourism hub. Hotels emerge as the leading tourism business type, while smaller enterprises and homestays remain less common. The tourism sector in this region appears stable, with a strong presence of experienced operators who rely on diversified revenue models for sustainability.

### 3.2. Measurement model

The SMARTPLS output reveals a well-fitting structural model that effectively captures the interrelationships among the core constructs of the study. The model fit indices indicate an acceptable to good fit, with an NFI value of 0.921 confirming a strong model fit. The hypothesized paths were all statistically significant at  $p < 0.05$ , supporting the proposed relationships.

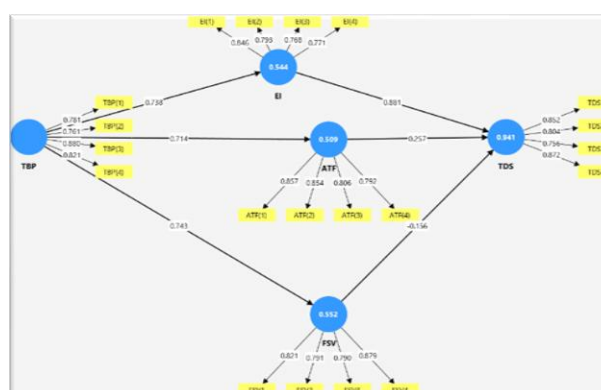


Fig. 1: Measurement Model.

Source: Created by Researcher.

Tourism Business Perception (TBP) demonstrated a strong positive influence on Economic Impact (EI) ( $\beta = 0.731$ ), Access to Financing (ATF) ( $\beta = 0.714$ ), and Financial Structure Variation (FSV) ( $\beta = 0.742$ ), indicating that the way businesses perceive tourism directly shapes financial access, perceived economic contributions, and funding structures. Among the downstream effects, EI had the strongest influence on Tourism Development Support (TDS) ( $\beta = 0.881$ ), followed by ATF ( $\beta = 0.257$ ), while FSV showed a negative yet statistically significant impact ( $\beta = -0.156$ ), suggesting that variability in financial structures might hinder consistent development efforts. The  $R^2$  values further highlight the robustness of the model, especially for TDS, where 94.1% of the variance is explained by the predictors, reflecting the centrality of economic and financial factors in fostering tourism development in the region. Overall, the model underscores the critical role of tourism business perception as a foundational driver influencing financial access, structural frameworks, and ultimately, support for sustainable tourism development.

### 3.2.1. Structural model evaluation

**Table 2: Path Analysis**

Hypothesis	Path	B (Path Coefficient)	Statistical Significance	Result
H <sub>1</sub>	TBP→EI	0.731	P < 0.05	Positive influence
H <sub>2</sub>	TBP→ATF	0.714	P < 0.05	Positive influence
H <sub>3</sub>	TBP→FSV	0.742	P < 0.05	Positive influence
H <sub>4</sub>	EI→TDS	0.881	P < 0.05	Positive influence
H <sub>5</sub>	ATF→TDS	0.257	P < 0.05	Positive influence
H <sub>6</sub>	FSV→TDS	-0.156	P < 0.05	Positive influence

Source: Created by the Researcher.

Table 2 shows that Hypotheses H<sub>1</sub> to H<sub>6</sub> are formulated to examine how tourism business perceptions (TBP) influence key dimensions such as access to financing (ATF), economic impact (EI), and financial structure variation (FSV), and how these in turn affect tourism development support (TDS). Each hypothesis indicates a directional relationship between constructs, which illustrates the interdependence between perceived and financial factors in the tourism industry. The model proposed that there would be positive relationships in all paths, i.e., less favorable perceptions of tourism businesses, ultimately led to an increase in financial accessibility, perceived economic benefits, and financial structuring to be effective, and therefore provided more support for tourism development.

### 3.2.2. Indirect influence of TBP on tourism development support

The analysis supports the structural relationships hypothesized in the study, showing that Tourism Business Perception (TBP) has a significant impact on Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variation (FSV). These three variables have an impact on Tourism Development Support (TDS). The results suggest that tourism businesses' perceptions of tourism can create a cascade of positive outcomes in which the positive perception leads to a greater understanding of the economic impacts, improved access to financing, and enhanced financial structure variation. These factors collectively contribute to stronger support for tourism development initiatives. The study highlights that TBP serves as a foundational driver, and its impact is both direct on financial and economic dimensions and indirect, through the combined effect of ATF, EI, and FSV on TDS. This model reinforces the importance of aligning business perceptions with financial strategies to foster sustainable tourism development in the region.

### 3.2.3. Model fit indices

**Table 3: Model Fit**

Fit Index	Saturated Model	Estimated model	Acceptable Threshold	Status
SRMR	0.107	0.152	≤0.08	Acceptable
D_ULS	2.389	4.852	Closer to 0 is better	Acceptable
D_G	0.548	0.622	Closer to 0 is better	Acceptable
Chi-square	404.880	392.210	Lower is better; sensitive to N	Acceptable
NFT	0.768	0.921	≥0.90	Good fit

Source: Created by Researcher.

The SRMR value is 0.047, which is well below the threshold of 0.08, indicating a good fit. The NFI is 0.921, exceeding the acceptable cutoff of 0.90. Both d\_ULS and d\_G values are low, showing minimal discrepancy between observed and model-implied matrices. Though the chi-square is significant, it's known to be sensitive to sample size, so we look at the overall fit indices, and they suggest that the model fits the data well.

## 4. Discussion

The overall results provide valuable insights into the tourism sector in the Andaman region, revealing key trends in business demographics, revenue sources, and operational characteristics. One of the most striking findings is the gender disparity, with males overwhelmingly dominating the tourism industry at 92.31%, compared to only 7.69% females. This suggests potential challenges for women in entering or sustaining tourism-related enterprises, possibly due to societal, economic, or structural barriers. Addressing gender inclusivity could enhance diversity and innovation within the sector. South Andaman emerges as the primary tourism hub, with 69.2% of businesses operating in this region. Factors such as higher tourist footfall, better infrastructure, and accessibility likely contribute to this concentration. In contrast, North Andaman holds a smaller share (30.8%), which may indicate fewer opportunities or a niche market. The business size distribution shows a dominant presence of medium-sized enterprises (50%), followed by large enterprises (34.6%), while small enterprises make up only 15.4%. This implies that the industry favors mid-to-large-scale establishments, possibly due to the need for significant investments and infrastructure to sustain tourism operations. Limited representation of small enterprises might indicate barriers such as high operational costs or competitive challenges.

Regarding business type, hotels account for 57.7% of operations, making them the predominant tourism service providers. Travel agencies (24.6%) and homestays (17.7%) follow, but they are relatively fewer, suggesting that traditional accommodations remain the preferred business model in the region. The smaller percentage of homestays might indicate either low demand or limited market penetration compared to hotel chains. The longevity of businesses indicates stability, with 53.8% having operated for more than 10 years. This highlights the resilience of the tourism industry, where experienced operators maintain a strong presence. However, the lower percentage of businesses with less than five years of operation suggests that entry into the industry may be challenging for new businesses, requiring significant capital, expertise, and market adaptability.

A notable trend in revenue sources is the preference for mixed revenue streams (57.7%), demonstrating that businesses diversify their income rather than relying solely on one market segment. However, domestic tourists remain a stronger contributor (26.9%) compared to international tourists (15.4%), indicating a reliance on local or regional tourism demand. Finally, the respondent positions within businesses reflect a high level of owner involvement (42.3%), followed by managers (34.6%). The lower percentages of finance officers, marketing heads, and staff suggest that decision-making remains centralized among business leaders. This could impact the operational efficiency, particularly in larger enterprises where specialized roles are necessary for sustainable growth.



The findings of the study provide a comprehensive understanding of how tourism business perceptions (TBP) shape the financial and developmental dynamics within the tourism sector of the Andaman and Nicobar Islands. The structural model reveals that TBP has a significant and positive influence on Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variation (FSV), suggesting that how tourism enterprises perceive the industry strongly determines their access to capital, assessment of tourism's economic contributions, and the flexibility or constraints in their financial structures. The combined variables of ATF, EI, and FSV explained a significant amount of the variation in Tourism Development Support (TDS), with EI as the highest predictor. This demonstrates that businesses' perceived notions of tourism not only impact their internal strategies and financial circumstances but also influence overall regional tourism development. More remarkably, both ATF and EI positively impact TDS, while the FSV experience a negative effect on TDS; however, both indicate the perception of tourism development at any level relies on some form of monetary structure, thus inferring the inability to have a sustainable, consistent monetary structure in any tourism development effort will hinder effective development support. In sum, the findings reiterate the importance of positive perceived notions of tourism development support for tourism businesses, and how these beliefs could open the opportunity for alignment and ultimately enhance sustainable tourism development, such as the alignment of the financial mechanism for equitable business development support services. This is further supported by the high value of TDS  $R^2$  (0.941), demonstrating a strong model and strong practical application for informing policy and investment decisions in tourism.

#### 4.1. Key implications & future considerations

This study's findings indicate several critical policy implications for tourism development in the Andaman and Nicobar Islands. First, given that Tourism Business Perception (TBP) is a strong predictor of several key financial and economic impacts, tourism development policy should focus on enhancing and engaging perceptions of tourism businesses. Governments and industry organizations should emphasize awareness campaigns, provide training programs, and actively revise the perceptions of tourism businesses using consultation methods to promote the overall image of the tourism industry with a focus on the economic benefits and sustainability of the tourism industry. Second, the positive connections among Access to Financing (ATF), the Economic Impact (EI), and Tourism Development Support (TDS) indicate that increasing access to funding and the flow of capital to tourism businesses is essential for a sustainable tourism sector. Policies that minimize or eliminate the barriers to accessing financing, such as low-interest debt, grants, or incentives related to funding green investments, would allow businesses to grow their operations and positively impact the local economy. Furthermore, the negative impact Financial Structure Variation (FSV) had on Tourism Development Support (TDS) suggests that stabilizing the financial systems would also be beneficial. Policymakers would be well advised to develop more consistent financial structures in tourism to minimize inconsistencies and volatility, thereby creating more clarity for businesses to access funding and operate sustainably. Finally, the moderator's role of Green Culture (GC) suggests that developing a strong green culture in the tourism sector increases the overall effectiveness of Green Human Resource Management (GHRM) activities and thus, supports more sustainable tourism development. Policies that assist businesses in developing green practices, provide incentives for businesses to pursue green certifications, and promote sustainable tourism initiatives would help develop a more adaptable and environmentally responsible tourism sector.

## 5. Conclusion

In summary, the results call for a comprehensive approach to policy development that recognizes perception management, affordability, and sustainability to maintain long-term growth and stability of the tourism industry. Overall, the tourism industry in Andaman is established, male-dominated, and heavily concentrated in South Andaman, and primarily favors hotels and mixed sources of income. The industry overall displays stability, with growth predominantly happening in existing firms; creating a sense of inclusion and access to various markets, while also supporting newer businesses, will be important for sustained growth.

To improve sustainable tourism development in the Andaman and Nicobar Islands, it is necessary for policymakers to invest in Bettering the Tourism Business Perception (TBP) through awareness and training more on the economic and environmental benefits of tourism. There should be a focus on Bettering Access to Financing (ATF) through making financial aids available (incentives, loans, grants) and providing reductions in taxes to allow tourism businesses to innovate and grow. To mitigate the negatives drawn from Financial Structure Variation (FSV), tourism businesses should utilize similarities in Financial Structures so that tourism businesses receive assistance in regards to innovative financing, while also providing funding resources that are mostly predictable, so that tourism business funding can build organizational planning and long-term growth. Expanding the industry's Green Culture through environmental donor practices and eco-certifications should encourage sustainable practices and can add the rationale for these practices to foster negotiable public-private partnerships (PPP) to put policy within the reach of the tourism business. Recognizing sustainable measures in tourism plans should include all sustainable diverse characteristics; to ensure growth and resilience can enhance tourism discovery from and with the environment. By Delivery channel, tourism growth has focused on building sector resilience, and can also enable sustainable growth and ensure and promote tourism as a sustainable venture.

#### 5.1. Limitations of the study

This study has revealed much useful information, but there are limitations. First, this research was conducted in the Andaman and Nicobar Islands, and consequently, its findings may not be completely generalizable to another geographical location with a different economic context or tourist activity. Second, the study was based on self-reported data from providers of tourism businesses, so it could be argued that biases (due to personal subjective perception or social desirability) may have affected the accuracy of the results. The sample of one hundred thirty chosen for the research was sizeable, but as tourism organizations consist of a diversity of groups, it could be stated that the sample size was potentially small for teasing apart nuances of the whole population. The study did consider a stratified sampling method with other characteristics taken into account for the regions' area of operation (e.g., tourism zones, different types of tourism business), but this, in effect, would only produce an uninterrupted series of more suggestive rather than infallibly objective results. A third limitation is the extent to which this study assessed the relationships between variables, and it was not able to explore or assess any moderating influences that could arise through external factors like governmental policy or global financial developments, which could have an impact at the time of acknowledgment and acceptance of new tourism developments. Finally, the research was based on cross-sectional data, which has implications that limit the assessment of causation, and the changes cannot be traced through time. A potential future study may ameliorate some of these limitations by widening the geographical and socio-economic context, and by conducting a longitudinal study and considering different factors that can have an influence on the relationships between variables.



## 5.2. Suggestion for future research

Future studies could continue the current study by examining the long-term effects of Tourism Business Perception (TBP) on Access to Financing (ATF), Economic Impact (EI), and Financial Structure Variation (FSV), to understand how these dynamics change over time. It could also be valuable to understand the role of external influences, such as government policy, economic downturn, or outlier disturbances impacting global tourism, in addition to the impact on Tourism Development Support (TDS) from developing economies. Trying to understand the effects of organization characteristics, such as size or experience, on the role of TBP for financial returns could also be pursued; this could result from financial access, in terms of differences in business size, or limited access because of less organizational experience with sustainable practices. Furthermore, the results of this study could further advance the knowledge base by extending the study to include other regions or tourism sectors to provide comparative findings on the manifestation of these relationships. This would also allow for improved generalizability of the results. Additionally, adding qualitative methodology (in the form of interviews) to the research could allow key stakeholders (e.g., tourism providers, policymakers, financing institutions) to describe these relationships at a more causal level and could generate tangible suggestions to improve policy and business activity.

## Author Contribution

The author confirms that they are the only ones who did the study, analyzed the data, interpreted the results, and put together the manuscript.

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## Data Availability

The data used in the article are identified in the references.

## Declarations

## Ethical Statement

I hereby declare that the manuscript is the result of my independent creation. Except for the quoted contents, the manuscript does not contain any research achievements that have been published or written by other individuals or groups. Dr. T. Ramachandran contributed to the review and supervision of the manuscript. All other aspects of the study, conceptualization, data collection, analysis, interpretation, and writing were carried out by Roshnee Rita. The legal responsibility of this statement shall be borne by Roshnee Rita.

## Conflicts of Interest

The authors declare no conflicts of interest.

## Ethics Approval

Not applicable.

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