

Exploring the Current Structure of the Business Ecosystem in the Indonesian Travel Agency Subsector

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ABSTRACT: The wave of digital transformation has shaken the foundations of Indonesia's tourism industry, disrupting long-established structures and forcing the travel agency subsector to adapt, evolve, or risk obsolescence. This study explores the current structure of the business ecosystem within Indonesia's travel agency subsector. Using a qualitative approach, data were gathered through document analysis, in-depth interviews, and focus group discussions (FGDs) with key stakeholders. The analysis adopts a business ecosystem perspective to map actors, relationships, and value flows shaping the ecosystem's structure. Findings reveal a diverse range of interdependent actors. Central and local governments act as regulators and funders. Academia contributes research and human resource development, while associations foster networking and training. Investors assess regulatory clarity and risks before committing capital. Media influence tourism perceptions and share industry news. Suppliers provide core services such as transport and accommodation. Both conventional and online travel agents bridge tourists and suppliers. Local communities offer cultural experiences and products, with tourists forming the ecosystem's core through their consumption, data, and engagement. This study offers contextual insights into the ecosystem's current landscape and serves as a foundation for developing adaptive, collaborative strategies to strengthen Indonesia's tourism sector in the future.

KEYWORDS: Business Ecosystem, Digital Transformation, Ecosystem Map, Travel Agency, Tourism Industry.

INTRODUCTION

The tourism industry is one of the strategic sectors that significantly contributes to the national economy through job creation, foreign exchange earnings, and the global promotion of Indonesia's cultural and natural heritage [1]; Badan Pusat Statistik, 2024). Although the sector demonstrates promising growth, Indonesia still lags behind other ASEAN countries such as Thailand, Malaysia, and Singapore in terms of international tourist arrivals and contribution to Gross Domestic Product (CNBC, 2023; UNWTO, 2018). This disparity highlights the need to re-evaluate the structure and strategies of tourism industry players, particularly in the travel agency subsector, which is currently under pressure due to the wave of digital transformation.

The digital disruption, marked by the emergence of online platforms such as Traveloka, Tiket.com, Booking.com, and Airbnb, has altered consumer behavior and reshaped the role of conventional travel agencies. Changes in traveler preferences, which now favor fast, flexible, and personalized technology-based services, have resulted in disintermediation and threatened the sustainability of traditional travel agency businesses [5]. Moreover, regulatory imbalances between digital platforms and conventional players have exacerbated the situation, with local agents feeling they lack equal protection [6]. The government is also perceived as not providing sufficient support in the form of digitalization initiatives, training, or fiscal incentives for the affected small and medium enterprises in the industry.

In this context, developing an understanding of the business ecosystem becomes crucial. A business ecosystem refers to a configuration of actors and relationships that are interconnected in creating shared value within a sector (Moore, 1996; Adner, 2017). This research focuses on exploring the existing structure of the business ecosystem in Indonesia's travel agency subsector, including the identification of actors, their roles, interactions, and the factors influencing the dynamics of these relationships. By mapping this structure, the study aims to provide a more systematic overview of the current realities and serve as an empirical reference for responding to the dynamics of the digital tourism industry in Indonesia.

The objective of this study is to describe the development of the business ecosystem architecture within the travel agency subsector in Indonesia. This research encompasses four main stages: (1) identifying the boundaries of the selected ecosystem, (2) identifying the actors involved and their respective roles, (3) identifying the value propositions and business models of each actor,

and (4) identifying the types of interactions between actors in the ecosystem. This descriptive approach is used to illustrate the current ecosystem configuration in the context of structural transformation within the tourism industry due to digital disruption.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

1. *Tourism Industry*

Tourism is a multidimensional phenomenon encompassing social, cultural, and economic aspects. According to UNWTO (2024), tourism involves the movement of people outside their usual environment for recreational or business purposes for a limited time, and includes interactions between tourists and destinations. In academic contexts, Goodrich (2000) emphasize that tourists are central actors with diverse demographic characteristics, activity preferences, travel motivations, and levels of technology adoption.

The development of the tourism industry requires a systemic approach. The A5 Framework model outlines five key components for destination development: attractions, accessibility, amenities, promotional activities, and administrative policy [11]. This approach highlights the need for synergy between public and private sectors to ensure sustainable and inclusive tourism growth.

Alongside changing tourist behavior and technological advancements, tourism development is shifting from a quantitative orientation (mass tourism) toward enhancing the quality of the experience (experience-based tourism). Page (1994) stress that destination development strategies must accommodate the needs of modern tourists, who are increasingly aware of sustainability and seek authentic and personalized experiences.

In practice, the modern tourism industry is also driven by active participation of local communities and the use of digital technology. The success of a destination is no longer measured solely by visitor numbers, but also by its contribution to local empowerment, cultural and environmental conservation, and service innovation. Therefore, the roles of government, business actors, local communities, and digital technology are becoming increasingly crucial in building an adaptive and resilient tourism ecosystem.

2. *Tourism 4.0*

Tourism 4.0 is a concept that emerged in response to the Fourth Industrial Revolution, marking the transformation of the tourism sector through the integration of advanced digital technologies such as the Internet of Things (IoT), Artificial Intelligence (AI), Big Data, Cloud Computing, as well as Augmented and Virtual Reality (AR/VR). This transformation has fundamentally changed the way tourism services are designed, delivered, and consumed [12].

Within the framework of Tourism 4.0, digitalization functions not only as a tool for promotion and booking, but also as a core system for creating added value based on personalized, adaptive, and real-time tourism experiences. Technology enables the collection and processing of large-scale tourist data to shape services that are more responsive to individual preferences [13]. This drives the emergence of a digital tourism ecosystem centered around the customer experience (customer-centric ecosystem).

The implementation of Tourism 4.0 also strengthens cross-sectoral collaboration among industry players, government, academia, and local communities. The integration of digital platforms enables these actors to share information, expand market reach, and foster co-creation-based innovations. In this regard, technology utilization not only enhances operational efficiency but also creates potential for social and economic transformation at tourism destinations.

However, the adoption of Tourism 4.0 also presents challenges, including digital divides between regions, data privacy issues, and the need to improve human resource capacity in technology utilization. Therefore, the development of Tourism 4.0 must be accompanied by policies that support digital literacy, adaptive regulation, and strong collaboration among stakeholders.

3. *Trends and Behavior of Modern Tourists*

Tourist behavior in the digital era has undergone a fundamental shift due to advances in information technology, changing social values, and growing awareness of sustainability. Modern tourists are now more independent, connected, and critical. They no longer rely on conventional travel agencies but instead utilize various digital platforms such as Online Travel Agencies (OTAs), social media, blogs, and review sites to find inspiration, plan, and evaluate their travel experiences in real time [14].

This transformation indicates that travel experiences are no longer merely service transactions, but have evolved into a multi-layered process that is emotional, adaptive, and personal. To understand this complexity, the Travel Journey Mapping approach is used to map tourist interactions at each stage of their journey. This approach divides the travel experience into six phases: inspiration, shopping, booking, pre-trip, in-trip, and post-trip—each with distinct information needs and service touchpoints [15].

Table 1. Travel Journey Mapping

Travel Stage	Tourist Activities
Inspiration	Viewing friend's posts, searching for vacation destinations, sharing ideas with family/friends
Shopping	Searching for flights, hotels, rental cars; comparing prices; reading reviews
Booking	Choosing the best price & itinerary; booking flights and hotels; creating user accounts
Pre-trip	Preparing the trip; planning activities
In-trip	Booking tours & activities; looking for restaurant recommendations; checking itinerary
Post-trip	Return flight; baggage collection; giving reviews and feedback

In line with this mapping, Benckendorff et al. (2019) identified ten major trends shaping modern tourist behavior and driving the transformation of the tourism industry. These trends include:

- 1) Artificial Intelligence (AI) and Personalization: Enables travel recommendations based on user behavior and preferences.
- 2) Information Fragmentation and Digital Platforms: Travelers rely on various digital sources beyond official destination websites.
- 3) Technology Convergence and Mobile-First Behavior: One device serves all travel functions, offering high flexibility.
- 4) Storytelling and Emotion: Narrative content becomes more attractive than mere factual information.
- 5) Big Data and Predictive Analytics: Used to understand travel patterns and develop more precise service strategies.
- 6) Robotics and Automation: Automated hotel check-ins, digital information services, and AI-powered airport systems.
- 7) Blockchain: More secure and transparent transactions in digital travel bookings.
- 8) Sustainability and Green Technology: Adoption of energy-saving sensors and low-carbon transportation.
- 9) Virtual and Augmented Reality (VR/AR): Immersive destination exploration prior to physical travel.
- 10) Open Ecosystems and Data Interoperability: Interconnected tourism platforms that simplify service integration across providers.

These ten trends show that tourists are no longer merely service consumers, but also value creators and distributors within the digital tourism ecosystem. In this context, travel agents and industry players are required to design data-driven services, adapt to tourists' digital journeys, and be prepared to transform within a more open and collaborative ecosystem.

4. Business Ecosystem

In today's digital era, marked by disruption and complexity, the business ecosystem approach has emerged as a dominant strategic framework for understanding how industry actors interact, share value, and adapt collectively to achieve common goals. Within this framework, a business ecosystem is understood as a collaborative network consisting of firms, consumers, regulators, academics, media, and local communities that co-evolve within a dynamic and interdependent value system (Adner, 2017). However, despite the promise of synergy, the reality of digital transformation often reveals underlying tensions. As Wardhani & Noviaristanti (2023) emphasize, the failure of digital transformation is frequently caused by a mismatch in the integration of resources between actors, particularly when their coordination relies on informal "rules of the game" that are not consistently shared or understood across the ecosystem. This highlights the critical need for clear alignment and structured collaboration among ecosystem participants to fully realize the potential of digital innovation.

The concept of the business ecosystem was first introduced by Moore (1993) who argued that companies do not operate in a vacuum, but rather as part of an interconnected ecosystem. In this model, there are three main layers: core business (the central value creators), extended enterprise (supporting operational partners such as suppliers and direct customers), and the business ecosystem (strategic actors such as government, investors, associations, and competitors). This approach emphasizes the importance of cross-sectoral collaboration to create shared value and enhance collective competitiveness. Thus, business strategy should not focus solely on competition, but also on coexistence and synergy among actors within an interdependent system (Moore, 1993).

In the context of the tourism industry, the ecosystem not only connects key actors such as travel agents and service providers (suppliers), but also establishes relationships with tourists, digital platforms, and regulatory authorities. These relationships are not linear; rather, they are based on value exchange, data sharing, and cross-role interactions. This intensive interconnectedness creates a complex structure that requires systematic mapping and a clear modeling framework.



To address this need, Ma et al. (2021) developed a business ecosystem modeling approach consisting of three main components: architecture development, factor analysis, and simulation and reconfiguration. One of the crucial elements in the initial stage is Part I: Business Ecosystem Architecture Development, which is elaborated into four key steps, as shown in the table below.

Table 2. Stages of Business Ecosystem Modelling

Section	Stage	Business Ecosystem Modelling
Business Ecosystem Architecture Development	1	Identifying the boundaries of the selected ecosystem
	2	Identifying the actors and their roles within the ecosystem
	3	Identifying the value propositions and business models of the actors
	4	Identifying interactions among actors (various types of interactions)

Source: Ma et al. (2021)

This approach emphasizes the importance of not only identifying who the actors are, but also understanding how they are interconnected, what contributions they bring to the ecosystem, and how the value architecture is formed through collaboration or competition. This model is highly relevant for application in the context of digital travel agencies, where the ecosystem architecture is open and constantly evolving according to traveler trends and technological developments. For example, Online Travel Agencies (OTAs) act as connectors between suppliers and travelers, while local communities add value through cultural experiences. The government serves as a facilitator for policies and infrastructure, while the media shapes public perception and promotes destinations.

The business ecosystem involves not only companies and suppliers but also a wider range of actors such as individuals, business communities, academic institutions, media, and consumers, all of whom are interconnected and cannot be separated from one another [18]. By understanding the business ecosystem as a complex yet structured system, tourism industry players can develop strategies that are more contextual and resilient to market dynamics. This framework also provides a foundation for further studies on interaction simulation, ecosystem performance measurement, and data-driven policy formulation for the development of a more inclusive and sustainable tourism sector.

RESEARCH METHODS

This study employs a qualitative approach with a descriptive-exploratory design. A qualitative method was chosen to deeply explore the structure and dynamics of the business ecosystem within the tourism industry, particularly in the travel agency subsector in Indonesia. The strategy used is a case study, guided by an interpretivist paradigm, an inductive approach, and a relativist ontological position. The epistemology follows a social constructivism perspective, where knowledge is understood as a social construction formed through the interactions among actors (Lincoln & Guba, 1985; Indrawati, 2015).

The research design is cross-sectional with minimal researcher intervention to maintain objectivity. The study focuses on mapping the ecosystem structure and actor relationships. Data collection techniques employ triangulation methods, including:

- 1) In-depth interviews with industry practitioners and stakeholders,
- 2) Focus Group Discussions (FGD) with representatives from various elements of the ecosystem, and
- 3) Documentation studies on relevant literature and secondary data.

Respondents were selected purposively based on criteria such as understanding the travel agency subsector, direct involvement in industry activities, managerial or academic experience, and representation from business organizations, government bodies, associations, academia, and investors. A total of 10 key informants from various institutions were involved.

The research stages include initial data collection, problem formulation, literature review, framework development, research design determination, field data collection, data analysis, and conclusion and recommendation formulation. The business ecosystem



modeling refers to the framework proposed by [NO_PRINTED_FORM] [21], consisting of four stages: (1) identifying the ecosystem boundaries, (2) identifying actors and their roles, (3) mapping the value propositions, and (4) analyzing interactions among actors.

To ensure validity and reliability, the study applied source triangulation, technique triangulation, and member checking. Source triangulation was carried out by comparing data from business actors, associations, and government agencies. Technique triangulation compared the results of interviews, FGDs, and documentation. Member checking involved reconfirming findings with informants. Data analysis follows the model proposed by Miles & Huberman (1994), consisting of three main stages:

- 1) Data reduction: Summarizing and focusing on data relevant to the research objectives,
- 2) Data display: Organizing data into narratives, tables, and thematic maps for easier analysis,
- 3) Conclusion drawing/verification: Identifying patterns and meanings, and continuously verifying them until data consistency is achieved.

Analysis was conducted interactively and simultaneously during the data collection process and continued until data saturation was reached. The results are presented in a descriptive narrative to provide a deep contextual understanding of the digital business ecosystem within the travel agency subsector in Indonesia.

RESULTS AND DISCUSSION

This study was conducted to explore the structure of the business ecosystem within the travel agency subsector in Indonesia, particularly those that still operate through conventional services. The research method employed is qualitative with an exploratory approach. Data were collected through in-depth interviews, focus group discussions (FGD), and documentation studies involving various parties engaged in the tourism ecosystem. The data analysis process was carried out through stages of coding, categorization, and mapping of inter-component relationships, using the business ecosystem theoretical framework from Moore (1993) and the ecosystem architecture approach from Ma et al. (2021).

1. Identification of Business Ecosystem Boundaries

In the first stage, this study identified the boundaries of focus to sharpen the scope of the research. The focus was limited to booking activities conducted through conventional travel agencies, excluding fully independent or digital bookings. This limitation is important because, amidst the wave of digital disruption, conventional travel agencies remain relevant to certain market segments. Table 3 outlines the focus and boundaries of the study.

Table 3. Focus and Research Boundaries

Aspect	Research Focus
Booking Model	Booking conducted through conventional travel agencies
Type of Experience	Tourism based on direct physical experience
Primary Supply Chain	Service delivery by agents (trip planning, reservation management)
Research Limitation	Independent digital bookings and direct bookings by consumers are not examined

Source: Primary data, processed, 2025

Next, the study maps out the primary supply chain structure of conventional travel agencies, starting from tourism service providers (suppliers) such as airlines, hotels, and tour operators. These are connected through reservation systems (CRS, ARS, PMS) via global distribution platforms (GDS), followed by reservation services by agents, and ultimately consumption by tourists. In addition, regulatory and strategic support aspects from the government, academia, and associations are also mapped as part of the supporting infrastructure within this ecosystem.

The study also identifies key elements of the conventional travel agency business model, including core activities, market segmentation, and the value propositions offered. These agencies maintain their competitiveness by providing personalized services, administrative travel support (such as visa arrangements, itineraries, and schedule changes), and customized experiences tailored to customer needs. Conventional travel agencies cater to traveler segments that require full-service support and personalization, such



as large families, religious tour groups, business travelers, elderly customers, and premium clientele. They offer convenience in organizing complex trips, document handling, and direct consultation services.

This market remains loyal due to its emphasis on comfort, trust, and personal relationships—values that have yet to be fully replicated by digital platforms. Ongoing support during travel, flexibility, and strong local connections serve as key competitive advantages.

Table 4. Summary of Market Segments

Market Segment	Characteristics & Needs
Large families & educational groups	Require special itineraries, group bookings, and logistical assistance
Religious travelers	Umrah, Hajj, pilgrimage, document assistance, and religious companions
Premium & high-end market	Luxury accommodations, exclusive services, first-class transportation, private tours
Elderly/traditional travelers	Direct consultation, reliance on offline services
Corporations & institutions	Business trip management, administrative reporting, time and cost efficiency
Local communities	Recommendations through social networks, relationship-based loyalty

Source: Primary data, processed, 2025

2. Identification of Actors and Roles in the Business Ecosystem

The tourism business ecosystem, particularly in the travel agency subsector in Indonesia, is a complex system involving various actors with complementary roles. Referring to the business ecosystem model adapted from Moore (1993), this ecosystem structure is divided into three main layers: core business, extended enterprise, and the broader business ecosystem. Each layer features key actors that contribute to co-creating value through synergistic interactions.

At the core business level, conventional travel businesses are at the center of activity, encompassing service providers such as tour operators, tourism information services, tour guides, and tourism consultants. These services are supported by sectors providing accommodation, food and beverages, transportation, as well as MICE (Meetings, Incentives, Conferences, and Exhibitions) and recreational activities. Actors in this layer are directly involved in delivering essential services to tourists and serve as the central point in the industry's value chain.

Moving into the extended enterprise layer, actors that support the continuity of core services are included. The government provides infrastructure, regulations, and strategic policies. Suppliers such as airlines, hotels, technology providers, and insurance companies contribute core products and services. Tourists, as the end consumers, play a significant role in shaping demand, while digital platforms like Online Travel Agents (OTAs) facilitate efficient service distribution and integration. Academics also fall into this category by supporting human resource development and data-driven knowledge transfer.

At the outermost business ecosystem layer, local communities, industry associations, investors, and media play essential roles. Communities contribute to the authenticity of destinations and local sustainability; associations serve as collaborative platforms and policy advocates; investors offer financial and technological support; while media contribute to promotion and image-building of destinations on a broader scale. Collaboration among these elements forms a synergistic network that supports the ecosystem's transformation toward a more sustainable, inclusive, and adaptive model aligned with technological advancements and evolving tourist preferences.

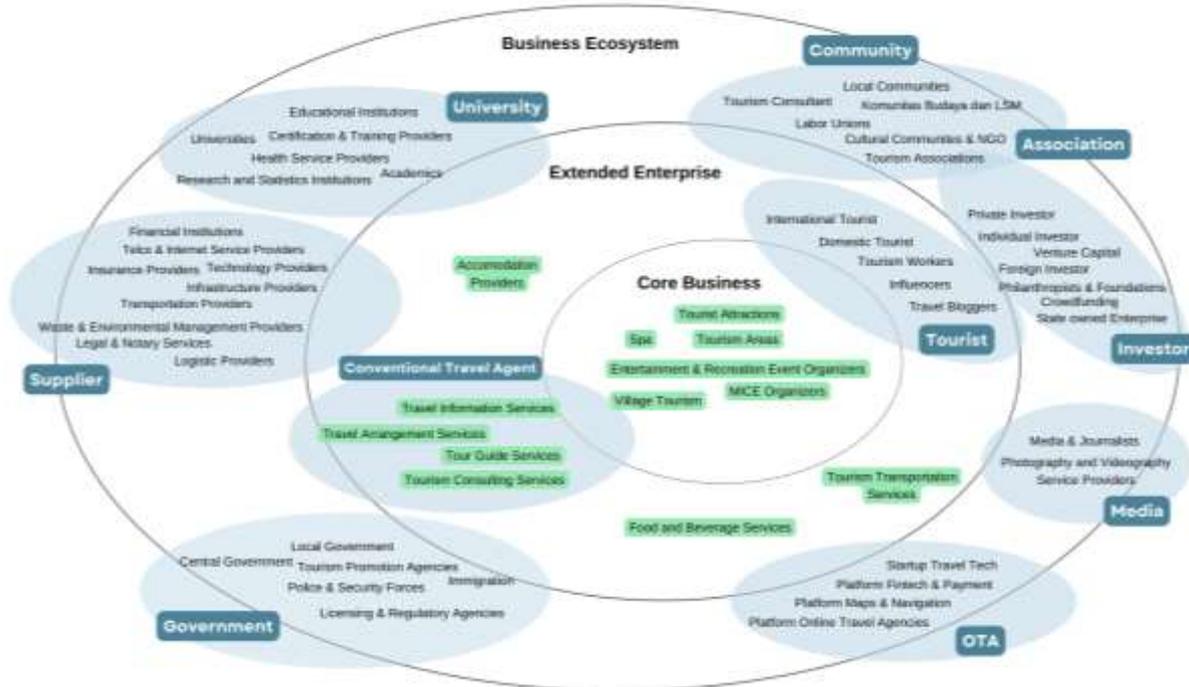


Figure 1. Actor Mapping in the Business Ecosystem of the Travel Agency Subsector

Source: Primary data, processed, 2025

3. Identification of Value Propositions from Ecosystem Actors

Within the tourism industry ecosystem—particularly in the travel agency subsector—each actor plays a specific role in creating and sustaining value for the overall continuity of the system. The value propositions of these actors can be mapped along the tourism service supply chain, which includes five main segments: suppliers, connections, bookings, consumptions, and regulatory & strategic support. Each segment features key actors who contribute value according to their function and strategic position within the ecosystem.

In the suppliers segment, actors such as airlines, rail companies, cruise operators, car rental providers, hotels, and activity organizers provide the core offerings that form the foundation of tourism experiences. The quality and reliability of their services determine the initial satisfaction of tourists and significantly impact the reputation of travel agencies as intermediaries.

The connections segment involves reservation systems like CRS (Central Reservation Systems), GDS (Global Distribution Systems), and other technological platforms that link service providers with travel agencies. Their value lies in optimizing booking processes, enabling real-time data integration, and ensuring the accuracy of information, which is crucial for managing customer expectations and minimizing operational errors.

In the bookings segment, value is delivered through ease of access and personalized booking processes facilitated by conventional travel agents, call centers, and Point of Sale (POS) systems. These actors act as the primary interface between customers and services, offering convenience and flexibility in designing trips that match individual preferences.

The consumptions segment involves tourists, tour operators, and hospitality providers. Here, value is created through quality, integrated travel experiences that can be tailored to customer needs. Feedback from tourists becomes a vital component for continuous service improvement, making this segment a key validation stage for the ecosystem’s performance.

Lastly, the regulatory & strategic support segment includes strategic actors such as government bodies, academic institutions, industry associations, local communities, media, and investors. These stakeholders contribute value by providing enabling regulations and policies, fostering cross-sector collaboration, offering knowledge and technological resources, and facilitating investment and destination promotion. Their presence ensures macro-level ecosystem stability and supports adaptation to global and technological dynamics.



Table 5. Supply Chain Segment, Role, Actor dan Value Proposition

Supply Chain Segment	Role	Actor	Value Proposition
Suppliers	Providing essential services and products for travel	Airlines, Rail companies, Cruise operators, Car rental companies, Hotels, Activity providers	Providing high-quality services and products that meet the basic needs of travel experiences
Connections	Connecting service providers with distribution systems through technology	Supplier reservation systems (CRS, GDS), Technology platforms	Facilitating data integration between service providers, enabling efficient and accurate reservations
Bookings	Facilitating reservations for travelers through travel agents, call centers, or POS	Traditional travel agents, Call centers, Point of Sale (POS)	Offering convenience and personalization in the reservation process
Consumptions	Providing services and ensuring proper use of the booked products, including feedback collection	Travelers, Hospitality providers, Tour operators	Providing satisfying travel experiences and well-organized services throughout the journey
Regulatory & Strategic Support	Providing policies, regulations, strategies, and collaboration to support the ecosystem	Government, Academics, Associations, Communities, Media, Investors	Supporting the growth of the tourism ecosystem through strategic policies, clear regulations, and stakeholder collaboration

Source: Primary data, processed, 2025

4. Identification of Actor Interactions

Interactions among actors within the tourism business ecosystem reflect the complex dynamics and value flows between service providers, travel agents (both conventional and online), tourists, communities, government, investors, media, associations, and academics. Based on the framework adopted from [NO_PRINTED_FORM] [21], these interactions can be classified into five types of exchanged value: goods and services, monetary value, information, raw data, and intangible value. Each form of interaction contributes uniquely to creating efficiency, innovation, and sustainability within the industry.

Table 6. Interaction Type, Color Code, and Description

Interaction Type	Color Code	Description
Goods		Basic products in the economic system consisting of tangible consumption items (products) and tasks performed by individuals (services).
Monetary Value		The monetary value of goods or services related to whether the item is sold for money to a buyer.
Information		Data that has been processed, organized, structured, or presented to make it useful in a specific context.
Data		Raw data, unstructured measurements, and facts that need to be processed to become useful.
Intangible Value		Something that exists but cannot be clearly explained or assigned a definite value.

Source: [NO_PRINTED_FORM] [21]



4.1. Conventional Travel Agent and OTA Interaction

Conventional travel agencies maintain close interactions with tourists, media, and suppliers through the exchange of travel services, travel information, consultation, and promotional campaigns. These interactions are built on direct relationships and trust. Meanwhile, Online Travel Agents (OTAs) establish platform-based digital interactions using more automated and data-driven models. They provide real-time access to services, analyze traveler behavior data, and report statistics to the government. These interactions enhance transactional convenience, market segmentation, and responsiveness to customer needs.

Table 7. Interaction Map of Conventional Travel Agent

From Role	To Role	Color Code	Interaction Content
Conventional Travel Agent	Media	Grey	Reputation
Conventional Travel Agent	Supplier	Magenta	Service Payment
Conventional Travel Agent	Tourist (End Customer)	Yellow	Tour Packages
Conventional Travel Agent	Tourist (End Customer)	Green	Tourist Preference Data
Conventional Travel Agent	Tourist (End Customer)	Blue	Travel Information
Conventional Travel Agent	Media	Magenta	Promotion Payment
Conventional Travel Agent	Supplier	Yellow	Product (Tickets & Tour Packages)
Conventional Travel Agent	Media	Blue	Promotional Information
Conventional Travel Agent	Tourist (End Customer)	Grey	Services and Consultation
Conventional Travel Agent	Supplier	Blue	Service Availability Information
Conventional Travel Agent	Tourist (End Customer)	Magenta	Payment

Table 8. Interaction Map of OTA

From Role	To Role	Color Code	Interaction Content
OTA	Supplier	Yellow	Tourism Products
OTA	Tourist (End Customer)	Grey	Platform Access Convenience
OTA	Supplier	Blue	Real-Time Service Availability
OTA	Central Government	Green	Report Data
OTA	Tourist (End Customer)	Magenta	Payment
OTA	Supplier	Green	Sales Data for Analysis
OTA	Tourist (End Customer)	Yellow	Tour Packages
OTA	Supplier	Magenta	Payment
OTA	Tourist (End Customer)	Green	Consumer Behavior Data
OTA	Tourist (End Customer)	Blue	Travel Information



4.2. Government Interaction

The central government plays a crucial coordinating role, actively participating in research collaborations, policy development, funding allocation, and investment incentives. These interactions aim to shape a regulatory framework that supports the growth of the tourism industry. On the other hand, local governments focus more on implementing local programs, promoting destinations, collecting tourist statistics, and reporting to the central level. Cross-government collaboration also occurs in efforts to strengthen local culture and preserve tourism sites.

Table 9. Interaction Map of Central Government

From Role	To Role	Color Code	Interaction Content
Central Government	University	Blue	Research and Policy Collaboration
Central Government	University	Grey	Human Resource Development
Central Government	Local Government	Magenta	Funding
Central Government	University	Green	Research Data
Central Government	Association	Magenta	Funding Support
Central Government	Association	Blue	Policy Direction
Central Government	Local Government	Grey	Policy and Regulation
Central Government	Local Government	Green	Performance-related Statistical Data
Central Government	Investor	Grey	Trust in Supportive Regulation
Central Government	Local Government	Blue	Tourism Policy Information
Central Government	Association	Grey	Policy
Central Government	University	Magenta	Research Funding
Central Government	Investor	Magenta	Investment Incentives

Table 10. Interaction Map of Local Government

From Role	To Role	Color Code	Interaction Content
Local Government	Community	Blue	Regulatory and program information
Local Government	Tourist (End Customer)	Blue	Promotion of local tourism
Local Government	Central Government	Green	Tourist arrival statistics
Local Government	Community	Grey	Local cultural development
Local Government	Central Government	Blue	Local program reporting
Local Government	Central Government	Magenta	Allocated development funding

4.3. University Interaction

Universities act as key institutional actors that bridge research-based decision-making between travel agencies and the government. Their interaction with travel agencies involves providing strategic recommendations, disseminating research findings,



and supporting human resource development initiatives. Meanwhile, their collaboration with government bodies includes supplying empirical data, validating policies, and participating in the formulation of evidence-based tourism policies. Through these interactions, universities contribute to strengthening the knowledge base, enhancing decision-making processes, and promoting innovation within the tourism ecosystem.

Table 11. Interaction Map of University

From Role	To Role	Color Code	Interaction Content
University	Conventional Travel Agent	Blue	Strategic Recommendation, Research Findings
University	Conventional Travel Agent	Green	Research Data from Collaborative Studies
University	Central Government	Green	Research Data
University	Central Government	Grey	Policy Development Collaboration

4.4. Interaction of Community and Local Residents

Local communities play a crucial role in enriching tourism experiences through cultural exchanges, promotion of traditions, and the provision of local products. Local residents not only interact directly with tourists but also engage with travel agencies, investors, media, and local governments. They share the benefits of infrastructure development, receive investment support, and act as key players in preserving local culture. Collaboration with communities creates a participatory system that supports the sustainability of destinations.

Table 12. Interaction Map of Community

From Role	To Role	Color Code	Interaction Content
Community	Tourist (End Customer)	Grey	Local Cultural Experience
Community	Tourist (End Customer)	Pink	Revenue from Tourists
Community	Tourist (End Customer)	Blue	Local Cultural Information

Table 13. Interaction Map of Local Resident

From Role	To Role	Color Code	Interaction Content
Local Resident	Local Government	Pink	Infrastructure Benefits
Local Resident	Media	Grey	Promotion of Traditions and Culture
Local Resident	Conventional Travel Agent	Grey	Enhancement of Local Cultural Visibility
Local Resident	Investor	Pink	Support for Local Business Investment
Local Resident	Tourist (End Customer)	Yellow	Provision of Goods or Direct Services
Local Resident	Online Travel Agent	Pink	Revenue
Local Resident	Tourist (End Customer)	Grey	Experience
Local Resident	Tourist (End Customer)	Blue	Information about Local Culture



From Role	To Role	Color Code	Interaction Content
Local Resident	Local Government	Green	Contribution to Socio-Economic Data
Local Resident	Online Travel Agent	Grey	Cultural Visibility
Local Resident	Community	Blue	Exchange of Information for Tourism Management
Local Resident	Tourist (End Customer)	Magenta	Revenue
Local Resident	Local Government	Grey	Preservation of Local Culture
Local Resident	Conventional Travel Agent	Magenta	Revenue
Local Resident	Media	Blue	Unique Local Cultural Information
Local Resident	Investor	Grey	Trust
Local Resident	Community	Magenta	Revenue Sharing
Local Resident	Community	Grey	Collaboration on Local Cultural Preservation
Local Resident	Local Government	Blue	Information on Tourism Needs

4.5. Tourist Interaction

Tourists are at the center of the entire ecosystem, and their interactions occur both directly with local communities and digitally through OTAs. Tourists provide reviews, preferences, and travel data that are utilized by travel agents and suppliers to refine their services. They also serve as a direct source of income for communities through the purchase of local products and participation in cultural activities.

Table 14. Interaction of Tourist

From Role	To Role	Color Code	Interaction Content
Tourist (End Customer)	Community	Grey	Pengalaman Budaya
Tourist (End Customer)	Online Travel Agent	Green	Preference Data and Reviews
Tourist (End Customer)	Online Travel Agent	Yellow	Tourism Products
Tourist (End Customer)	Online Travel Agent	Magenta	Payment
Tourist (End Customer)	Community	Magenta	Purchase of Local Products
Tourist (End Customer)	Online Travel Agent	Blue	Travel Information

4.6. Supplier Interaction

Suppliers, such as airlines, hotels, and tour operators, are involved in the exchange of services and availability information with both conventional and online travel agencies. Interaction with OTAs emphasizes digital integration, featuring real-time inventory management and electronic payments. This efficient relationship is crucial to ensure that tourism services are delivered accurately to travelers.



Table 15. Interaction Map of Supplier

From Role	To Role	Color Code	Interaction Content
Supplier	Conventional Travel Agent	Blue	Availability Inventory Information
Supplier	Online Travel Agent	Magenta	Payment
Supplier	Online Travel Agent	Blue	Availability Inventory Information
Supplier	Online Travel Agent	Yellow	Provision of Hotel Rooms, Tickets, or Activities
Supplier	Conventional Travel Agent	Magenta	Payment
Supplier	Conventional Travel Agent	Yellow	Provision of Hotel Rooms, Tickets, or Activities

4.7. Investor Interaction

Investors have a strategic relationship with the central government through the exchange of market data, policy reports, and investment incentives. They are also involved in infrastructure projects that support tourism destinations. This collaboration enhances trust, transparency, and the attractiveness of the tourism sector as a potential investment space.

Table 16. Interaction of Investor

From Role	To Role	Color Code	Interaction Content
Investor	Central Government	Green	Market Data for Risk Evaluation
Investor	Central Government	Blue	Information and Reports
Investor	Central Government	Magenta	Infrastructure Investment

4.8. Association Interaction

Professional associations such as ASITA play a role in distributing industry data, organizing training sessions, and serving as a networking hub for businesses. They build a learning and collaboration ecosystem among industry players through the exchange of industry trends and strategic support for travel agencies. Membership fees contribute to the association’s operations, supporting research activities, advocacy efforts, and the organization of industry forums.

Table 17. Interaction Map of Association

From Role	To Role	Color Code	Interaction Content
Association	Conventional Travel Agent	Green	Data Industri
Association	Conventional Travel Agent	Grey	Dukungan Jejaring dan Pelatihan
Association	Conventional Travel Agent	Magenta	Iuran Anggota
Association	Conventional Travel Agent	Blue	Penyampaian Tren Industri

4.9 Media Interaction

Media, both conventional and digital, strengthen the narrative and promotion of tourism. They build a positive image of the government, disseminate tourism information from OTAs, and receive advertising payments from travel agencies. Beyond serving as a communication channel, media also influence public perception of destinations and tourism policies.

Table 18. Interaction Map of Media

From Role	To Role	Color Code	Interaction Content
Media	Central Government	Grey	Positive Image
Media	Online Travel Agent	Blue	Tourism Information
Media	Online Travel Agent	Magenta	Advertising Payment

5. Ecosystem Mapping: Current Business Ecosystem Architecture

The mapping of the tourism business ecosystem in the travel agency subsector in Indonesia illustrates a complex structure involving various key actors who interact to create, distribute, and sustain value across the industry. These interactions are not isolated but form a collaborative network where each actor contributes uniquely to the ecosystem’s vitality. As [23] emphasize, “actors in the ecosystem can actively collaborate in designing, developing, and implementing more innovative and adaptive solutions.” This highlights the importance of synergy in building a resilient and forward-looking ecosystem. Figure 3 below visualizes the current business ecosystem architecture within Indonesia’s travel agency subsector, capturing the interconnected roles and value flows among stakeholders.

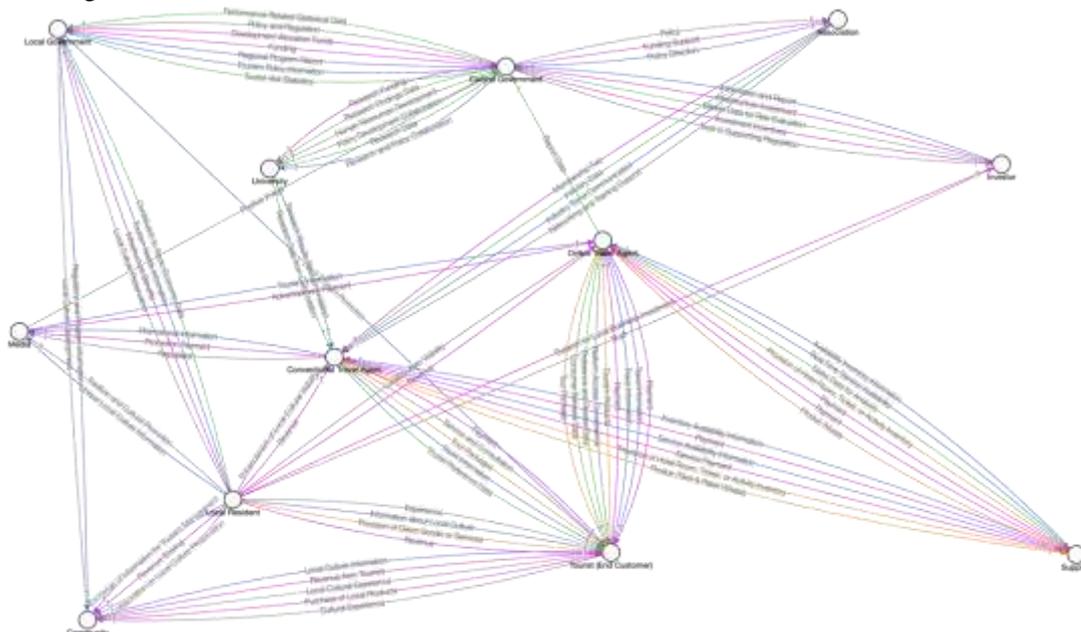


Figure 2. Current Business Ecosystem Architecture

Source: Primary data, processed, 2025

The interactions among these actors create synergies that strengthen the overall ecosystem. The government provides supportive regulations and infrastructure. Universities offer data-driven innovation. Associations reinforce industry networks. Investors bring in new capital and technology. Media expand market exposure. Suppliers ensure the availability of quality services. Travel agencies serve as the bridge between products and travelers. Local communities preserve the authentic value of destinations. Meanwhile, travelers act as the driving force that keeps the ecosystem alive and growing.

CONCLUSION, LIMITATIONS, AND SUGGESTIONS

This study reveals the structure of the business ecosystem in the travel agency subsector of Indonesia’s tourism industry, highlighting the involvement of actors, their roles, interactions, and value propositions that shape a collaborative network. Travel agencies serve as the central hubs integrating tourism services, supported by the strategic contributions of the government, local



communities, universities, media, associations, investors, and service providers. Travelers, as the center of consumption, play a crucial role in determining the direction of tourism service development.

The findings indicate that the ecosystem is dynamic and interdependent across actors, with the government acting as a facilitator, universities as innovators, local communities as cultural value enhancers, and media and associations as collaboration catalysts.

However, this study has three main limitations: it has not deeply examined the strategic factors influencing ecosystem dynamics; it has not formulated structural recommendations for the future; and it is limited to a physical tourism ecosystem, without addressing the potential of virtual tourism. Future research should further explore the use of immersive technologies such as VR and AR to expand digital tourism experiences.

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