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Large-Scale Cross-Cultural Tourism Analytics: Integrating Transformer-Based Text Mining and Network Analysis

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Abstract: The growth of the tourism industry in Southeast Asia, particularly in Indonesia, Thailand, and Vietnam, establishes the region as a leading global tourism destination. Numerous studies have explored tourist behavior within specific regions. However, the question of whether tourists' experience perceptions differ based on their cultural backgrounds is still insufficiently addressed. Previous articles suggest that an individual's cultural background plays a significant role in shaping tourist values and expectations. This study investigates how tourists' cultural backgrounds, represented by their geographical regions of origin, impact their entertainment experiences, sentiments, and mobility patterns across the three countries. We gathered 387,010 TripAdvisor reviews and analyzed them using a combination of advanced text mining techniques and network analysis to map tourist mobility patterns. Comparing sentiments and behaviors across cultural backgrounds, this study found that entertainment preferences vary by origin. The network analysis reveals distinct exploration patterns: diverse and targeted exploration. Vietnam achieves the highest satisfaction across the cultural groups through balanced development, while Thailand's integrated entertainment creates cultural divides, and Indonesia's generates moderate satisfaction regardless of cultural background. This study contributes to understanding tourism dynamics in Southeast Asia through a data-driven, comparative analysis of tourist behaviors. The findings provide insights for destination management, marketing strategies, and policy development, highlighting the importance of tailoring tourism offerings to meet the diverse preferences of visitors from different global regions.

Keywords: tourism; Southeast Asia; tourist experience; entertainment experience; text mining; tourist mobility; network analysis

Academic Editor: Hovhannes Harutyunyan

Received: 14 December 2024
Revised: 6 January 2025
Accepted: 13 January 2025
Published: 16 January 2025

Citation: Ramadhani, D.P.; Alamsyah, A.; Febrianta, M.Y.; Fajriananda, M.N.; Nada, M.S.; Hasanah, F. Large-Scale Cross-Cultural Tourism Analytics: Integrating Transformer-Based Text Mining and Network Analysis. *Computers* **2025**, *14*, 27. https://doi.org/10.3390/computers14010027

1. Introduction

Tourism in Southeast Asia, particularly in Indonesia, Thailand, and Vietnam, has become a cornerstone of economic development, with these nations implementing strategic initiatives to amplify visitor arrivals and enhance tourism infrastructure [1,2]. As international tourism continues to grow in the region, understanding the diverse preferences and behaviors of visitors from different cultural backgrounds has become increasingly vital for destination development and management. The widespread digital transformation has fundamentally reshaped how tourists discover, evaluate, and share their travel experiences, with social platforms evolving into essential tools for travel planning and decision-making [3]. This shift toward digital engagement has generated extensive user-generated content, offering researchers unprecedented insights into how cultural backgrounds influence tourist experiences and satisfaction in Southeast Asian destinations.

Entertainment stands as a defining element of tourist experiences [4], fundamentally shaping how visitors interact with and understand destinations. The analysis of entertainment experiences has become central to tourism research, as these experiences profoundly influence tourist satisfaction, destination choice, and economic outcomes [5]. Beyond their immediate appeal, entertainment offerings create lasting psychological imprints [6] that mold how tourists perceive, remember, evaluate, and share their travel experiences, significantly affecting both their likelihood to return and their recommendations to potential visitors. In Southeast Asia, where entertainment ranges from traditional cultural performances to modern attractions, research addressing how tourists from diverse cultural backgrounds uniquely perceive these offerings remains insufficient. A more nuanced understanding of these interpretations is critical for optimizing entertainment strategies and catering to a globally diverse audience.

Prior tourism research has primarily focused on examining broad industry patterns and general tourism trends [7]. While scholars have documented individual aspects of tourism phenomena and destination-specific attributes [8], a critical research gap persists in studies that explore how tourists' cultural backgrounds shape their perceptual frameworks and behaviors across multiple destinations. Existing research on this topic, which largely relies on surveys or interviews [9–11], is often constrained by small sample sizes [11,12] and lacks sufficient cross-country comparisons [13]. This limitation reduces the generalizability of findings and underscores the need for approaches that leverage larger and more diverse datasets to produce broader insights into tourist behavior. This methodological limitation makes their findings less generalizable and reduces their applicability for broader destination management strategies. This research gap becomes significant in the context of Southeast Asia, where diverse entertainment offerings and cultural attractions intersect with an increasingly globalized tourist base.

The widespread adoption of digital platforms by travelers to share, review, and chronicle their experiences has produced an unprecedented volume of user-generated content, revolutionizing our understanding of tourist behavior and preferences. UGC offers a novel solution to these limitations by providing large-scale datasets that ensure sufficient research samples [14] and enabling access to globally diverse populations for cross-country comparisons [10]. These characteristics make UGC an invaluable resource for uncovering nuanced relationships between cultural backgrounds and tourists' preferences in diverse destinations.

The digital footprint presents both significant opportunities and methodological hurdles for tourism researchers and industry practitioners [15]. While these data-rich narratives offer valuable insights, their unstructured and fragmented nature demands sophisticated analytical methods for extracting meaningful patterns [16]. Sophisticated analytical methods are needed to bridge this gap and reveal the underlying relationships between cultural backgrounds, entertainment preferences, and mobility patterns. To address both this methodological challenge and the previously identified research gap, our study analyzes an extensive dataset of 387,010 TripAdvisor reviews across 25 major destinations in Indonesia, Thailand, and Vietnam, employing advanced computational approaches, including text mining and network analysis, to decode the subtle relationships between cultural backgrounds and entertainment experiences.

We explore two critical research questions. First, how do tourists' cultural backgrounds, operationalized through their geographical origins, shape their perceptions and evaluations of entertainment experiences in key destinations across Indonesia, Thailand, and Vietnam? Second, what distinctive mobility patterns emerge among tourists from different global regions, and how do these patterns reflect the influence of cultural background on destination selection and travel behaviors? Our findings transcend theoretical contributions by offering destination stakeholders with data-driven insights for develop-

ing culturally attuned entertainment offerings and targeted marketing approaches. In an context in which Southeast Asian destinations are rapidly evolving within a globally connected tourism era, our study provides a critical framework for bridging cultural insights with destination strategies. Understanding these cultural subtleties becomes essential for preserving authentic experiences while accommodating diverse visitor expectations. The insights generated from this research deepen our comprehension of cross-cultural tourism dynamics and establish a framework for sustainable tourism development that honors and enhances cultural diversity across Southeast Asia.

2. Literature Review

2.1. Tourist Experience

Tourism research has increasingly recognized that understanding the tourist experience is fundamental to developing successful destinations and creating lasting visitor engagement. As global tourism evolves and diversifies, the concept of tourist experience has emerged as a critical framework for analyzing how travelers interact with, perceive, and remember their journeys. Tourist experiences are complex and multidimensional, encompassing emotional, cognitive, sensory, cultural, and social elements that significantly impact overall satisfaction and memories. These experiences extend from trip planning to post-travel reflections, shaping the entirety of a traveler's journey [17]. The subjective nature of these experiences is influenced by individual perceptions, interactions, and expectations, with emotional reactions, cultural immersion, learning opportunities, and personal growth playing crucial roles. Different types of tourist experiences, particularly those centered on education, aesthetics, entertainment, and escapism, have substantial power to inspire other travelers. The impact of these experiences is moderated by the traveler's familiarity with the destination, highlighting the interplay between experience type and prior knowledge [18]. This relationship underscores the importance of considering both the nature of the experience offered and the diverse backgrounds of potential tourists in destination management and marketing strategies.

The complexity of tourist experiences has driven researchers to develop structured frameworks for their evaluation and measurement. A significant advancement in this field emerged when previous research in the tourism industry established a model for assessing tourist experience quality. The framework encompasses six key dimensions, Environment, Service Quality, Learning, Entertainment, Functional Benefits, and Trust [17], as explained in Table 1. Each dimension captures distinct yet interconnected aspects of the tourist experience, offering a holistic approach to evaluating how visitors engage with and perceive destinations.

Table 1. Tourist experience dimensions.

Component	Characteristic
Environment	The physical and atmospheric elements that create distinctive visitor experiences, including natural landscapes, built surroundings, ambiance, and overall setting quality.
Service Quality	The level of service excellence demonstrated through staff professionalism, interpersonal interactions, responsiveness to visitor needs, and consistency in service delivery across all touchpoints.
Learning	Opportunities for knowledge acquisition and personal development through cultural immersion, historical understanding, skill development, and educational experiences that enhance visitor understanding.
Entertainment	The engaging activities, attractions, and experiences designed to provide enjoyment, amusement, and memorable moments throughout the visitor journey.
Functional Benefits	Practical aspects that enhance visitor comfort and convenience, including accessibility, facilities, infrastructure quality, value for money, and operational efficiency.
Trust	The foundation of visitor confidence in the destination or service provider, encompassing safety measures, security protocols, transparency in operations, and overall destination credibility.

The advent of digital platforms has fundamentally transformed how tourists make travel decisions, with online review platforms like TripAdvisor becoming crucial information sources in modern tourism. These repositories of user-generated content now serve as primary reference points for travelers selecting accommodation and destinations, revolutionizing traditional travel planning and information sharing paradigms [19]. The growing influence of these platforms necessitates a deeper understanding of how different cultural groups interact with and interpret online travel information, highlighting the critical need for comprehensive cultural analysis in tourism research. The six-dimensional model of tourist experience provides valuable insights for enhancing visitor experiences and promoting sustainable tourism development [17]. Empirical studies utilizing surveys and PLS-SEM analysis have validated the substantial impact of experience quality on tourism outcomes, particularly emphasizing the dominance of environmental and functional benefits as key influencing factors [17]. Our research builds upon these foundations by implementing advanced deep learning models to explore these theoretical frameworks further. While recent studies have successfully applied deep learning techniques to analyze cognitive images in tourism [20], they have often overlooked the broader spectrum of tourist experiences. Our study addresses this limitation by expanding the research scope to encompass diverse regions across Indonesia, Thailand, and Vietnam, offering a more comprehensive analysis of tourist experiences and behaviors in the Southeast Asian context.

Among the dimensions of tourist experience, entertainment emerges as a particularly influential factor in shaping visitors' overall satisfaction and engagement. Entertainment serves as a direct source of enjoyment and interacts with other dimensions, such as learning, cultural immersion, and emotional responses, to create memorable travel experiences. In the following section, we delve deeper into the role of entertainment as a critical component of the tourist experience, exploring its various types and their contributions to tourism dynamics.

2.2. Entertainment Experience

The evolving role of entertainment in tourism highlights its significance as an integral component of the tourist experience. Beyond offering enjoyment, entertainment activities reflect cultural identity, foster community engagement, and contribute to the overall narrative of a destination. As tourism increasingly caters to diverse global audiences, understanding how entertainment aligns with visitor expectations and enhances satisfaction becomes vital for stakeholders aiming to balance cultural authenticity with modern demands.

The analysis of diverse tourist experiences across various destinations is essential for advancing our understanding of tourism dynamics. Entertainment emerges as a critical factor in tourist reviews, underscoring its pivotal role in shaping overall travel experiences [21]. Further research has developed a measurement scale for entertainment tourism, dividing it into several key dimensions: Learning, Enjoyment, Escape, Refreshment, Novelty, Involvement, and Local Culture. These categories capture the various aspects of how tourists engage with entertainment during their travel experiences [22]. Additionally, a ten-category classification system has been proposed, covering a wide spectrum from local cultural shows to emerging entertainment experiences, including local cultural shows, nature-based attractions, casinos and social games, water-based activities, nightlife, regattas, pilgrimages, horse races, fishing, and emerging entertainment experiences [4]. Building on these theoretical foundations and expert insights, our study adopts a five-category classification of entertainment types, Cultural, Recreational, Nightlife and Festive, Nature-Based, and Culinary, as explained in Table 2. This refined categorization offers a framework for analyzing the varying nature of entertainment in tourism, enabling deeper insights into

how various forms of entertainment contribute to and shape the overall tourist experience across different cultural contexts and destinations.

Table 2. Entertainment types.

Type	Definition
Cultural	Immersive experiences centered on heritage and tradition, encompassing traditional folk dances, musical performances, theatrical presentations, art exhibitions, and cultural ceremonies. These authentic expressions celebrate and preserve local identity while offering visitors deep insights into community heritage and historical narratives.
Recreational	Curated leisure activities designed for active engagement and enjoyment, including themed attractions, adventure sports, water-based recreation, and amusement facilities. These experiences combine physical activity with entertainment, creating dynamic and memorable interactions that cater to various excitement and comfort levels.
Nightlife and Festive	Dynamic social experiences that capture urban energy through nightclubs, live music venues, cultural festivals, themed celebrations, and carnival atmospheres. These vibrant gatherings create spaces for cultural exchange and social interaction, blending entertainment with opportunities for authentic local engagement.
Nature-Based	Environmentally focused activities that facilitate meaningful connections with natural landscapes, including guided wildlife experiences, eco-tourism adventures, hiking expeditions, and outdoor exploration. These activities emphasize environmental appreciation while promoting sustainable tourism practices and conservation awareness.
Culinary	Gastronomic journeys that combine cultural education with sensory exploration, featuring food festivals, guided culinary tours, cooking workshops, and distinctive dining experiences. These activities serve as gateways to understanding local traditions, social customs, and cultural heritage through the lens of regional cuisine.

The vital role of entertainment in tourism highlights its capacity to influence visitor satisfaction and shape destination appeal. The classification of entertainment experiences provides a framework to evaluate offerings across various destinations. This approach enables stakeholders to identify how different types of entertainment contribute to the overall tourist experience and align with the diverse cultural preferences of visitors. However, understanding the true impact of these experiences requires an examination of the emotions, perceptions, and evaluations they elicit from tourists. By integrating sentiment analysis into the study of entertainment experiences, we gain deeper insights into how diverse cultural groups interpret and engage with these offerings, providing a more nuanced understanding of the relationship between entertainment and overall tourist satisfaction.

2.3. Tourist Sentiment

The evaluation of tourist sentiment extends the exploration of tourist experiences by examining the emotional dimensions of how visitors perceive destinations and their offerings. In today's digital age, tourists frequently document their experiences through online reviews, social media posts, and other digital interactions, creating extensive digital footprints. These user-generated data sources contain rich emotional and experiential insights that, when systematically analyzed, offer a deeper understanding of how entertainment and other dimensions of tourism shape visitor satisfaction and behavior patterns. Text mining techniques have emerged as powerful tools for extracting and understanding these embedded emotions and opinions from vast amounts of user-generated content.

Sentiment analysis, a specialized branch of text mining, employs advanced Natural Language Processing (NLP) to systematically extract and categorize opinions from textual data into positive, negative, or neutral sentiments. This automated approach transforms subjective textual information into structured, actionable knowledge for decision-making [23]. In tourism, sentiment analysis has become increasingly crucial for understanding tourist behaviors, forming a critical component of comprehensive tourism big data strategies [24].

Tourist sentiment, defined as the collective attitudes, emotions, and opinions that travelers express about their experiences, is primarily captured through online platforms such as review websites, social media, and other digital channels. Previous research has demonstrated that sentiment analysis, as part of a broader big data strategy in tourism, plays a vital role in understanding and forecasting tourist behaviors and preferences [24]. In practical applications, sentiment scores serve as direct indicators of visitor satisfaction levels, with higher scores reflecting greater satisfaction [25]. The quantitative approach enables precise understanding of tourist experiences across diverse cultural backgrounds and destinations, while facilitating the identification of emerging trends in tourist perceptions and supporting proactive reputation management [26]. The insights derived from such analyses are fundamental to understanding tourist preferences and behaviors, ultimately informing strategic decision-making in destination management [27].

Tourist sentiment captures the emotional and perceptual dimensions of travel experiences, offering valuable insights into what visitors feel and value. However, understanding how these sentiments manifest in physical actions, such as travel patterns and destination choices, is equally critical. By examining tourist mobility, researchers explore how travelers navigate and interact with destinations, revealing broader patterns and preferences that contribute to a more comprehensive understanding of tourism contexts.

2.4. Tourist Mobility

Understanding tourist movement patterns has become increasingly feasible through the analysis of digital traces left by travelers who review multiple destinations during their journeys. When tourists document their experiences across various locations, they inadvertently create a map of their travel routes and preferences, offering valuable insights into mobility patterns. These digital footprints present unique opportunities for understanding how tourists navigate and experience destinations.

Tourist mobility, which refers to the movement patterns of travelers across various locations, has emerged as a critical concept in tourism research for analyzing and modeling travel behavior across spatial and temporal scales. Through systematic data collection methods, researchers can uncover hidden mobility patterns, identifying distinct movement trends among different traveler groups. These patterns reveal important variations in stay duration and movement extent, providing crucial insights into how mobility shapes tourist behavior and destination choices [28].

The analysis of tourist mobility has been revolutionized by social media platforms, which provide rich, real-time data for studying travel patterns and behaviors. Approximately 65% of users now rely on social media for travel inspiration and planning [29], generating extensive user-generated content that captures authentic travel experiences and movements. While this wealth of data offers unprecedented research opportunities, it also presents significant analytical challenges due to its big data characteristics—defined by the four Vs: volume, velocity, variety, and veracity [30]. These challenges have led researchers to adopt sophisticated analytical approaches, with network analysis emerging as a particularly effective method for modeling the complex interconnections between tourists and destinations.

The impact of mobility extends beyond simple movement patterns to drive broader tourism sector economic growth [31]. Key factors such as transportation quality, infrastructure availability, and geographic conditions significantly influence tourist experiences and satisfaction levels. Efficient transport systems facilitate comprehensive destination exploration, while geographic elements like terrain, inter-site distances, and regional connectivity fundamentally affect how tourists navigate and experience destinations, shaping destination perceptions and memories [28].

To analyze these complex movement patterns effectively, network analysis has emerged as a powerful methodological approach. Rooted in graph theory, network analysis reveals universal principles that explain the structure and dynamics of tourist movements [32]. In tourism research, networks are commonly constructed with destinations represented as nodes and tourist movements as edges, reflecting sequential visitor traffic patterns. This approach is grounded in established studies, such as that by Kang et al. [33], which explores tourist mobility data as network structures in which attractions or locations are nodes and spatial movements between them represent edges. Similarly, Xu et al. [34] examine multidestination trip patterns as network structures, representing locations as nodes and intercity travel as edges, enabling the analysis of the structural properties of multicity trips. This approach effectively maps tourist mobility, revealing intricate spatial patterns and relationships among destinations [35]. Building on this foundational framework, our prior works [36–38] have refined network-based methodologies for analyzing tourism dynamics. These sequential studies form a robust foundation for the current research, ensuring methodological rigor, relevance, and alignment with best practices in tourism analytics. By integrating these advancements, our approach is firmly grounded in the broader theoretical and methodological context, enhancing its contribution to the field.

A previous study mentioned that tourism networks often exhibit scale-free or small-world structures, in which popular destinations act as central hubs attracting most of the tourist activity [39]. Network metrics such as degree centrality, betweenness centrality, and clustering coefficients provide critical tools for assessing the significance of specific locations within the broader tourism network. These metrics offer valuable insights that can inform and enhance tourism management strategies, streamline transportation planning, and support sustainable tourism development by aligning initiatives with actual tourist movement patterns and preferences.

3. Methodology

Our study employs a focused methodological framework combining advanced machine learning and network analysis to address two distinct objectives, as shown in Figure 1. Text classification, powered by BERT, analyzes user-generated content to identify tourists' perceptions of entertainment experiences. Meanwhile, network analysis examines mobility patterns, mapping how tourists move between destinations to uncover travel behavior.

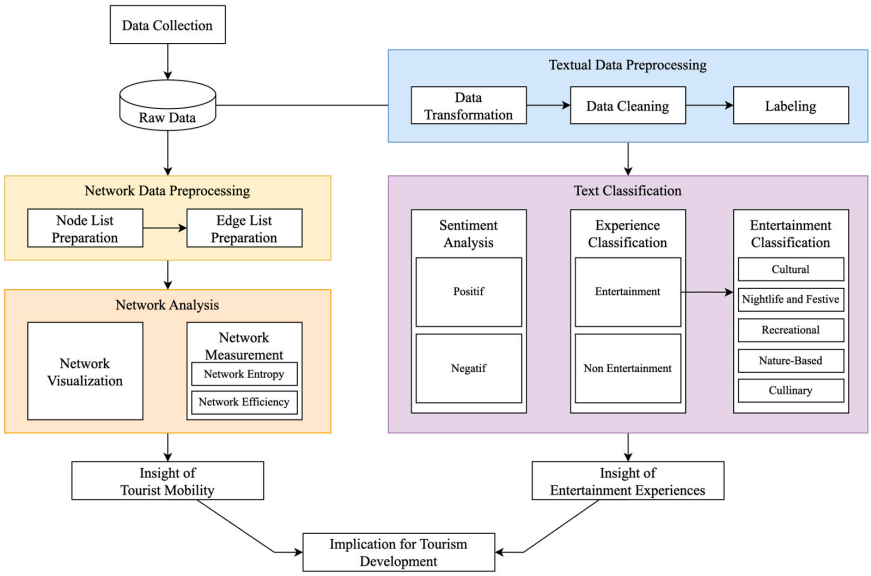

Figure 1. Research workflow.

3.1. Data Collection

This study employed a systematic data collection process using TripAdvisor, a globally recognized travel platform. The 75 key tourist destinations—25 from each of Indonesia, Thailand, and Vietnam—were selected based on the top-ranked locations on TripAdvisor, determined by the number of reviews for each destination. These destinations encompass a diverse range of attractions, including landmarks, natural wonders, cultural heritage sites, and historical locations. Data collection was conducted up to August 2023, covering the pre-pandemic, pandemic, and post-pandemic periods. This inclusive timeframe was deliberately chosen to capture shifts in tourist behaviors and mobility patterns influenced by global events. TripAdvisor was selected due to its established reliability in providing User Generated Content (UGC) that reflects authentic tourist experiences and perceptions [36,40]. Using web scraping techniques, we archived review text and contextual information from all selected destinations, preserving a comprehensive digital record of tourist experiences. The final dataset, comprising 387,010 reviews, forms a robust foundation for analyzing tourist experiences and mobility patterns across Southeast Asia.

3.2. Textual Data Preprocessing

The transformation of raw digital content into analyzable data required a rigorous preprocessing framework to ensure data quality and reliability. This crucial methodological step focused on enhancing data quality, standardizing formats, and eliminating inconsistencies [41], establishing a foundation for accurate analysis and insights [42]. By transforming raw data into a clean, structured format, we laid the groundwork for efficient application of advanced analytical techniques [43].

Given our utilization of deep learning transformer-based models, which excel at understanding contextual relationships in text, our preprocessing requirements were streamlined compared to traditional approaches. These advanced models' inherent ability to comprehend context and language nuances allowed us to focus on essential preprocessing steps that specifically enhanced data quality. We implemented the following preprocessing stages:

1. Data Transformation

   Raw HTML data were converted into a structured tabular format encompassing all 387,010 reviews from the three countries. This transformation process extracted key information including destination name, review date, reviewer name, title, content, rating, and reviewer origin. The resulting tabular structure facilitated efficient algorithmic analysis and streamlined subsequent processing steps.

2. Data Cleaning

   Eliminating irrelevant entries, including reviews lacking content or reviewer origin information, which was crucial for preventing potential biases in the analysis. The cleaning process resulted in a refined dataset of 387,010 reviews, distributed across Thailand (156,156), Vietnam (143,489), and Indonesia (87,365). This thorough cleaning enhanced the overall quality and reliability of the data, essential for informed decision-making and efficient utilization [44].

3. Labeling

   The final preprocessing stage involved data labeling using Large Language Models (LLMs), specifically ChatGPT 3.5 Turbo. This approach was grounded in research demonstrating LLMs' superior accuracy compared to traditional rule-based classification methods, particularly when combined with distant supervision on test datasets [45]. The implementation of LLMs significantly reduced task completion time while maintaining high accuracy levels, surpassing human labeling efforts in both efficiency and precision. We conducted labeling using GPT-3.5 Turbo via API,

employing Python for automatic data labeling. The process involved context-specific prompting, detailing research context, dimensions, and definitions, with an additional "none" class to accommodate meaningless text.

The labeling process occurred in three sequential phases, each designed to capture different aspects of the tourist experience. In the first phase, sentiment labeling, we classified reviews as either positive or negative while carefully considering the tourism context. This approach recognized that seemingly negative emotions might indicate valuable experiences. For example, as shown in Table 3, the statement, "The museum experience brought back past worries, much can be learned from the cruelty of war", was labeled positive because it reflected a meaningful educational experience rather than just emotional valence.

Table 3. Example of sentiment label.

Reviews	Label
Brought back past worries; much can be learned from the war	Positive
The poor service and cleanliness issues made our stay unpleasant	Negative

The second phase involved experience classification, in which reviews were categorized according to the six fundamental dimensions of tourist experience: Environment, Service Quality, Learning, Entertainment, Functional Benefits, and Trust. As illustrated in Table 4, this classification captured the nature of tourist interactions with destinations and services.

Table 4. Example of experience label.

Reviews	Label
The pristine beaches and clear waters, a paradise-like atmosphere	Environment
The staff went above, anticipating our needs before we asked	Service Quality
The ancient ruins provided fascinating insights into local history	Learning
The night market was a feast for the senses with local delicacies	Entertainment
The hotel's central location made it easy to access all major attractions	Functional Benefit
We felt completely safe exploring the city, even late at night, thanks to the security	Trust

In the final phase, we performed entertainment subcategorization, further classifying entertainment-related reviews into five distinct categories: Cultural, Recreational, Nightlife and Festive, Nature-Based, and Culinary. Table 5 demonstrates how this granular classification enabled deeper analysis of specific entertainment preferences and patterns.

Table 5. Example of entertainment label.

Reviews	Label
We took our tour to Bangla road. My husband enjoys different Thai dishes. It was nice experience ever.	Culinary
I am happy that I went to see the Buddha. It is difficult for me to say what was exciting about it.	Cultural
The most spectacular place in Patong. There is no other road I think in world that is alive as this road on any given day.	Nature-Based
Perfect place to party in town. My advice would be to try to get one drink in every bar. You will enjoy it.	Nightlife and Festive
Very awesome experience. Tour guide was awesome. Will come back again! Banana beach was clean and a lot of activities.	Recreational

To ensure robust and unbiased model training, we addressed the inherent class imbalance in our dataset by implementing a balanced sampling approach. We included 5000 training samples for each sentiment class (positive and negative) and 1000 samples for each category in both experience classification and entertainment subcategorization.

This balanced dataset provided a solid foundation for developing accurate and reliable classification models, enabling more precise analysis of tourist experiences across different dimensions and contexts.

3.3. Text Classification

Textual data analysis in tourism research presents unique challenges, including language ambiguity, varied usage patterns, and large data volumes. To address these complexities, we employed advanced Natural Language Processing (NLP) methods, specifically BERT (Bidirectional Encoder Representations from Transformers), for sentiment analysis and text classification. BERT is an innovative language representation model introduced by Devlin et al. in their seminal paper [46]. Unlike previous language models, such as GPT [47], which uses a left-to-right unidirectional approach, or ELMo [48], which combines shallow left-to-right and right-to-left representations, BERT is designed to pre-train deep bidirectional representations by conditioning on both left and right contexts simultaneously, enabling superior context understanding, outperforming traditional models in accuracy and contextual comprehension [49]. This is achieved through two novel pre-training objectives: Masked Language Model (MLM) and Next Sentence Prediction (NSP).

The MLM objective allows BERT to randomly mask a percentage of input tokens and predict them based on their bidirectional context. Inspired by the Cloze task [50], this approach enables BERT to generate contextualized word representations. The NSP objective, on the other hand, trains the model to predict whether the sentences in a given pair are logically connected (labeled as IsNext) or randomly paired (NotNext). These dual objectives enable BERT to learn both intra-sentence relationships and inter-sentence dependencies, making it highly effective for a wide range of NLP tasks.

BERT's architecture is based on the multi-layer bidirectional Transformer encoder, originally introduced by [51]. Each layer employs a self-attention mechanism to capture token relationships across the input sequence. Two configurations are commonly used: BERTBASE, with 12 Transformer layers, 768 hidden units, and 12 self-attention heads (110 M parameters), and BERTLARGE, with 24 layers, 1024 hidden units, and 16 attention heads (340 M parameters). The model is pre-trained on large corpora, including the BooksCorpus (800 million words) and English Wikipedia (2.5 billion words), using a combined sequence length of up to 512 tokens. This study employs BERTLARGE for its superior representational capacity, particularly in handling complex natural language processing tasks.

A key advantage of BERT is its flexibility in fine-tuning, allowing the pre-trained model to be seamlessly adapted to domain-specific downstream tasks, such as text classification, named entity recognition (NER), and question answering. By adding a simple task-specific output layer and fine-tuning the model end-to-end, BERT eliminates the need for extensive task-specific architecture engineering. This flexibility, combined with its bidirectional architecture and dual-objective pre-training, has established BERT as a state-of-the-art general-purpose language model, achieving superior performance across various NLP benchmarks, including GLUE, SQuAD v1.1/v2.0, and MultiNLI [46].

In this study, we fine-tuned BERTLARGE to address the specific context of tourism in Southeast Asia. The fine-tuning process was conducted in three distinct stages, each corresponding to a different classification objective tailored to analyzing tourist experiences. Using our preprocessed and labeled dataset, we leveraged Python to adapt the pre-trained BERTLARGE model to the nuances of tourism-related text. This involved training the model to recognize patterns and relationships unique to the domain, thereby enhancing its ability to classify and interpret tourism data effectively. To validate the fine-tuned models, we employed standard evaluation metrics, including accuracy and F1 score.

a. Sentiment Analysis
The first stage focuses on sentiment classification, in which BERT categorizes tourist reviews as either positive or negative. This step achieved 89.1% accuracy and an 88.85% F1 score, highlighting the model's ability to capture nuanced contextual meanings in text. By comparison, traditional machine learning methods such as Naïve Bayes (accuracy: 52.69%, F1: 46.17%) and Support Vector Machines (SVM) (accuracy: 86.52%, F1: 86.50%) fell short of BERT's performance, underscoring its superiority in handling complex linguistic constructs [20]. This stage provides foundational insights into tourist attitudes and sets the tone for further categorization.

b. Tourist Experience Classification
In the second stage, BERT classifies reviews into six core dimensions of tourist experiences: Environment, Service Quality, Learning, Entertainment, Functional Benefit, and Trust. The model achieved 76.75% accuracy and a 76.39% F1 score, effectively distinguishing the primary aspects of tourist interactions. Notably, the Entertainment dimension consistently accounted for a significant portion (20–40%) of the total dimensions. Recognizing entertainment's pivotal role in tourist satisfaction, we refined the classification to a binary task distinguishing entertainment from non-entertainment content. This strategic focus underscores the importance of entertainment in shaping travel motivations and provides a foundation for a more detailed analysis in the final stage.

c. Entertainment Types Classification
The final stage delves deeper into the entertainment dimension by categorizing it into five specific types: Cultural, Recreational, Nightlife and Festive, Nature-Based, and Culinary Entertainment. BERT demonstrated robust performance in this fine-grained classification, achieving 80.2% accuracy and an 80.1% F1 score. This fine-grained classification enables detailed analysis of entertainment preferences across different destinations.

Through this multi-stage classification pipeline, powered by BERT's advanced language understanding capabilities, our framework effectively processes large volumes of tourist reviews while maintaining high accuracy across increasingly specific categorization tasks. The progressive refinement from general sentiment to specific entertainment types provides a comprehensive framework for understanding tourist experiences and preferences in Southeast Asian destinations.

3.4. Network Data Pre-Processing

In analyzing tourist mobility patterns, we needed to transform our review data into a network structure that could capture both destinations and tourist movements between them. Network analysis requires two fundamental elements: nodes representing distinct locations, and edges representing tourist movements between these locations. This transformation allows us to model tourism flows as a complex network in which we can analyze how tourists navigate between destinations and identify popular travel routes and patterns. The network data preprocessing stages involve creating two key components: the node list and the edge list. The node lists comprise 25 popular destinations for each country, totaling 75 nodes across the three nations. Each node entry includes the destination's name and the geographical coordinates (latitude and longitude), providing a comprehensive spatial context for the study. Table 6 exemplifies the structure and content of these node lists.

Table 6. Example of node list.

Label	Longitude	Latitude
Sacred Monkey Forest Sanctuary	115.2550	−8.5180
Borobudur Temple	110.2040	−7.6080
Prambanan Temple	110.4909	−7.7520
National Monument (MONAS)	106.8271	−6.1753
Mount Bromo	112.9531	−7.9429

While nodes represent individual destinations, understanding tourist mobility requires capturing movement patterns between these locations. Edge lists accomplish the purpose by analyzing patterns in user reviews. When a single user reviews multiple destinations, the reviews serve as evidence of travel between locations—creating an edge in the network. Each edge captures the connection between two destinations and the tourist's geographical origin. This additional cultural dimension enables analysis of how travel patterns and destination preferences vary across different cultural backgrounds, providing deeper insights into the influence of cultural origins on tourism mobility. Table 7 illustrates the structure edge lists.

Table 7. Example of edge list.

Source	Target	Origin
Sacred Monkey Forest Sanctuary	Borobudur Temple	Africa
Borobudur Temple	Prambanan Temple	Australia
Prambanan Temple	Sacred Monkey Forest Sanctuary	Western Asia
National Monument (MONAS)	Sacred Monkey Forest Sanctuary	Western Asia
Mount Bromo	National Monument (MONAS)	Southeast Asia

In our study, we develop distinct network datasets for Indonesia, Thailand, and Vietnam, resulting in three separate node lists and corresponding edge lists. This country-specific approach to network construction enables comparative analysis of tourist movement patterns both within individual nations and across the broader Southeast Asian region. The development of separate networks for each country facilitates deeper understanding of regional tourism dynamics, revealing unique patterns in cultural preferences, popular travel routes, and the influence of tourists' origins on destination choices across Southeast Asia. This structured approach to network analysis provides a robust framework for examining how different cultural groups navigate and experience each country's tourism offerings.

3.5. Network Analysis

Network analysis methodology enables exploration of tourist mobility patterns across destinations in Indonesia, Thailand, and Vietnam. Building on the pre-processed node and edge lists, discrete networks are constructed for each country. These networks transform individual reviews into meaningful data points representing destination experiences, while multiple reviews from single users establish inter-destination mobility patterns. The resulting undirected networks capture connections between destinations based on shared visitor patterns across review instances. The analysis employs three advanced network metrics to understand tourist mobility:

a. Network Entropy
   Entropy characterizes the complexity and diversity of tourist movements. In tourism network analysis, entropy quantifies the predictability of tourist movement patterns. High entropy values indicate dispersed visitation patterns across many locations,

suggesting diverse travel behavior, while low values reflect concentrated visitation focused on fewer destinations. The network entropy is calculated as

$$F(X) = -\sum_{n=1}^{m} q_i ln(q_1), \quad (1)$$

$F(X)$ is the entropy of tourism economic network, and q_i is the proportion of tourism economic correlation intensity of city i to the total.

b. Network Efficiency

Network efficiency measures how effectively information flows through the network structure, evaluating how nodes connect and interact with each other. Based on global efficiency theory, this metric assesses the ease of movement between different network points. The efficiency calculation considers the inverse of shortest path lengths between nodes, providing insights into the accessibility and connectivity of destinations. For any two nodes i and j in the network, the efficiency (E_{ij}) equals 1 divided by their distance (d_{ij}). The shorter the distance, the higher the efficiency.

$$E_{ij} = \frac{1}{d_{ij}}, \quad (2)$$

To find the average efficiency of the entire network ($E(G)$), calculate the efficiency for every possible pair of nodes, sum all the values, and divide by the total number of possible pairs, which is $N(N-1)$, where N is the number of nodes. The network efficiency is calculated as

$$E(G) = \frac{1}{N(N-1)} \sum_{i \neq j \in V} \frac{1}{d_{ij}}, \quad (3)$$

The methodological approaches provide a robust framework for understanding both tourist experiences and mobility patterns in Southeast Asia. The integration of machine learning techniques for analyzing review content with network analysis for understanding movement patterns offers unique insights into how tourists from different cultural backgrounds experience and navigate these destinations. The high-performance metrics across our classification tasks demonstrate the reliability of our analytical approach, while the comprehensive network metrics enable detailed examination of tourist mobility patterns.

4. Results

Our analysis examines tourist entertainment experiences and mobility patterns across 75 key destinations in Indonesia, Thailand, and Vietnam. Using 387,010 TripAdvisor reviews, we study how cultural backgrounds shape tourist perceptions and movements in these regions. We categorize reviewers into 10 continental groups: Africa, Central Asia, Eastern Asia, Europe, North America, Oceania, South America, Southeast Asia, Southern Asia, and Western Asia. The detailed categorization within Asia reflects the continent's cultural diversity and its influence on tourism patterns.

The results are organized into two main sections: experience analysis and mobility analysis. The experience analysis examines sentiments and experiences of tourists from different continental origins, highlighting how geographical backgrounds influence perceptions of Southeast Asian destinations. The mobility analysis maps tourist movement patterns across the 25 popular destinations in each country. This structure provides a comprehensive view of tourism dynamics in Southeast Asia.

4.1. Distribution of Entertainment Experiences Across Southeast Asian Destinations

Southeast Asian tourism manifests differently across Indonesia, Thailand, and Vietnam, shaped by each country's unique offerings and tourism development strategies. The total number of reviews varies significantly among these countries, with Thailand leading, at 156,156 reviews, followed by Vietnam, with 143,489 reviews, and Indonesia, with 87,365 reviews, as shown in Figure 2. Western Asian tourists contribute the highest numbers of reviews across all three countries, with 43,954 reviews in Thailand, 41,865 in Vietnam, and 28,314 in Indonesia. For Thailand, Europe leads with 43,954 reviews, followed by North America (30,249) and Southeast Asia (30,202), showing strong appeal to Western markets. This differs markedly from Vietnam, where Europe still leads (41,865 reviews), but is followed by Oceania (38,317) and Southeast Asia (24,370), indicating balanced appeal between Western and Asia-Pacific visitors. Indonesia presents another pattern, with Oceania (28,314) leading the reviews, followed by Europe (19,255) and Southeast Asia (18,521), showing particularly strong appeal to Australian/New Zealand markets.

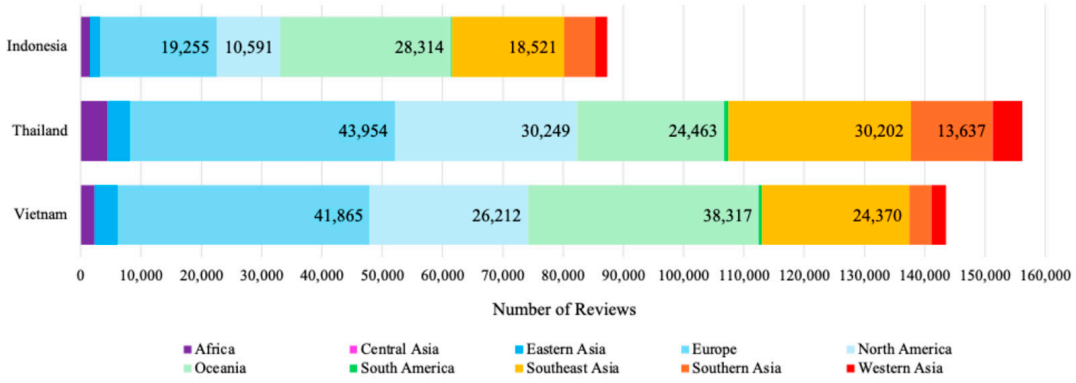

Figure 2. Number of tourist reviews for Indonesia, Thailand, and Vietnam.

These varying patterns show each country's different market positioning and tourism development focus. Indonesia's strong attraction for Oceanian tourists likely reflects its well-established tourism links with Australia and New Zealand, particularly in destinations like Bali. Thailand's strong European presence demonstrates its dominance in attracting Western tourists, while maintaining solid North American and Southeast Asian visitor numbers. Similarly, Vietnam's high European and Oceanian reviews showcase its compelling appeal to Western markets, particularly among long-haul travelers.

The quantitative analysis gives evidence of how tourists engage with these destinations, particularly in their entertainment choices. The distribution between entertainment and non-entertainment experiences varies by country. Indonesia leads, with 72% entertainment-focused reviews, a successful positioning of its entertainment attractions. Thailand follows, with 46%, while Vietnam shows 29%, indicating different stages of tourism development and marketing focus. Each country's entertainment experiences span five categories, Cultural (CTE), Recreational (RCE), Nightlife and Festive (NFE), Nature-Based (NBE), and Culinary (CNE) entertainment, as shown in Figure 3.

Each country in Southeast Asia has developed distinct tourism characteristics that differentiate them in the global market. Indonesia capitalizes on its vast archipelagic geography, offering diverse natural landscapes from volcanic mountains to pristine beaches, complemented by rich cultural traditions across its thousands of islands. In Indonesia, Nature-Based entertainment dominates, at 40% of entertainment experiences, followed by Recreational entertainment, at 21%. This distribution strongly aligns with Indonesia's tourism strategy that leverages its natural attractions. The focus on nature-based tourism

particularly resonates with current global trends toward sustainable and eco-friendly travel experiences, positioning Indonesia well for future eco-tourism expansion.

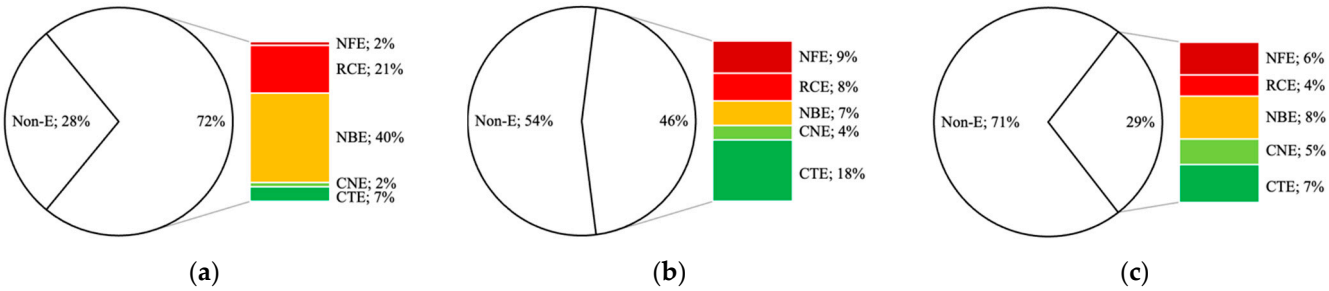

Figure 3. Proportions for tourists' non-entertainment (Non-E) and entertainment experiences, including nightlife and festive entertainment (NFE), recreational entertainment (RCE), nature-based entertainment (NBE), culinary entertainment (CNE), and cultural entertainment (CTE) for (**a**) Indonesia, (**b**) Thailand, and (**c**) Vietnam.

Thailand successfully integrating diverse attractions into a cohesive tourism experience. The country combines ancient temples and cultural heritage with modern urban attractions, tropical beach resorts, and dynamic nightlife entertainment. This mature approach to tourism development is reflected in its balanced entertainment distribution, in which Cultural Entertainment leads at 18% but maintains an equilibrium with other entertainment categories. Thailand's success lies in its ability to blend traditional elements, such as temples and cultural performances, with contemporary attractions, like modern shopping centers and entertainment districts. This comprehensive approach has created a tourism model that appeals to varied tourist preferences while preserving cultural authenticity, setting a standard for developing diverse tourism portfolios in Southeast Asia.

Vietnam has a rich historical heritage, offering experiences that span from ancient cultural monuments to poignant war memorials, while gradually incorporating modern attractions. The country's tourism profile shows an even distribution across entertainment categories, although entertainment overall comprises only 29% of the total experiences, lower than its regional neighbors. This balanced yet modest entertainment presence reflects Vietnam's emerging tourism market strategy, which carefully integrates contemporary entertainment options while maintaining its historical and cultural authenticity. The distribution pattern suggests Vietnam is methodically developing its tourism sector, preserving its core identity as a destination of historical significance while strategically expanding modern entertainment offerings to enhance its appeal to diverse tourist preferences.

The distribution of entertainment experiences across Indonesia, Thailand, and Vietnam reflects each country's distinct tourism development stage and strategic focus. While Indonesia capitalizes on its natural assets with high entertainment engagement, Thailand demonstrates a mature, balanced approach to tourism offerings, and Vietnam maintains its historical focus while gradually developing its entertainment sector. These distinct characteristics shape visitor experiences differently. To better understand how these variations shape tourist satisfaction, we examine sentiment patterns across different geographical origins and entertainment types, providing deeper insights into the effectiveness of each country's tourism approach.

4.2. Tourist Sentiment Across Southeast Asian Destinations

Tourist sentiment patterns provide deeper insights into how visitors from different geographical origins perceive and experience Southeast Asian destinations. The analysis examines both overall destination sentiment and specific entertainment-type evaluations, as shown in Figures 4 and 5, respectively.

Vietnam leads in positive sentiment across all the tourist origins, with Central Asian tourists recording the highest satisfaction levels (0.959). Western Asian (0.807) and Southern Asian visitors (0.803) follow with notably high scores. This strong positive sentiment stands in sharp contrast to Vietnam's lower entertainment proportion of 29%, indicating that while entertainment comprises a smaller part of Vietnam's tourism offering, it delivers exceptional visitor satisfaction. Indonesia presents more varied sentiment patterns. Central Asian visitors rate their experiences highly (0.826), while Eastern Asian tourists register lower satisfaction levels (0.588). Thailand's sentiment scores maintain consistency across regions, ranging between 0.597 and 0.779, with Southern Asian and South American tourists reporting the highest satisfaction levels.

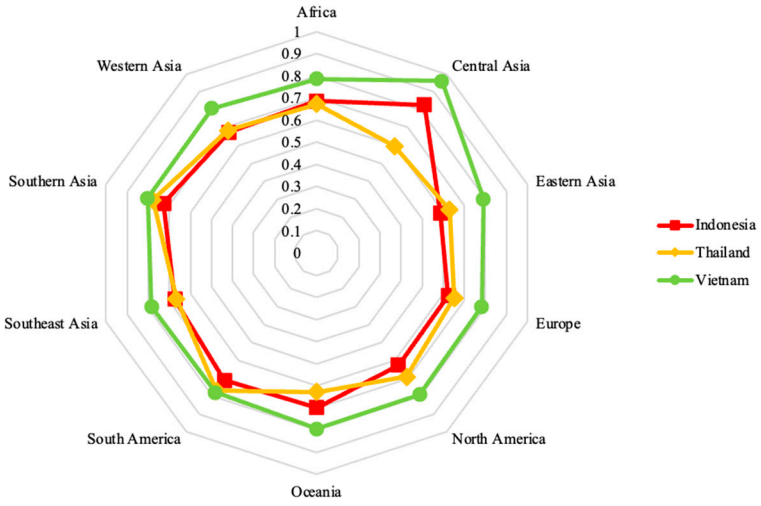

Figure 4. Cross-regional analysis of tourist sentiment distribution.

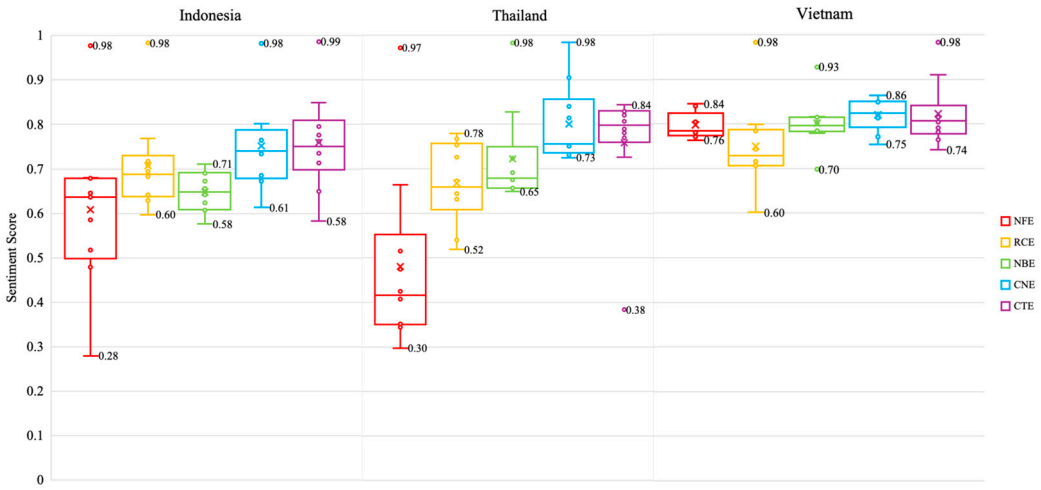

Figure 5. Comparative sentiment distribution across entertainment dimensions in Indonesia, Thailand, and Vietnam. "x" symbols indicate the mean values for each category while dots represent outlier points that fall outside the normal distribution range.

A striking pattern emerges in Central Asian tourists' responses across the three countries. While these visitors report exceptionally high satisfaction in Vietnam (0.959) and Indonesia (0.826), their sentiment drops notably in Thailand (0.597). This disparity appears rooted in several key issues: Thailand's commercialized tourism infrastructure (evidenced by complaints about taxi pricing and tourist traps), overcrowded attractions, and perceived cleanliness issues at beaches and tourist areas. Reviews from Central Asian tourists frequently mention frustrations with Thailand's transportation costs, the transparency of

pricing, and the overwhelming crowds at cultural sites. Additionally, they express concerns about the transformation of cultural areas into entertainment districts that may not align with their expectations of authentic experiences. This feedback contrasts sharply with their higher appreciation for Vietnam's historical preservation and Indonesia's natural attractions, suggesting that Thailand's mass tourism approach may not resonate with Central Asian travelers' preferences for more authentic and less commercialized experiences.

While the overall sentiment patterns show distinct satisfaction levels across tourist origins, a deeper analysis of specific entertainment dimensions provides more insights into how people from different cultural backgrounds experience Southeast Asian tourism. As shown in Figure 5, the sentiment distribution across entertainment categories varies by both tourist origin and destination country, with Figure 6 presenting detailed sentiment scores for each dimension. This granular analysis reveals how different aspects of entertainment resonate differently with various tourist groups.

Tourist Origin	Country of Visit	NFE	RCE	NBE	CNE	CTE	Number of Reviews
Africa	Indonesia	0.68	0.71	0.66	0.77	**0.85**	1465
	Thailand	0.52	**0.73**	0.66	0.76	0.83	4403
	Vietnam	**0.78**	0.71	**0.82**	**0.82**	0.78	2241
Central Asia	Indonesia		**0.98**	0.69		**0.99**	21
	Thailand	**0.97**	0.52	**0.98**	**0.98**	0.38	64
	Vietnam		**0.98**	0.93		0.98	39
Eastern Asia	Indonesia	0.28	0.63	0.58	0.67	0.58	1765
	Thailand	0.30	0.54	0.66	**0.84**	0.73	3643
	Vietnam	**0.80**	**0.80**	**0.81**	0.77	**0.77**	3834
Europe	Indonesia	0.48	0.68	0.61	0.61	0.65	19,255
	Thailand	0.34	0.63	0.68	0.73	0.79	43,954
	Vietnam	**0.78**	**0.71**	**0.78**	**0.81**	**0.81**	41,862
North America	Indonesia	0.59	0.64	0.61	0.68	0.74	10,591
	Thailand	0.35	0.67	0.68	0.74	0.78	30,249
	Vietnam	**0.77**	**0.72**	**0.78**	**0.85**	**0.82**	26,212
Oceania	Indonesia	0.68	**0.77**	0.62	0.74	0.71	28,314
	Thailand	0.35	0.65	0.72	0.75	0.81	24,463
	Vietnam	**0.78**	0.75	**0.79**	**0.83**	**0.82**	38,317
South America	Indonesia	**0.98**	0.60	**0.70**	**0.98**	0.78	251
	Thailand	0.47	**0.77**	0.69	0.90	0.84	681
	Vietnam	0.84	0.60	**0.70**	0.75	**0.91**	509
Southeast Asia	Indonesia	0.52	0.69	0.64	0.73	0.76	18,521
	Thailand	0.41	0.64	0.67	0.73	0.77	30,202
	Vietnam	**0.76**	**0.71**	**0.79**	**0.82**	**0.80**	24,370
Southern Asia	Indonesia	0.64	0.72	0.71	0.76	0.80	5203
	Thailand	0.66	**0.78**	**0.83**	0.76	**0.83**	13,637
	Vietnam	**0.81**	0.74	0.82	**0.85**	0.79	3717
Western Asia	Indonesia	0.65	0.64	0.67	0.80	0.74	1979
	Thailand	0.42	0.75	0.65	0.81	**0.82**	4860
	Vietnam	**0.84**	**0.78**	**0.80**	**0.86**	0.74	2385

Figure 6. Tourist sentiment comparison across entertainment categories in Indonesia, Thailand, and Vietnam, by origin.

The sentiment distribution across the entertainment dimensions shows critical patterns in how tourists from different origins experience Southeast Asian entertainment. Thailand's nightlife and festive entertainment (NFE) shows the widest sentiment range (0.30–0.97) among the tourist origins. Reviews from Eastern Asian visitors—predominantly from urban centers in China, Japan, Hong Kong, and Taiwan—reflect their exposure to highly regulated entertainment districts in their home countries. Eastern Asian tourists rate NFE at 0.30, expressing strong concerns about overcrowding, commercialization, and what they perceive as "sleazy" aspects of nightlife areas. Their reviews frequently mention discomfort with aggressive marketing of adult entertainment, excessive noise, and the overall atmosphere, which they find "too chaotic". Many East Asian reviewers specifically note feeling uncomfortable with the mixing of family tourism and adult entertainment zones.

These tourists, coming from societies with clear boundaries between adult entertainment and family tourism, frequently note the jarring contrast. Conversely, Central Asian visitors, primarily from Kazakhstan and Uzbekistan, give high NFE ratings (0.97). Their reviews highlight positive experiences of the vibrant atmosphere, the variety of entertainment options, and the social aspects of Thailand's nightlife. Their reviews emphasize enjoyment of the lively environment, music variety, and the ability to socialize with other tourists. They particularly appreciate the festive atmosphere during weekends and special events, describing the experience as "authentic" and "must-visit". This significant difference in sentiment highlights how cultural background shapes tourist perceptions, even within Asia.

Indonesia's nightlife and festive entertainment (NFE) shows significant sentiment variation across tourist origins, with Eastern Asian visitors rating it at 0.28 and South American visitors at 0.98. Following a pattern similar to Thailand, Eastern Asian tourists—primarily those traveling as families or couples from urban centers in Japan, China, and Hong Kong—express the lowest satisfaction with the nightlife entertainment. Their reviews frequently highlight concerns about inappropriate mixing of family and adult entertainment zones, with comments like "not suitable for family" and "better avoid after 9 pm". These reactions align with their cultural preferences for clearly separated entertainment zones and family-friendly environments, mirroring their responses to Thailand's nightlife scenes. In contrast, South American visitors, often traveling solo or with friends, rate NFE experiences highly, at 0.98. Their reviews emphasize the social aspects and entertainment variety, describing locations as "must-see spots" and praising the "best shopping, night life & restaurants". This positive sentiment suggests greater comfort with and appreciation for Indonesia's diverse nightlife atmosphere, particularly valuing the blend of shopping, dining, and entertainment options.

Meanwhile, for Indonesia, which was strongly positioned as a nature-based tourism destination, with 40% of its entertainment experiences focused on natural attractions like beaches, forests, and mountains, the sentiment analysis reveals an interesting paradox. Nature-based entertainment (NBE) shows consistent but moderate sentiment scores (0.58–0.71) across all tourist origins. Reviews across different cultural backgrounds point to several common factors limiting satisfaction with nature-based experiences. The commercialization often compromises the authentic natural experience. Reviews frequently mention issues with aggressive vendors and commercial activities: "stay strong if you don't like sunglass/sarong/t shirt sellers" and "Far too many hawkers bothering you constantly to buy". This commercialization clashes with visitors' expectations of pristine natural environments. The overcrowding emerges as a universal concern, with one reviewer noting that they "felt uncomfortable with such high number of people visiting. It felt like ants nest!" The high visitor volumes not only impact the natural experience but also affect photograph opportunities and overall enjoyment: "The crowds made it hard to take any good pictures of the place without looking like a busy street in the city". Infrastructure and management issues also contribute to the moderate satisfaction. Comments like "The entrance fee was quite expensive" and observations about inadequate facilities, maintenance, and environmental protection suggest gaps between visitor expectations and reality: "Such a pity there is litter. There should be signs and fines". These consistent moderate ratings across cultures suggest that while Indonesia's natural attractions hold universal appeal, the current tourism model may be prioritizing accessibility and commercialization over preservation and authentic experiences, leading to a standardized level of moderate satisfaction regardless of cultural background.

The sentiment patterns in Vietnam differ from those in Indonesia and Thailand, particularly for nightlife and festive entertainment (NFE). While NFE shows the widest sentiment variation in Indonesia (0.28–0.98) and Thailand (0.30–0.97), Vietnam shows consistent high

satisfaction across tourist origins (0.77–0.84) for this category. This consistency becomes more notable when examining the visitor backgrounds. Western tourists, often traveling as couples or with friends, appreciate the balanced atmosphere: "If you are headed to Hanoi you must hit up the weekend night market area in old quarter... Try to grab a seat and a beer and watch the endless parade of people go by". Southeast Asian families similarly express comfort with the environment: "Visited during the day and night. Night with lights was awesome. It is huge lake with lots of tourists and locals exercising". This cross-cultural appeal extends to Western Asian families, who note: "we had a long tour in evening and kids like it... also very romantic for couples". The high consistency in NFE sentiment suggests Vietnam has created nightlife spaces that successfully bridge different travel styles and cultural expectations. Reviews consistently mention the coexistence of various activities—from family-friendly entertainment to more adult-oriented options—without the cultural friction seen in Thailand and Indonesia. The integration of markets, cultural performances, and dining options creates environments where different visitor groups can comfortably coexist: "Young people rub shoulders with families, and any search for distinction is too subtle for us".

Vietnam's recreational entertainment (RCE) shows more variation (0.60–0.98), marking an interesting reversal from its typically consistent ratings in other entertainment categories. South American visitors, frequently traveling as couples or with friends from urban areas like Santiago and Buenos Aires, express lower satisfaction (0.60) with the recreational offerings. Their reviews highlight concerns about value and authenticity ("the restaurants can hassle you a bit too much at times") and express disappointment with commercialized experiences. Many note the contrast between expectations and reality, particularly regarding service quality and pricing: "I had had high hopes... but came away a little disappointed" and "inside they charge so much". In contrast, Central Asian visitors give the highest ratings (0.98) to recreational activities, particularly appreciating Vietnam's blend of structured activities and social spaces. Their reviews emphasize the community aspects ("What a relaxing place! ... You meet people at any hour") and value the flexibility to engage with both organized activities and spontaneous interactions. They specifically appreciate how recreational spaces accommodate different preferences, from quiet relaxation to social engagement. This variation in RCE sentiment suggests that while Vietnam has successfully created universally appealing nightlife experiences, its recreational offerings resonate differently with various cultural groups. The disparity might stem from differing cultural expectations about organized activities, service delivery, and the balance between structure and spontaneity in recreational experiences.

4.3. Tourist Mobility Across Southeast Asian Destinations

The analysis of tourist experiences and sentiments across Southeast Asia revealed distinct patterns in how visitors from different cultural backgrounds engage with and evaluate destinations. These variations in preferences and satisfaction levels raise important questions about whether cultural backgrounds also influence physical travel patterns and destination choices. This relationship between cultural origin and spatial movement becomes particularly relevant when examining how tourists explore and navigate across multiple destinations. To investigate these mobility patterns, our analysis combines two complementary data structures. Edge lists capture actual tourist movements between destinations, identified through sequential reviews by the same user across different locations. Node lists represent the 25 most visited destinations in each country, complete with geographic coordinates for spatial mapping. This dual approach enabled a detailed examination of how different cultural groups navigate the Southeast Asian tourism land-

scape, potentially revealing connections between travel preferences, movement patterns, and overall satisfaction levels.

The analysis of the destination distribution and movement patterns across these three Southeast Asian countries reveals striking contrasts in tourism development and accessibility. Indonesia's tourism network exhibits an extreme concentration, with 20 of its 25 most reviewed destinations located in Bali. These destinations span diverse categories: coastal attractions (Nusa Dua, Kuta, and Seminyak beaches), cultural sites (Tanah Lot, Uluwatu Temple, and Tirta Empul Temple), and recreational venues (Waterbom Bali). The remaining five destinations are confined to Java, including the UNESCO World Heritage sites of Borobudur and Prambanan temples, the iconic Mount Bromo, and Jakarta's National Monument. This highly concentrated pattern, reflected in the lowest entropy score (0.09), is particularly noteworthy given Indonesia's vast archipelagic geography spanning over 17,000 islands. The absence of top destinations from major islands like Sumatra, Sulawesi, Kalimantan, or Papua underscores significant challenges in developing and promoting tourism beyond Bali. This concentration likely stems from infrastructure limitations, inter-island connectivity challenges, and the substantial investment required for archipelagic travel.

Thailand presents a more balanced tourism landscape, with its attractions distributed across three distinct regions, as reflected in a higher entropy score (0.28). The northern hub, centered around Chiang Mai, focuses on cultural tourism, with temples like Wat Phra That Doi Suthep, and unique attractions such as the Tiger Kingdom. The central region, dominated by Bangkok, combines historical landmarks (The Grand Palace, Temple of the Emerald Buddha) with modern urban amenities (BTS Skytrain, Siam Paragon). The southern hub in Phuket emphasizes coastal tourism, with popular beaches (Patong, Kata) and entertainment districts (Bangla Road). This tri-centric distribution benefits from Thailand's compact geography and well-developed land transportation network, enabling efficient movement between tourism clusters.

Vietnam's tourism network exhibits the most balanced distribution among the three countries, with the highest entropy score (0.30). The network spans three primary regions with relatively even visitation patterns. The northern hub of Hanoi features cultural attractions like the Old Quarter and Temple of Literature, complemented by natural wonders such as Halong Bay. The central region, anchored by Hoi An and Da Nang, blends UNESCO World Heritage sites with coastal attractions and the iconic Marble Mountains. The southern hub of Ho Chi Minh City combines historical sites like the War Remnants Museum and Cu Chi Tunnels with modern urban experiences. Despite the country's elongated geography, strong transportation links facilitate tourist movement between these regions, as evidenced by the consistent flow patterns in the network visualization.

Building on these distinct network structures, an analysis of specific travel routes provides deeper insights into how tourists actually navigate these destinations. The most frequently traversed routes in each country, reveal patterns of movement that reflect both tourist preferences and destination accessibility. In Indonesia, the Sacred Monkey Forest Sanctuary emerges as a central hub, connecting multiple types of attractions in Bali. Its strongest connection is with Tegalalang Rice Terrace (3886 movements), followed by links to Waterbom Bali (2562) and Tanah Lot Temple (1713). This pattern reveals how tourists combine natural, recreational, and cultural experiences within Bali's compact geography. The Sacred Monkey Forest's role as a central node suggests it serves as a pivotal point in tourists' Bali itineraries, connecting the cultural landscapes of Tegalalang with coastal temples and modern attractions.

Thailand's most traveled routes center on Bangkok's cultural core, with strong integration between historical sites and modern infrastructure. The highest levels of traffic

flow between The Grand Palace and Wat Phra Chetuphon (7325), while the BTS Skytrain's connections to both temples (6950 and 6381 movements, respectively) demonstrate how Bangkok's public transportation system effectively links its cultural attractions. This pattern shows how modern urban infrastructure facilitates access to traditional sites, creating an efficient tourism network within the capital.

Vietnam's top routes reveal a focus on historical narrative, particularly around Ho Chi Minh City. The strongest connection between the Cu Chi Tunnels and the War Remnants Museum (8807) indicates tourists' deep interest in Vietnam's war history. The significant flow between the Central Post Office and the War Remnants Museum (6782), and between Hoi An Ancient Town and the War Remnants Museum (6459), suggests that historical sites serve as primary anchors in tourist itineraries, even connecting destinations across different regions of the country.

The network analysis shows distinct mobility patterns across these three Southeast Asian countries, each shaped by unique geographical constraints, infrastructure development, and tourism focuses. Indonesia's concentrated network in Bali highlights both the island's tourism strength and the challenges of developing multi-destination tourism in an archipelagic nation. Thailand's tri-centric structure demonstrates a successful integration of cultural heritage with modern infrastructure, while Vietnam's balanced distribution shows how historical narratives can effectively connect geographically dispersed destinations. These general patterns, however, represent aggregate behaviors across all tourist origins. To develop a more nuanced understanding of tourism dynamics in Southeast Asia, the following section examines how tourists from different geographical origins navigate these destinations, revealing how cultural backgrounds and preferences influence movement patterns and destination choices.

The tourist mobility across Southeast Asia is visualized in detail through a series of network maps, presented in Figures 7–9. Each figure consists of ten distinct networks, representing movement patterns from different geographical origins: Africa, Central Asia, Eastern Asia, Europe, North America, Oceania, South America, Southeast Asia, Southern Asia, and Western Asia. Within these networks, destinations are categorized and color-coded to reflect their primary appeal: natural attractions (purple), cultural and historical sites (green), and urban and recreational venues (orange). The visualizations map these networks onto geographical outlines, albeit with necessary adjustments to node positioning where attractions cluster densely in popular tourism zones. While the networks for Thailand and Vietnam span their entire national territories, Indonesia's visualization focuses specifically on Java and Bali, where tourist movements predominantly concentrate within its vast archipelagic expanse. This spatial representation captures the regional distribution of attractions and reveals distinct patterns in how tourists from different origins explore these Southeast Asian destinations.

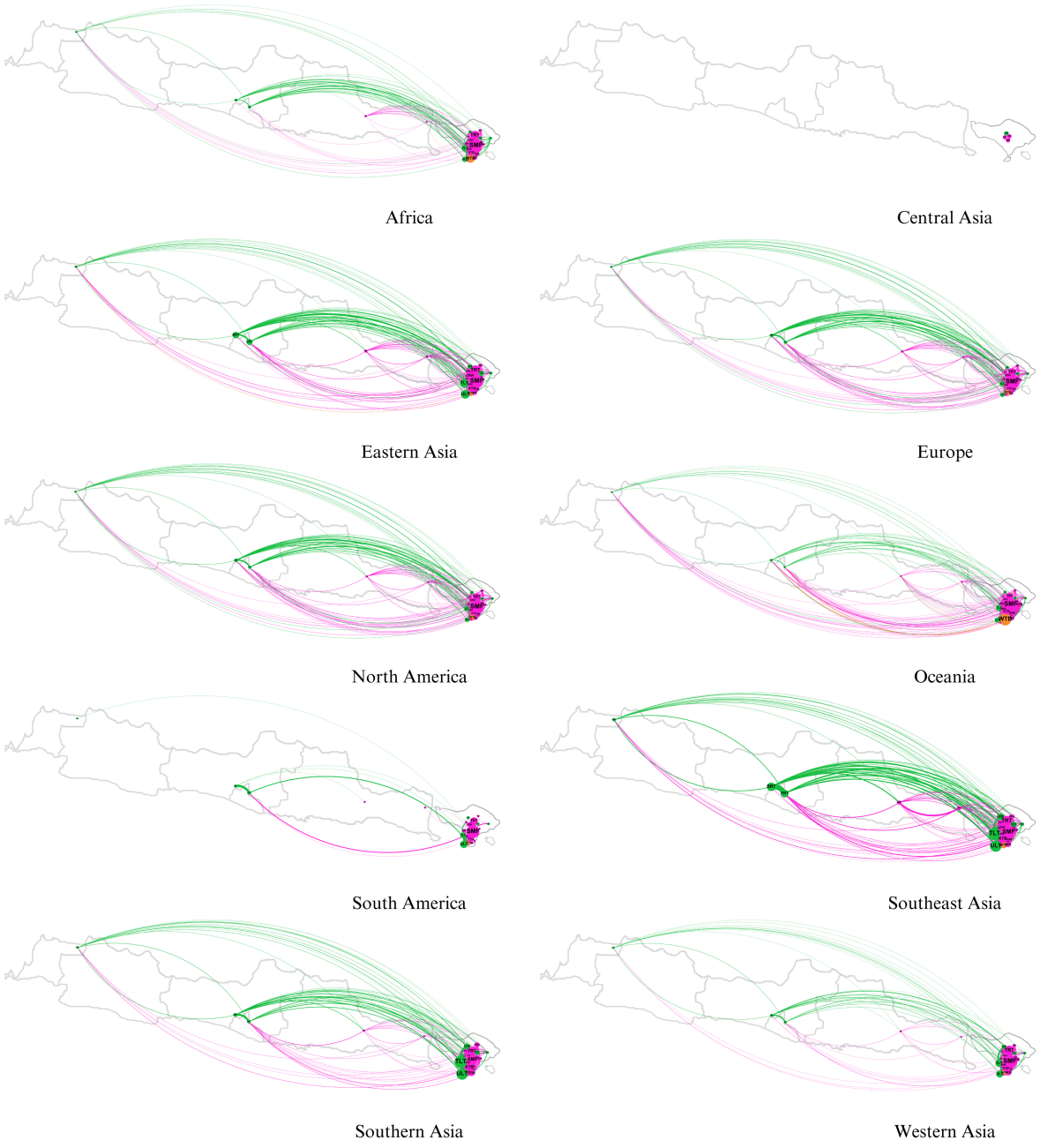

Figure 7. Tourist mobility in Indonesia by origin. Tourist destinations in Indonesia are abbreviated as follows: Waterbom Bali (WTB), Sacred Monkey Forest Sanctuary (SMF), Tegalalang Rice Terrace (TRT), Tanah Lot Temple (TLT), Bali Zoo (BZO), Uluwatu Temple (ULT), Borobudur Temple (BRT), Prambanan Temples (PRT), Ijen Crater (ICR), Campuhan Ridge Walk (CRW), Tirta Empul Temple (TET), Mount Batur (MBA), Nusa Dua Beach (NDB), Mount Bromo (MBR), Tirta Gangga (TGG), Bali Safari & Marine Park (BSM), Sanur Beach (SNB), Kelingking Beach (KLB), Bali Bird Park (BBP), Jatiluwih Green Land (JGL), Ulun Danu Bratan Temple (UDB), National Monument/MONAS (MON), Museum PASIFIKA (MPS), Kuta Beach (KTB), and Seminyak Beach (SMB). Colors indicate destination categories: cultural sites (green), natural attractions (purple), and urban recreational spaces (orange).

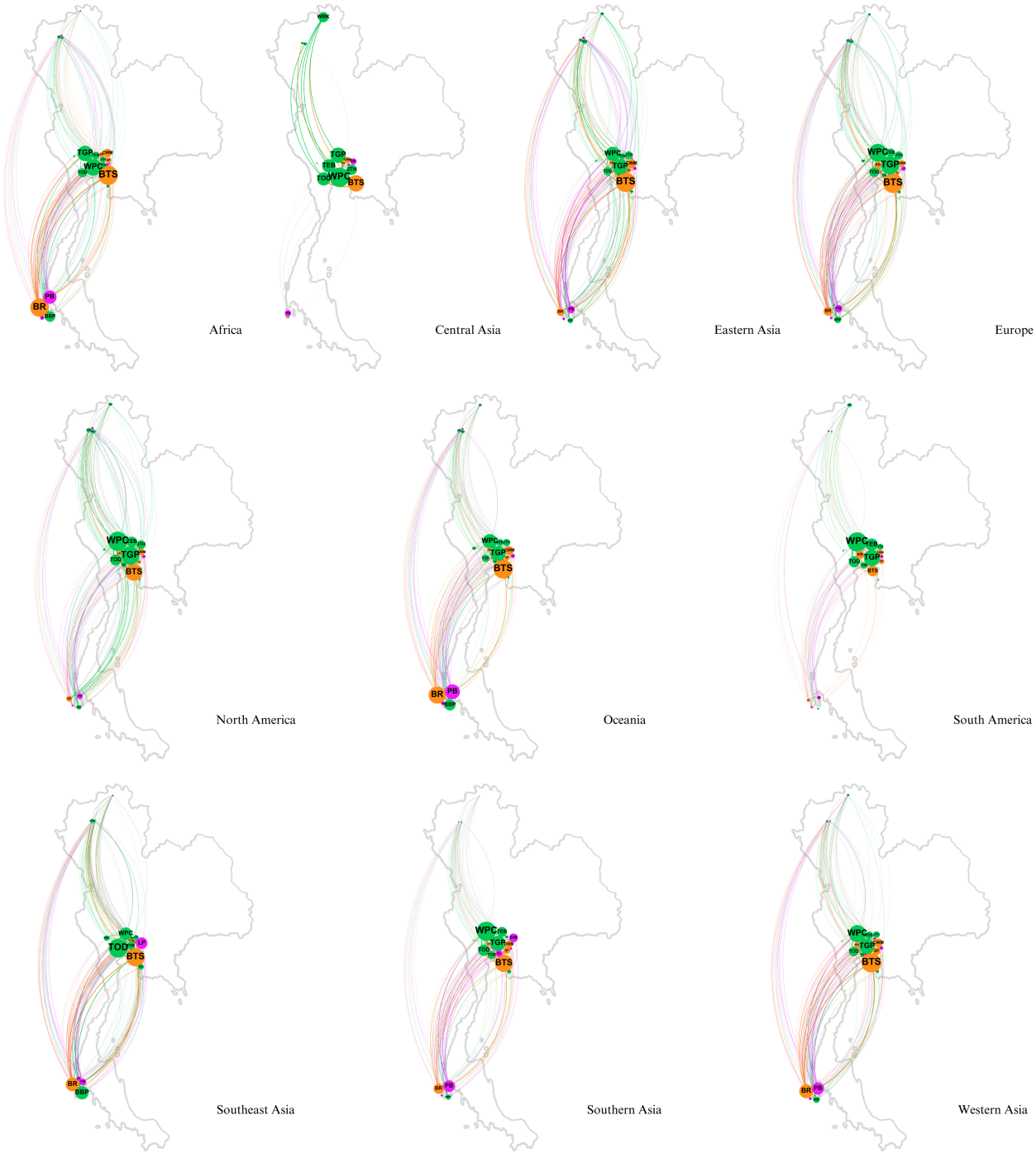

Figure 8. Tourist mobility in Thailand by origin. Tourist destinations in Thailand are abbreviated as follows: Wat Phra Chetuphon (WPC), BTS Skytrain (BTS), The Grand Palace (TGP), Chatuchak Weekend Market (CWM), Temple of Dawn/Wat Arun (TOD), Big Buddha Phuket (BBP), Temple of the Emerald Buddha (TEB), Jim Thompson House (JTH), Siam Paragon (SP), The Sanctuary of Truth (TST), Bangla Road (BR), Green Elephant Sanctuary Park (GEP), Wat Chedi Luang Varavihara (WLV), Temple of the Golden Buddha (TGB), Khaosan Road (KR), Wat Phra That Doi Suthep (WTS), Wat Rong Khun (WRK), Lumpini Park (LP), Kata Beach (KB), Banana Beach (BB), Patong Beach (PB), Bridge Over the River Kwai (BRK), SEA LIFE Bangkok Ocean World (SL), Safari World (SW), and Tiger Kingdom (TK). Colors indicate destination categories: cultural sites (green), natural attractions (purple), and urban recreational spaces (orange).

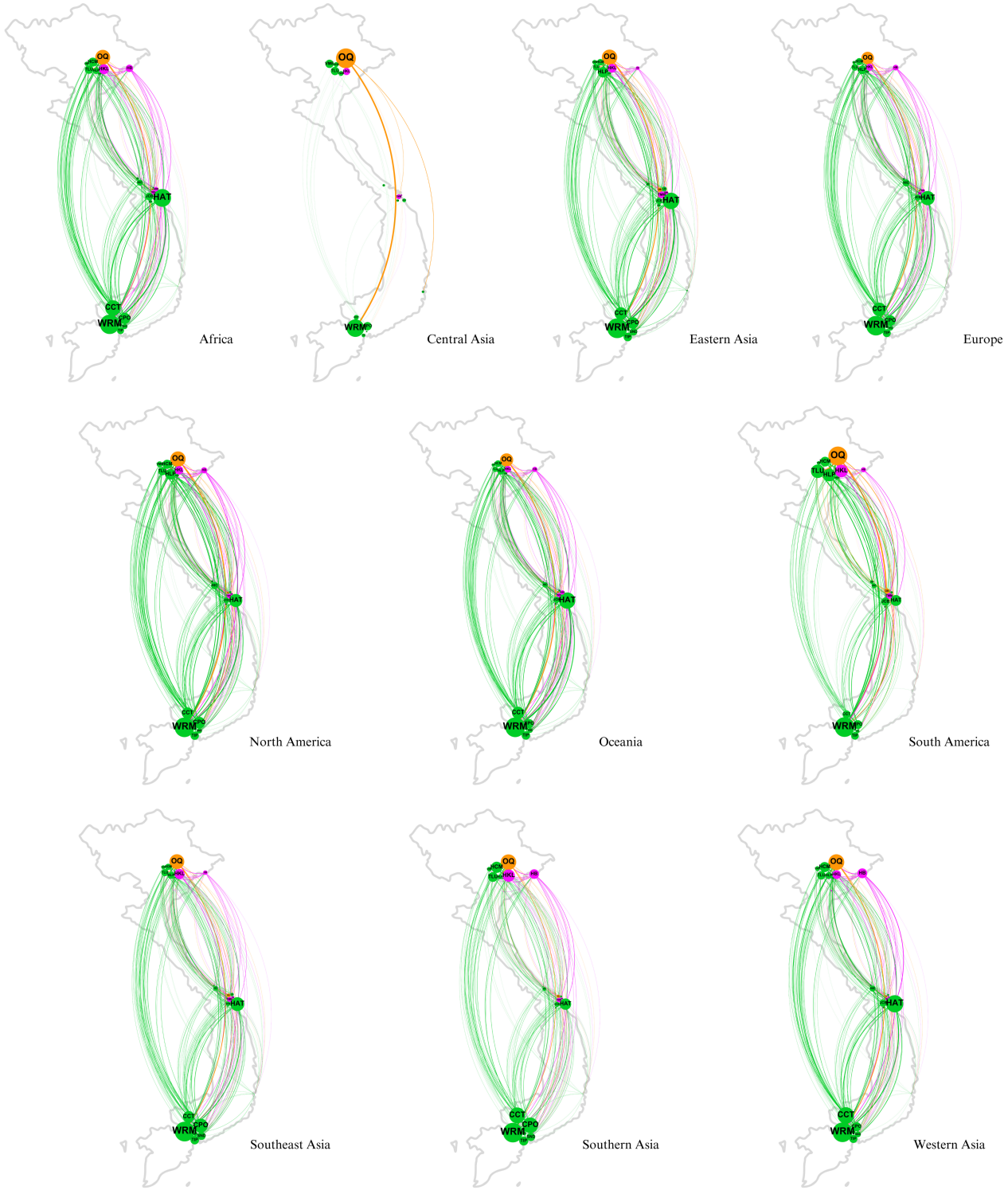

Figure 9. Tourist mobility in Vietnam by origin. Tourist destinations in Vietnam are abbreviated as follows: Old Quarter (OQ), War Remnants Museum (WRM), Cu Chi Tunnels (CCT), Hoi An Ancient Town (HAT), Halong Bay (HB), Lake of the Restored Sword (HKL), Hue Imperial City (HIC), Temple of Literature & National University (TLU), The Marble Mountains (TMM), Hoa Lo Prison (HLP), Central Post Office (CPO), Ho Chi Minh Mausoleum (HCM), An Bang Beach (ABB), Vietnamese Women's Museum (VWM), Vietnam Museum of Ethnology (VME), The Independence Palace (TIP), Lady Buddha (LB), Dragon Bridge (DB), Po Nagar Cham Towers (PNC), Bitexco Financial Tower (BFT), My Son Sanctuary (MSS), Japanese Covered Bridge (JCB), Saigon Notre Dame Cathedral (SND), Thien Mu Pagoda (TMP), and Tam Coc (TC). Colors indicate destination categories: cultural sites (green), natural attractions (purple), and urban recreational spaces (orange).

4.3.1. Tourist Mobility in Indonesia

The tourist mobility networks in Indonesia reveal distinct patterns influenced by cultural preferences and the accessibility of attractions. Bali dominates as the epicenter of tourist activity, with its dense clustering of cultural sites (green), natural attractions (purple), and urban recreational spaces (orange). Java, although secondary in prominence, hosts two iconic cultural landmarks—Borobudur and Prambanan—linked by strong tourist flows. These patterns underscore the interplay between tourist origins, destination characteristics, and regional connectivity.

Among the most traversed routes, Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace leads, with 3886 trips, favored primarily by European tourists (35.74%), followed by Oceanians (23.75%), as shown in Table 8. This highlights that European tourists show a strong preference for serene cultural circuits that blend natural beauty with heritage. By contrast, Sacred Monkey Forest Sanctuary–Waterbom Bali recorded 2562 trips, dominated by Oceanians (49.26%). Both Oceanians and Europeans share a strong inclination toward the Sacred Monkey Forest Sanctuary, which emerges as the central hub of their journeys. However, their onward destinations reveal contrasting cultural priorities. For Oceanians, who hail from countries such as Australia and New Zealand, Waterbom Bali mirrors the active lifestyles deeply ingrained in Oceanian culture, in which outdoor sports, beaches, and water-based activities are prominent pastimes. Europeans, on the other hand, exhibit a distinct appreciation for Tegalalang Rice Terrace, a site celebrated for its stunning vistas and deep cultural ties to Bali's agrarian traditions. The preference for serene and heritage-rich destinations resonates with Europe's historical and artistic heritage, which values preservation, slow-paced cultural immersion, and natural aesthetics. Europeans' tendency to seek meaningful, reflective travel experiences aligns with the tranquil ambiance of Tegalalang.

Table 8. Top 10 tourist routes in Indonesia with origin percentages.

Route	Total Trips	Southern Asia	Europe	Western Asia	Oceania	North America	Southeast Asia	Africa	Eastern Asia
Sacred Monkey Forest–Tegalalang Rice Terrace	3886	35.7%	9.6%	19.8%	23.8%	4.0%	3.0%	1.4%	2.4%
Sacred Monkey Forest–Waterbom Bali	2562	27.1%	3.7%	15.7%	49.3%	0.7%	2.4%	0.5%	0.7%
Sacred Monkey Forest–Tanah Lot Temple	1713	27.3%	12.3%	17.6%	29.1%	7.7%	2.3%	1.5%	1.9%
Campuhan Ridge Walk–Sacred Monkey Forest	1602	36.1%	10.8%	21.0%	24.7%	2.0%	1.8%	2.3%	1.1%
Sacred Monkey Forest–Uluwatu Temple	1452	28.0%	13.0%	17.7%	27.3%	8.1%	1.9%	1.6%	2.1%
Tanah Lot Temple–Uluwatu Temple	1212	15.0%	30.7%	10.8%	16.5%	19.8%	1.9%	2.5%	2.3%
Kuta Beach–Sacred Monkey Forest	1158	28.0%	9.4%	13.5%	38.0%	5.2%	2.6%	1.3%	1.9%
Kuta Beach–Waterbom Bali	1148	17.2%	9.1%	6.1%	58.3%	3.8%	2.6%	1.2%	1.7%
Borobudur Temple–Prambanan Temples	1098	24.8%	40.9%	14.3%	8.8%	5.8%	0.9%	2.7%	1.4%
Sacred Monkey Forest–Sanur Beach	1059	32.8%	8.1%	17.0%	36.1%	2.1%	2.0%	1.0%	0.8%

Campuhan Ridge Walk–Sacred Monkey Forest Sanctuary, with 1602 trips, had the highest share of European tourists (36.08%), underscoring their deeper engagement with cultural exploration. Meanwhile, Sacred Monkey Forest Sanctuary–Uluwatu Temple, which registered 1452 trips, exhibited a balanced distribution among Europeans (27.96%), Oceanians (27.27%), and North Americans (17.70%), reflecting a mix of leisure-driven and cultural exploration itineraries.

Java presents a complementary narrative, in which Borobudur and Prambanan serve as cultural beacons. Most visitors to one landmark are highly likely to visit the other, creating a cohesive "cultural circuit", which is particularly popular among Eastern Asian and European tourists, who share an appreciation for historical landmarks. In contrast, Southeast Asian tourists tend to focus solely on Borobudur, likely influenced by travel constraints or preferences for shorter, more direct itineraries. For Southeast Asians, Bali's

southern attractions, such as Kuta Beach and Uluwatu Temple, dominate, reflecting a balanced interest in leisure and cultural exploration. Europeans consistently favor destinations like Ubud, with its harmonious blend of serene landscapes and cultural richness, making it their central hub. Oceanians, on the other hand, lean toward Seminyak, known for its vibrant urban lifestyle, proximity to beaches, and recreational hubs. Central Asian tourists, while limited in overall movement, prioritize Nusa Dua, reflecting their preference for exclusivity and luxury accommodations.

An important observation is how the favorite routes of each origin compare to their overall travel activity. Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace emerges as the favorite route for most origins, including Africa, Eastern Asia, Europe, North America, South America, and Western Asia, underscoring its universal appeal. However, the impact of this route varies significantly across origins. For example, the route represents just 0.54% of all European trips, underscoring the sheer diversity of routes traveled by Europeans. Similarly, for North Americans, the route is popular, with 771 trips (1.40%), indicating a slightly more focused travel pattern compared to Europeans. Interestingly, Central Asian tourists show an outlier pattern, as their limited presence (just two trips in total) distorts the percentage. While 50% of their travel is concentrated on the Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace route, this is not reflective of broader travel trends, but rather highlights the very small base of tourists from this origin. Another fascinating deviation occurs with Southeast Asian tourists, whose favorite route is Borobudur Temple–Prambanan Temples, with 449 trips, representing 1.04% of their travel. This strong cultural preference reflects the historical and regional connections shared by Southeast Asian nations. In contrast, Southern Asian tourists gravitate toward Tanah Lot Temple–Uluwatu Temple, contributing 240 trips (4.11%), showing their inclination toward Bali's coastal and religious sites. These insights are detailed in Table 9.

Table 9. Favorite routes by origin in Indonesia.

Origin	Favorite Route	Trips on Route	Total Trips from Origin	Percentage of Total
Africa	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	117	25,416	0.5%
Central Asia	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	1	2	50.0%
Eastern Asia	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	53	6949	0.8%
Europe	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	1389	255,886	0.5%
North America	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	771	55,259	1.4%
Oceania	Sacred Monkey Forest Sanctuary–Waterbom Bali	1262	342,792	0.4%
South America	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	11	377	2.9%
Southeast Asia	Borobudur Temple–Prambanan Temples	449	43,365	1.0%
Southern Asia	Tanah Lot Temple–Uluwatu Temple	240	5839	4.1%
Western Asia	Sacred Monkey Forest Sanctuary–Tegalalang Rice Terrace	92	1761	5.2%

Indonesia's tourist mobility reflects a dynamic interplay of cultural preferences, regional accessibility, and the distribution of attractions. Bali serves as the centerpiece for all origins. The routes connecting Sacred Monkey Forest Sanctuary, Ubud, and Tegalalang Rice Terrace form a highly integrated cultural and scenic circuit. Java, with its iconic cultural landmarks, complements Bali's appeal by providing a deeper historical engagement that attracts attention for Southeast Asian Tourists.

4.3.2. Tourist Mobility in Thailand

Thailand's tourist mobility networks showcase a tri-centric structure centered on Bangkok, Phuket, and Chiang Mai, reflecting the country's success in integrating cultural heritage, modern infrastructure, and leisure offerings. Bangkok emerges as the cultural heart of Thailand, with routes like The Grand Palace–Wat Phra Chetuphon recording the highest tourist activity at 7325 trips. This route is particularly favored by European

tourists (37.87%), drawn to its historical grandeur and architectural significance, followed by North Americans (25.67%), who similarly prioritize cultural exploration. Another highly traversed route, BTS Skytrain–Wat Phra Chetuphon, underscores the importance of Bangkok's efficient urban infrastructure in facilitating access to cultural landmarks, attracting 6950 trips, with contributions from Southeast Asians (13.43%), reflecting the affordability and convenience of public transport for regional tourists.

In contrast, Phuket is positioned a leisure hub, where routes like Bangla Road–Patong Beach take center stage, recording 5408 trips. This route is dominated by Oceanians (30.95%), reflecting their cultural preference for vibrant nightlife and beachside entertainment, while Southeast Asians (14.57%) also contribute significantly, taking advantage of the proximity and affordability of this tropical destination. Meanwhile, Chiang Mai, although not represented among the top 10 overall routes, plays a crucial role as a northern hub for cultural and spiritual tourism, attracting people from specific origins seeking quieter, immersive experiences away from urbanized areas.

These preferences are influenced by both cultural and geographical factors. Bangkok's success lies in its ability to combine urban accessibility with rich cultural offerings, making it a prime destination for both regional and global tourists. Phuket's emphasis on relaxation and entertainment highlights its role as a global hub for leisure, particularly for Oceanians and Southeast Asians, while Chiang Mai offers a quieter alternative, emphasizing history and spirituality. Importantly, the diversity of routes across origins underscores Thailand's ability to cater to various tourist preferences, from cultural immersion to vibrant nightlife. The data for these insights are presented in Tables 10 and 11.

Table 10. Top 10 tourist routes in Thailand with origin percentages.

Route	Total Trips	Southern Asia	Europe	Western Asia	Oceania	North America	Southeast Asia	Africa	Eastern Asia
The Grand Palace–Wat Phra Chetuphon	7325	6.1%	37.9%	2.3%	9.6%	25.7%	13.4%	2.4%	2.1%
BTS Skytrain–Wat Phra Chetuphon	6950	7.0%	35.1%	2.4%	10.0%	19.9%	20.1%	2.9%	2.4%
BTS Skytrain–The Grand Palace	6381	4.8%	38.6%	2.3%	11.6%	16.1%	21.4%	2.5%	2.4%
Bangla Road–Patong Beach	5408	12.0%	22.0%	4.8%	31.0%	7.4%	14.6%	7.0%	1.1%
Wat Arun–Wat Phra Chetuphon	4246	8.2%	32.3%	2.5%	8.1%	24.4%	19.3%	2.5%	2.0%
BTS Skytrain–Chatuchak Weekend Market	3759	5.3%	26.8%	2.7%	14.2%	14.1%	31.3%	2.6%	2.9%
Wat Phra Kaew–The Grand Palace	3718	8.3%	33.7%	2.5%	10.1%	26.3%	14.2%	2.5%	1.6%
Wat Arun–The Grand Palace	3714	6.9%	35.6%	2.4%	8.5%	22.4%	19.0%	2.5%	2.2%
Wat Phra Kaew–Wat Phra Chetuphon	3687	8.3%	32.7%	2.4%	9.0%	29.1%	13.2%	2.7%	1.8%
BTS Skytrain–Wat Arun	3349	6.8%	34.1%	2.4%	8.4%	18.2%	24.1%	2.7%	2.9%

Table 11. Favorite routes by origin in Thailand.

Origin	Favorite Route	Trips on Route	Total Trips from Origin	Percentage of Total
Africa	Bangla Road–Patong Beach	376	11,106	3.4%
Central Asia	The Grand Palace–Wat Phra Chetuphon	3	67	4.5%
Eastern Asia	BTS Skytrain–Wat Phra Chetuphon	168	20,253	0.8%
Europe	The Grand Palace–Wat Phra Chetuphon	2774	99,115	2.8%
North America	The Grand Palace–Wat Phra Chetuphon	1880	49,786	3.8%
Oceania	Bangla Road–Patong Beach	1674	26,964	6.2%
South America	The Grand Palace–Wat Phra Chetuphon	40	677	5.9%
Southeast Asia	BTS Skytrain–Wat Phra Chetuphon	1394	152,028	0.9%
Southern Asia	Bangla Road–Patong Beach	648	92,345	0.7%
Western Asia	Bangla Road–Patong Beach	257	13,517	1.9%

Thailand's tourist mobility reflects a well-integrated balance of cultural heritage, recreational offerings, and modern infrastructure. Bangkok, Phuket, and Chiang Mai serve as the cornerstone hubs, each catering to distinct tourist preferences. The routes connecting The

Grand Palace, Wat Phra Chetuphon, and urban transportation networks in Bangkok form a seamlessly integrated cultural and urban circuit. Phuket's vibrant leisure destinations, like Bangla Road and Patong Beach, highlight its role as a global hub for recreation and entertainment. Chiang Mai complements these offerings by providing a serene and historically rich alternative, attracting tourists seeking quieter, immersive experiences. Together, these interconnected nodes reinforce Thailand's reputation as a versatile and world-class destination that meets the diverse needs of travelers from all origins.

4.3.3. Tourist Mobility in Vietnam

Vietnam's tourist mobility networks demonstrate a unique and well-distributed balance of attractions across its major hubs: Hanoi in the north, Hoi An/Da Nang in the central region, and Ho Chi Minh City in the south. This even spread, combined with Vietnam's rich historical and cultural offerings, creates a seamless network that appeals to travelers from diverse origins. However, a closer look reveals that European and Oceanian tourists dominate Vietnam's most traversed routes, while tourists from Southeast Asia and Eastern Asia, despite being geographically closer, exhibit different travel behaviors that prioritize practicality and accessibility.

Among the most popular routes, Cu Chi Tunnels–War Remnants Museum stands out as the top choice, recording 8807 trips. Europeans contribute the largest share (34.97%), followed by Oceanians (31.46%), demonstrating their collective interest in Vietnam's war history and its cultural narratives. Similarly, the Central Post Office–War Remnants Museum route, with 6782 trips, attracts a significant proportion of North Americans (18.39%) and Southeast Asians (15.12%), indicating that urban convenience combined with cultural significance resonates across these groups. Routes in the central region, such as Hoi An Ancient Town–Japanese Covered Bridge, showcase the enduring appeal of heritage-rich destinations, with Oceanians (34.86%) and Europeans (30.39%) once again leading the engagement.

Interestingly, tourists from Eastern Asia and Southeast Asia appear less prominent on Vietnam's top routes, despite their geographical proximity. For Southeast Asians, the preference leans toward urban and practical circuits like Central Post Office–War Remnants Museum, where cost-effective travel options and proximity are major considerations. This is reflected in their 15.12% contribution to this route, one of their highest shares. Eastern Asian tourists, by contrast, exhibit a more distributed pattern, engaging modestly across multiple routes rather than dominating any single one. For example, their representation on the Cu Chi Tunnels–War Remnants Museum route is 2.43%, indicating a broader, less concentrated approach to travel within Vietnam.

This difference in travel behaviors highlights key cultural and practical distinctions. Long-haul travelers, such as Europeans and Oceanians, tend to prioritize deeply immersive experiences, gravitating toward historically and culturally significant destinations. Their significant share of trips on routes like Hoi An Ancient Town–Old Quarter (31.23% Europeans, 37.38% Oceanians) underscores their interest in Vietnam's heritage-rich offerings and scenic attractions. By contrast, Asian tourists often travel with different priorities. Southeast Asians, for instance, frequently visit Vietnam as part of shorter, cost-conscious trips, focusing on accessible urban destinations and attractions near transportation hubs. Eastern Asians, influenced by cultural familiarity and regional ties, may focus on activities and attractions that align with family or group-oriented travel, often venturing beyond the most tourist-heavy routes.

Another striking observation is the relatively low representation of Southern Asian tourists, whose preferences align more with urban and coastal attractions than with Vietnam's historical landmarks. Their contributions are notable on routes like Central Post

Office–War Remnants Museum, where they make up 4.81% of trips, but their overall engagement remains modest compared to other origins. Vietnam's balanced distribution of attractions across regions allows for a more inclusive tourism experience, catering to diverse origins with varied interests. Hanoi's Old Quarter, for instance, attracts both leisure and cultural tourism, while Hoi An bridges traditional and modern experiences, blending historical landmarks with local lifestyle tourism. Ho Chi Minh City anchors the southern region as a hub for war history, modern infrastructure, and cultural exploration.

The dominance of European and Oceanian tourists on Vietnam's most traversed routes underscores their preference for immersive and historically significant experiences. However, the distinct patterns exhibited by Southeast Asians and Eastern Asians emphasize the importance of accessibility, affordability, and practicality in shaping regional travel. These insights are detailed in Tables 12 and 13. This comprehensive network makes Vietnam a standout destination in Southeast Asia, offering something for everyone—from long-haul travelers seeking cultural enrichment to regional tourists prioritizing convenience and affordability. Understanding these dynamics provides valuable insights for future tourism strategies aimed at enhancing connectivity, inclusivity, and the overall travel experience.

Table 12. Top 10 tourist routes in Vietnam with origin percentages.

Route	Total Trips	Southern Asia	Europe	Western Asia	Oceania	North America	Southeast Asia	Africa	Eastern Asia
Cu Chi Tunnels–War Remnants Museum	8807	35.0%	31.5%	11.5%	15.1%	1.6%	1.7%	0.2%	2.1%
Central Post Office–War Remnants Museum	6782	31.9%	27.0%	15.7%	18.4%	1.2%	2.1%	0.2%	2.5%
Hoi An Ancient Town–War Remnants Museum	6459	31.9%	39.6%	8.5%	14.2%	1.4%	2.0%	0.1%	0.8%
The Independence Palace–War Remnants Museum	5422	31.5%	32.7%	12.6%	17.3%	1.2%	1.7%	0.2%	1.7%
Old Quarter–War Remnants Museum	5269	30.5%	34.2%	9.4%	19.6%	1.5%	1.8%	0.4%	1.1%
Hoi An Ancient Town–Old Quarter	4473	31.2%	37.4%	9.4%	16.2%	1.6%	1.7%	0.2%	0.9%
Cu Chi Tunnels–Hoi An Ancient Town	4121	37.4%	34.3%	7.8%	14.0%	1.7%	1.7%	0.1%	1.0%
Lake of the Restored Sword–Old Quarter	4009	26.0%	26.4%	18.9%	19.0%	1.5%	2.7%	0.6%	3.3%
Central Post Office–Cu Chi Tunnels	3944	32.6%	25.3%	16.1%	18.3%	1.2%	1.8%	0.3%	3.0%
Hoi An Ancient Town–Japanese Covered Bridge	3698	30.4%	34.9%	11.0%	15.6%	1.6%	2.9%	0.4%	1.5%

Table 13. Favorite routes by origin in Vietnam.

Origin	Favorite Route	Trips on Route	Total Trips from Origin	Percentage of Total
Africa	Cu Chi Tunnels–War Remnants Museum	125	5168	2.4%
Central Asia	Old Quarter–War Remnants Museum	10	55	18.2%
Eastern Asia	Cu Chi Tunnels–War Remnants Museum	150	14,730	1.0%
Europe	Cu Chi Tunnels–War Remnants Museum	3080	162,527	1.9%
North America	Cu Chi Tunnels–War Remnants Museum	1328	75,118	1.8%
Oceania	Cu Chi Tunnels–War Remnants Museum	2771	116,882	2.4%
South America	Lake of the Restored Sword–Old Quarter	25	842	3.0%
Southeast Asia	Central Post Office–War Remnants Museum	1062	86,006	1.2%
Southern Asia	Cu Chi Tunnels–War Remnants Museum	185	14,992	1.2%
Western Asia	Cu Chi Tunnels–War Remnants Museum	142	6858	2.1%

4.3.4. Comparison of Tourist Mobility in Southeast Asia

Network entropy and network efficiency provide valuable insights into how tourists from different origins interact with the tourism networks of Indonesia, Thailand, and Vietnam. Network entropy, which measures the diversity and distribution of tourist movements, reflects how evenly tourists explore multiple destinations within a country. High entropy indicates diversified travel patterns with a balanced exploration of destinations, while low entropy suggests concentrated movements toward a few specific hubs. However, because entropy is influenced by the total number of connections (edges) within the network, its values can vary significantly across countries. To enable fair comparisons, we

normalized entropy values relative to the maximum possible entropy for each origin and country. Network efficiency, on the other hand, captures the connectivity of the network, measuring how easily tourists can navigate between destinations. As efficiency is naturally bounded between 0 and 1, it does not require normalization, making it a direct measure of the effectiveness of a country's tourism infrastructure.

The analysis of network entropy (Figure 10) reveals significant behavioral differences across origins and countries. For Indonesia, tourists from 8 out of 10 origins exhibit entropy values below the average for their origin, indicating concentrated travel patterns, predominantly focused on Bali. This suggests that Indonesia's tourism network encourages single-hub exploration, with limited diversification of movements to other regions. In contrast, Vietnam and Thailand show more exploratory behaviors, with entropy values close to or above origin averages. Vietnam leads in entropy for Africa, South America, Southeast Asia, Southern Asia, and Western Asia, reflecting its ability to encourage diversified travel through a well-distributed network connecting Hanoi, Hoi An, and Ho Chi Minh City. Thailand, on the other hand, exhibits higher entropy for Europe, North America, and Oceania, driven by its tri-centric structure, which balances urban, cultural, and recreational tourism. However, the notably low entropy score for Southern Asian tourists in Thailand (1.74) reflects their concentrated travel patterns, shaped by cultural, historical, and practical connections to the country. Southern Asians, coming from countries like India, Sri Lanka, and Nepal, often prioritize visits to religious and culturally significant sites such as Wat Phra Kaew or Wat Pho, resonating with their shared Buddhist heritage and historical ties. Their itineraries are often purpose-driven, focusing on pilgrimage, business, or cultural exchange, which inherently limits the breadth of their travel across Thailand. Additionally, the proximity and affordability of Thailand for Southern Asians encourage shorter, more targeted trips, unlike the extensive, multi-hub itineraries seen in higher-entropy groups like Europeans (7.32) or Oceanians (7.08). The familiarity of Thai culture and traditions further reduces the inclination to explore widely, as Southern Asians feel at ease focusing on a few key destinations. This concentrated behavior contrasts with the more exploratory tendencies of long-haul travelers, highlighting how cultural affinity and practical considerations shape the distinct mobility patterns of Southern Asian tourists in Thailand.

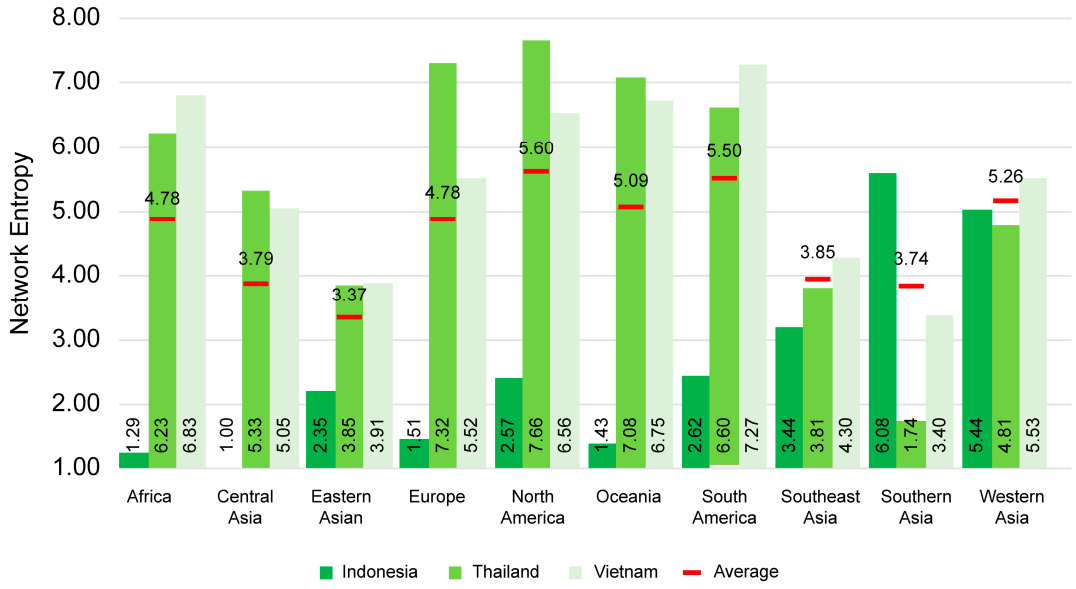

Figure 10. Comparison of network entropy.

The network efficiency (Figure 11) demonstrates a more consistent pattern across origins, with Vietnam achieving the highest efficiency for most groups. Its highly integrated

network supports seamless travel between diverse attractions, particularly for Europe, North America, and Oceania, where the efficiency scores approach perfection (1.00). Thailand follows closely, with similarly high efficiency for most origins, reflecting its strong transportation infrastructure and compact geography. However, Thailand's efficiency is slightly lower for South America (0.80) and Southern Asia (0.93), suggesting potential connectivity gaps for these groups. Indonesia, while efficient for certain origins, like Europe (0.99) and Southeast Asia (0.99), generally exhibits lower efficiency compared to Thailand and Vietnam.

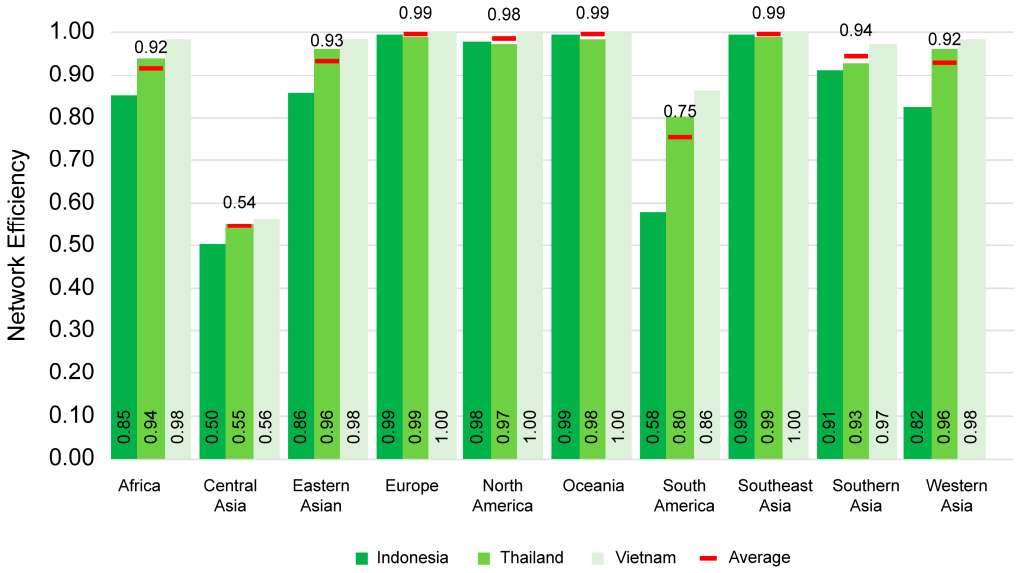

Figure 11. Comparison of network efficiency.

These findings underscore distinct behavioral differences, influenced by both cultural preferences and infrastructural factors. Tourists from Europe and Oceania consistently exhibit exploratory behaviors, contributing to higher entropy and efficiency scores in Vietnam and Thailand, where networks support diverse, multi-destination travel. In contrast, Southeast Asian and Eastern Asian tourists tend to exhibit more concentrated travel patterns, particularly in Indonesia, where Bali dominates as the primary destination. Overall, Vietnam's high entropy and efficiency suggest a well-distributed and accessible tourism network, Thailand's moderate entropy and strong efficiency reflect a balance of urban and regional connectivity, while Indonesia's low entropy and moderate efficiency highlight opportunities to diversify its tourism network beyond Bali. These differences provide a lens through which to understand the interplay between cultural preferences and tourism infrastructure, emphasizing the need for tailored strategies to enhance the travel experiences of diverse tourist origins.

5. Discussion

The relationship between cultural origin and tourist behavior proves more complex than previously understood, extending beyond simple geographical proximity to influence everything from entertainment preferences to travel patterns. The data show that travelers from different cultural backgrounds can experience the same destinations in markedly different ways, with satisfaction levels and mobility patterns varying significantly based on cultural origin. This aligns with the findings of Wei et al. [52], who emphasized that cultural background shapes tourists' perceptions, influencing satisfaction and preferences based on individual and collective cultural expectations. This complexity is further supported by

Saayman et al. [53], who identified that tourist satisfaction varies significantly based on cultural background, affecting tourists' overall wellbeing during travel.

5.1. How Cultural Backgrounds Shape Entertainment Experiences

Cultural preferences influence how tourists perceive entertainment across Southeast Asia. This influence aligns with Kim et al.'s [54] findings that Eastern and Western tourists have distinctly different preferences in how they experience destinations. Indonesia's nature-based attractions, comprising 40% of its entertainment offerings, generate moderate satisfaction across all cultural groups. Reviews consistently highlight commercialization issues, with visitors from all backgrounds expressing frustration with "aggressive vendors" and overcrowding that makes sites feel "like an ants' nest". The universal negative response to over-commercialization supports Torres-Moraga et al.'s [55] research demonstrating how sensory and behavioral aspects significantly shape tourist experiences. In nightlife entertainment, Indonesia shows stark cultural divisions. Eastern Asian families, particularly those from Japan, China, and Hong Kong, express strong dissatisfaction (0.28) with "inappropriate mixing" of entertainment zones, while South American visitors, typically traveling alone or with friends, rate these experiences exceptionally highly (0.98), praising the social atmosphere and entertainment variety. These contrasting responses align with Ortiz et al.'s [56] findings on how individualism versus collectivism shapes tourist preferences—according to which Eastern Asian tourists from more collectivist societies show strong preferences for group-appropriate spaces that maintain clear social boundaries, while visitors from more individualistic backgrounds tend to value diverse social interactions and entertainment variety.

This condition is in line with Thailand's nightlife satisfaction. Eastern Asian tourists from highly regulated entertainment societies like those of Japan, China, Hong Kong, and Taiwan express discomfort (0.30) with Thailand's integrated entertainment zones. Their reviews consistently mention concerns about the "chaotic atmosphere" and the proximity of adult entertainment to family spaces. Conversely, Central Asian visitors from Kazakhstan and Uzbekistan embrace these same areas (0.97). Their cultural background, which values collective entertainment and social mixing across age groups, aligns well with Thailand's integrated entertainment approach. Their reviews praise the "vibrant atmosphere" and diverse entertainment options, particularly during weekends and special events, reflecting their cultural comfort with spaces that blend social interaction, entertainment, and community gathering.

Vietnam achieves unique success in bridging cultural preferences, maintaining consistently high satisfaction in nightlife entertainment across cultural groups. Western tourists value its "balanced atmosphere", Southeast Asian families appreciate its family-friendly environment, and Western Asian visitors praise its suitability for both couples and families. However, recreational entertainment shows cultural variations. South American visitors express disappointment with "commercialized experiences" (0.60), while Central Asian tourists highly rate the "blend of structured activities and social spaces" (0.98).

Eastern Asian tourists consistently show low satisfaction with mixed entertainment zones in both Indonesia and Thailand, reflecting their cultural expectation of strictly segregated entertainment spaces; Central Asian visitors show high satisfaction with integrated entertainment areas across all countries, particularly appreciating social mixing and community atmospheres; and South American travelers show varying responses, rating Indonesia's nightlife highly but expressing dissatisfaction with Vietnam's commercialized recreation. This variation aligns with Mattila's [57] finding that the evaluation behaviors of Asian and Western tourists were significantly different, with Western tourists tending to pay more attention to efficiency while Asian tourists prioritize interpersonal relationships.

Additionally, as Kim and Aggarwal [58] noted, tourists from the East often have stricter evaluation standards for services.

Vietnam emerges as the most successful in accommodating diverse cultural preferences, maintaining consistently high satisfaction across all groups through its balanced approach to entertainment zoning and family-friendly spaces. This success aligns with Chatterjee and Mandal's [9] finding that tourist satisfaction across different cultures depends on how well destinations can match their service attributes with visitors' expectations. Thailand and Indonesia face similar challenges with Eastern Asian visitors but could learn from Vietnam's successful model of creating clear boundaries within integrated spaces. Successful tourism development should focus on creating flexible entertainment zones that can accommodate both segregated and integrated preferences.

5.2. How Cultural Backgrounds Shape Mobility

Clear cultural patterns emerged in the mobility preferences. European and Oceanian travelers, originating from cultures that emphasize exploration and novelty, typically prefer diverse, multi-destination itineraries. As typical representatives of individualistic cultures like those found in Western countries and Australia [59], their preference for novel destinations and diverse experiences aligns with Kim and Lee's [60] finding that tourists from individualistic cultures tend to seek out novel destinations. In the tendency for discovery-oriented travel, the journey itself is part of the experience. However, their specific preferences differ. European tourists are more interested tin routes that blend cultural heritage with modern infrastructure, frequently combining historical sites with urban experiences, reflecting their cultural appreciation for historical narratives and architectural preservation. Oceanian visitors, influenced by their outdoor-oriented lifestyle and beach culture, prefer routes connecting recreational sites and coastal attractions, which is particularly evident in their high engagement with Bali's integrated beach culture circuits and Thailand's coastal entertainment hubs.

In contrast, Southeast and Eastern Asian visitors prefer concentrated and targeted exploration. As representatives of collectivist cultures [59], their preferences align with Hofstede's [61] observation that collectivist societies pay more attention to group goals and family relations. Tourists from collectivist cultures tend to follow more structured travel patterns and prefer well-known destinations [62]. Their focus on culturally specific attractions and organized routes reflects how collectivist tourists tend to make travel decisions that maintain group harmony [63] and often follow family-oriented destination choices [60]. However, Southeast and Eastern Asian show distinct preferences. Southeast Asian tourists focus on urban circuits with strong transportation links and modern amenities, aligning with Dingil et al.'s [64] finding that tourists from collectivist cultures tend to prefer public transportation systems. Eastern Asian visitors particularly prioritize culturally specific attractions and organized routes, characteristic of their high uncertainty avoidance culture, which is notably stronger than in English-speaking countries [65]. This cultural trait manifests in their travel preferences, as research shows tourists from high uncertainty avoidance cultures tend to prefer packaged tours, visit fewer destinations [66], and gravitate toward well-known attractions [62].

Among the three countries, Vietnam's balanced distribution network proves most successful in accommodating these diverse preferences, maintaining high efficiency across all cultural groups while allowing both focused and broad exploration patterns. Thailand's tri-centric structure successfully serves different movement preferences but shows lower efficiency for South Asian visitors, whose cultural preference for group travel and specific cultural attractions is not fully accommodated by the segregated hub system. Indonesia's Bali-centric network limits its appeal to cultures preferring diverse destination experiences.

Successful tourism networks should adopt balanced distribution with clear travel circuits that can accommodate two distinct travel styles: exploration-oriented travelers from individualistic cultures, such as Western countries and Australia [59], who value diverse experiences and spontaneous discovery, reflecting their tendency to seek novel destinations independently [60]; and destination-focused travelers from collectivist cultures, who prioritize group harmony [63] and prefer organized group experiences [62] focusing on specific, meaningful locations. This balanced approach is preferable to following either segregated hubs or single-center tourism models.

5.3. Key Findings

This section serves as a summary of the most critical insights derived from the analysis, as detailed in Table 14.

Table 14. Key findings.

Cultural Dimension	Member Origin	General Preferences	Key Challenges	Mobility Patterns
Individualistic Exploration-oriented, prefer diverse, multi-destination itineraries, value novelty and freedom in travel	Europe	• High appreciation for cultural heritage and nature circuits • Tend to blend historical and recreational activities	• Overcrowding and commercialization of cultural sites can detract from the experience	• Exploratory travel with high diversity of routes • Prefer historical and scenic circuits
	North America	• Balanced interest in cultural and leisure offerings • Prioritize convenience and modern infrastructure	• Some dissatisfaction with mass tourism and commercialization in certain zones	• Balanced exploration withfocus on urban cultural hubs (e.g., Bangkok, HCMC).
	Oceania	• Preference for active leisure (e.g., Waterbom Bali) and beach entertainment • High engagement with nightlife zones	• Over-commercialized experiences in natural zones (e.g., Bali) may reduce satisfaction	• Highly engaged with recreational hubs and coastal routes (e.g., Phuket, Bali).
	South America	• High satisfaction with nightlife and festive entertainment • Lower ratings for commercialized recreation	• Expectation mismatch in recreational areas • Concerns about value and authenticity	• Focused movement in nightlife-heavy circuits • Limited cross-regional travel
Collectivist Destination-focused, prefer structured itineraries, value group harmony and cultural/religious attractions.	Africa	• Preference for nature-based attractions • Moderate engagement with recreational zones	• Moderate representation across regions • Lack of targetedcultural or recreational offerings	• Diverse movement but limited representation • Favor iconicattractions andnatural sites
	Eastern Asia	• Preference for strictly segregated family and adult zones • Low satisfaction with mixed zones	• Over-commercialization and perceived chaos in mixed zones reduce satisfaction	• Concentrated itineraries focused on well-known, family-oriented destinations
	Central Asia	• Strong preference for integrated social spaces • High satisfaction with community-focused environments	• Occasional dissatisfaction with overly commercialized or crowded spaces	• Focus on community-oriented circuits and culturallandmarks
	Southeast Asia	• Focus on urban circuits with strong transport links • Value affordability and accessibility in tourism	• Preference for practical itineraries	• Preference for urban and transport-friendly hubs • Shorter, practical travel patterns
	Southern Asia	• Preference for group-oriented and religious sites • Moderate interest in diverse recreational offerings	• Limited exploration beyond main attractions • Highly concentrated travel patterns	• Concentrated on religious and coastal sites • Targeted and purpose-driven itineraries
	Western Asia	• High engagement across regions • Consistently positive sentiment • Value both cultural and modern attractions	• Occasional dissatisfaction with overcrowding and commercialization in key attractions	• Broad and balanced movement across regions • High engagement with diverseattractions

5.4. Implications for Tourism Development

From a tourist experience perspective, Eastern Asian visitors prioritize separated entertainment zones for families and adults, Central Asians value integrated social spaces, and Western/Southern Asians seek authentic experiences with modern comforts. This finding aligns with Mattila's [57] finding that Asian and Western tourists evaluate experiences differently. From a tourist mobility perspective, Southeast Asian tourists exhibit two distinct travel styles: exploration-oriented travelers from individualistic societies like Australia and Western countries [59] seek diverse experiences and spontaneous discovery across multiple destinations, while destination-focused travelers from collectivist cultures tend to prioritize group-oriented experiences [60]. From a destination management perspective, the three countries show different levels of success in accommodating these styles. Vietnam's balanced distribution successfully serves both groups, while Thailand's tri-centric structure and Indonesia's single-center approach each show limitations for certain travel styles. This varying success reflects how tourist satisfaction depends on how well destinations can match their service attributes with visitors' cultural expectations [9].

Our analysis reveals critical insights into how Southeast Asian destinations can optimize their tourism strategies by addressing key patterns in entertainment experiences and mobility preferences. These patterns form the foundation of four key implications for tourism development.

1. Entertainment Zoning: Flexible Zones for Diverse Preferences
   The varied cultural preferences for entertainment experiences emphasize the need for adaptable entertainment zoning. As Mattila [57] found, Asian tourists prioritize different aspects from Western tourists, so destinations need adaptive approaches. Vietnam shows success in balancing family-friendly and adult-oriented spaces within shared environments, maintaining high satisfaction across all tourist origins. This model can inspire Thailand and Indonesia to refine their zoning strategies. For instance:
   a. Thailand: Clearer demarcation of family-friendly areas within nightlife hubs like Patong Beach can address Eastern Asian tourists' concerns about inappropriate mixing.
   b. Indonesia: Segregating nightlife zones from family-oriented areas in Bali, such as by creating distinct zones for cultural performances and nightlife activities, can align with Eastern Asian and Southern Asian expectations for separate entertainment spaces.

   Adopting flexible entertainment zones that serve both integrated and segregated preferences can cater to the diverse cultural expectations of global tourists.
2. Commercialization Balance: Preserving Authenticity
   Over-commercialization risks diluting the natural and cultural authenticity that attracts tourists to Southeast Asia. This concern aligns with Kim and Aggarwal's [58] finding that Eastern tourists in particular have stricter evaluation standards for authenticity and service environments. For example:
   a. Indonesia: Nature-based attractions like Tegalalang Rice Terrace and Mount Batur must reduce aggressive vendor activities and overcrowding by limiting visitor quotas and enhancing preservation efforts.
   b. Thailand: The commercialization of cultural landmarks like Wat Phra Chetuphon should integrate traditional narratives to maintain authenticity while accommodating modern tourism demands.
   c. Vietnam: Maintaining its focus on cultural authenticity while cautiously integrating commercial aspects, such as ensuring that war history sites like Cu Chi Tunnels remain educational rather than overly commoditized, can sustain positive sentiment.

Balancing commercialization with authenticity ensures that destinations preserve their cultural and natural appeal, avoiding the pitfalls of excessive commodification.

3. Cultural Sensitivity: Recognizing Diverse Travel Styles
   Tourists from different cultural backgrounds bring unique perceptions and expectations to their travel experiences. For example, exploration-oriented travelers from Europe and Oceania may seek diverse, multi-destination itineraries, reflecting how individualistic cultures tend to choose novel destinations [60], while destination-focused travelers from Eastern and Southeast Asia may prioritize specific cultural or recreational attractions, which is characteristic of collectivist cultures who prefer group travel and organized experiences [62]. These preferences highlight the importance of understanding and catering to the distinct travel styles of various tourist origins. Tourism stakeholders should adopt culturally sensitive approaches to design offerings that align with these diverse preferences. Tailoring attractions, experiences, and services to match the expectations of different cultural groups can significantly enhance tourist satisfaction and loyalty. By bridging the gap between cultural expectations and actual offerings, destinations can create more inclusive and enriching travel experiences, ensuring that every visitor feels their preferences and values are acknowledged.
4. Infrastructure Development: Thematic Circuits with Interconnectivity
   Tourism networks must accommodate both exploration-oriented and destination-focused travel styles through infrastructure that connects attractions efficiently. Research shows that while individualistic cultures seek novel destinations and independent travel [60], collectivist cultures prefer well-connected, organized routes [66]. Additionally, tourists from cultures with high uncertainty avoidance, which is characteristic of many Asian countries [65], show preferences for organized travel and public transportation [64].
   a. Vietnam: Its well-balanced network can serve as a model for Indonesia and Thailand. Expanding rail and road connectivity between Hoi An, Hanoi, and Ho Chi Minh City can further enhance interconnectivity.
   b. Indonesia: Developing multi-destination circuits that link Java, Sumatra, and Lombok with Bali can diversify its tourism offerings and reduce reliance on a single hub.
   c. Thailand: Strengthening secondary connections (e.g., Chiang Mai to Phuket) through low-cost flights or high-speed trains can promote movement between hubs, supporting diverse travel patterns.

   Clear circuits that integrate diverse attractions while maintaining interconnectivity are essential for accommodating both focused and exploratory travel preferences.

As global tourism evolves, destinations in Southeast Asia must transition from traditional mass-market models to nuanced, culturally adaptive strategies. Destinations that understand and embrace cultural differences are likely to emerge as leaders in the global tourism market. The insights from this study suggest a shift away from traditional tourism development models focused on mass appeal, toward more nuanced approaches that can adapt to cultural preferences while maintaining authenticity. Future success in Southeast Asian tourism will probably belong to destinations that can create dynamic spaces serving multiple cultural needs simultaneously—offering separated zones for those who prefer them while maintaining integrated experiences for others, balancing commercialization with preservation, and providing infrastructure that supports both focused and exploratory travel patterns. This transformation in tourism development could position Southeast Asia a pioneer in culturally adaptive tourism.

6. Conclusions

Cultural backgrounds significantly shape both entertainment preferences and mobility patterns in Southeast Asian tourism. In entertainment experiences, Eastern Asian tourists consistently prefer separated entertainment zones, while Central Asians embrace integrated social spaces. South American tourists show varying responses, valuing vibrant and social nightlife but often disapproving of over-commercialized recreational activities. Vietnam emerges as the most successful in bridging these cultural preferences, maintaining high satisfaction across all groups through balanced development. In mobility patterns, European and Oceanian tourists seek diverse, multi-destination experiences, while Southeast and Eastern Asian visitors prefer focused exploration of specific destinations. This duality underscores the need for flexible tourism models that can simultaneously cater to exploration-oriented and destination-focused travelers.

The future of Southeast Asian tourism lies in its ability to transform cultural differences from challenges into strengths. Destinations must balance commercialization with authenticity to preserve their cultural and natural appeal, ensuring long-term sustainability and tourist loyalty. While this study successfully reveals broad cultural patterns at continental and regional levels, human behavior within the same continent can vary significantly due to distinct historical and cultural backgrounds. Future research should explore how more specific cultural factors, e.g., local traditions, religious practices, and social norms, influence tourist preferences and behaviors. Additionally, investigating other variables, e.g., age demographics, gender differences, and travel group composition (family, friends, solo), could provide deeper insights into tourist behavior patterns. Such a nuanced understanding would enable destinations to develop even more targeted and effective tourism strategies that acknowledge both broad cultural patterns and individual preferences.

Author Contributions: Conceptualization, A.A., D.P.R. and M.N.F.; methodology, D.P.R., M.N.F., M.S.N. and F.H.; software, D.P.R., M.N.F., M.S.N. and F.H.; validation, A.A. and D.P.R.; formal analysis, M.N.F., M.S.N. and F.H.; investigation, A.A., D.P.R., M.N.F., M.S.N. and F.H.; resources, M.Y.F., A.A. and D.P.R.; data curation, D.P.R.; writing—original draft preparation, M.N.F., M.S.N. and F.H.; writing—review and editing, D.P.R., A.A. and M.Y.F.; visualization, D.P.R.; supervision, A.A.; project administration, M.Y.F.; funding acquisition, A.A. and M.Y.F. All authors have read and agreed to the published version of the manuscript.

Funding: DRTPM (Direktorat Riset, Teknologi, dan Pengabdian kepada Masyarakat-Direktorat Jenderal Pendidikan Tinggi, Riset, dan Teknologi-Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. Contract Number: 106/E5/PG.02.00.PL/2024; 043/SP2H/RT-MONO/LL4/2024; 042/LIT07/PPM-LIT/2024.

Institutional Review Board Statement: This study used publicly available internet data without direct human subject involvement. Therefore, ethical approval is not required for this type of non-interventional research.

Data Availability Statement: The data presented in this study are available upon request from the corresponding author.

Conflicts of Interest: The authors declare no conflicts of interest.

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