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Tourist Behavior and Sustainable Tourism Policy Planning in the COVID-19 Era: Insights from Thailand

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Abstract: The COVID-19 outbreak has drastically altered the behavior of tourists, posing a significant challenge to countries that heavily rely on the tourism industry to develop sustainable policies. This study utilizes structural equation modeling (SEM) techniques to analyze the effects of four variable groups on travel decisions during the pandemic. These groups include tourism potential, tourism logistics efficiency, the impact of COVID-19 on tourism potential, and the impact of COVID-19 on logistics efficiency. We collected data from a sample group of 943 foreign tourists visiting Thailand through online and on-site questionnaires. Our findings reveal that accommodation and information flow were the most significant factors affecting travel decisions during the pandemic, while the mode of transport had minimal impact. Based on our results, we recommend that post-COVID-19 tourism policies focus on improving accommodation quality and hygiene standards and building networks that offer comprehensive and up-to-date information about the pandemic. Our proposed approach is more efficient and cost-effective than mobilizing resources across all tourism industry sectors. It promotes sustainable tourism recovery planning while minimizing adverse effects on the community. These results are particularly relevant to stakeholders and policymakers who have been heavily affected by the COVID-19 pandemic and need to develop effective tourism policies.

Keywords: COVID-19; tourism policy; travel decisions; sustainable development; structural equation modeling (SEM)

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1. Introduction

The tourism industry has been one of the sectors most affected by the COVID-19 pandemic [1]. The sudden and unprecedented changes in travel restrictions and consumer behavior have had a significant impact on the sustainability of tourism [2]. The tourism industry, which once relied heavily on mass tourism, is now facing the challenge of adapting to a new reality where travelers prioritize safety and sustainability [3]. In light of these changes, it has become increasingly important for tourism policymakers and practitioners to understand the impact of changing tourist behavior on sustainable tourism policy planning [4].

Since the outbreak of COVID-19, the tourism industry has been greatly impacted, and as a result, the focus of research and education has shifted towards understanding the effects of the pandemic on the industry. These studies aim to understand the impact of the pandemic on the tourism industry as a whole, as well as on the communities and supply chains associated with it [5–9], with the goal of planning and reviving the industry post-pandemic. This became a topic of interest in the latter half of 2020 and continues to be relevant today [10,11]. Additionally, research is also focusing on the impact of COVID-19

on sustainable tourism, which highlights both the positive and negative effects of the pandemic on this aspect of the industry.

On the positive side, the pandemic has accelerated the trend toward sustainable travel [12]. With travelers prioritizing safety and sustainability over traditional tourism experiences, a renewed focus has been placed on sustainable tourism development. This has led to the increased adoption of environmentally friendly and socially responsible practices by destinations and tourism businesses [13,14]. Additionally, the travel limitations imposed during the pandemic have reduced the environmental consequences resulting from unsustainable practices [15,16]. The decline in international travel [17,18] has led to a rise in domestic and regional tourism, which has highlighted the importance of sustainable tourism practices in various destinations. Furthermore, the pandemic has increased the focus on digital technology in sustainable tourism planning. With travel restrictions in place and many businesses facing financial difficulties, digital platforms and tools have become increasingly vital for promoting sustainable tourism practices. This has led to the development of new digital platforms and tools for sustainable tourism, such as online booking systems, virtual tours, and digital marketing campaigns. Additionally, the pandemic has also encouraged the emergence of new forms of tourism, such as staycations, workcations, six-feet tourism, and creative tourism [19–21], that prioritize health and safety while still promoting sustainable practices.

Conversely, the pandemic has resulted in a significant decline in tourism numbers and revenue, leading to financial difficulties for many tourism businesses. This has led to a reduction in investment in sustainable tourism practices, as businesses focus on survival rather than sustainability. Additionally, the decline in tourism revenue has led to a reduction in funding for sustainable tourism initiatives and programs. Moreover, the pandemic has led to a decline in tourism-dependent jobs and livelihoods [17,22–24], particularly in developing countries. This has further exacerbated the economic and social challenges these communities face, which rely heavily on tourism as a source of income. Therefore, when planning tourism policies after the pandemic, governments must focus on resilient post-pandemic tourism that is more equitable [25]. Governments must ensure that the benefits of tourism are distributed equitably among all stakeholders and that sustainable tourism practices are implemented to minimize negative impacts on the environment and local communities.

One of the significant adverse impacts is resource overconsumption. Measures put in place to prevent the spread of the virus, such as enhanced cleaning protocols and increased use of personal protective equipment (PPE), have led to a significant increase in resource consumption across various sectors, particularly in terms of energy, water, and cleaning materials. For instance, implementing social-distancing measures has increased fuel consumption as more individuals resort to private car travel [26,27]. Additionally, the increased use of technology, such as virtual meetings and webinars, has also led to increased energy consumption. Furthermore, the increased use of cleaning products and PPE has increased waste and pollution. The pandemic has also increased the workload of public-health officers, who are responsible for implementing and enforcing measures to prevent the spread of the virus, leading to a strain on resources. It is crucial to minimize resource overconsumption caused by measures to prevent the spread of COVID-19 in mitigating the impact on the environment and promoting sustainable tourism development.

Similar to the rest of the world, Thailand is also facing significant challenges in dealing with the outbreak of COVID-19. When considered alongside Thailand's tourism policy, it becomes apparent that prior to the COVID-19 pandemic, the growth in the tourism sector had led to over-tourism and negative impacts on the society and environment in popular tourist destinations, to the point where some tourist attractions had to be closed in order to restore the natural surroundings [28]. Sustainable development guidelines have been introduced as a crucial component in determining the direction of Thailand's tourism development. There has been an emphasis on shifting from mass tourism to sustainable tourism [29]. This shift is focused explicitly on promoting community-managed tourism,

whereby the local community is responsible for managing and caring for their tourism resources. This approach aims to create income distribution and reduce the negative impacts of over-tourism on communities by using local cooperation mechanisms as a management tool. Promoting the development of community-based tourism and distributing tourist attractions to local areas in accordance with the government's sustainable development guidelines aiming to reduce congestion in popular tourist destinations have become obstacles for the government in providing assistance to cope with the impacts of the COVID-19 outbreak due to a lack of sufficient resources and personnel. Therefore, studying traveler behavior is crucial in understanding how to balance measures to prevent the spread of COVID-19 with reduced resources in the tourism sector. This can provide insight into how individuals make travel decisions during the pandemic, such as their concerns about health and safety and their preferences for travel options. Additionally, this can also provide an insight into how individuals respond to the measures put in place to prevent the spread of COVID-19, such as using PPE and enhanced cleaning protocols. Understanding this information can help tourism businesses and governments develop strategies that address these concerns while promoting sustainable practices and expediting the revitalization of the country's tourism industry.

Therefore, the aim of this study was to use a structural equation modeling (SEM) technique to examine the factors affecting the travel behavior of foreign tourists in Thailand during the pandemic, and the onset of tourism recovery after the pandemic. The results of this study can help support effective tourism recovery planning with a balance between the satisfaction of tourists, public-health measures to prevent outbreaks, and sustainable tourism development. This article is divided into five parts, as follows: (1) Introduction; (2) Literature Review; (3) Methodology; (4) Results; and (5) Conclusion and Policy Implications.

2. Literature Review

The COVID-19 pandemic has significantly impacted the tourism industry, and reviving tourism is a critical goal for many countries. However, the following questions remain: To what extent do the factors that influenced travel decisions before the COVID-19 pandemic still play a role? Specifically, are the factors that affected travel decisions before the COVID-19 pandemic, such as the tourism potential component [30–34] and tourism logistics efficiency [35–41], still influencing the travel decisions of tourists? Furthermore, travel patterns have changed due to pandemic-prevention measures, such as social distancing and mandatory mask wearing. These measures have led to a significant reduction in the use of public transportation and have affected the mode of transport chosen by tourists. Therefore, it is crucial to understand the extent to which these changing factors are influencing travel decisions during the pandemic. Therefore, this study reviewed three essential aspects, consisting of the components of tourism potential, the concept of tourism logistics efficiency, and the impact of the COVID-19 pandemic on travel and tourism, to collect the relevant factors for each issue to analyze the influence of these factors on tourist travel decisions during the COVID-19 pandemic. The details are as follows.

2.1. Components of Tourism Potential

Middleton [42] noted that attractions are a key component of tourism products and play a significant role in the decision-making process of tourists, influencing their motivation to travel. Attractions can be categorized into four types: natural attractions, human-made attractions, cultural attractions, and community-related attractions. Dickman [43] also recognized the importance of attractions as a driving force for tourism and further developed the concept into the 5 As of tourism theory, which has been widely accepted as a popular framework for analyzing tourism potential. The 5 As of tourism theory includes five core components of attractions and tourism products:

- Accessibility is an essential component in facilitating the movement of tourists to their destinations. Journeys can be divided into land, waterway, and air modes

of transportation, with a focus on linking tourist attractions with the movement of tourists, such as from airports, cities, train stations, bus stations, and highway networks [43–45];

- Accommodation is an essential component for tourists. Hotels may be available at a travel destination or as accommodation during a travel trip. There are different accommodation types to choose from, such as hotels, resorts, motels, hostels, homestays, lodges, and inns, depending on the purpose and budget of an individual's trip [43,46];
- Attractions are places that attract tourists and influence their travel decisions. Attractions can be divided into natural and cultural resources. However, nowadays, many forms of tourism have emerged due to changing tourist behavior and unique travel needs, resulting in specific forms of tourism such as health tourism, creative tourism, community-based tourism, or event tourism [43,47];
- Activities relate to a traveler's travel experience, depending on the purpose of the traveler's trip. Experiences can be divided into two types: active and passive experiences [43];
- Amenities relate to facilities that meet human behavior needs, including tourist information centers, ATMs, money changers, food courts, hospitals, and gas stations [43,48,49].

2.2. The Concept of Tourism Logistics Efficiency

Tourism logistics management is the integration of logistics management with tourism management. The author of [35] stated that, in the present day, logistics has been widely used in the tourism business system. It involves managing the movement, circulation, and connectivity of products and services to ensure efficient and cost-effective tourism and maximize consumer satisfaction.

The concept of tourism logistics management has been derived from various studies [45–50]. These studies provide a framework for providing services to tourists in three aspects: physical flow, information flow, and financial flow. Physical flow [50] includes operations such as tourist travel arrangements, transportation, and security. Information flow involves managing information, from data used to decide on a tourist destination to information received at the destination. Financial flow includes financial management to facilitate the payment of goods or travel services.

2.3. The Impact of the COVID-19 Pandemic on Travel and Tourism

Efforts are being made to monitor and assess the effects of the pandemic, especially in the tourism industry. For example, a study by Yang [51] developed an impact-analysis tool called the "COVID19tourism index," which consists of an overall index and five subindices, namely, Aviation, Hotel, Pandemic, Interest, and Mobility. The COVID-19 pandemic has resulted in significant disruption and uncertainty for the travel and tourism industry worldwide, leading to a range of complex decision-making challenges. It has led to various restrictions in different countries to prevent and control the spread of the virus, which has significantly impacted people's lifestyles, social interactions, and economic conditions. In particular, travel and outdoor activities have been significantly affected [6,52]. Numerous research studies emphasize that people often postpone or call off international journeys or flights amid pandemics to evade infection. These self-preserving actions largely rely on demographic factors, including age and race, as well as the perceived risk of infection if they had a cough and fever lasting more than one day, and older travelers (55 years old and over) were more willing to delay their travel compared to younger travelers (18–35 years old) during the H1N1 outbreak [53–55]. People also tend to avoid domestic land travel due to the perceived risk of contracting the virus; aligning with the protection motivation theory, individuals reduce travel to locations in which they perceive medium or high risk [56].

The COVID-19 pandemic has led to significant reductions in transportation modes worldwide. The average daily distance reduced by 60%, with over 90% reductions in public transport usage, and the modal share of cycling increased dramatically in Switzerland [57].

In Budapest, public transport declined by 80%, while bike sharing declined by 2%, and the modal share of cycling, car, and public transport changed from 2%, 43%, and 43% to 4%, 65%, and 18%, respectively [58]. While significant decreases were observed for all modes in the Metro Manila, public transport decreased overall by 74.5% [59]. In Japan, even without strong restrictions, trips and inter-prefectural travel decreased significantly, and the population density decreased by 20%, with people avoiding traveling to densely populated areas [60]. In Daejeon, the number of bus trips and car trips decreased by 40% and 12%, respectively, compared to earlier weeks, with reductions being more intensive during the daytime and weekends [61]. In Hong Kong, metro ridership decreased by 43%, 49%, and 59% during weekdays, Saturdays, and Sundays, respectively [62]. The severity and duration of restrictions and lockdowns were associated with the reductions in metro ridership in Chinese cities [63]. The pandemic also influenced user behaviors of bike sharing significantly, resulting in a reduction of about 50% in Beijing [64]. However, bike sharing was found to be more resilient than the metro, with a lower ridership decrease and an increase in its average duration in New York [65]. The decline in metro trips in Taipei was attributed to health risks, with the largest impacts on metro stations connected to night markets, shopping centers, and colleges [66]. The rush hours on weekdays were affected the least, whereas ridership at night decreased the most [67].

The study by Lee and Chen [68] investigated COVID-19 pandemic variables affecting the transformation of and impact on the domestic tourism and leisure industry. In an effort to minimize the risk of infection, it is crucial that public-transport operations implement safety measures such as mask wearing and maintaining social distancing [69]. To enhance public-transportation safety, researchers have recommended strategies such as personal protection, thorough cleaning and disinfection, and health education [70]. Studies have demonstrated that the combination of face masks and social distancing effectively reduces virus spread in indoor environments [71]. Furthermore, research has indicated that variables affecting the transformation of an impact on travel demand related to fostering personal norms (PN) and raising awareness of consequences (AC), which can lead to a reduction in car usage for commuting purposes [72–74], have successfully explained pro-social behavior in relation to the intention to reduce private car use and the acceptability of transport-pricing policies across various countries [75,76]. Additionally, it is important to note that travelers' personal and travel characteristics also play a significant role in influencing travel behavior [77,78].

The travel impact of the COVID-19 pandemic is one of the key and most influential impacts on the tourism industry, according to a study by Abdullah [77] that studied the effects of the pandemic on travel behavior and choice in travel patterns. As the result of various measures to control the outbreak of COVID-19, the study used an online questionnaire to collect data related to trip objectives, transport choice, distance traveled, and travel frequency before and during COVID-19. The study results explained that the travel purpose, intention of the mode of transport, distance traveled, and travel frequency were significantly different before and during the outbreak. There has also been a significant shift from public transport to private vehicles, and the focus is on pandemic-related concerns in choosing a mode of transportation. This is consistent with the study by Zheng and Ritchie [79] that reported on "travel fear" during the pandemic, which is considered a significant obstacle to the restoration of the tourism industry, as well as the study conducted by Iaquinto [80], "Tourist as vector: Viral mobilities of COVID-19". Studies have shown that the movement, transportation, and travel of people, citizens, and tourists are factors or variables that are affected by the COVID-19 pandemic worldwide. In the view of mobility, transportation is vital to understand the impact of a pandemic on tourists.

Based on previous studies, it was found that the behavior and needs of tourists in various components of tourism have changed in response to the COVID-19 pandemic, due to increased health awareness and various public-health measures. This study aims to investigate the impact of pandemic-prevention measures and the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic. A conceptual framework consisting

of the 5 As of tourism theory [81] that examines tourism potential based on the components of accessibility, accommodation, attractions, activities, and amenities, and a conceptual framework derived from the tourism logistics theory devised by Lambert et al. (physical flow, information flow, and financial flow) were applied to determine whether the relevant components affect the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic. This study's hypotheses are as follows:

Hypothesis 1 (H1). *The five factors of tourism potential (accessibility, accommodation, attractions, activities, and amenities) affect the travel behavior of tourists when considering tourism potential during the COVID-19 pandemic situation.*

Hypothesis 2 (H2). *The five factors of tourism potential (accessibility, accommodation, attractions, activities, and amenities) affect the travel behavior of tourists when considering the efficiency of tourism logistics during the COVID-19 pandemic situation.*

Hypothesis 3 (H3). *The three elements of tourism logistics efficiency (physical flow, information flow, and financial flow) affect the travel behavior of tourists when considering tourism potential during the COVID-19 pandemic situation.*

Hypothesis 4 (H4). *The three elements of tourism logistics efficiency (physical flow, information flow, and financial flow) affect the travel behavior of tourists when considering the potential efficiency of tourism logistics during the COVID-19 pandemic situation.*

The conceptual framework of the model is shown in Figure 1.

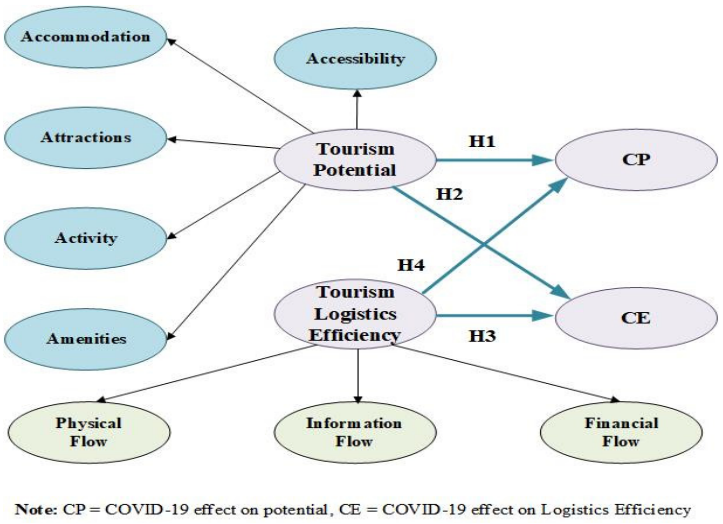

Figure 1. A theoretical framework for the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic situation.

3. Methodology

3.1. Data Collection

The survey was conducted from January 2022 to August 2022 by using a combination of on-site surveys and online surveys due to differences in travel-restriction policies between countries at the time of the data collection. The sample of this study was long- or short-term foreign tourists who visited Thailand during the COVID-19 outbreak. The number of samples in each group was determined by the proportion of foreign tourists traveling to Thailand so that the dataset was representative of foreign tourist behavior in Thailand. The sample was classified by country and region: China, East Asia (excluding China), Europe, America, South Asia, Middle East, and others.

The questionnaire was divided into two sections. The first part concerns the general information of the tourists. It relates to the characteristics of the respondents and their travel style, such as gender, age, race, purpose of trip, and form and duration of travel. This study also considered travel issues related to the COVID-19 situation, such as the number of vaccines received and the disease experience, as well as the trend of travel-decision-making patterns during the pandemic situation. The second part is a question that denotes importance to various factors that influence travel decisions during the pandemic, with 5 levels of measure (1, very low impact on travel decisions, to 5, very high impact on travel decisions) [82]. The list of questions was divided into four sections, consisting of (1) tourism potential (12 items), (2) tourism logistics efficiency (9 items), (3) COVID-19 effect on tourism potential (3 items), and (4) COVID-19 effect on logistics efficiency (3 items).

Before starting the survey, the study was approved by the Human Ethics Committee. This guarantees that the information of the participants will be kept confidential.

3.2. Participants

This study used a sample of 943 foreign tourists visiting Thailand. According to Kline's [83] recommendations, the minimum acceptable number of samples for a structural equation model analysis is 200. Therefore, the sample size in this study is sufficient for analysis. The sample population of this study was predominantly from the European region, with 311 tourists (33.0%). A quarter of the tourists came from the ASEAN region with 236 tourists (25.0%), followed by China with 171 (18.1%), East Asia with 105 (11.1%), South Asia with 48 (5.1%), America with 47 (5.0%), and Oceania, with 25, the lowest number (2.7%). According to the general information of the sample group, when divided by gender, there were 515 males (54.6%) and 428 females (45.4%). When divided by age group, one third of the sample were between 35 and 44 years old, with 311 people (33.0%), followed by 25–34 year-olds, with 303 people (32.1%), between 45 and 54 years, with 193 people (20.5%), and between 55 and 65 years, with 136 people, the lowest number (14.4%). The details are shown in Figure 2.

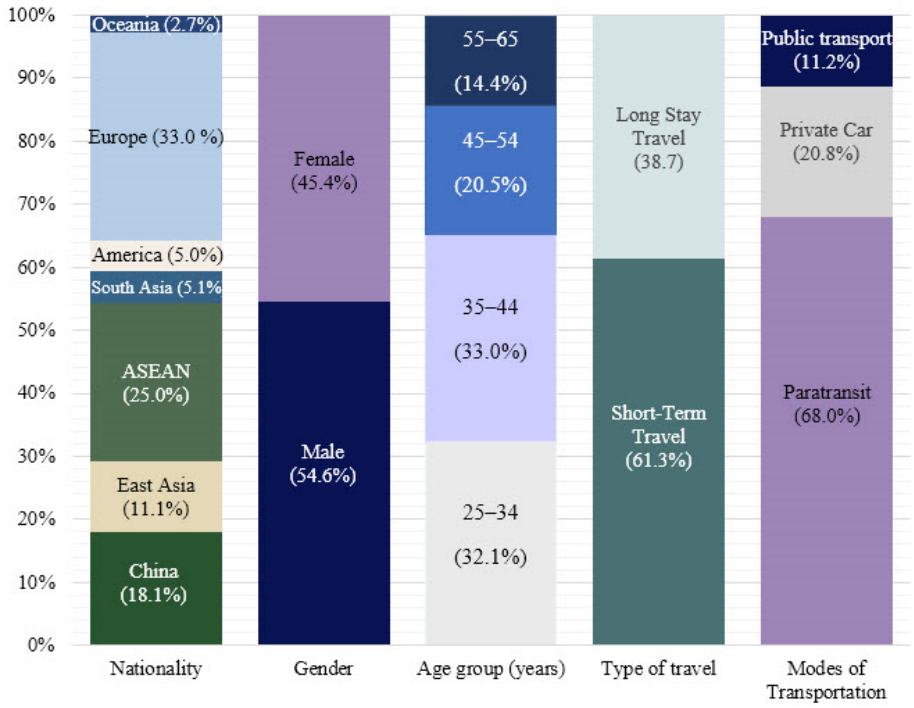

Figure 2. General information of the sample and travel information.

Regarding the travel issues of foreign tourists related to the COVID-19 pandemic, it was found that the proportion of tourists who had been infected with COVID-19 was similar

to that of tourists who had not been infected with COVID-19: 509 people (54.0%) had never been infected with COVID-19, and 434 people (46.0%) had been infected with COVID-19. During COVID-19, only 267 tourists (28.3%) traveled to neighboring provinces or traveled short term, while the rest responded that they did not (71.3%). Before the outbreak of COVID-19, the main mode of travel chosen by tourists was a nonregular-route public carrier (61.8%), followed by public transport (21.4%) and private cars (16.8%). During the COVID-19 pandemic, most tourists chose a nonregular public carrier (61.5%), followed by private cars (37.8%) and public transport (0.7%). The details are shown in Table 1.

Table 1. Travel information of foreign tourists related to the COVID-19 pandemic (n = 943).

Questionnaire	Descriptions	Frequency (n = 943)	Percentage (%)
Are you ever been infected with COVID-19	No	509	54.0
	Yes	434	46.0
During the COVID-19 pandemic, are you tend to travel to nearby provinces or take short-term travel, more or not.	No	267	28.3
	Yes	676	71.7
During the COVID-19 pandemic, are you more likely to use a private car/taxi than public transport.	No	39	4.1
	Yes	904	95.9
The main form of travel that you preferred to use before the outbreak of COVID-19.	Private car	158	16.8
	Paratransit	583	61.8
	Public transport	202	21.4
The main form of travel that you preferred to use after the outbreak of COVID-19.	Private car	356	37.8
	Paratransit	580	61.5
	Public transport	7	0.7

3.3. Descriptive Statistics

The information in this section is a survey of the level of opinion of foreign tourists on their travel decisions in Thailand during the COVID-19 pandemic situation using a 5-level Likert scale [82]. The following 10 factors were included: (1) accessibility, (2) accommodation, (3) attractions, (4) activities, (5) amenities, (6) physical flow, (7) information flow, (8) financial flow, (9) COVID-19 effect on tourism potential (CP), and (10) COVID-19 effect on logistics efficiency (CE).

The level of opinion towards the efficiency and service potential of foreign tourists in Thailand during the COVID-19 pandemic was divided into 10 factors, each of which had the following variables:

- Accessibility consists of three variables: P1, P2, and P3.
- Accommodation consists of two variables: P4 and P5.
- Attractions consists of three variables: P6, P7, and P8.
- Activities consists of two variables: P9 and P10.
- Amenities consists of two variables: P11 and P12.
- Physical flow consists of four variables: E1, E2, E3, and E4.
- Information flow consists of three variables: E5, E6, and E7.
- Financial flow consists of two variables: E8 and E9.
- COVID-19 effect on tourism potential consists of three variables: CP1, CP2, and CP3.
- COVID-19 effect on logistics efficiency consists of three variables: CE1, CE2, and CE3.

The details of the above variables are shown in Table 2. The basic statistics of all 27 observable variables were analyzed (Table 3), and the analysis results showed that the indicator with the highest average value was "E1", "The tourist transportation system is high-quality and punctual" (M = 4.21, SD = 0.733), followed by "CE1" (M = 4.18, SD = 0.728), and the indicator with the lowest average value was "CP2", "Strict measures to prevent the spread of COVID-19 have been enforced when entering and leaving an area" (M = 3.52,

SD = 1.077). In addition, by examining the normal distribution of the variables considering the skewness (SK) and kurtosis (KU), it was found that the skewness and kurtosis of all 27 variables were between −2 and +2 and between −7 and +7, respectively, meaning there was a normal distribution [84–86]. This supports the use of factor analysis as a measurement model in structural equation modeling.

Table 2. Variables of the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic situation.

	Variables	Description
Accessibility	P1	Many tourist attractions are easily accessible and convenient.
	P2	Transportation infrastructures (roads, train stations, bus stations, ports, and airports) are ready to accommodate tourists.
	P3	Various transportation modes are ready to support tourists (private car, rental car, public transport).
Accommodation	P4	Accommodation is sufficient and can meet the needs of all groups of tourists.
	P5	The surrounding area of the main tourist attractions is large, and quality accommodation is available.
Attractions	P6	Tourist attractions are famous and popular nationally.
	P7	Tourist attractions are rich in natural attractions.
	P8	Tourist attractions with exciting history, traditions, and culture.
Activities	P9	Tourism activities with the local community.
	P10	Favorite tourist activities that are popular at the national level.
Amenities	P11	Tourist information center with staff to give advice.
	P12	An application to communicate travel information such as travel routes and times, and to recommend tourist attractions or present up-to-date information.
Physical flow	E1	The tourist transportation system is high-quality and punctual.
	E2	Transportation services for people with mobility, hearing, and visual disabilities.
	E3	Shuttle bus service to tourist attractions.
	E4	A tourist attraction that supports a variety of travel formats, both public transportation and private cars.
Information flow	E5	A system to inform tourists about entrance fees, fares, travel schedules, and travel times.
	E6	A clear and easily communicated bulletin board with information on attractions and routes.
	E7	Manages travel information via the Internet and social networking channels with up-to-date information (travel events, exciting activities, situations in the area).
Financial flow	E8	Easily book and pay for goods, travel services, and tickets through electronic pay by scanning via a QR code for Thai and foreign banks.
	E9	Pay for goods, travel services, and tickets via foreign credit cards and cash cards.
The impact of COVID-19 on tourism potential (CP)	CP1	Measures to prevent the spread of COVID-19, such as vaccination background checks, have been enforced. Temperature screening, and ATK check before entering tourist attractions.
	CP2	Strict measures to prevent the spread of COVID-19 have been enforced when entering and leaving an area.
	CP3	All hotel staff are fully vaccinated against COVID-19 as per standard.

Table 2. *Cont.*

Variables		Description
The impact of COVID-19 on logistics efficiency (CE)	CE1	Safe tourist transport system with sanitary standards.
The impact of COVID-19 on logistics efficiency (CE)	CE2	Intensive screening of passengers before using public transport.
The impact of COVID-19 on logistics efficiency (CE)	CE3	Improved booking process. Pay for travel goods and services to increase the convenience of cashless payments and reduce physical contact.

Table 3. Measurement of constructs.

Constructs	Item	Minimum	Maximum	Mean (SD)	Skewness	Kurtosis
Tourism potential (P)	P1	2	5	4.02 (0.767)	−0.338	−0.484
	P2	1	5	3.98 (0.796)	−0.451	−0.046
	P3	1	5	3.93 (0.775)	−0.407	0.058
	P4	1	5	3.78 (0.950)	−0.388	−0.467
	P5	1	5	3.76 (0.834)	−0.296	−0.175
	P6	1	5	3.61 (0.992)	−0.633	0.339
	P7	1	5	3.75 (0.990)	−0.811	0.61
	P8	1	5	3.75 (0.980)	−0.793	0.643
	P9	1	5	3.83 (0.865)	−0.317	−0.118
	P10	1	5	3.81 (0.791)	−0.35	0.308
	P11	1	5	3.92 (0.806)	−0.337	−0.307
	P12	1	5	4.00 (0.761)	−0.355	−0.251
Logistics efficiency I	E1	1	5	4.21 (0.733)	−0.518	−0.358
	E2	2	5	4.12 (0.715)	−0.319	−0.548
	E3	2	5	4.13 (0.741)	−0.392	−0.521
	E4	1	5	4.09 (0.768)	−0.483	−0.134
	E5	1	5	3.80 (0.965)	−0.538	−0.004
	E6	1	5	3.80 (0.790)	−0.258	−0.021
	E7	1	5	3.79 (0.862)	−0.286	−0.295
	E8	1	5	4.14 (0.721)	−0.409	−0.294
	E9	2	5	3.98 (0.688)	−0.132	−0.442
The impact of COVID-19 on tourism potential (CP)	CP1	1	5	3.84 (1.236)	−0.832	−0.393
	CP2	1	5	3.52 (1.077)	−0.789	−0.039
	CP3	1	5	3.65 (1.110)	−0.616	−0.282
The impact of COVID-19 on logistics efficiency (CE)	CE1	2	5	4.18 (0.728)	−0.44	−0.52
	CE2	1	5	4.13 (0.729)	−0.44	−0.205
	CE3	1	5	3.86 (0.856)	−0.55	0.38

3.4. Pearson Correlation Coefficients

The Pearson correlation coefficient analysis of this study is presented using a chorogram devised by [87]. In Figure 3, green represents a positive relationship and brown

represents a negative relationship, which can be observed in the color bar below the figure. In this study, there was only a positive correlation, with large, dark green circles representing highly correlated variables and smaller, lighter colored circles representing less correlated variables. The bottom bar of Figure 2 shows the correlation coefficients and corresponding color, with the most correlated pairs of variables being "CP1" and "CP2", and the least correlated being "P8" and "CE2". All pairs had positive correlation coefficients (+), indicating that the variables were related in the same direction, and all pairs had correlation coefficients less than +/− 0.9, which is consistent with the research in [85,86].

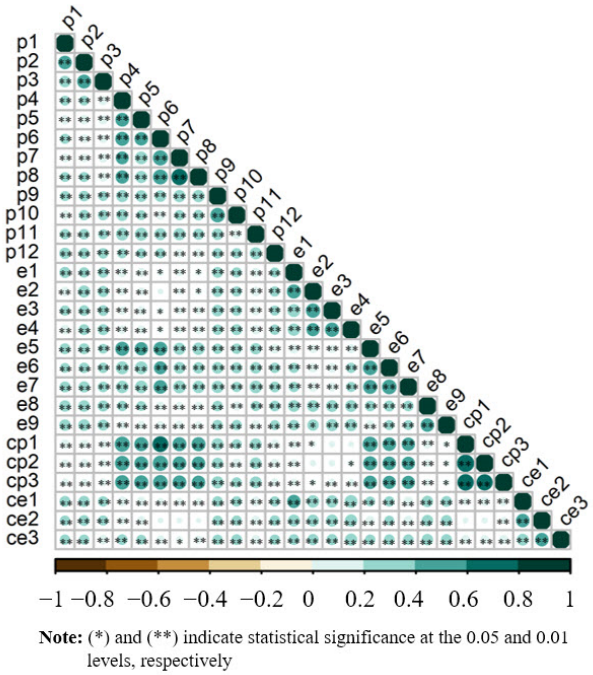

Figure 3. Illustration of Pearson correlation coefficients.

4. Results

This section explains the analysis of the factors that affected the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic situation by applying a structural equation model (SEM) (according to the conceptual framework in Figure 1). This study analyzed the relationships among the variable groups, explaining the relationships in the form of a conceptual framework. The analysis consisted of three parts:

1. First-order confirmatory factor analysis as a measurement model;
2. Second-order confirmatory factor analysis to find the overall relationship of each component;
3. Path analysis to study whether the relationships between elements are relevant.

The details of the three parts of the analysis results are explained in the next section.

4.1. Measurement Model

This study utilized confirmatory factor analysis (CFA) using the maximum-likelihood-estimation method to examine the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic. Variables with factor loadings of less than 0.5 were excluded and reanalyzed. The CFA was divided into two parts: first-order construct CFA and second-order construct CFA. The first-order construct CFA examined the tourism potential and logistics efficiency, with all variables having a statistical significance of 0.001. As shown in the Figure 4, The highest standard element weight for each construct varied, with "P9" having the highest for activities ($\lambda = 0.819$) and "E6" having the highest for information flow ($\lambda = 0.737$). The first-order construct CFA of the COVID-19 effect on tourism potential

and logistics efficiency also found that all variables had a statistical significance of 0.001, with "CP1" having the highest for tourism potential (λ = 0.839) and "CE2" having the highest for logistics efficiency (λ = 0.680).

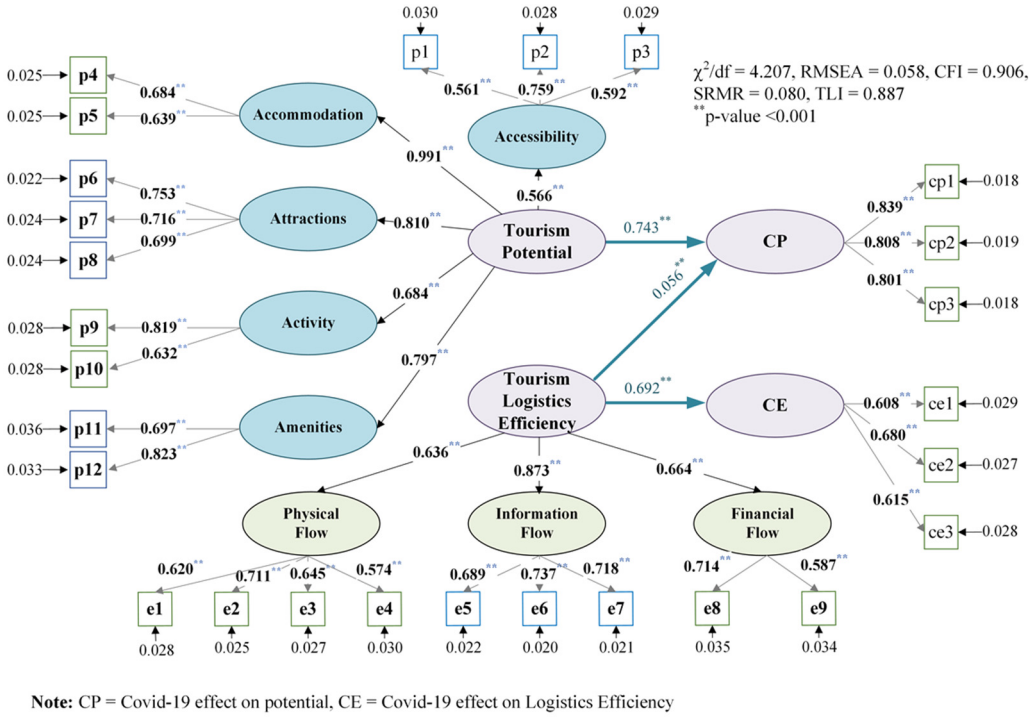

Figure 4. Structural equation model of the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic situation.

4.2. Second-Order Confirmatory Factor Analysis

The results obtained through the standardized first-order confirmatory factor analysis (CFA) were analyzed through second-order confirmatory factor analysis (second-order CFA) to determine the overall relationships of the components and reconstruct the constituents to represent the subcomponents. In this study, the second-order confirmatory factor analysis (second-order CFA) analyzed two components: (1) tourism potential and (2) tourism logistics efficiency.

The second-order confirmatory factor analysis results show that the component "tourism potential" includes five latent factors: accessibility, accommodation, attractions, activities, and amenities, with standard element weights (standardized CFA loadings) of 0.566, 0.991, 0.810, 0.684, and 0.797, respectively (Figure 4). Similarly, the component "tourism logistics efficiency" includes three latent factors: physical flow, information flow, and financial flow, with standard element weights (standardized CFA loadings) of 0.636, 0.873, and 0.664, respectively (Figure 4). These results provide insight into the relationships between the latent factors and how they contribute to the overall concept of tourism potential and tourism logistics efficiency.

4.3. Indicator Reliability

The results of the questionnaire confidence analysis (Table 4) were examined by means of the internal consistency using Cronbach's alpha coefficient. The investigation found that the confidence level of each factor was between 0.505 and 0.881. There was one component (amenities) with a Cronbach's alpha of 0.505, which is lower than recommended (0.60) [88]. However, values greater than 0.5 are acceptable [89]. Therefore, it can be concluded that the questionnaire used in this study is accurate and can be further analyzed.

Table 4. Measurement items (first-order CFA).

Construct /Factor	Variable	Loading	Cronbach's Alpha	CR	AVE
Accessibility (ACCE)	P1	0.561	0.674	0.977	0.414
	P2	0.759			
	P3	0.592			
Accommodation (ACCO)	P4	0.684	0.628	0.972	0.438
	P5	0.639			
Attractions (ATTR)	P6	0.753	0.820	0.985	0.523
	P7	0.716			
	P8	0.699			
Activities (ACT)	P9	0.819	0.682	0.974	0.535
	P10	0.632			
Amenities (AME)	P11	0.697	0.505	0.952	0.400
	P12	0.476			
Physical flow (PF)	E1	0.620	0.760	0.983	0.409
	E2	0.711			
	E3	0.645			
	E4	0.574			
Information flow (IF)	E5	0.689	0.755	0.986	0.511
	E6	0.737			
	E7	0.718			
Financial flow (FF)	E8	0.714	0.609	0.961	0.427
	E9	0.587			
COVID-19 effect on tourism potential (CP) (Cronbach's alpha = 0.881)	CP1	0.839	0.881	0.786	0.666
	CP2	0.808			
	CP3	0.801			
COVID-19 effect on logistics efficiency (CE) (Cronbach's alpha = 0.665)	CE1	0.608	0.665	0.977	0.403
	CE2	0.680			
	CE3	0.615			

Notes: CR = composite reliability; AVE = average variance extracted.

4.4. Convergent Validity

Convergent validity analysis considers the average variance extracted (AVE) and composite reliability (CR) of each component, and the following criteria are recommended: the average variance extracted (AVE) should be greater than 0.5 [90], and composite reliability (CR) should be at least 0.7 [85]. In addition, the value of the square root of the AVE should be greater than the corresponding squared inter-construct correlation (SIC) estimate [85].

According to the accuracy inspection results and accuracy inspection result of the measurement model (Table 4), it was found that the AVE values of all components were between 0.400 and 0.666, and the CR values were between 0.786 and 0.986. According to the above results, the AVE values of some components were less than 0.5. However, it is reported that AVE values starting from 0.4 are acceptable when the CR values are greater than 0.6 [90], and many researchers have also used this standard [91–94].

4.5. Discriminant Validity

After verifying the consistency of the indicators through the construct reliability and average variance extracted, the consistency of the indicators was assessed using the construct reliability and average variance extracted to evaluate the quality of the measurement model. The results of these analyses can be evaluated by comparing the square root of the AVE to the inter-construct correlations, as presented in Table 5. In the estimation, the square root of the AVE (shown in bold parentheses) is higher when it is diagonally aligned. This indicates the inter-construct correlations, which measure the discriminant validity of the model [83,85]. Based on these findings, it can be concluded that the model in this study demonstrates discriminant validity, meaning it is able to accurately measure the intended components.

Table 5. Discriminant validity.

√AVE	ACCE	ACCO	ATTR	ACT	AME	PF	IF	FF	CP	CE
ACCE	**(0.643)**									
ACCO	0.283 **	**(0.671)**								
ATTR	0.260 **	0.567 **	**(0.723)**							
ACT	0.331 **	0.405 **	0.382 **	**(0.731)**						
AME	0.382 **	0.445 **	0.377 **	0.344 **	**(0.597)**					
PF	0.428 **	0.227 **	0.122 **	0.384 **	0.318 **	**(0.640)**				
IF	0.385 **	0.581 **	0.539 **	0.382 **	0.419 **	0.305 **	**(0.715)**			
FF	0.443 **	0.253 **	0.188 **	0.299 **	0.307 **	0.484 **	0.330 **	**(0.653)**		
CP	0.188 **	0.670 **	0.657 **	0.352 **	0.341 **	0.117 **	0.614 **	0.127 **	**(0.816)**	
CE	0.394 **	0.281 **	0.124 **	0.340 **	0.314 **	0.565 **	0.336 **	0.430 **	0.179 **	**(0.635)**

Notes: ** p-value < 0.001; the square roots of the AVEs are shown in bold on the diagonal, in parentheses.

4.6. Model Fit Indices

The conformity of the hypothesized model with the empirical data was evaluated through the analysis of the structural equation model. Several researchers have proposed criteria for interpreting the results of this type of analysis, including the chi-square ratio/degrees of freedom (χ^2/(df)), which should be less than 5 [95,96]; the root mean square error of approximation (RMSEA), which should be less than or equal to 0.08 [86] or less than or equal to 0.07 [97]; the Bentler comparative fit index (CFI), which usually ranges from 0 to 1, where a value of 0.90 or higher indicates a good fit [98]; the standardized root mean square residual (SRMR), which should be less than or equal to 0.08 [98]; and the Tucker–Lewis index (TLI), which should be more than or equal to 0.08 [99].

The results of the structural equation model analysis of the travel behavior of foreign tourists in Thailand during the COVID-19 pandemic showed that the model fit indices were as follows: χ^2 = 1256.098, df = 293, χ^2/df = 4.207, RMSEA = 0.058, CFI = 0.906, SRMR = 0.080, and TLI = 0.887. Upon comparison of the model's statistics to the recommended criteria, it was found that all the values met the standards proposed by various researchers. Based on these results, it can be concluded that our hypothesis-based model is consistent with the empirical data.

4.7. Coefficients of Structural Paths

The path analysis of the structural equation model (Table 6) revealed that there were several factors that influenced the effect of COVID-19 on tourism potential (CP), including tourism potential and tourism logistics efficiency. Of these factors, tourism potential had the strongest influence (γ = 0.743, p-value < 0.001), while tourism logistics efficiency had a weaker influence (γ = 0.056, p-value < 0.001). The analysis also found that the factor influencing the effect of COVID-19 on logistics efficiency (CE) was tourism logistics effi-

ciency (γ = 0.692, p-value < 0.001). All the paths in the model were found to be statistically significant at the 0.001 level (p-value < 0.001).

Table 6. Coefficients of structural paths.

Path Relationship	Standardized Estimate	Standard Error	t-Value	Result
Tourism Potential → CP	0.743 **	0.022	33.773	Supported
Tourism Logistics Efficiency → CP	0.056 **	0.005	11.200	Supported
Tourism Logistics Efficiency → CE	0.692 **	0.038	18.211	Supported

Note: regression on, ** significant at $p < 0.001$ (χ^2 = 1246.098, df =293, $p < 0.001$, χ^2/df = 4.207, RMSEA = 0.058, CFI = 0.906, TLI = 0.887, and SRMR = 0.080).

5. Conclusions and Policy implications

5.1. Conclusions

The confirmatory factor analysis and path analysis of the structural equation model supported the proposed relationships among the factors, as hypothesized. The main points can be summarized as follows:

- Influence of Tourism Potential on Travel Decisions

This study examined the travel behavior of foreign tourists in Thailand during the COVID-19 outbreak. For travel decisions, the area's tourism potential was found to be an essential factor. The results of the second-order confirmatory factor analysis confirmed the presence of all five components (accessibility, accommodation, attractions, activities, and amenities), in line with the concepts of Dickman [43], Murphy [46], Setthachotsombut and Sua-Iam [12], Anwar [100], and Ozturk and Qu [49]. This suggests that diverse areas can attract more tourists. In addition, the results also indicated that foreign tourists placed the most emphasis on accommodation factors; in other words, accommodation factors had the most crucial influence on travel decisions, followed by attractions, amenities, and activities, with accessibility being the least influential factor.

- Influence of Tourism Logistics Efficiency on Travel Decisions

The efficiency of tourism logistics in the area impacted travel decisions. The second-order confirmatory factor analysis results confirmed the presence of the constituents of all three components (physical flow, information flow, and financial flow), following the concept of Lambert [101]. The results showed that foreign tourists placed the most emphasis on information flow factors, consistent with the findings of the study by Setthachotsombut and Sua-Iam [12], which found that information technology has the most significant impact on value-chain tourism-logistics management. This result suggests that tourists can easily access and search for information about tourist attractions through online media or social media, including signs, boards, and public relations. This finding can enhance the efficiency of tourism logistics. The second most important factors were financial flow and physical flow.

- Influence of COVID-19 effect on Tourism Potential on Travel Decisions

The results indicate that tourism potential had the most significant positive impact on the effect of COVID-19 on tourism potential in travel decisions, followed by tourism logistics efficiency. These findings suggest that, despite the spread of COVID-19, tourist attractions still possess overall solid potential and have implemented sufficient measures to prevent the transmission of COVID-19 [100,102], such as checking for vaccine history, temperature checks, and health declarations before entry. Such measures can enhance tourist satisfaction.

- Influence of COVID-19 effect on Logistics Efficiency on Travel Decisions

Tourism logistics efficiency had the most significant positive impact on local tourism logistics efficiency, resulting from the impact of COVID-19 on travel decision making. This

finding is consistent with a study by Wang and Gao [102], which found that preventive measures against the spread of COVID-19 in public transportation significantly influence commuter travel safety preferences. However, tourism logistics efficiency had little influence on the impact of COVID-19 on tourism potential in travel decisions. These results may be attributed to tourists' confidence in the hygiene and safety standards of the transportation systems used during their travels, such as screening passengers before boarding public transportation and using cashless payment methods to reduce physical contact [103].

In addition, the information obtained in this study also shows that, when considering the potential of tourist attractions, accommodation is essential in promoting and motivating tourism, especially for foreign tourists. Therefore, along with the attraction aspect, the provision of accommodation services must be sufficient for the number of tourists, including the quality of services that meet standards and offer variety in terms of price and the level of service [104]. It is also essential to give importance to attractions in terms of preserving the integrity of tourist attractions, taking care of tourist attractions so they do not deteriorate and are not affected by excessive intense tourism, and publicizing potential and exciting tourist attractions to tourists [81]. Therefore, these are two crucial issues in creating travel incentives.

Regarding the issue of tourism logistics efficiency, information flow is an essential component in travel decisions. Developing public relations systems and providing information about tourism management through the Internet and various social-networking channels, as well as up-to-date data, such as entrance fees, service fees, fare rates, and travel times, are essential for encouraging tourism in the area [88]. In addition, the development of mobile applications for travel service providers with artificial intelligence machines or chatbots that can respond to users is another possible development option in the future [37].

On the issue of the impact of COVID-19 on tourism, potential tourists place the highest importance on preventive measures within tourist attractions, such as vaccination background checks, temperature detection, and ATK detection. For the efficiency of tourism logistics, attention should be given to hygiene safety standards in the transport systems serving tourists, such as passenger screening, driver ATK checks, and regular cleaning of transportation systems. There is also a focus on improving the booking and payment process to pay for goods and services in cashless travel to reduce physical contact and the risk of infection [105].

5.2. Policy Implications

Sustainable tourism planning in Thailand has become increasingly important following the outbreak of COVID-19. The global pandemic has significantly impacted the tourism industry, decreasing international travel and shifting consumer preferences toward more sustainable and responsible tourism practices. As the country looks to recover from the economic impact of the pandemic, sustainable tourism planning can play a vital role in ensuring the industry's long-term sustainability.

One of the key challenges facing sustainable tourism planning in Thailand post-COVID-19 is the need for the industry to adapt to the new reality of the pandemic. Social-distancing measures and increased hygiene protocols have led to a decrease in capacity and an increase in operating costs for tourism businesses. Sustainable tourism planning in Thailand must take these new realities into account and provide solutions that protect the health of tourists and locals and minimize the negative impact on the environment and local communities.

Our findings suggest that, in the aftermath of the COVID-19 pandemic, tourism policies must be carefully planned to ensure the safe return of tourists while also reducing the waste of resources from pandemic-prevention measures. One approach to achieving this is to focus on necessary hygiene procedures and to control hygiene standards in areas that are considered high-risk for the spread of COVID-19 [106]. These areas include hotels, which serve as resting areas for tourists, as well as popular tourist destinations that have a high density of tourists. Another important aspect of tourism policy planning after

COVID-19 is to focus on the screening process to enter these high-risk areas, making it more concise and efficient. By doing so, the risk of spreading COVID-19 can be mitigated while also ensuring the safety of tourists and the community.

Furthermore, it is important to propose new forms of tourism that focus on travelers traveling in short distances and spreading the tour into smaller groups. This approach can not only reduce the impact of tourism on the community but also support the distribution of income and the development of sustainable tourism [92,107,108]. By focusing on sustainable tourism, not only will the community benefit, but the tourism industry as a whole will also attract more tourists and increase its longevity. This approach aligns with the long-term sustainability goals of the tourism industry and helps in the recovery of the industry after the devastating impact of the pandemic.

5.3. Limitations and Future Research Directions

This study focuses on the factors that influence the travel decisions of foreign tourists in Thailand. One limitation of this study is the limited information available on foreign tourists. Despite the fact we proportionally divided the sample group by country, aggregate analysis was used to provide representative behavioral data of foreign tourists in Thailand. This limits the ability to examine potential differences in behavior among tourists of different nationalities, such as the impact of COVID-19 on their travel decisions, the distances or modes of travel they choose, and their COVID-19 infection status. Additionally, the data were collected from a sample group of tourists visiting Thailand and therefore cannot be used to confirm the behavior of tourists of each nationality. Therefore, in future studies, data from different areas or countries, such as other developing countries, should be collected and analyzed (cross-cultural), considering geographical and cultural aspects. The sample size should also be increased and analyzed in subgroups (multigroup) to better reflect tourists' decision-making behavior during the COVID-19 pandemic. Furthermore, a comparative study between different areas, such as urban and rural areas, would provide valuable insights into the decision-making behavior of tourists during the pandemic.

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References

1. Wut, T.M.; Xu, J.; Wong, S.M. Crisis Management Research (1985–2020) in the Hospitality and Tourism Industry: A Review and Research Agenda. *Tour. Manag.* **2021**, *85*, 104307. [CrossRef] [PubMed]
2. Yin, J.; Ni, Y. COVID-19 Event Strength, Psychological Safety, and Avoidance Coping Behaviors for Employees in the Tourism Industry. *J. Hosp. Tour. Manag.* **2021**, *47*, 431–442. [CrossRef]
3. Mach, L.; Ponting, J. Establishing a Pre-COVID-19 Baseline for Surf Tourism: Trip Expenditure and Attitudes, Behaviors and Willingness to Pay for Sustainability. *Ann. Tour. Res. Empir. Insights* **2021**, *2*, 100011. [CrossRef]
4. Wong, J.W.C.; Lai, I.K.W. The Mechanism Influencing the Residents' Support of the Government Policy for Accelerating Tourism Recovery under COVID-19. *J. Hosp. Tour. Manag.* **2022**, *52*, 219. [CrossRef]
5. Škare, M.; Soriano, D.R.; Porada-Rochoń, M. Impact of COVID-19 on the Travel and Tourism Industry. *Technol. Forecast. Soc. Change* **2021**, *163*, 120469. [CrossRef]
6. Yang, Y.; Altschuler, B.; Liang, Z.; Li, X. (Robert) Monitoring the Global COVID-19 Impact on Tourism: The COVID-19 tourism Index. *Ann. Tour. Res.* **2021**, *90*, 103120. [CrossRef]

7. Pardo, C.; Ladeiras, A. Covid-19 "Tourism in Flight Mode": A Lost Opportunity to Rethink Tourism–towards a More Sustainable and Inclusive Society. *Worldw. Hosp. Tour. Themes* **2020**, *12*, 671–678. [CrossRef]
8. Qiu, R.T.R.; Park, J.; Li, S.N.; Song, H. Social Costs of Tourism during the COVID-19 Pandemic. *Ann. Tour. Res.* **2020**, *84*, 102994. [CrossRef]
9. Chowdhury, P.; Paul, S.K.; Kaisar, S.; Moktadir, M.A. COVID-19 Pandemic Related Supply Chain Studies: A Systematic Review. *Transp. Res. Part E Logist. Transp. Rev.* **2021**, *148*, 102271. [CrossRef]
10. Butler, R. Tourism–Resilient but Vulnerable as "the Times They Are a Changing" in the "New Normality". *Worldw. Hosp. Tour. Themes* **2020**, *12*, 663–670. [CrossRef]
11. Sharma, G.D.; Thomas, A.; Paul, J. Reviving Tourism Industry Post-COVID-19: A Resilience-Based Framework. *Tour. Manag. Perspect.* **2021**, *37*, 100786. [CrossRef] [PubMed]
12. Setthachotsombut, N.; Sua-iam, G. Tourism Value Chain Management and Tourism Logistics in Ubon Ratchathani Province, Northeast Thailand. *African J. Hosp. Tour. Leis.* **2020**, *9*, 1–12.
13. Tiwari, P.; Chowdhary, N. Has COVID-19 Brought a Temporary Halt to Overtourism? *Turyzm/Tourism* **2021**, *31*, 89–93. [CrossRef]
14. Eichelberger, S.; Heigl, M.; Peters, M.; Pikkemaat, B. Exploring the Role of Tourists: Responsible Behavior Triggered by the COVID-19 Pandemic. *Sustainability* **2021**, *13*, 5774. [CrossRef]
15. Sumanapala, D.; Wolf, I.D. The Changing Face of Wildlife Tourism during the COVID-19 Pandemic: An Opportunity to Strive towards Sustainability? *Curr. Issues Tour.* **2021**, *25*, 357–362. [CrossRef]
16. Patterson Edward, J.K.; Jayanthi, M.; Malleshappa, H.; Immaculate Jeyasanta, K.; Laju, R.L.; Patterson, J.; Diraviya Raj, K.; Mathews, G.; Marimuthu, A.S.; Grimsditch, G. COVID-19 Lockdown Improved the Health of Coastal Environment and Enhanced the Population of Reef-Fish. *Mar. Pollut. Bull.* **2021**, *165*, 112124. [CrossRef]
17. Castanho, R.A.; Couto, G.; Sousa, Á.; Pimentel, P.; Batista, M.D.G. Assessing the Impacts of the COVID-19 Pandemic over the Azores Region's Touristic Companies. *Sustainability* **2021**, *13*, 9647. [CrossRef]
18. UNWTO 2020: Worst Year in Tourism History with 1 Billion Fewer International Arrivals. Available online: https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals (accessed on 25 February 2023).
19. Marujo, N.; Borges, M.D.R.; Serra, J.; Coelho, R. Strategies for Creative Tourism Activities in Pandemic Contexts: The Case of the 'Saídas de Mestre' Project. *Sustainability* **2021**, *13*, 10654. [CrossRef]
20. Gonçalves, A. What Is Staycation: Discover the Latest Trend in Sustainable Tourism. Available online: https://youmatter.world/en/staycation-definition-stay-vacations-sustainable/ (accessed on 25 February 2023).
21. Wong, I.K.A.; Lin, Z.; Kou, I.T.E. Restoring Hope and Optimism through Staycation Programs: An Application of Psychological Capital Theory. *J. Sustain. Tour.* **2023**, *31*, 91–110. [CrossRef]
22. Marome, W.; Shaw, R. COVID-19 Response in Thailand and Its Implications on Future Preparedness. *Int. J. Environ. Res. Public Health* **2021**, *18*, 1089. [CrossRef]
23. Amar, M.Y.; Syariati, A.; Ridwan, R.; Parmitasari, R.D.A. Indonesian Hotels' Dynamic Capability under the Risks of COVID-19. *Risks* **2021**, *9*, 194. [CrossRef]
24. Srivastava, P.R.; Sengupta, K.; Kumar, A.; Biswas, B.; Ishizaka, A. Post-Epidemic Factors Influencing Customer's Booking Intent for a Hotel or Leisure Spot: An Empirical Study. *J. Enterp. Inf. Manag.* **2021**, *35*, 78–99. [CrossRef]
25. Sörensson, A.; von Friedrichs, Y. An Importance-Performance Analysis of Sustainable Tourism: A Comparison between International and National Tourists. *J. Destin. Mark. Manag.* **2013**, *2*, 14–21. [CrossRef]
26. Du, J.; Rakha, H.A.; Filali, F.; Eldardiry, H. COVID-19 Pandemic Impacts on Traffic System Delay, Fuel Consumption and Emissions. *Int. J. Transp. Sci. Technol.* **2021**, *10*, 184–196. [CrossRef]
27. Smith, L.V.; Tarui, N.; Yamagata, T. Assessing the Impact of COVID-19 on Global Fossil Fuel Consumption and CO_2 Emissions. *Energy Econ.* **2021**, *97*, 105170. [CrossRef]
28. TIME STAFF Tourists Force Closure of Thailand's "Most Beautiful" Island | Time. Available online: https://time.com/4336737/thailand-island-koh-tachai-similan-phangnga-ranong-tourism-travelers/ (accessed on 4 March 2023).
29. Archer, D. Thailand Shifts away from Mass Tourism | Destination Think. Available online: https://destinationthink.com/blog/thailand-shifts-away-mass-tourism/ (accessed on 4 March 2023).
30. Chi, C.G.Q.; Qu, H. Examining the Structural Relationships of Destination Image, Tourist Satisfaction and Destination Loyalty: An Integrated Approach. *Tour. Manag.* **2008**, *29*, 624–636. [CrossRef]
31. Kozak, M.; Rimmington, M. Measuring Tourist Destination Competitiveness: Conceptual Considerations and Empirical Findings. *Int. J. Hosp. Manag.* **1999**, *18*, 273–283. [CrossRef]
32. Praditrod, C. *Components of Tourist Attractions and Tourism Motivation Affecting to Working People's Decision Making Travelling in Vicinity Areas*; Bangkok University: Bangkok, Thailand, 2014.
33. Kumplew, V.; Chartrungruang, B.; Tarapituxwong, S. Factors Affecting Decisions to Participate in Adventure Travel of Thai and Foreign Tourists. *Phikanatesan 12AD* **2020**, *12*, 140–148.
34. Rattanaphan, P. Factors Affectinng the Decision of Tourists to Visit Songkhla. *Prasit Ratt.* **2016**, *30*, 168–180.
35. Sittilert Khanapojs Logistic and Tourism in the Present. *Lib. Arts Rev.* **2011**, *6*, 1–14.
36. Lumsdon, L.; Page, S. *Progress in Transport and Tourism Research: Reformulating the Transport-Tourism Interface and Future Research Agendas*; Routledge: Oxfordshire, UK, 2007; ISBN 9780080519401.

37. Ketter, E.; Avraham, E. #StayHome Today so We Can #TravelTomorrow: Tourism Destinations' Digital Marketing Strategies during the Covid-19 Pandemic. *J. Travel Tour. Mark.* **2021**, *38*, 819–832. [CrossRef]
38. Suriya, K. Conceptual Framework of Tourism Logistics. Available online: http://www.sri.cmu.ac.th/~gms/tour-732ism/index.php?ge=topicdetall&webId=185 (accessed on 17 January 2023.).
39. Aungthong, A. The Effects of Perceived Value from Tourist Attractions and Logistics Management on Satisfaction and Chiang Mai Tourism Loyalty. *J. Manag. Sci. Ubon Ratchathani Univ.* **2012**, *1*, 29–44.
40. Chaichan, T. Tourism Logistics Management for Wang Nam Khiew District in Nakhon Ratchasima Province. *Res. Rep. Suranaree Univ. Technol.* **2012**, *16*, 17–33.
41. Liang, N.; Corbitt, B.; Peszynski, K. *Impacts of Logistics Service Performance through IT on Overall Tourist Satisfaction and Loyalty*; Springer: Berlin/Heidelberg, Germany, 2008.
42. Middleton, V.T.C.; Clarke, J.R. *Marketing in Travel and Tourism*; Routledge: Oxfordshire, UK, 2012; ISBN 9780080511108.
43. Dickman, S. *Tourism: An Introductory Text*, 3rd ed.; Hodder Education: Rydalmere, Australia, 1997; ISBN 0733606776.
44. Basuki Joewono, T.; Kubota, H.; Basuki Joewono, T.; Kubota, H. Paratransit Service in Indonesia: User Satisfaction and Future Choice. *Transp. Plan. Technol.* **2007**, *31*, 325–345. [CrossRef]
45. Joewono, T.B.; Kubota, H. User Satisfaction with Paratransit in Competition with Motorization in Indonesia: Anticipation of Future Implications. *Transportation* **2007**, *34*, 337–354. [CrossRef]
46. Murphy, P.; Pritchard, M.P.; Smith, B. The Destination Product and Its Impact on Traveller Perceptions. *Tour. Manag.* **2000**, *21*, 43–52. [CrossRef]
47. Chansuk, C.; Arreeras, T.; Chiangboon, C.; Phonmakham, K.; Chotikool, N.; Buddee, R.; Pumjampa, S.; Yanasoi, T.; Arreeras, S. Using Factor Analyses to Understand the Post-Pandemic Travel Behavior in Domestic Tourism through a Questionnaire Survey. *Transp. Res. Interdiscip. Perspect.* **2022**, *16*, 100691. [CrossRef]
48. Camilleri, M.A. The Tourism Industry: An Overview. In *Tourism Economics and the Airline Product*; Springer Nature: Berlin, Germany, 2018; pp. 3–27. [CrossRef]
49. Ozturk, A.B.; Qu, H. The Impact of Destination Images on Tourists' Perceived Value, Expectations, and Loyalty. *J. Qual. Assur. Hosp. Tour.* **2008**, *9*, 275–297. [CrossRef]
50. Allan, G.; Connolly, K.; Figus, G.; Maurya, A. Economic Impacts of COVID-19 on Inbound and Domestic Tourism. *Ann. Tour. Res. Empir. Insights* **2022**, *3*, 100075. [CrossRef]
51. de Haas, M.; Faber, R.; Hamersma, M. How COVID-19 and the Dutch "intelligent Lockdown" Change Activities, Work and Travel Behaviour: Evidence from Longitudinal Data in the Netherlands. *Transp. Res. Interdiscip. Perspect.* **2020**, *6*, 100150. [CrossRef]
52. Mogaji, E. Impact of COVID-19 on Transportation in Lagos, Nigeria. *Transp. Res. Interdiscip. Perspect.* **2020**, *6*, 100154. [CrossRef]
53. Fenichela, E.P.; Castillo-Chavezb, C.; Ceddiac, M.G.; Chowellb, G.; Gonzalez Parrae, P.A.; Hickling, G.J.; Holloway, G.; Horan, R.; Morin, B.; Perrings, C.; et al. Adaptive Human Behavior in Epidemiological Models. *Proc. Natl. Acad. Sci. USA* **2011**, *108*, 6306–6311. [CrossRef] [PubMed]
54. Sharangpani, R.; Boulton, K.E.; Wells, E.; Kim, C. Attitudes and Behaviors of International Air Travelers toward Pandemic Influenza. *J. Travel Med.* **2011**, *18*, 203–208. [CrossRef] [PubMed]
55. Leggat, P.A.; Brown, L.H.; Aitken, P.; Speare, R. Level of Concern and Precaution Taking Among Australians Regarding Travel During Pandemic (H1N1) 2009: Results From the 2009 Queensland Social Survey. *J. Travel Med.* **2010**, *17*, 291–295. [CrossRef] [PubMed]
56. Hotle, S.; Murray-Tuite, P.; Singh, K. Influenza Risk Perception and Travel-Related Health Protection Behavior in the US: Insights for the Aftermath of the COVID-19 Outbreak. *Transp. Res. Interdiscip. Perspect.* **2020**, *5*, 100127. [CrossRef]
57. Molloy, J.; Schatzmann, T.; Schoeman, B.; Tchervenkov, C.; Hintermann, B.; Axhausen, K.W. Observed Impacts of the COVID-19 First Wave on Travel Behaviour in Switzerland Based on a Large GPS Panel. *Transp. Policy* **2021**, *104*, 43–51. [CrossRef] [PubMed]
58. Bucsky, P. Modal Share Changes Due to COVID-19: The Case of Budapest. *Transp. Res. Interdiscip. Perspect.* **2020**, *8*, 100141. [CrossRef] [PubMed]
59. Hasselwander, M.; Tamagusko, T.; Bigotte, J.F.; Ferreira, A.; Mejia, A.; Ferranti, E.J.S. Building Back Better: The COVID-19 Pandemic and Transport Policy Implications for a Developing Megacity. *Sustain. Cities Soc.* **2021**, 69. [CrossRef]
60. Hara, Y.; Yamaguchi, H. Japanese Travel Behavior Trends and Change under COVID-19 State-of-Emergency Declaration: Nationwide Observation by Mobile Phone Location Data. *Transp. Res. Interdiscip. Perspect.* **2021**, *9*, 100288. [CrossRef]
61. Kim, S.; Lee, S.; Ko, E.; Jang, K.; Yeo, J. Changes in Car and Bus Usage amid the COVID-19 Pandemic: Relationship with Land Use and Land Price. *J. Transp. Geogr.* **2021**, *96*, 103168. [CrossRef]
62. Zhang, N.; Jia, W.; Wang, P.; Dung, C.H.; Zhao, P.; Leung, K.; Su, B.; Cheng, R.; Li, Y. Changes in Local Travel Behaviour before and during the COVID-19 Pandemic in Hong Kong. *Cities* **2021**, *112*, 103139. [CrossRef] [PubMed]
63. Xin, M.; Shalaby, A.; Feng, S.; Zhao, H. Impacts of COVID-19 on Urban Rail Transit Ridership Using the Synthetic Control Method. *Transp. Policy* **2021**, *111*, 1–16. [CrossRef] [PubMed]
64. Shang, W.L.; Chen, J.; Bi, H.; Sui, Y.; Chen, Y.; Yu, H. Impacts of COVID-19 Pandemic on User Behaviors and Environmental Benefits of Bike Sharing: A Big-Data Analysis. *Appl. Energy* **2021**, *285*, 116429. [CrossRef] [PubMed]
65. Teixeira, J.F.; Lopes, M. The Link between Bike Sharing and Subway Use during the COVID-19 Pandemic: The Case-Study of New York's Citi Bike. *Transp. Res. Interdiscip. Perspect.* **2020**, *6*, 100166. [CrossRef]

66. Chang, H.H.; Lee, B.; Yang, F.A.; Liou, Y.Y. Does COVID-19 Affect Metro Use in Taipei? *J. Transp. Geogr.* **2021**, *91*, 102954. [CrossRef] [PubMed]
67. Mützel, C.M.; Scheiner, J. Investigating Spatio-Temporal Mobility Patterns and Changes in Metro Usage under the Impact of COVID-19 Using Taipei Metro Smart Card Data. *Public Transp.* **2022**, *14*, 343–366. [CrossRef]
68. Lee, C.C.; Chen, M.P. The Impact of COVID-19 on the Travel and Leisure Industry Returns: Some International Evidence. *Tour. Econ.* **2022**, *28*, 451–472. [CrossRef]
69. Gutiérrez-Velasco, L.; Liébana-Presa, C.; Abella-Santos, E.; Villar-Suárez, V.; Fernández-Gutiérrez, R.; Fernández-Martínez, E. Access to Information and Degree of Community Awareness of Preventive Health Measures in the Face of COVID-19 in Spain. *Healthcare* **2021**, *9*, 104. [CrossRef]
70. Shen, J.; Duan, H.; Zhang, B.; Wang, J.; Ji, J.S.; Wang, J.; Pan, L.; Wang, X.; Zhao, K.; Ying, B.; et al. Prevention and Control of COVID-19 in Public Transportation: Experience from China. *Environ. Pollut.* **2020**, *266*, 115291. [CrossRef]
71. Ngonghala, C.N.; Iboi, E.; Eikenberry, S.; Scotch, M.; MacIntyre, C.R.; Bonds, M.H.; Gumel, A.B. Mathematical Assessment of the Impact of Non-Pharmaceutical Interventions on Curtailing the 2019 Novel Coronavirus. *Math. Biosci.* **2020**, *325*, 108364. [CrossRef]
72. Abrahamse, W.; Steg, L.; Gifford, R.; Vlek, C. Factors Influencing Car Use for Commuting and the Intention to Reduce It: A Question of Self-Interest or Morality? *Transp. Res. Part F Traffic Psychol. Behav.* **2009**, *12*, 317–324. [CrossRef]
73. Bamberg, S.; Hunecke, M.; Blöbaum, A. Social Context, Personal Norms and the Use of Public Transportation: Two Field Studies. *J. Environ. Psychol.* **2007**, *27*, 190–203. [CrossRef]
74. Nordlund, A.M.; Garvill, J. Effects of Values, Problem Awareness, and Personal Norm on Willingness to Reduce Personal Car Use. *J. Environ. Psychol.* **2003**, *23*, 339–347. [CrossRef]
75. De Groot, J.I.M.; Steg, L.; Poortinga, W. Values, Perceived Risks and Benefits, and Acceptability of Nuclear Energy. *Risk Anal.* **2013**, *33*, 307–317. [CrossRef] [PubMed]
76. Mehdizadeh, M.; Mamdoohi, A.R.; Nordfjaern, T. Walking Time to School, Children's Active School Travel and Their Related Factors. *J. Transp. Health* **2017**, *6*, 313–326. [CrossRef]
77. Abdullah, M.; Dias, C.; Muley, D.; Shahin, M. Exploring the Impacts of COVID-19 on Travel Behavior and Mode Preferences. *Transp. Res. Interdiscip. Perspect.* **2020**, *8*, 100255. [CrossRef]
78. Shamshiripour, A.; Rahimi, E.; Shabanpour, R.; Mohammadian, A. (Kouros) How Is COVID-19 Reshaping Activity-Travel Behavior? Evidence from a Comprehensive Survey in Chicago. *Transp. Res. Interdiscip. Perspect.* **2020**, *7*, 100216. [CrossRef] [PubMed]
79. Zheng, D.; Luo, Q.; Ritchie, B.W. Afraid to Travel after COVID-19? Self-Protection, Coping and Resilience against Pandemic 716 "Travel Fear". *Tour. Manag.* **2021**, *83*, 104261. [CrossRef]
80. Iaquinto, B.L. Tourist as Vector: Viral Mobilities of COVID-19. *Dialogues Hum. Geogr.* **2020**, *10*, 174–177. [CrossRef]
81. Das, P.; Singh, A.K.; Maitra, S. Effect of COVID-19 on Recreational Trips to Tourist Destination–An Indian Context. *Asian Transp. Stud.* **2022**, *8*, 100088. [CrossRef]
82. Likert, R. *A Technique for the Measurement of Attitudes. Archives of Psychology*; Scientific Research: New York, NY, USA, 1985.
83. Kline, R.B. *Principles and Practice of Structural Equation Modeling*, 4th ed.; The Guilford Press: New York, NY, USA, 2011; ISBN 9781462523351.
84. George, D.; Mallery, P. *SPPS for Windows Step by Step: A Simple Guide and Reference: 14.0 Update*; Pearson A and B; SPPPS: Tokyo, Japan, 2007; ISBN 0205515851.
85. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*; Pearson College Div: New York, NY, USA, 2010; p. 785.
86. Tabachnick, B.G.; Fidell, L.S. *Using Multivariate Statistics*, 6th ed.; New York Harper Row: New York, NY, USA, 2012; p. 1024.
87. Friendly, M. Friendly Corrgrams: Exploratory Displays for Correlation Matrices. *Am. Stat.* **2002**, *56*, 316–324. [CrossRef]
88. Ngeoywijit, S.; Kruasom, T.; Ugsornwongand, K.K.; Pitakaso, R.; Sirirak, W.; Nanthasamroeng, N.; Kotmongkol, T.; Srichok, T.; Khonjun, S.; Kaewta, C. Open Innovations for Tourism Logistics Design: A Case Study of a Smart Bus Route Design for the Medical Tourist in the City of Greater Mekong Subregion. *J. Open Innov. Technol. Mark. Complex.* **2022**, *8*, 173. [CrossRef]
89. Taber, K.S. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Res. Sci. Educ.* **2018**, *48*, 1273–1296. [CrossRef]
90. Fornell, C.; Larcker, D.F. Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *J. Mark. Res.* **1981**, *18*, 382. [CrossRef]
91. Chou, S.F.; Horng, J.S.; Sam Liu, C.H.; Lin, J.Y. Identifying the Critical Factors of Customer Behavior: An Integration Perspective of Marketing Strategy and Components of Attitudes. *J. Retail. Consum. Serv.* **2020**, *55*, 102113. [CrossRef]
92. Fan, X.; Lu, J.; Qiu, M.; Xiao, X. Changes in Travel Behaviors and Intentions during the COVID-19 Pandemic and Recovery Period: A Case Study of China. *J. Outdoor Recreat. Tour.* **2023**, *41*, 100522. [CrossRef]
93. Lam, L.W. Impact of Competitiveness on Salespeople's Commitment and Performance. *J. Bus. Res.* **2012**, *65*, 1328–1334. [CrossRef]
94. Peterson, M.; Minton, E.A.; Liu, R.L.; Bartholomew, D.E. Sustainable Marketing and Consumer Support for Sustainable Businsses. *Sustain. Prod. Consum.* **2021**, *27*, 157–168. [CrossRef]
95. Whittaker, T.A.; Schumacker, R.E. *A Beginner's Guide to Structural Equation Modeling*; Routledge: Oxfordshire, UK, 2004; ISBN 9780367477967.

96. Wheaton, B.; Muthen, B.; Alwin, D.F.; Summers, G.F. Assessing Reliability and Stability in Panel Models. *Sociol. Methodol.* **1977**, *8*, 84. [CrossRef]
97. Steiger, J.H. Understanding the Limitations of Global Fit Assessment in Structural Equation Modeling. *Pers. Individ. Dif.* **2007**, *42*, 893–898. [CrossRef]
98. Hu, L.T.; Bentler, P.M. Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives. *Struct. Equ. Model. A Multidiscip. J.* **1999**, *6*, 1–55. [CrossRef]
99. Hooper, D.; Coughlan, J.; Mullen, M. Structural Equation Modeling: Guidelines for Determining Model Fit. *Electron. J. Bus. Res. Methods* **2007**, *6*, 11426–11436.
100. Anwar, M.A.; Dhir, A.; Jabeen, F.; Zhang, Q.; Siddiquei, A.N. Unconventional Green Transport Innovations in the Post-COVID-19 Era. A Trade-off between Green Actions and Personal Health Protection. *J. Bus. Res.* **2023**, *155*, 113442. [CrossRef]
101. Lambert, D.M.; Stock, J.R.; Ellram, L.M. *Fundamentals of Logistics Management*; New York Irwin: New York, NY, USA, 1998; Volume xvii, 892p.
102. Wang, Y.; Gao, Y. Travel Satisfaction and Travel Well-Being: Which Is More Related to Travel Choice Behaviour in the Post COVID-19 Pandemic? Evidence from Public Transport Travellers in Xi'an, China. *Transp. Res. Part A Policy Pract.* **2022**, *166*, 218–233. [CrossRef]
103. Raja, R. Impact of COVID-19 on the Logistics Supply Chain and Tourism Industry. In *Effects of COVID-19 Pandemic*; Redshine Publication: Lunawada, India, 2022; pp. 1–13, ISBN 978-93-95456-71-5.
104. Li, X.; Gong, J.; Gao, B.; Yuan, P. Impacts of COVID-19 on Tourists' Destination Preferences: Evidence from China. *Ann. Tour. Res.* **2021**, *90*, 103258. [CrossRef] [PubMed]
105. Hüsser, A.P.; Ohnmacht, T. A Comparative Study of Eight COVID-19 Protective Measures and Their Impact on Swiss Tourists' Travel Intentions. *Tour. Manag.* **2023**, *97*, 104734. [CrossRef] [PubMed]
106. Chen, C.M.; Jih, C.Y.; Lin, Y.C.; Hung, W.H. The Impact of Border Control Policy on Tourists' Behaviors in Taiwan during the COVID-19 Pandemic. *J. Hosp. Tour. Manag.* **2022**, *53*, 160–164. [CrossRef]
107. Israngkura, A. Marine Resource Recovery in Southern Thailand during COVID-19 and Policy Recommendations. *Mar. Policy* **2022**, *137*, 104972. [CrossRef]
108. Cai, G.; Xu, L.; Gao, W. The Green B&B Promotion Strategies for Tourist Loyalty: Surveying the Restart of Chinese National Holiday Travel after COVID-19. *Int. J. Hosp. Manag.* **2021**, *94*, 102704. [CrossRef]