

The Potential of Logistics Management for Supporting Tourists: A Case Study on Khao Soon in Chawang District Nakhon Si Thammarat Province

Tiranan.W^{#1}, Nuchakorn.K^{#2}

[#]*Department of Innovation Management and Business Information, Faculty of Management Technology, Rajamangala University of Technology Srivijaya, Nakhon Si Thammarat, Thailand*

¹*Tiranan.w@rmutsv.ac.th*

²*Nuchakorn.ko@rmutsv.ac.th*

Abstract— The objectives of this study were to examine the logistics management potential to support tourists in the Khao Soon area and to suggest ways of tourism potential development in the Khao Soon area, Chawang District, Nakhon Si Thammarat Province in accordance with tourists' needs. The instruments used in this research were 330 sets of questionnaires accidentally given to tourists and an interview with five interviewees from government agencies, private organizations, and entrepreneurs by using purposive sampling. The data were expressed as percentage, means, standard deviations, t-test, and one-way analysis of variance (F-test). The findings showed that tourists placed importance on cooperation in the community and attraction in tourist destinations including the availability of services for personnel and places that are ready to support tourists. In view of tourists, things needed for improvement are the physical flow like readiness in route conditions to reach tourist attractions, the information flow including information service and maps showing tourist spots for tourists to access information, and the financial flow such as offering more multi-payment services to facilitate tourists by paying via QR Code or Prompt Pay. From the perspective of public/private agencies and entrepreneurs, the emphasis was on the physical flow with the development of routes to access tourist sites for more convenience in order to promote tourism and the information flow like promoting the public relations of tourist information to become more well-known via social media such as websites or Facebook. Entrepreneurs also wanted tourist spots to be publicized for recognition and required the development of service to meet the needs of tourists and sustainability in tourism. The findings showed

that different demographic characteristics revealed significant and non-significant differences toward the potential of logistics management to support tourists at the 0.05 level.

Keywords— Tourism logistics, tourism potential, physical flow, financial flow, information flow

1. INTRODUCTION

Tourism industry has been considered as a service business that generates income for entrepreneurs in the local area. It also increases the local economy and affects the overall economy of the country. Thailand has relied on tourism as one of the strategies for national economic development and is successful in terms of marketing until the country is known as the 'Land of Smiles' and it has become one of the famous resting places in the world. The Tourism Authority of Thailand (TAT) has started to make a 2015 marketing plan to encourage people to travel in 12 provinces. The "12 Cities You Can't Say No" campaign is to introduce the rising star provinces with potential in tourism as attractive and interesting tourist attractions in 12 provinces, namely Lampang, Nan, Phetchabun, Buriram, Loei, Trat, Chanthaburi, Ratchaburi, Samut Songkhram, Chumphon, Trang, and Nakhon Si Thammarat being one of the interesting places to visit. Nakhon Si Thammarat is a province with diverse and abundant nature. For this reason, it has several natural attractions such as seas, waterfalls, and mountains with viewpoints and beautiful seas of mist. The tourist attraction in Khao Soon is considered as a new tourist destination of Nakhon Si Thammarat Province. There is a beautiful view of the sea of mist. In the morning or after the rain, there will be a sea of fog covering all around, causing an interest for tourists who like to travel in

a natural way and want to travel to Khao Soon. But at the same time, this tourist area still lacks the knowledge to improve it into a higher level of tourism. Logistics management is therefore a system connecting tourism with supply chains that are very important at present. This brings about the coordination between activities to make the movement or flow of tourists from the upstream to downstream without errors in order to receive the highest satisfaction. In particular, the management of logistics should pay attention to three points: (1) the physical flow attempts to make an impression on the journey for fast, safe and convenient trips; (2) the information flow focuses on the promotion of tourist attractions for visitors to access tourist information efficiently and understand the context of tourist destinations clearly before planning that particular trip; and (3) the financial flow relies on more spending channels to create convenience in tourism spending for tourists [1], [2]. The management of tourism supply chain is the coordination of activities in each step for government/private sectors and entrepreneurs to operate efficiently in the area in order to create added value to service and impression to tourists. Good logistics management should consider the capacity to support tourists in conformity with their efficient needs to create an impression for repeated visits.

For this reason, we see the importance of logistics management potential to support tourists in Khao Soon in order to improve the area to make an impression on tourists for repeated trips.

2. LITERATURE REVIEW

The related studies were reviewed as follows:

[3]-[5] examined the logistics management system and factors for tourists' satisfaction in Nonthaburi province. The results showed that tourists were moderately satisfied with the factors of tourism logistics in Nonthaburi province and that they were highly pleased with the expenses. Road improvement, landscape in tourist attractions, suitable parking, and guide signs needed to be developed for tourists. The community was moderately satisfied with tourist destinations and readiness in logistics management and needed to support the OTOP local products for community careers. They also wanted help from the government to improve tourism in the community. Entrepreneurs moderately agreed with readiness in logistic management, wanted more public relations on tourism, and needed new

tourist attractions to earn more income for the community.

[1], [6]-[8] The study aims to assess the ecotourism logistics system potential, the accordance of potential, needs, and the ecotourism development of government/private agencies and entrepreneurs for guidelines in ecotourism logistics system potential development in Nakhon Si Thammarat. The assessment of ecotourism logistics potential revealed that most tourists first emphasized the physical flow and then the personnel. The findings from entrepreneurs showed that they wanted supports from government agencies to develop personnel in the service aspect while government/private agencies focused on the physical flow. However, significant difference was found between tourists and entrepreneurs on tourism logistics potential components, but agreement was perceived among government/private agencies on the section benefits due to different viewpoints

[9], [10] assessed the tourist attraction potential of 4 waterfalls in Saraburi Province. The findings showed that Jed Sao Noi Waterfall had the highest potential, followed by Jed Kod Waterfall, Muak Lek Waterfall, and Dong Phayayen Waterfall, respectively. The main strengths of Jed Sao Noi Waterfall and Jed Kod Waterfall were their values and attractiveness while those of Muak Lek Waterfall and Dong Phayayen Waterfall were their potential in accessibility and collaboration from local people. The results from this research can be used as a guideline to develop the tourist attraction potential in order to improve the sites and promote them to wider tourism markets.

[11], [12] investigated the logistics and supply chain system to strengthen the capability of tourism industry in Thailand by finding out the approach for improving the effectiveness of tourism management in Thailand and supporting continued growth of the tourism industry under the ASEAN competitive conditions. The analytical framework was used in analyzing the data. There were significant gaps found in tourism policies such as the lack of explicit and harmonious action plans on tourism development which should also respond to the ASEAN's plan, and the lack of productive human resources and narrative attractions. Consequently, Thailand has been ranked behind in many criteria of ASEAN tourism competitiveness, especially in technology infrastructure. The results indicated that there were many information system problems in the tourism industry such as travel

delay, information inaccuracy, and exchange restriction in tourism activities. Most entrepreneurs in tourism industry are reluctant to employ information technology to develop their services. The researchers suggested that the model and data base for entrepreneurs in tourism industry should be categorized according to their characteristics while the tourism logistics should focus on physical development such as the common facilities, the public signage in universal format, the cleanliness and safety standards of vehicles, the availability of service personnel, and the reliability of punctuality of the services.

[13]-[15] examined the supply chain and data model of tourism industry in Thailand. The data were collected by conducting focus groups with six relevant stakeholders from the three most popular provinces for tourists – Bangkok, Chiang Mai and Suratthani (Samui Island). The six stakeholder groups were made up of (1) hotel and accommodation, (2) travel agents, (3) tourism government agents, (4) recreational activities companies, (5) food and restaurant, and (6) transportation companies. In addition, the in-depth interview was conducted with business owners and executives from each stakeholder. The results indicated that there were only 2 groups within the tourism supply chain that extensively shared relevant information with one another. These two groups were hotel accommodation and travel agents. Besides, the lack of effective collaboration between other stakeholders within the value chain resulted from (1) asymmetric information among six stakeholders, (2) the complicated context and cultural complexity, and (3) the rapid changes of the information technology that contributed to the information exchanges and collaboration amongst all stakeholders. The researchers also analyzed and developed Thai tourism information exchange model by accumulating all stakeholders and their needs of information within the tourism supply chain.

3. METHODOLOGY

3.1 Research Design

A mixed research design using both quantitative and qualitative methods was used in the study to explore the potential of logistics management for supporting tourists in Khao Soon, Chawang District, Nakhon Si Thammarat Province.

3.2 Population and Sample Research

The participants in the study were divided into three groups including tourists, entrepreneurs and government/private agencies. Concerning the first group, 330 sets of questionnaires using accidental sampling were employed to collect the data from tourists travelling in the Khao Soon area, Chawang District, Nakhon Si Thammarat Province. In the event that the exact population is unknown, the W.G. Cochran formula was used to specify 30% or 0.3 random population groups with 70% confidence and a 5% margin of error. When the formula was calculated, it yielded 330 sets. Regarding the second and third groups, interviews employing purposive sampling were carried out with three interviewees from entrepreneurs and two interviewees from government/private agencies.

3.3 Research Tool

A quantitative research design using an accidental sampling technique was employed in the study. A set of questionnaire comprising three parts was administered to 330 tourists.

Part 1 consisted of items regarding tourists' general information travelling in Khao Soon.

Part 2 was composed of items concerning the potential components of logistics management to support tourists by specifying a content framework covering 8 potential areas of study.

Part 3 was made up of open-ended questions obtaining information on ways in planning the development of logistics management to support tourists in Khao Soon.

For the qualitative research, an in-depth interview using purposive sampling was performed with interviewees from government/private agencies and entrepreneurs to collect factual information concerning tourism as follows:

1. A structured interview was carried out with interviewees from government/private agencies and entrepreneurs to obtain in-depth qualitative data concerning the potential of logistics management to support tourists.

2. A participatory observation method was done through participation in various activities such as talks, exchanges, and site visits to obtain more accurate information.

3.4 Data Collection Methods

The data in this research were collected by using two steps as follows:

1. The secondary data were employed by collecting information from documents, textbooks, articles, tourism books, Tourism Authority of Thailand (TAT) websites, Department of Tourism, and research papers relating to tourism and logistics.

2. The primary data using accidental sampling were carried out by distributing 330 sets of questionnaires to tourists. In-depth interviews using purposive sampling were performed with five interviewees from government/private agencies and entrepreneurs in the tourism area.

3.5 Methods and Data Analysis Tools

In-depth interviews employing a purposive sampling method with government/private agencies and entrepreneurs constituted the qualitative data for the study, whereas the survey using an accidental sampling method provided the quantitative data on tourists' opinions travelling to tourist attractions by themselves. To obtain the actual and reliable information, respondents filled out the questionnaires on their own. They were asked whether they understood the meaning of each item correspondingly and they could ask when some grievance occurred during questionnaire responses. Those who could not read or had eye problems were read out loud by the researchers, and the data obtained were filled out accurately. All responses were checked for correctness to get complete information before analyzing the data.

The survey data were input into the Statistical Package for Social Sciences (SPSS) and analyzed through percentage, means, standard deviations, t-test, and one-way analysis of variance (F-test).

4. RESULTS AND DISCUSSION

General Data Analysis Results of Respondents

Most of the respondents constituting 174 people (52.70%) were female between 21-30 years of age consisting of 150 participants (45.50%). There were 134 students, accounting for 40.60%, with 176 undergraduate students making up 53.30%. The income of 113 respondents (34.20%) was below 5,000 baht. 263 respondents (80%) were domiciled in Nakhon Si Thammarat Province. 165

tourists have visited Khao Soon once, representing 50%. A total of 179 people (54.20%) spent 6-12 hours there and travelled in 262 private cars, accounting for 79.40%. The tourism expenses for 108 people (32.70%) were between 1,001-1,500 baht. The main reason for travelling was to view the sea of mist, comprising 172 people (52.1%). They received tourism information of this place from 130 friends/relatives (38.40%). Most of the participants travelled with 149 friends, making up 45.20%.

Table 1. Shows means, standard deviations, and tourists' opinions toward logistics management potential to support tourists in Khao Soon, Chawang District, Nakhon Si Thammarat Province.

Logistics Management Potential to Support Tourists	$\bar{x}$	(S.D.)	Level of opinions
1. Physical flow	3.05	0.79	Moderate
2. Information flow	3.01	0.82	Moderate
3. Financial flow	2.94	0.89	Moderate
4. Services	3.11	0.74	Moderate
5. Places	3.55	0.84	high
6. Personnel	3.83	0.87	high
7. Attraction	4.15	0.81	high
8. Community cooperation	4.18	0.77	high
	3.48	0.82	moderate

As shown in Table 1, the data obtained from 330 sets of questionnaire revealed that the moderate level of opinion toward the potential of logistics management to support tourism in Khao Soon, Chawang District, Nakhon Si Thammarat Province was found in the overall aspect ($\bar{x}$ = 3.48). When considered as a whole, the highest opinion level was perceived in the community cooperation ($\bar{x}$ = 4.18), followed by attraction ($\bar{x}$ = 4.15), personnel ($\bar{x}$ = 3.83), places ($\bar{x}$ = 3.55), services ($\bar{x}$ = 3.11), physical flow ($\bar{x}$ = 3.05), information flow ($\bar{x}$ = 3.01), and financial flow ($\bar{x}$ = 2.94).

Considering each aspect, it was found that in the financial flow most respondents placed importance on unreasonable expenses such as food, drinks or accommodation. There should be an improvement on an automatic teller machine (ATM) or online payment system like QR Code or Prompt Pay.

With regard to the information flow, most of them gave priority to having a data center in tourist spots and information from official websites. Maps

within tourist destinations showing various points should be improved for tourists to know the details of each place in the area.

Regarding the physical flow, most tourists gave precedence to convenient transportation, clear signs, and route safety to tourist attractions. Some improvement should be done on the route condition into tourist destinations.

Concerning the service, most of them saw the importance of safety within the tourist area, and sanitation within the area should be further built for adequate use.

With reference to the places, more attention should be paid to accommodation, parking, camping grounds in suitable tourist spots. There should be an improvement on cleanliness in the area of tourist sites.

Regarding the personnel, it was found that most respondents gave importance to information provision as well as suggestions or answers to questions with care and willingness to service. A tour guide should be available to provide information on tourist attractions or tourist history to visitors in the area.

Concerning the attraction, most of the activities are focused on tourist attractions such as viewing the morning mist and the mining tunnel. The scenery in the tourist sites should be cleaned at all times.

With regard to the community cooperation, the emphasis was on the importance of cooperation in the environmental protection of people in the community. Local entrepreneurs should be ready to help and facilitate tourists willingly, and the knowledge of tourism should be distributed to tourists.

Hypothesis test results

For demographic characteristics in terms of gender, there were different opinions toward the potential of logistics management to support tourists. No significant differences were found on the physical flow, information flow, financial flow, services, places, personnel, and attraction while significant difference was observed in the community cooperation at the 0.05 level.

Demographic characteristics in connection with age indicated respondents' opinions toward the potential of logistics management to support tourists. No significant differences ($p < 0.05$) were found among respondents on the physical flow, information flow, financial flow, services, places, personnel, attraction, and community cooperation.

Demographic characteristics concerning occupations showed different opinions toward the potential of

logistics management to support tourists. No significant differences were perceived on the physical flow, financial flow, services, places, personnel, attraction, and community cooperation. Significant difference was observed on the information flow at the 0.05 level.

Demographic characteristics with regard to educational levels showed different opinions toward the potential of logistics management to support tourists. No significant differences were found on places, personnel, and community cooperation. There were significant differences ($p < 0.05$) among respondents on the physical flow, information flow, financial flow, services, and attraction.

Demographic characteristics relating to income revealed different opinions toward the potential of logistics management to support tourists. There were no differences on the physical flow, information flow, financial flow, services, and attraction. Significant differences were observed on the places, personnel, and community cooperation at the level of 0.05.

Demographic characteristics of the domicile indicated respondents' opinions toward the potential of logistics management to support tourists. No significant differences ($p < 0.05$) were found on the physical flow, information flow, financial flow, services, places, personnel, attraction, and community cooperation.

Tourism behavior relating to the travel time revealed different opinions toward the potential of logistics management to support tourists. There were no differences on the financial flow, services, places, personnel and community cooperation. Significant differences ($p < 0.05$) were found among respondents on the physical flow, information flow, and attraction.

Tourism behavior concerning expenses showed different opinions toward the potential of logistics management to support tourists. No differences were found among respondents on the physical flow, information flow, financial flow, services, places, attraction, and community cooperation. Significant difference was observed on the personnel at the 0.05 level.

Results obtained from 330 tourists and 5 interviewees from government agencies, private organizations, and entrepreneurs showed the importance of logistics management potential to support tourists in Khao Soon, Chawang District, Nakhon Si Thammarat Province. Tourists paid more

attention to the cooperation in the community, the attraction in tourist destinations, and the availability of services, personnel, and places that were ready to support tourists. Things that should be improved in the perspective of tourists were the physical flow including the route condition to reach the tourist attraction, the information flow such as information services and maps showing tourist spots for tourists to access information, and the financial flow like offering more multi-channel payment services to facilitate tourists via QR Code or Prompt Pay. From the point of view of government/ private agencies and entrepreneurs, the physical flow should be focused on the development of routes to reach tourist sites for convenient transportation in order to promote tourism. The information flow should be paid attention to publicize tourist information to be more well-known through social media such as websites or Facebook. This view corresponds with entrepreneurs who want to publicize tourist spots to be known to tourists and develop service that meets the needs of tourists continuously.

Table 2. Presents the development of logistics potential to support tourists in Khao Soon, Chawang District, Nakhon Si Thammarat Province in three issues that should be improved.

Things to Improve	Suggestions for Development
1.Financial flow	1. Requesting cooperation with related private organizations such as Krung Thai Bank and Government Savings Bank to create payment methods via QR Code or Prompt Pay.
2.Information flow	1. Collaborating with government agencies, private organizations, and entrepreneurs in the area to promote public relations through social media channels by creating viewpoints, photo spots, and activities in tourist areas to create tourists' participation in publicizing tourist attractions. 2. Requesting cooperation with the university to transfer knowledge in creating social media in order to promote public relations for tourist destinations.
3.Physical flow	1. Creating cooperation with government agencies and private organizations to allocate budgets to Mai Rieng Subdistrict Administrative Organization and

Nakhon Si Thammarat Provincial Administrative Organization in creating a project to develop tourist attractions with operational plans including designing and creating architectural landscape, water supply systems, toilets, route improvement, signs, and tourist assistance services.

ACKNOWLEDGMENTS

The Study "The Potential of Logistics Management for Supporting Tourists: A Case Study on Khao Soon in Chawang District, Nakhon Si Thammarat Province" could not have been accomplished without the support of Faculty of Management Technology, Rajamangala University of Technology Srivijaya. Special thanks to tourists, government/private agencies, and entrepreneurs in the Khao Soon tourist attraction, Chawang District, Nakhon Si Thammarat Province for the completion of this research.

Our sincere thanks also go to lecturers and staff for helping throughout the past period. Thanks again for their support in every aspect. Last but not the least, we would like to thank our parents and family members for giving counseling and advice in all areas until this research has been completed.

Hopefully, the results of this study will be useful to those interested in general. Finally, our thanks go to all the people who have supported us to complete the research work directly or indirectly. We apologize if there are any errors.

REFERENCES

- [1] Wattanayotin, T. et al., "Ecotourism Logistics System Potential Development Guidelines in Nakhon Sri Thammarat Province", The 17th Thai Value Chain Management and Logistics Conference (Thai VCML 2017), 2017
- [2] Kongyart, N. et al., "Education and Information Systems Routes and Activity Patterns agro-tourism Surat Thani", International Journal of Recent Technology and Engineering, 8(2S2), pp.104-107, 2019.
- [3] Panyorattaroj, S., "Logistics Management for Tourism in Nonthaburi Province", Journal of Humanities and Social Sciences, Rajapruk University, 4(supplement), pp.151-161, 2018.

-
- [4] Pinna, M., "Impact of Tourism Logistics on Loyalty of Tourists in Phrae Province", Master of Economics, Chiang Mai University, 2015
- [5] Sirarungrotkanok, P., "The Behavior and Satisfaction of Thai Tourists toward the Tourism Logistics Management Case Study: Amphawa Floating Market, Samutsongkarm Province", Master of Science, Burapa University, 2016
- [6] Kerdphon, K., Setsathien, P., "Logistics Management System for Tourism Supply Chain in Chanthaburi Province", Faculty of Industrials Technology, Rambhai Barni Rajabhat University, 2017
- [7] Kunsri, T., "Potential development of historical tourism: A case study of Sirindhorn museum, Subdistrict Non Buri, Sahatsakhan District, Kalasin Province", Veridian E-Journal, Silpakorn University, 9(3), pp.1-6, 2016.
- [8] Thriyawanich, C., Toomphol, A., "Tourism Logistics Management for Mueang District in Phra Nakhon Si Ayutthaya Province", Academic Journal Bangkokthonburi University, Vol8, No.1, January-June 2019, pp.23-33, 2019.
- [9] Swangkong, K., "An Assessment of Potential's Tourist Attraction toward Tourist's Perspective: A Case Study of Waterfall's Tourist Area in Saraburi Province", Journal of Social Sciences Srinakharinwirot University (jsoc), Volume18, January-December 2015, ISSN:0859-2055, 2015.
- [10] Kenraksa, R., Wararatchai, P., "The Tourism Logistics Management's System of Naga Fireballs' Phenomenon in Phon Phisai District, Nong Khai Province", Social Science Journal of Prachuen Research Network: SSJPRN, Volume1, Issue 2, May-August 2019, pp.38-51, 2019
- [11] Rohitratana, K. et al., "The Study of Logistics and Supply Chain System to Strengthen the Capability of Tourism Industry in Thailand", National Research Council of Thailand (NRCT) and The Thailand Research Fund (TRF), 2013
- [12] Charunsrichotikomjorn, W. et al., "The Efficiency of Logistics Management for Tourist Attraction in Kamphaeng Phet Province", Journal of Modern Management Science (JMMs), Volume10, No.2, July-December 2017, ISSN:2408-2619, 2017.
- [13] Intojunyong, S. et al., "The Study of Supply Chain and Data Model of Tourism Industry in Thailand", National Research Council of Thailand (NRCT) and The Thailand Research Fund (TRF), 2013
- [14] Chaichan, T., "Tourism Logistics Management for Wang Nam Khiew District in Nakhon Ratchasima Province", Suranaree Journal of Social Science, Volume6, No.2, December 2012, pp.17-23, 2012.
- [15] Hashim, Z. et al., "Greedy Method for Solving the Langkawi Tourist Route: A Case Study", Journal of Technology and Operations Management, 13(1), pp.21-29, 2018.