

## **DIGITAL DEVELOPMENT TO STRENGTHEN TOURISM SUPPLY CHAIN POTENTIAL OF PARTICIPATORY COMMUNITY-BASED TOURISM ENTERPRISES**

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### **Abstract**

This study was a research program to integrate studies on storage system, intelligent information recommendation application, and social media to strengthen the potential of the community-based tourism supply chain. The series of research project consisted of 3 sub-researches focused on collecting data from population and sample mutually to develop a digital presentation model that can effectively strengthen the tourism supply chain. There were 52 groups of population answering the Likert Scale questionnaire and joining semi-structured in-depth interview to allow the interviewee to express their opinions independently. Then the community enterprises with a readiness level of 80% or more were selected for each research project consistently. Finally, when the research results of each sub-research project were obtained, a website was created to compile the research results into a research project series. The study found that the 8 tourism community enterprises qualified to participate in research projects with 80% or more readiness, ranked in category B at the most, accounting for 15.38%, and the least 1 enterprise in category A or 1.92%. Overall 9 community enterprises were able to participate in research

projects, representing 17.30%. When integrating the research results into a website, it was found that the sub-research results consisted of 3 parts: number 1 displaying the digital addition point in the storage system, number 2 showing the download point of the intelligent information recommendation application, and number 3 exposing the data link to display on social media.

**Keyword:** Digital, Tourism, Community Enterprise, Supply Chain

## **Background and Significance of Problems**

Tourism is an industry that plays an important role in the economic development of many countries around the world. Therefore, the governments of each country attach great importance to enhancing competitiveness in order to share the world's tourism market share. Especially, countries in Asia and ASEAN have set up marketing strategies in order to attract more global tourists to visit their countries (Setthachotsombut & Aunyawong, 2020). Formulation of development strategies of various countries, therefore, has been integrated tourism as a part of economic development. Country strategy formulation, such as supporting SME entrepreneurs to adapt to digitalization or encouraging tourism entrepreneurs to use technology to move towards Digital tourism, is therefore important. It is one of the important strategies of the government since the project will provide tourists with the convenience of searching for tourist information, weather, hotels, travelling and will be innovation to develop the tourism industry structure (Pencarelli, 2020).

The digital age of tourism as next tourism generation has forced new and old entrepreneurs to adapt to gain market share and keep their businesses safe, especially in the world without borders, for example internet system and online society that plays an important role. Therefore, it cannot be denied that to be successful, tourism entrepreneurs in supply chain in Thailand need to adjust more by bringing technology to work and support business marketing. However, after this, "digital tourism" is a policy that must be driven by applying innovation and technology and promoting marketing, causing more diversification to secondary tourist destinations, but at the same time, identity and traditional culture must be maintained (Zaragoza-Sáez et al., 2022).

Transactions through electronic media (E-Business) become familiar with the use of computer data communication and information technology (IT) systems that facilitate life. The direction of telecommunication continues to develop continuously and rapidly (Tirastittam, 2020). In addition, the lifestyle of the people has changed to an online society that allows the implementation of various activities of life easier. The tourism supply chain, therefore, is imperative to develop digital systems in conjunction with the promotion of the public sector to support the world society (Waiyawuththanapoom, 2020a). This is in line with the era of Thailand 4.0 and Digital Thailand, in which people need to prepare themselves for the upcoming changes to be in line with the rapidly changing technology and must be able to utilize technology potentially in the developments of infrastructure, innovation, information, human capital and other resources (Waiyawuththanapoom, 2020b). To drive economic and social development towards stability, wealth, and sustainability, Ministry of Information and Communication Technology together with the Ministry of Science and Technology make a

digital development plan to set the economic and social direction as a framework for implementing digital economic and social policies with an important goal to increase the international competitiveness of the economy and to create equal social opportunities (Sommanawat et al., 2021).

Based on this importance, the researchers are interested in increasing the tourism supply chain potential of the community-based tourism enterprises by promoting the development of a complete digital system to help drive and upgrade the digital community center in accordance with the policy of Ministry of Information and Communication Technology. Furthermore, the digital system aims to build knowledge, develop digital technology skills, increase market opportunities, and create competitiveness for local personnel. community entrepreneurs, farmers, community enterprises and various cooperative groups by allowing members of each local group to participate in digital development activities to sustainably create benefits in the area, including the creation of a platform for opening an online shop of farmers, cooperative network group and community enterprises in all groups of the tourism industry. The study, therefore, aims to integrate research on storage system, intelligent information recommendation application, and online social media to strengthen the potential of the community-based tourism supply chain.

## **Literature Review**

### **Tourism supply chain potential**

Tourism supply chain includes diverse products and services, such as accommodation and transportation. Tourism products are perishable since services cannot be stockpiled for forthcoming consumption (Setthachotsombut & Aunyawong, 2020). Tourism goods, moreover, cannot be inspected before buying and tourists need to travel to the destinations where tourism products are produced to consume these products. For this reason, the sale of tourism products significantly depends on their demonstration at point of sale. Tourism products have a complex nature because they contain numerous service factors, for example, dining, sightseeing and shopping. Finally, the tourism industry frequently encounters greater demand variation and more complicated changing aspects than its acquaintances by reason of an exhaustive competition among service providers (Palang&Tippayawong, 2019). As a result, to develop tourism supply chain potential, tourism product and services need to be developed through any up-to-date tools, such as digitalization (Pencarelli, 2020; Zaragoza-Sáez et al., 2022).

### **Participatory community-based tourism**

Participatory community-based tourism is supposed to provide communities with distinctive chances by not only proposing monetary profits, but also improving their participation in tourism development in their regions in groundbreaking techniques (Rembulan et al., 2020). In enhancing and shaping tourism, local participants or owners make decision in tourism management for advantages of their communities, organizations or state-owned enterprises (SOEs). They support traditional conservation and are focused on the influence of tourism on

their community environment. The inhabitants receive revenue as landlords, businesspersons, and product or service providers (Jermsittiparsert et al. 2019).

### **Digital Development**

At present, the digital development has become the main issue form and the core driving force of global industrial reform. The digital development is a series of activities with the use of digital information and facts as key production elements, up-to-date infosystem as an important carrier, and the effective use of information and communication technology as a significant dynamic factor for effectiveness enhancement and cost-effective optimization (Tirastittam, 2020). With the advancement of international trade interactions and the cohesive improvement of numerous businesses, the digital development has steadily penetrated real businesses, developing their productivity and manufacturing competence and turn out to be a new driver as well as innovative and technological direction (Wisedsin et al., 2020). In this study, the digital development of participatory community-based tourism has focused.

### **Research Project Integration Concept**

Integration is a harmonization of plans (Esper et al., 2010), resource allocation, information, processes, operations, results and analysis to support the important goals of the organization. Productive integration needs alignment and interconnection within the organizational performance management system (Chalita.min, 2021), including combination of knowledge by more-than-two methods (Wongyai, & Patphol, 2019).

Research project integration is a perfect combination of two or more research models. It is a research that helps researchers to learn concept in an integrally linked way to respond to the needs and interests of the researchers, in which the researchers can use the concept or knowledge to integrate together and organize various activities related to the implementation of the research.

Therefore, integrating the research project is a research program that consists of harmonized sub-research schemes, including information, processes, resource allocation, results, and analysis to support the important goals of the research program. In addition, the achievements arisen from two or more sub-research schemes must be connected to each other.

### **Research Methodology**

This research was in the form of research and development in order to obtain research results that meet the objectives and to strengthen the tourism supply chain potential of participatory community-based tourism enterprises. The study was integrated research program among 3 research topics: 1) Development of Tourism Enterprise Data Storage System for Digital Media Databases, 2) Development of Smart Information Recommendation Application to Enhance the Potential of Community-Based Tourism, and 3) Development of Social Media Marketing Content Model to Strengthen the Potential of Community-Based Tourism in Phatthalung Province. The study was mixed method research by collecting, analyzing, and interpreting the data to find solutions to comprehensive research answer leading to a greater understanding of

the studied phenomenon (Chalabang, 2017). Sample was selected from 52 community enterprises registered in Phatthalung Province, due to the response to Development Plan of Phatthalung, 5 Year, 2018-2022, using convenience selection method. Conducting data analysis of the potential of the tourism community in terms of the potential to attract tourists, the readiness of the community and facilities, and products and services was divided into categories according to the score level that has been assessed by experts of government agencies before presenting the list of tourism community enterprises that are ready to attend digital media development in three sub-research projects (Sooksai and Aunyawong, 2020), in which the research implementation was divided into 5 steps as follows:

**Step 1:** The researchers studied and collected information on the readiness of personnel, the availability of electronic communication equipment and networks, and the availability of information dissemination media using 5-Point Likert Scale questionnaire: Most Ready, High Ready, Moderate Ready, Less Ready and Least Ready (Likert, 1961). The questionnaire consisted of 16 questions checked by 3 experts. Semi-structured in-depth interview was conducted to provide the opportunity to express their opinions freely (Srisuk, 2009).

**Step 2:** Secondary data (Hiranphaet, 2019) obtained from government agencies was grouped. It was a document of the Phatthalung Provincial Community Development Office and the private sector classified into categories of Inno-life Tourism-Based Communities A, B, and C, as shown in Table 1.

**Table 1: Categories of Inno-life Tourism-Based Communities**

Score	Categories	Meaning
100-91	A	Excellent
90-80	B	Good
79-67	C	Moderate
66-0	D	Poor

Source: Sooksai and Aunyawong (2020)

**Step 3:** Communities were selected groups by considering the intention and wish to participate in digital information development activities to strengthen the tourism supply chain potential of participatory community-based tourism enterprises in Phatthalung Province, which addressed in categories A and B, with a good score or readiness in the level of 80% or more.

**Step 4:** All 3 sub-research projects collected information of selected community enterprises that were ready at the level of 80% in development. Each sub-research project had a questionnaire and interview form in accordance with the nature of the work of creating data storage system, creating intelligent information recommendation application, and creating social media for use in tourism supply chain management of Phatthalung Province.

**Step 5:** Integrated research results on storage system, intelligent information recommendation application and social media to strengthen the potential of the community-based tourism supply chain in Phatthalung Province used the website that has been developed to link the results of all 3 sub-research projects.

## Results

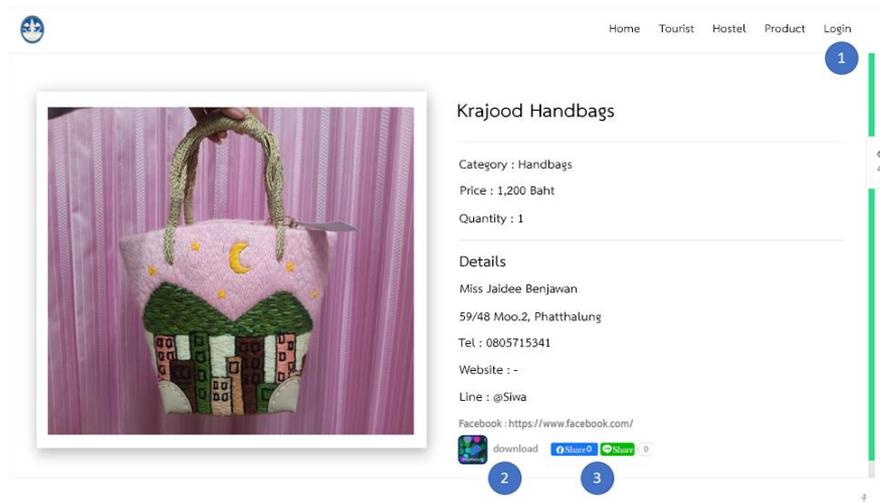
From integrating the studies on data storage system, intelligent information recommendation application and social media to strengthen the potential of the community-based tourism supply chain in Phatthalung Province, the results found that the 8 tourism community enterprises in Phatthalung Province qualified to participate in research projects with 80% or more readiness, ranked in category B at the most, accounting for 15.38%, and the least 1 enterprise in category A or 1.92%. Overall 9 community enterprises in Phatthalung Province were able to participate in research projects, representing 17.30%. While 43 unqualified tourism community enterprises (82.70 percent) in Phatthalung Province, scored less than 80 percent, were in level C (18 enterprises or 34.62 percent) and in level D (25 enterprises or 48.08 percent), as shown in Table 2.

**Table 2:** Results of the Community Enterprise Selection

Categories of Community-Based Tourism	Amount	Percentage	Status
A	1	1.92	Pass
B	8	15.38	Pass
Total (Pass)	9	17.30	
C	18	34.62	Fail
D	25	48.08	Fail
Total (Fail)	43	82.70	
<b>Total</b>	<b>52</b>	<b>100.00</b>	

Adjusted from: Sooksai and Aunyawong (2020)

The research carried out the integration of the research results in the data storage system, intelligent information recommendation application, and Social media to strengthen the potential of the community-based tourism supply chain in Phatthalung Province by using the website that has been developed as a link to the results of all 3 sub-research projects, as shown in Figure 1.



**Figure 1: Webpage Linking among Sub-Research Projects**

Figure 1 depicted that the website was set to display the results of the 3 sub-research projects: number 1 showing the link point so that community enterprises can add information to the data storage system, number 2 viewing the download point of an application to introduce intelligent information for tourists interested in tourism in Phatthalung Province, and number 3 displaying the link in the data storage system to display the social media, such as Face book and Fan page, of the community enterprises to key the data once.

## Discussion

The results of research program integration on Digital Development to Strengthen Tourism Supply Chain of Community-Based Tourism Enterprises are in line with the past studies of Azeez et al., (2020), related to the role of integration between enterprise resource planning and attribute based costing for supporting economic cost management in tourism companies. The study is integrated research program among 3 research topics: 1) Development of Tourism Enterprise Data Storage System for Digital Media Databases, 2) Development of Smart Information Recommendation Application to Enhance the Potential of Community-Based Tourism, and 3) Development of Social Media Marketing Content Model to Strengthen the Potential of Community-Based Tourism. The sample was selected from the entire population and then the sample that was readily available in terms of the readiness of personnel, the availability of electronic communication equipment and networks, and the availability of information dissemination media. The sample must have 80% or more potential in terms of readiness, after that each sub-research project selected a representative of the appropriate tourism community enterprises for sub-research projects.

The results of research program integration on creating a website to facilitate the use of tourists who need tourism information and community enterprises that want to present information about community products, tourist attractions, service models, and tourism routes by focusing on delivery and services within the tourism supply chain are in line with the research on

deepening sustainable value creation in market-led poverty alleviation through a demand and supply integration framework: significance to tourism (Mazambani & Mutambara, 2018) by using information technology with digital media as a tool to enhance tourism of participatory community-based tourism enterprises. This is a part of the community enterprise income generation. Members of community enterprises are able to freely present their identities, products, lifestyles with modern technology and bring the knowledge that is connected with the community so that the concept of using digital media generates sustainable development (Song et al., 2022).

Further research should perform efficient hosting area renting by studying the speed of data transmission and suitable program development support features, especially in potential industries, such as automotive (Aunyawong, 2020) as well as foods and beverages (Pintuma et al., 2020; Sinthukammoon, 2021; Wisedsin et al., 2020; Soonthornpipit et al., 2021). Likewise, the roles of other dynamics such as service value (Nualkaw et al., 2021) and environmental uncertainty (Srisawat & Aunyawong, 2021) should be considered in participatory community-based tourism since they are essential factors in logistics and supply chain management. The research project was integrated with the introduction of internet technology to store digital information, by which the users can access the system anywhere and anytime. Consequently, it is a system that resolves time and location restrictions, so users can access the system according to their needs.

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