GIS BASE SUPPORTING MUAY THAI IN CREATIVE TOURISM ON ANDAMAN COAST THAILAND

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ABSTRACT

Mauy Thai is becoming the new phenomenal in new normal tourism due to new face of traveling to Thailand that emphasizes the healthy and wellness to strong and creative tourism experience of travel in the local. The aims of this paper were (1) study the guideline for developing Geographic Information System (GIS) of Muay Thai gym creative tourism and (2) study the using of GIS of Muay Thai gym creative tourism. The research design using mixed methods for research methodology, it used both quantitative and qualitative approaches. The result found that: the behavior of tourists according to the study (1) Guideline for developing GIS of Muay Thai gym creative tourism include international tourist context and user's requirement 1) accommodation, 2) travelling modes, 3) form of service provided, 4) the expenses 5) the attitude of tourists, 6) social media such as website, Instagram and 7) understanding about Muay Thai and expectation to win the championship of Muay Thai (2) The QGIS software used to develop geographic information for tourism including a bels and graphic, symbols categorization, identification, and visualization. GIS provide information about roads, location, operator, number of service personnel, business products, teaching course, the creative work of Muay Thai gym. The overview of opinions to using GIS of Muay Thai gym creative tourism is at a high level. Result of ensuring the suitability of geographic information of Muay Thai gym creative tourism from experts, the overall view is at a high level ($\bar{X}$ =3.44, SD. =0.50).

Keywords: Geographic Information System (GIS), Creative Tourism, Creative Muay Thai Tourism, Thailand.

INTRODUCTION

The tourism industry is becoming significantly important and driving force the economy of the world for growth in many countries (Jermsittiparsert et al., 2019; Suanpang, 2021a & 2021b). With the emerging and highly contributive of tourism industry for economy growth has been pragmatic in several countries especially Thailand (Jermsittiparsert & Chankoson, 2019; Suanpang & Jamjun, 2021). Thailand is one of the most popular destinations in the world which have beautiful natural resources, historical and high value of hospitality of the people (Suanpang & Jamjuntr, 2021). The tourism industry is a major contributor to the country's economy in Thailand from the statistic of the first quarter of 2020; the tourism industry was estimated to directly contribute 5.65 percent to the gross domestic product (GDP) in Thailand. Due to the COVID-19 pandemic in Thailand, international arrivals are currently prohibited (Suanpang & Jamjuntr, 2021). This situation leading to tourism industry must adapt to build confidence among tourists about the safety of the coronavirus 2019, which the impacts have made tourists consider their safety considerably increased, thus creating a new normal way. In the tourism of domestic travel after the COVID-19 crisis, (Krungthai COMPASS, 2020) including domestic travel is the first choice, short trips, driving to Unseen, less crowded and more personal travel. Even though the number of tourists is declining but increased the value of spending per person,

consider the environmental safety and sustainability and able to accommodate foreign tourists visiting in the future after COVID-19 (TNN 16, 2021). These circumstances, the Tourism Authority of Thailand (TAT) encouraged millions of Thais to travel locally in order to support the domestic tourism (Statista Research Department, 2020). There are three important tourism model that Thai government support tourism in new normal (1) health & wellness tourism (2) gastronomy tourism (3) community based creative tourism (Suanpang, 2021a & 2021b). Particularly, creative tourism is the new dimension of tourism services to create value-added by creativities and innovation by integrating tourism to connect with the way of lie, culture, natural resources including other manufacturing and service fields (Koograsang et al., 2019; Office of the National Economic and Social Development Board: NESDB, 2011). Although creative tourism related to the cultural landscape of the destination including festivals, cultural routes, museums, cultural heritage could be re-created to have an interactive role and provide better and more engaging experiences co-created between the tourist and local community (Richards & Wilson, 2007). It is related to business model that need for tourism learning and experiencing the creative process that different from the mainstream cultural tourism (Cherdchookitkul et al., 2016; Benjawan et al., 2018).

There are many activities in creative tourism that popular among an international tourist especially *"Muay Thai"* or Thai boxing is the national martial art of Thailand that helps strengthen the body and mind to be fit and healthy. It is becoming very prevalent among the foreigners and international tourist that come to travel and learning activities of Muay Thai. Muay Thai also attracts various groups of tourists who are interested in health and fitness, arts and performance, martial arts, and creative tourism. Mauy Thai is becoming the new phenomenal in new normal tourism due to new face of traveling to Thailand that emphasizes the healthy and wellness to strong and creative tourism experience of travel in the local experience (Ministry of Tourism and Sports, 2013).

Tourism Authority of Thailand Pushing the tourism market aiming to promote trendy creative tourism growing around the world by using the national identity like *"Muay Thai"* to build strengths, strengthen key selling points. especially, international tourist is interested in watching and practicing Muay Thai, whether traveling to practice in the country and practice in the open location to teach Muay Thai in foreign countries including promoting and disseminating Thai martial arts wisdom, related products, and services in foreign markets in order to result in bringing revenue into the country (Ministry of Tourism and Sports, 2013). However, one of the problems with accessing tourist spots and links between tourist destinations and the routes to reach the secondary tourist destinations are not as effective as they should be (Ministry of Tourism and Sports, 2015), especially links to tourist attractions based on special interests especially Muay Thai creative tourism.

One of the most popular destinations is Andaman coast considered as the main tourist destination that generates income with Thai tourism. The Andaman Coast's many natural attractions have also encouraged the proliferation of nature-based excursions and marine activities, the most popular of which are island boat tours, sea kayaking, scuba diving especially Muay Thai creative activities (Netwong & Srimuk, 2020).

The tourism industry has widely adopted Geographic Information Systems (GIS) in order to improve service quality, visibility and tourists' experience (Jovanovic & Njegus, 2013). A geographic information system (GIS) is a computer system for capturing, storing, checking, and displaying data related to positions on Earth's surface. GIS can show many kinds of data on one map, such as streets, buildings, and vegetation. This enables people to more easily to see,

analyze, and understand patterns and relationships (National Geographic, 2020). So Muay Thai gym creative tourism in Thailand to accessing tourist spots and links between tourist destinations by using GIS, a common platform can be defined to provide a spatial databank with integrated multimedia features (Longmatey et al., 2020).

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The aims of this paper were (1) study the guideline for developing Geographic Information System (GIS) of Muay Thai gym creative tourism and (2) study the using of geographic information of Muay Thai gym creative tourism.

LITERATURE REVIEW

In order to obtain a Geographic Information System of Muay Thai gym creative tourism and study the using of geographic information of Muay Thai gym creative tourism, the research team reviewed relevant research as follows:

The Overview of Geographic Information System in Tourism

Geographic Information System (GIS) have composed of hardware and software systems. GIS hardware system consists of computer equipment and network with some external device structure, for example of network is network tracing, network routing and network allocation (Turk & Gumusay, 2020, Wei, 2012). The external devices include input devices, output devices and data storage and transmission equipment. GIS software system generally consists of 5 sub-system, that is data input, data preprocessing, data storage and management, spatial analysis, data output (Wei, 2012). The software for develop GIS are ArcView, ArcGIS, Arc Info, and QGIS etc. GIS's main feature are data collection and editing; data storage and management; data processing and transformation; spatial analysis and statistics; production and display of product. GIS operates on two data elements: spatial and attribute data. Spatial or geographical data refers to a known location on the Earth's surface in degree of latitude and longitude. Most organizations make use of implicit geographical references as place names, address, postcodes, road numbers and so on; implicit spatial references can usually be geocoded into explicit spatial references (Jovanovic & Njegus, 2008).

GIS technology offers great opportunities for the development of modern tourism web GIS applications using maps. GIS is a database and mapping computer technology that is used to store and analyze geographical data benefits offered by maps (Farsari & Prastacos, 2004). Geographical data used in network analysis must be vector structure and based online, arc-node topology is established for network analysis query in GIS (Turk & Gumusay, 2020). There are two categories for the use of a GIS system in tourism, public use, and management use (Duran, Seker & Shrestha, 2004). The public wants to find geographic information about place, rout, products, climate, etc. before they go there. Management users want to query the system for where customers are coming from, their socio-economic background, good potential location for new tourist sites, the way that gets the network travel fast, low-cost, greatly facilitates etc. (Markos, 2012; Wei, 2012) GIS have the capability to handle several kinds of information that can be related to location or area and provides a complex link between the difference dataset for complex multi-dimensional model of information. Technology advance of GIS particularly in hardware and software has resulted in the development of systems which provide a range of searching, querying, presentation, and analytical functions in a more user-friendly.

The Role and Benefit of GIS in Tourism

The goal of GIS, information system is to convert data into meaningful information available to support of actions and decisions (Duran, Seker & Shrestha, 2004). Tourism has a strong geographical attribute, and information systems offering services to geographic research and decision-making, which can play roles in tourism management. The objectives of GIS in tourism are collect update, manage, display, query, analyze, and digital map output travel data, GIS directly provides service for tourism management. Using GIS become possible to integrate tourism information, visualize complex scenarios, present powerful ideas, and derive effective solutions (Longmatey, Amoako-Atta & Prah, 2020). GIS capabilities have made it possible to answer spatial queries using intelligent maps with integrated images, text, tables, diagrams; and showing shortest paths, location of destination places, tourist sites, price quotations, and so forth.

Prospects of Web Geographic Information Design for Tourism

On the side of tourism demand, Geographic Information (GI) systems are more present under the name Web GIS or nowadays Cloud GIS. Giving completely new picture of real space with numerous information and visual representations of place and movements through space (Jovanovic & Njegus, 2013). Web geographic information is the process of designing, implementing, generating, and delivering digital maps on the World Wide Web by combining both advantage of geographic information and the internet. GIS integrates and relates data with spatial component and supports users to view in proper format which supports in making complex spatial decisions through visualization, interaction modeling and analysis environments. Web geographic information is used for decision making support regarding travel directions and looking for the desired locations. GIS contributes to a better understanding of phenomena and processes in geographic space. Coupled with technology of Global Positioning Systems (GPS), these processes can be monitored in real time (Jovanovic & Njegus, 2013; Markos, 2012). Creating high quality tourism offer and services on the Internet has an impact on tourists' satisfaction with tourist destinations. According to Castañeda et al. (2007), the satisfaction of tourists with information on the web affects the overall level of satisfaction with tourist destinations. When tourists choose a destination based on the information provided on the web, this information is subsequently used for creating tourist experience in relation to one's personal needs.

RESEARCH METHODOLOGY

The research design using mixed methods for research methodology, it used both quantitative and qualitative approaches in the research process.

Research Framework

Creative tourism
- Tourism for the preservation of Thai culture
- Raising awareness among people in the community tourist and entrepreneurs
- Social learning resources and networking

Business information of the Muay Thai Gym
- General information and situation information on establishing a Muay Thai gym
- Basic information on teaching Muay Thai to foreigners
- Information about the potential and readiness of service providers such as services, personnel, products, management tools
- Marketing problems and obstacles

The GIS Functional
- Components for accessing users, hardware, software, basic steps, and structure suitable for users
- Geography - visual representations
- Geographic information - Data visualization
- Related databases in geography
- Management and analysis
- Implications for decision making

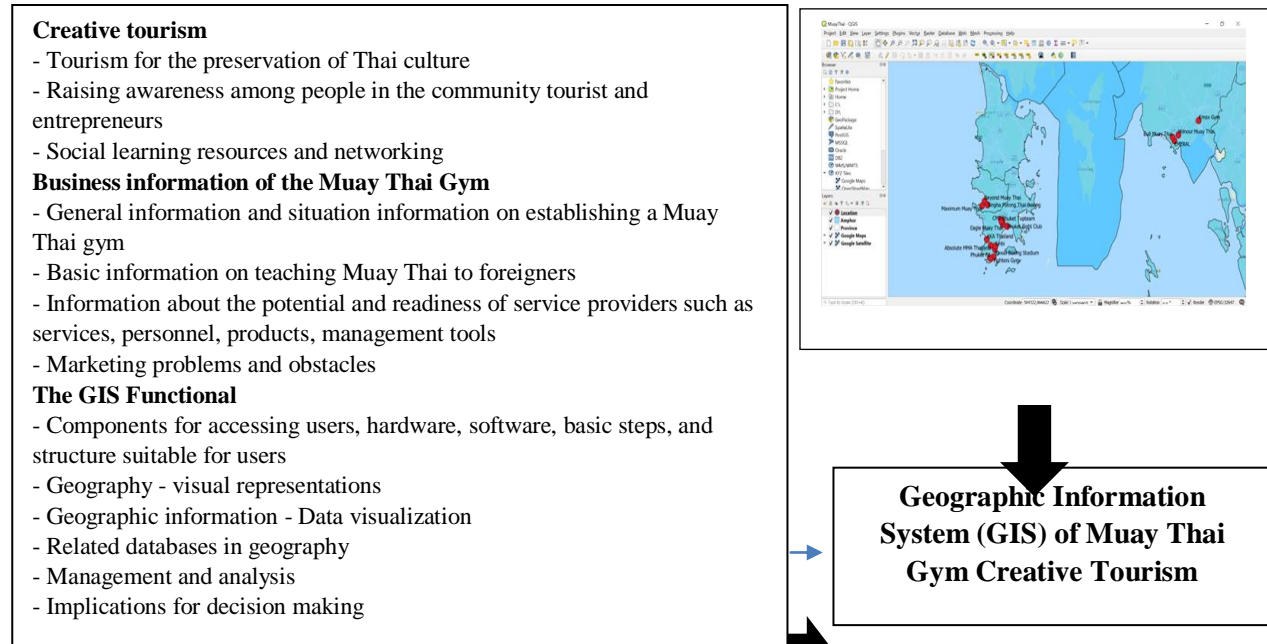**Geographic Information System (GIS) of Muay Thai Gym Creative Tourism**

FIGURE 1
THE CONCEPTUAL FRAMEWORK

The conceptual framework to developing geographic information of Muay Thai gym creative tourism consists of 3 concepts as follows: GIS, Business information of the Muay Thai Gym and creative tourism concept.

Study Area and Geographic Information Design for Tourism

Geographic information is used for bringing the georeferenced data (spatial and non-spatial) of selected location into digital maps. Each tourist attractor appears as a thematic layer. The tourism geographic information databased was structured to follow a relational databased model format. The core of the databased, the spatial component, was developed using QGIS software was used as a front-end development platform for enhanced cartographic presentation and visualization. Multimedia capability was included by utilizing Avenue programming. Study area were Phuket Province, and Krabi province with Muay Thai gym for foreign tourists.

Web-Based Geographic Information Development

Importing data into the system to develop Geographic Information System technology for tourism. Used QGIS to develop GIS for tourism, Muay Thai Gym. Because geographic information can be presented both online and offline and is a free software. Andaman coast in Thailand was selected as the working area. Importing data into the system to develop geographic information System technology for tourism. Used QGIS software to develop geographic

information for tourism, Muay Thai gym. Labels and suitable graphic symbols were assigned to the various feature for easy categorization, identification and visualization. Facilities such as roads, location, operator, number of service personnel, business products, teaching course, the creative work of Muay Thai gym, strengths of Muay Thai gym to motivate tourists, continuous service, other nearby attractions, travel and business licenses, registration type to build credibility, and confidence for tourists. A composite digital tourist map was thus produced. Determination of the optimum plan for sightseeing place and shortest distance between the selected places.

RESEARCH RESULTS

(1) Study Guidelines on Geographic Information of Muay Thai Gym Creative Tourism

From the interview with the Tourism Authority of Thailand, representative Phuket Office and Phuket Provincial Tourism and Sports Office, Information technology ex-pert, Travel expert, the manager of Muay Thai Gym offered to tourists. And related business representatives including experts/tourism experts and information technology concluded as follows:

(1) The current business of Muay Thai gym is divided into large, medium, and small size. The current situation could grow the business internationally, especially large, and medium sized Muay Thai gym, focusing on joint ventures with foreign countries or opening Muay Thai gym in foreign countries such as China, UAE, Brazil, England, and Australia, etc. Most of the small boxing camps support Thai people. (2) Basic information about teaching Muay Thai to foreigners were 3 levels of Muay Thai training in the Andaman coast, large scale Muay Thai gym cloud support up to 800 people per day. Medium size Muay Thai Gym considering that 2 boxing stadiums, no more than 3 boxing stadiums, cloud accommodate 30 people per day. Considered from 1-2 boxing arena, not many tourists to come to study closely, emphasizing the martial arts of Muay Thai. (3) Potential and readiness of service providers of the Andaman coast Muay Thai gym and Tourism Authority of Thailand Phuket office including entrepreneurs said directly that Phuket province is ready for the Muay Thai gym business. (4) In terms of service, personnel, products, tools and equipment related to Muay Thai gym, an operational process of tourism Muay Thai gym, creative tourism, service promotion, organizing beach show events, organizing Muay Thai competitions as a whole, they are very well equipped in all aspects when studying boxing. (5) Tourism Authority of Thailand Phuket office focusing on public relations with the private sector to organize a venue showing Mae Mai art, Muay Thai art along the beach. Because Phuket province has a distinctive tourist attraction by sea. (6) Marketing, tourism promotion, technology for Muay Thai tourism promotion must have a curriculum design and the prices that satisfy the tourists. Design a standardized curriculum every Muay Thai gym must have a certified license, such as a Muay Thai training school should get a license with the Ministry of Education, but other courses taught for health, fitness gym introvert is not about the Ministry of Education will involve tourism and sports when opening a boxing camp for sports, etc. (7) Guidelines for the development of learning sources and learning of the story Muay Thai gym Creative Tourism. There are the development of community learning sources, suggesting communities, tourist routes, more communities for tourists. But overall, there is still no obvious tourism in the boxing community. (8) Problems and obstacles in tourism promotion for Muay Thai sports in the Andaman coast, Tourism Authority of Thailand the Phuket office stated that "There are no complaints from Thai boxing lessons from tourists" and "Safety".

The behavior of tourist as follows: (1) accommodation while touring the Muay Thai Gym most of them stay in the boxing camp. (2) Travelling mode of tourist there are both traveling alone and tours from Russia and Dubai, about 10 people. (3) Form of service demand from the Muay Thai Gym, tourists want to win and want to train to become a trainer. (4) The expenses on tourism of Muay Thai Gym were around 40,000 - 50,000 baht/person/month. (5) Attitude, impression, and satisfaction for becoming the championship of Muay Thai. (6) Social media to access the information of Muay Thai Gym from Instagram and website and (7) Understanding about Muay Thai and the expectation to win the Muay Thai Championship.

(2) The Using of Geographic Information of Muay Thai Gym Creative Tourism

The using of geographic information of Muay Thai gym of foreign tourists in four dimension including (1) performance (2) effectiveness (3) design and functionality (4) overview. The result of using geographic information tourism, Muay Thai gym, the overall was at a high level ($\bar{X}$= 3.53, SD. = 0.50). All aspects have high levels of opinions which can be ordered in descending order as follows: design and implementation ($\bar{X}$= 3.60, SD. = 0.50), effectiveness ($\bar{X}$= 3.50, SD. = 0.51) and performance ($\bar{X}$= 3.45, SD. = 0.51)

Accreditation of geographic information of muay thai gym creative tourism

Geographic information of Muay Thai gym accreditation from the experts have been presented to certify the suitability of geographic information for tourism in Muay Thai gym the overall was at a high level ($\bar{X}$= 3.44, SD. = 0.50). Accreditation of opinions which can be ordered in descending order as follows: design and implementation (X= 3.50, SD. = 0.51), effectiveness ($\bar{X}$= 3.45, SD. = 0.51) and performance (= 3.35, SD. = 0.49)

The system should add details of the Muay Thai gym attractions that have been quality assurance acceptance to win a championship when using the service. Since most tourists want to practice Muay Thai in order to get their future champions and returning to coaching when returning to his or her country. In addition, the presence of more tourism connected to other tourism, especially tourism related to boxing camp tourism such as spas and other health tourism will increase. Interesting after visiting the Muay Thai gym, there is a recommended source of nursing homes. Other service channels to facilitate the safety of tourists. Because when receiving Muay Thai gym activities, the tourists may be injured from using the service. Including the police station Other service centers that are useful for tourists.

DISCUSSION AND CONCLUSION

This study develops GIS of Muay Thai gym creative tourism in Adaman coast, Thailand. The GIS system provides information to tourist about accommodation, travel modes, services provide, expense, attitude of tourist, social media use, and Muay Thai story. The QGIS were developed to provide information in tern of a bels and graphic, symbols categorization, identification, and visualization about Muay Thai to the user. This information it influencing the decision to travel in the destination which associate with Rattasamoot & Pathumphon (2018) study the push factors that have the most effect on the decision making is Interest in sports competitions or athletes, sports experience, travel experience and health, physical fitness, respectively, the potential and readiness of the service providers in the Andaman Coast Muay Thai Camp Tourism Authority of Thailand Phuket office including entrepreneurs directly that Phuket Province is ready for the said business. The Tourism Authority of Thailand focuses on

public relations, to help recommend tourists. The pull factor that affects the decision to travel to sports tourism must consider the readiness of the sport tourism city. Both for sports that tourists are interested in and for tourism as well (Rattasamoot & Pathumphon, 2018) Another incentive that drives tourists to travel is learning adventure side and relaxation according with the concept of Yiamjanya & Wongleedee (2014) which studies the factors of motivation as the driving force and attraction that affect the decision to choose the tourism destination in Thailand is wanting to get a new experience learning about new cultures, wanting to relax learn new things and interested in Thai culture. Moreover, GIS are effective tools for managing, analyzing, and displaying results at both com-munity and regional levels. Can apply in tourism and the tourism decision support system (Pleerux, 2013). The use of geo-graphic information in determining tourism routes must consider the basics of accessing tourist destinations and facilities, safety, and accessibility rate. The website has been developed to access digital travel maps so that users can search and display information in the form of digital maps (Suteerasak, et al., 2009). GIS use has so far provided successful results which promote importance of information over technology.

The study the GIS of Muay Thai gym creative tourism were a solution to access to tourist destinations. And promoting easier access to other forms of tourism services enhance the tourism experience of Thai boxing. Able to meet the needs of tourists efficiently resulting in innovations that benefit the development of foreign markets. Creative Muay Thai gym connects creative Muay Thai tourism in the Andaman coast. For tourism management in both the government and the tourism industry to the international level.

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