

การวิเคราะห์ความสามารถในการแข่งขันของ Smart Tourism (การท่องเที่ยวอัจฉริยะ) ในประเทศไทย โดยใช้แนวคิด Diamond Model

EXAMINING THE COMPETITIVENESS OF SMART TOURISM IN THAILAND BY USING THE DIAMOND MODEL

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บทคัดย่อ

ประเทศไทยได้ใช้ Smart Tourism (การท่องเที่ยวอัจฉริยะ) เป็นหนึ่งในกลยุทธ์เพื่อเพิ่มรายได้ และเพิ่มความสามารถในการแข่งขันจากการท่องเที่ยว อย่างไรก็ตาม ประเทศไทยยังขาดงานวิจัยด้าน Smart Tourism โดยเฉพาะการศึกษาความสามารถในการแข่งขันของ Smart Tourism ดังนั้น บทความนี้ จึงมีวัตถุประสงค์เพื่อศึกษาความสามารถในการแข่งขันของ Smart Tourism ในประเทศไทยโดยใช้แนวคิด Diamond Model ของ Porter (1990) และเก็บข้อมูลเชิงคุณภาพจากผู้มีส่วนได้ส่วนเสียในธุรกิจ Smart Tourism ในประเด็นเกี่ยวกับปัจจัยการผลิต ปัจจัยด้านความต้องการของตลาด อุตสาหกรรมที่เกี่ยวข้อง และสนับสนุน ปัจจัยด้านการแข่งขัน โอกาส และบทบาทภาครัฐ โดยบทความนี้ได้ให้ข้อเสนอแนะสำหรับผู้มีส่วนได้ส่วนเสียในธุรกิจ Smart tourism และต่อยอดงานวิจัยที่จำเป็นสำหรับการพัฒนา Smart tourism ในประเทศไทย

คำสำคัญ: การท่องเที่ยวอัจฉริยะ ความสามารถในการแข่งขัน ประเทศไทย

Abstract

Smart tourism has been adopted as one of the key strategies to increase income and enhance tourism competitiveness in Thailand. Nonetheless, smart tourism studies in Thailand are limited, particularly in terms of smart tourism competitiveness. Therefore, this paper aims to examine the competitiveness of smart tourism in Thailand by utilizing Porter (1990)'s Diamond Model. Qualitative data have been collected from stakeholders involved in Thailand's smart tourism business in regard to the factor conditions, demand conditions, related and supporting Industries, firm rivalry, chance, and government. It is envisaged that this paper reveals the implications for smart tourism stakeholders, and contributes to research areas that are necessary for the future development of smart tourism in Thailand.

Keywords: Smart Tourism, Competitiveness, Thailand

1. INTRODUCTION

Tourism is one of the key industries in Thailand. With 38.1 million international tourist arrivals in 2018, the tourism industry has contributed approximately 2.01 trillion Thai Baht (THB) in revenue (Kasikorn Bank, 2019). Although Thailand is ranked 18th in terms of price competitiveness, in general the country is ranked only 34th in The Travel & Tourism Competitiveness Index 2017 (World Economic Forum, 2017). To enhance tourism competitiveness, Thailand's 12th National Economic and Social Development Plan (2017-2021) has targeted tourism income of at least 3 trillion THB, and to be ranked not lower than 30th in the Travel & Tourism Competitiveness Index (TTCI) (Office of the National Economic and Social Development Board, 2017).

To achieve such targets, smart tourism has been utilized as one of Thailand's key strategies (Roland Berger, 2017; Ross, 2016; Saisud, 2018). With smart tourism, the tourism industry can greatly enhance competitiveness through digital technology. For instance, tourists' experience can be improved using the integration of digital technology such as interactive smart displays, Augmented Reality (AR), and digital payment (Saisud, 2018). Moreover, smart tourism could also be implemented to bring about the sustainable development of tourist destinations by enabling tourist interactions with their surroundings, and improving locals' quality of life (Gretzel, Werthner, Koo, & Lamsfus, 2015; Vecchio, Mele, Ndou, & Secundo, 2018; Xiang, Tussyadiah, & Buhalis, 2015).

As smart tourism has caused a paradigm shift in the tourism industry (Boes, Buhalis, & Inversini, 2016), a number of studies have been conducted in the field of smart tourism. Recent smart tourism studies have focused on destinations, hotels, restaurants, and entertainment (Wang, Li, Zhen, & Zhang, 2016), definitions of smart tourism, smart tourism technology (STT) adoption and usefulness, e-service quality of STT, and the influence of social media on tourism (Yoo, Goo, Huang, Nam, & Woo, 2017). However, the area of smart tourism research is relatively new (Arenasa, Goh, & Urue๑๑๑, 2019) particularly in a Thai context (Rotchanakitumnuai, 2017).

Therefore, this paper aims to understand the competitiveness of smart tourism in Thailand. The objectives of this paper are: (1) to review literatures related to smart tourism competitiveness; (2) to examine the competitiveness of smart tourism in Thailand by using Porter (1990)'s Diamond Model; and (3) to provide research areas needed for the future development of smart tourism in Thailand.

2. LITERATURE REVIEW

2.1. Smart Tourism

Smartness can be described as the integration of a network of public and private organizations and smart features that interconnect systems to simplify and automate activities to add value throughout the tourism ecosystem (Buhalis & Leung, 2018). Having emerged from the development of smart cities (Buhalis & Amaranggana, 2013), the concept of smart tourism can be defined as a technology-integrated tourism platform using technology such as mobile technology, artificial intelligence (AI), cloud computing and the Internet of Things (IoT) to provide useful data for tourism-related organizations and to enhance the tourist experience (Baltescu, 2018).

Smart tourism technologies (STT), which refer to information technology that tourists interact with for information search, transactions, communication, and content generation, play a key role in smart tourism, (Yoo et al., 2017). Nowadays, tourists utilize STT before, during and after their trips (Buhalis & Amaranggana, 2013) in order to obtain more accurate, rich, comprehensive, and personalized information from the planning phase of travel to their real-time experience (Huang, Goo, Nam, & Yoo, 2017).

Another key concept is smart tourism research (STR), which aims to understand how smart tourism can create value not only for tourists, but also for the tourism industry (Koo, Park, & Lee, 2017). STR studies have been conducted in numerous fields, such as: (1) smart tourism and smart city, which involve the application of the "smart city" concept; (2) smart tourism destinations, which theorize a framework for smart tourism destinations; (3) smartphone applications for tourism, which explore the key factors influencing travelers' intentions to use smartphone technology to access travel information; (4) smart recommendations for tourists, which examine personalized destination recommendation systems; and (5) smart guides, which examine context-based information implementation for smart tourist guides (Wang et al., 2016).

2.2 Porter's Diamond Model

To understand a nation's competitiveness, Porter (1990) developed the Diamond Model, which consists of four broad attributes of a nation, that individually, and as a system, constitute the diamond of national advantage. These attributes are as follows.

1. Factor Conditions. The nation's position in terms of the factors of production that are necessary to compete in a given industry, such as skilled labor or infrastructure.
2. Demand Conditions. The nature of domestic demand for the industry's product or service.
3. Related and Supporting Industries. The presence or absence of supplier industries and other related industries in the nation that are internationally competitive.
4. Firm Strategy, Structure, and Rivalry. The conditions in the nation governing how companies are created, organized, and managed, as well as the nature of domestic rivalry.

In addition to these four determinants, government and chance are two additional attributes that can indirectly influence the competitiveness of a nation (Özer, Latif, Sarımsık, & Ergün, 2012; Porter, 1990). It should be pointed out that although the role of government and chance in obtaining a competitive advantage are very important, these two factors have an indirect influence on competition by influencing the other four factors of competitive advantage (Porter, 1990).

A number of authors have employed Porter's Diamond Model to examine the competitiveness of the tourism industry (e.g. Fernando & Long, 2012; Özer et al., 2012). Esen and Uyar (2012), for instance, compared the factor conditions between Turkey and Singapore. Whilst Turkey has rich physical, cultural and historical assets, Turkey has not utilized these assets sufficiently for the tourism industry. Singapore, which has much less resources in terms of tourism when compared to Turkey, has surpassed Turkey significantly in terms of factor conditions by using its resources effectively. In addition, Huttasin, Mommaas, and Knippenberg (2015) employed the Diamond Model to study the tourism development of Northeastern Thailand. Findings revealed the low quality of factor conditions, lack of coordination in the tourism value chain, low cooperation between the public and private sectors, and a low level of complexity in demand conditions.

3. METHODOLOGY

As Rotchanakitumnuai (2017) revealed, smart tourism studies in Thailand are limited, and therefore a qualitative study can provide more detail and yield a better understanding. In addition, qualitative study can be utilized to explore the viewpoints of policy makers and those with expertise related to a smart tourism context. Therefore, this paper has adopted a qualitative research method and employed Porter (1990)'s Diamond Model to examine the competitiveness of smart tourism in Thailand.

Generally, the smart tourism ecosystem consists of various stakeholders (Arenasa et al., 2019; Koo et al., 2017) from startups, travel agencies, logistics and accommodation providers, and tour operators (Arenasa et al., 2019) to organizations supporting smart tourism such as startup accelerators, consulting companies, and the government (Deeb, 2019). In turn, these stakeholders have been selected as the target population of this paper. Samples were then selected using a purposive sampling technique. Emails and letters were sent to 35 organizations related to smart tourism and 21 responses out of 35 (a 60% response rate) were received from organizations willing to participate in an interview. The respondent profiles are: 6 government agencies, 2 startup accelerators, 1 consultancy companies, and 12 tourism-related startups.

Using interview questions developed from the review of literature and Porter (1990)'s Diamond Model, the researcher has collected respondent opinions regarding Thailand's smart tourism. In-depth interviews were conducted with respondents between December 2018 and February 2019. According to Soldatenko and Backer (2019), content analysis can add new depth in understanding an aspect of tourism that has received inadequate attention. In turn, content analysis was employed to contextualize the connections between the categories and themes of the Diamond Model.

4. Findings

4.1 Factor Conditions

In this paper, factor conditions are examined by considering the product process within the value chain. Based on the findings, factor conditions related to smart tourism can be categorized into three stages: (1) Pre-trip (inspiration, preparation, and booking), (2) During the trip (airlines, hotels, and logistics), and (3) Post-trip (review, feedback). The pre-trip part has been traditionally dominated by travel agencies, tour operators, and destination management companies. However, these companies have been challenged by tourism startups such as "TakeMetour" as technologies have enabled free independent travelers (FIT) to prepare and book their travel by themselves with online platforms developed by tourism startups in Thailand.

A number of Thai startups have become involved in the 2nd stage. For instance, "Airportel" has provided seamless luggage logistics between the airport and hotels, whilst "LocalAlike" has connected tourists and local community through an online platform, offering an authentic local experience, rather than a mass-market group tour. For instance, one startup has developed an online platform which enables locals in a number of communities to design a unique tour led and managed by locals. As a result, tourists would not only be able to discover new travel attractions, but also bring more income to the local communities. In turn, a number of travel agencies, tour operators, and destination management companies have shifted their strategies as follows:

The value chain has been shortened since tourists do not need to book through a travel intermediary such as travel agencies. Moreover, there is a growing trend of FIT worldwide and the decline of group tourism. Therefore, many travel agencies have changed their business model to offer a 1-day or half-day package, instead of 7 days or longer.

In the post-trip stage, tourists can review their experience using an online platform, which will then feedback to the post-trip stage. For example, Wongnai provides user-generated reviews based on the users' experience at the restaurants. However, not many tourism startups in Thailand have focused on this stage, as most of them provide services for the 1st and 2nd stages. Respondents have explained that there are no tourism startups that can cover all touch points in the tourist value chain from pre-trip to post-trip. Therefore, the factor conditions of smart tourism in Thailand involve a wide variety of touch points in each stage which provide opportunities for tourism startups to fulfil unmet needs through technology.

4.2 Demand Conditions

From the demand side, this paper focuses on customers within the value chain, which are tourists, tourism-related businesses, and the local community. Firstly, respondents have reported that tourist demand has changed over the years. Nowadays, tourists seek a local experience through SoLoMo, or Social-Local-Mobile whereby tourists use mobile technology to find location-based information and communicate via social network, as one startup pointed out that:

Based on the tourists' demand, our travel services are not limited to only major tourist attractions, as those attractions can't really deliver a local experience. Therefore, we also take our customers to buy ingredients from a local market and cook their meals at a local person's home. Our concept is to be a crowdsourcing platform connecting tourists and locals who have ideas for unique activities.

Secondly, tourism-related businesses such as travel agencies, tour operators, and destination management companies can be considered as customers of tourism startups. Although travel agencies, for example, largely focus on a mass market, they could outsource startups to fulfil the tourist's needs for local experiences. One startup has explained that working with travel agencies could be a win-win situation. Instead of purchasing a 7-day package from the tour operator, for instance, tourists could choose a 5-day package from the tour operator, and then add 2 days of local travel with tourism startups.

Thirdly, the local community generally earns less than 10% of the overall spending of group tourists. The majority of tourist expenses are for transportation and accommodation. Other expenses include meals, guided tours, souvenirs, and so on. Moreover, group tourists usually have a very tight schedule as they need to cover various attractions within the trip duration. With smart tourism, the local community could gain visibility as a part of a smart tourism destination and add value to their products and services. From the interviews, one tourism startup was found to have provided an online platform for the local community to organize tour programs for free independent travelers (FIT). As a result, the local community can earn up to 70% of the revenue, which includes 60% of direct revenue plus another 10% which has been allocated to community development funds.

4.3 Related and Supporting Industries

Related and supporting industries are considered as key stakeholders who contribute to the competitiveness of smart tourism in Thailand, including tourism startups, tourism suppliers, tourists, universities, telecommunication companies, logistics, payment service providers, and so on. More importantly, tourism startups would not exist without supporting industries such as startup accelerators and venture capitalists who understand the technology needed to run startups and are willing to provide funding for startups. Moreover, a number of major telecommunication, finance, and real estate companies have established their own venture capital units to support startups. Examples of venture capital units created by telecommunication companies are: True Incube, DTAC Accelerate, and AIS The StartUp CONNECT, whilst financial institutions' venture capital arms include SCB's Digital Ventures and KBank's Beacon Venture Capital. However, respondents have pointed out that tourism startups in Thailand have not yet been successful due to the lack of financial support from investors.

Other crucial stakeholders in the smart tourism ecosystem are universities and communities. To support smart tourism, universities need to equip graduates with the foundation and skills needed to operate startups, and commercialize business ideas inspired during their study. A number of universities have established collaborative platforms between faculties, students, and startups, such as Thammasat University's Startup Ecosystem @TU, King Mongkut University of Technology Thonburi's KX, and Dhurakij Pundit University's DPUX. The community's role in smart tourism is also vital as the community can earn revenue through the development of value-added products which could significantly reduce the number of problems that tourists experience.

4.4 Firm Strategy Structure and Rivalry

By examining domestic rivalry, findings have shown that Thailand still lacks tourism startups and many of them do not have a clear business model, despite a growing number of tourist arrivals. As a result, the smart tourism market in Thailand is not very competitive, as the market is largely dominated by global companies such as Agoda, TripAdvisor, and Airbnb. In turn, Thai tourism startups need to create value-added products and services which could serve different touch points in the customer journey. Respondents added that tourism startups can hardly be differentiated from SMEs (small and medium-sized enterprises) as the startups only provide online booking services with little or no use of the latest technologies such as Virtual Reality (VR), Augmented Reality (AR), or Internet of Things (IoT).

Respondents have suggested that Thai tourism startups should not only compete in Thailand, but should also expand their business internationally. By creating a compelling online platform that would provide tourists with seamless service, a few Thai startups have already penetrated overseas markets. This would be similar to Grab's online platform, with which tourists can travel seamlessly in different Southeast Asian countries by using the same application.

4.5 Chance

As an unpredictable and uncontrollable attribute, chance is beyond the company's control (Bakan & Dogan, 2012) and makes it more difficult to determine national competitiveness (Wang & Hong, 2011). Another uncontrollable variable that could affect the competitiveness of smart tourism in Thailand is technology. Artificial Intelligence such as Google's Duplex, and cryptocurrency such as Facebook's Libra, could potentially transform a number of industries, particularly the tourism industry. In turn, respondents warned that it is crucial for startups to keep pace with the rapid improvement of technologies. A respondent stated that:

Our company has established a separate business unit to focus on research and development (R&D) related to new technologies such as cryptocurrency. We consider this business unit as a "sandbox", which is an isolated environment that imitates end-user operating environments. It is crucial for us to comprehend how such technologies could transform the environment of our core business.

As Bakan and Dogan (2012) stated, chance events can have either positive or negative effects. Respondents reported that another unpredictable issue related to smart tourism is the penetration from global companies, such as Airbnb, Grab, Agoda, and Alipay. On the one hand, these companies are widely-recognized and preferred by international travelers, which results in a high switching cost. On the other hand, such a market penetration could have a positive impact by educating the market in providing online platforms for accommodation, transportation, tour, and payment.

4.6 Government

This attribute illustrates how the government has directly and indirectly influences other attributes of the Diamond Model. Although the Tourism Authority of Thailand is executing the "Go Local" campaign to promote tourism at low-visibility destinations, not all cities have sufficient hotels and public transportation to serve the tourists. Therefore, a number of local destinations have employed an online platform, such as Airbnb and Grab, to fill such gaps. Nonetheless, it is not clear whether those companies can be operated legally in Thailand, as one respondent suggested that:

The government should not create a barrier for online travel companies, such as Uber and Airbnb. Instead, the government should try to work with those companies to revise policy and provide a fair and competitive market for smart tourism businesses. By doing so, tourists would have more variety in accommodation and transportation to choose from, and reduce their costs, which allows them to spend more at the tourist destination.

Furthermore, respondents suggested that the Thai government should modernize the rules and regulations in order to create a competitive market for both Thai and overseas startups. Currently, Airbnb and Grab, for instance, are still in a "gray area". Once those gray areas have become clear, then it would be of great benefit to a smart destination. Respondents also added that the government should invest more in the smart tourism infrastructure, especially free Wi-Fi which would enable stakeholders in the tourism industry to analyze tourist behavior using Big Data. Another support required from the government is a funding and tax subsidy which would encourage more startups to compete in the smart tourism market.

5. CONCLUSION

By adopting the Diamond Model (Porter, 1990), the framework for addressing the competitive advantage of smart tourism in Thailand is illustrated below.

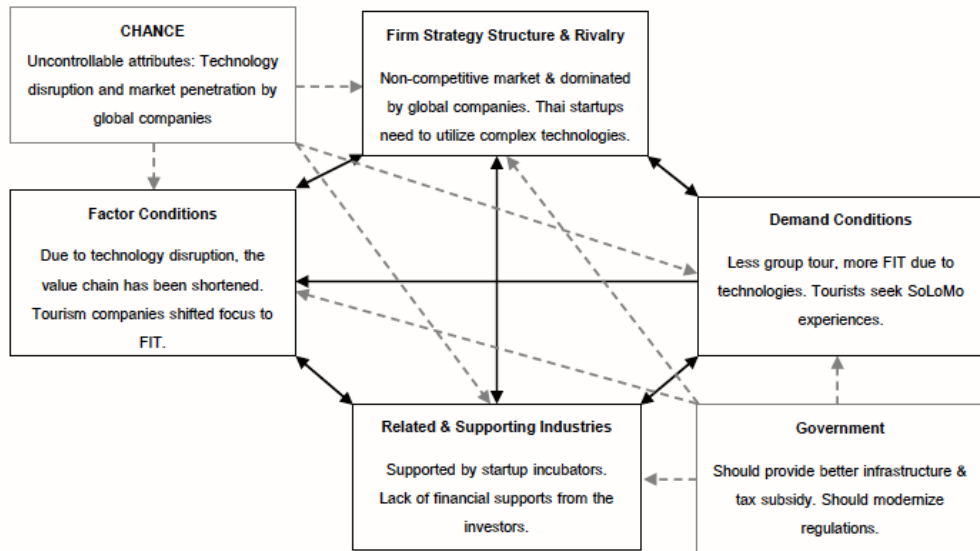


Figure 1 Diamond Model analysis of smart tourism in Thailand
Source: Adapted from Porter (1990).

A nation’s competitiveness relies on the innovation capacity of its industry. In addition, the industry gains a competitive advantage by having strong domestic rivals, aggressive home-based suppliers, and demanding local customers (Porter, 1990). In terms of industry rivalry, findings have confirmed Heemmuden (2017)’s report that smart tourism in Thailand is not very competitive despite the growth of FIT and online travel spending. Moreover, smart tourism in Thailand is largely dominated by global players such as Agoda. In order to be competitive, findings have shown that tourism startups in Thailand need to employ more sophisticated technologies such as AI or AR. Such an issue has been emphasized by Porter (1990) who stated that companies can only gain and sustain a competitive advantage through more complex products and services.

Two crucial factors that underpin the Diamond Model are the factor conditions and the demand conditions. Smart tourism technologies and the SoLoMo trends have affected the demand conditions, which has led to rising numbers of FIT who seek local and authentic experiences. Consequently, this paper has supported Yoo et al. (2017), who found that the factor conditions have been affected by the use of technology from pre-trip (e.g. information search), during trip (e.g. transaction), to post-trip (tourist feedback). In turn, tourism companies, such as tour operators, have identified a new approach by collaborating with startups to serve the growing demand from the FIT market. As pointed out by Porter (1990), new approaches of doing business could be considered as a source of competitive advantage.

In regard to the related and supporting industries, the findings supported Arenasa et al. (2019) who stated that the smart tourism ecosystem consists of several stakeholders who collaborate. However, tourism startups in Thailand are still limited due to a lack of funding from investors. Therefore, it is suggested that the government should provide more financial support such as tax subsidies. Moreover, the government could support smart tourism by modernizing regulations to enable local communities to enhance their competitiveness by involving foreign players such as Airbnb and Grab, as well as improving smart tourism infrastructure.

Whilst Gretzel, Sigala, Xiang, and Koo (2015) emphasized the importance of technology integration into the physical infrastructure, this paper has supported Rotchanakitumnuai (2017), who found that there is a lack of technology-embedded environments, such as the integration of IoT (Internet of Things) at tourist destinations in Thailand. Data from IoT, in particular, could be turned into valuable information for the government and tourism suppliers.

For the chance factor, local destinations would gain higher levels of visibility and income by utilizing smart tourism. Such findings support those of Gretzel, Zhang, and Koo (2016) who revealed that smart technologies have transformed tourist experiences and generated creative tourism business models. This paper also endorses Porter (1990), who pointed that a competitive advantage can be created by identifying a new market opportunity, or by serving a market segment that has been ignored.

In summary, this paper has contributed to the field of smart tourism research (STR) by examining the competitiveness of smart tourism in Thailand. Porter (1990)'s Diamond Model has been employed as a framework to analyze the qualitative data collected from stakeholders in the smart tourism business. Findings have strengthened previous studies that found that smart tourism can add value to the smart tourism business (Buhalis & Leung, 2018). It should be pointed out that this paper is an exploratory research which attempts to examine smart tourism competitiveness in Thailand. Furthermore, digital alternatives are evolving rapidly in the tourism industry, which influences not only tourists but also tourism stakeholders.

Therefore, smart tourism research (STR) needs to be constantly updated and continuous investigation is needed. Based on the findings of the paper, the researcher would like to suggest the following research directions: (1) competitive analysis of smart tourism in Thailand and other countries; (2) a conceptualization of smart tourism competitiveness in Thailand; (3) tourist perceptions towards the competitiveness of smart tourism in Thailand; (4) smart tourism policy in Thailand; and (5) the contribution of smart tourism towards Thailand's economy.

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