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Supply Chain Management Model of Thai Traditional Medical Tourism

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Abstract:

The purpose of this study was to investigate the demands of the tourists in the supply chain of the Thai traditional medical tourism. The samples were 400 tourists in Thailand who used the services of the Thai traditional medical tourism. A confirmatory factor analysis (CFA) was conducted. The AMOS program was used. The research instruments were the questionnaires for obtaining the data about the Thai traditional medical tourism. There were four causal factors of the Thai traditional medical tourism: supply chain activities, supply chain firm's performance, service quality and competitive advantage. The most important factor was the information technology supply chain, which affected the innovative competitiveness. The Thai traditional medical tourism was consistent with the empirical data: Chi-square = 71.228, Chi-square/df = 1.619, (df) = 44, $p = 0.006$, GFI = 0.982, CFI = 0.996, NFI = 0.990, IFI = 0.996, AGFI = .950, RMR = .009, and RMSEA = 0.36. Herbal remedies also occur in Thai traditional medical tourism. The remedies apply cannabis as an ingredient; for instance, cannabis leaves can be used for skin, blood, circulatory system, and tissue disorders. Furthermore, cannabis seeds are associated with the disorder of musculoskeletal system and wound. Moreover, cannabis inflorescence may be beneficial for treating the nervous system and mental illness.

Keywords: supply chain activities, Thai traditional medical tourism, logistics firm's performance, service quality, competitive advantage.

泰国传统医疗旅游供应链管理模型

摘要:

本研究的目的是调查泰国传统医疗旅游供应链中游客的需求。样本是 400 名在泰国使用过泰国传统医疗旅游服务的游客。进行了验证性因素分析（终审法院）。使用了阿莫斯程序。研究工具为获取泰国传统医疗

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旅游数据的问卷。泰国传统医疗旅游有四个成因：供应链活动、供应链企业绩效、服务质量和竞争优势。最重要的因素是信息技术供应链，影响了创新竞争力。泰国传统医疗旅游与实证数据一致：卡方=71.228，卡方/df=1.619，(df)=44， $p=0.006$ ，GFI=0.982，CFI=0.996，NFI=0.990，如果 $\chi^2/df=0.996$ ，AGFI = .950，RMR = .009，RMSEA = 0.36。草药疗法也出现在泰国传统医疗旅游中。补救措施使用大麻作为成分；例如，大麻叶可用于皮肤、血液、循环系统和组织疾病。此外，大麻种子与肌肉骨骼系统和伤口的紊乱有关。此外，大麻花序可能有益于治疗神经系统和精神疾病。

关键词：供应链活动、泰国传统医疗旅游、物流公司的业绩、服务质量、竞争优势。

1. Introduction

Due to the emerging disease pandemic, the current tourism situation not only has a short-term impact on the tourism industry and hotel business, but it also has long-term impacts due to changes in the Megatrend, which has created a change in tourism behavior. It has generated a change in the business strategy that stresses the use of contemporary technologies while also paying attention to health and hygiene. The shifting tourism environment has impacted visitor demand patterns and hotel business structures. As a result, operators must hasten modifications to maintain income levels and seek new tourist-related business prospects to connect with other sectors in the tourism value chain, whether it is with the local community or with other businesses (Lunkham & Liangchan, 2021).

The United Nations World Tourism Organization (UNWTO) has issued a report on the effect of the current emerging illness. As a result, global tourist growth has slowed down, with the number of foreign visitors declining by 22.7 percent from the same period in 2019 and continuing through April 2020. This figure for international tourists was accounted for only until April. It decreased by up to 97 percent compared to the same month in 2019. Among all, the airlines' businesses and hotels were affected the most in the tourist industry. This has reached the point that governments all around the world had to take action in all areas, especially finance, fiscal affairs, and employment, to mitigate the impacts (Office of the Permanent Secretary, Ministry of Tourism and Sports, 2020).

In addition, privacy, safety, and the ethical use of travel information are essential to building a sustainable tourism ecosystem (Tussyadiah, 2020). Sustainable tourism requires workforce training and tourist participation, such as robotics or behavioral generation (Alharthy & Marni, 2020). Responsible and sustainable tourism transforms the tourism experience and creates positive attitudes. Importantly, tourism policy interventions play a key role in increasing or decreasing the level of outcomes. The interaction of the tourism community It fosters feedback for continuous improvement and innovation. Thus, interdependent, interactive, external processes produce a redesigned concept of virtual tourism.

Over the last few years, the health industry has been booming because of the impact on the quality control of business services. Both the public and private sectors,

as well as relevant authorities, should collaborate and accelerate the significance of sustaining standards and service quality by focusing on the enhancement of service quality to an international level that is consistent with the aims and missions of the Strategic Plan to develop Thailand into an International Health Hub (2017–2026) that develops Thailand into an international health center, integrate natural resources and the environment, knowledge, and the community way of life, develop one-of-a-kind services and health products, encourage and promote the potential of entrepreneurs and stakeholders to deliver worldwide health-related services (Department of Health Service Support, 2017).

Based on an inspection of the total healthcare industry, there is still a lack of clarity in raising the degree of leadership in offering Thai traditional medical services that suit the expectations of customers. Moreover, there are still some needs for innovation, the identity of public relations, and thainess identity. Thai massage services for health and very limited distribution channels of herbal items are examples of value-added services. They are services that require skills that aid in the creation of a competitive advantage. Additionally, the number of visitors seeking Thai traditional medicine has decreased. Regarding this matter, enterprises must accelerate modifications to sustain income levels, search for new tourism-related business prospects, as well as connect with other sectors in the tourism value chain, which are all part of the value chain, whether within the neighborhood or with other businesses (Lunkham & Liangchan, 2021).

Therefore, the researcher realized the urgent need to investigate the value chain management for Thai traditional medical tourism in Thailand to serve as a model for Thai traditional medicine and to promote competitiveness in accordance with the parameters outlined in the 20-year national strategy plan for medical tourism and competitiveness in the tourist mindset. Data analysis of customer demands is critical for today's entrepreneurs due to increased commercial competitiveness and the desire to become an international leader in Thai traditional medicine tourism.

2. Purposes

This research aimed to study the supply of entrepreneurs in the Thai traditional medical tourism supply chain.

3. Literature Review

3.1. Supply Chain Activities (SCA)

The epidemic has driven the importance and relevance of supply chain to the forefront of practical, theoretical, and empirical studies by academics. For example, Craighead et al. (2020) studied the impact of the pandemic on the supply chains and determined how to organize the responses and how the supply chain and related processes can be adjusted if a new outbreak emerges. The supply chain of the Thai traditional medical tourism and the supply chain of services are the systems of organizations linking suppliers and customers together. The supply chain management (SCM) of the tourism industry must improve the industrial performance, sustainability, and profits because supply chain networks are separated upstream and downstream. Financial and non-financial business organizations have complicated relationships in the case of the cooperative integration and activities in the tourism industry. The main roles of the healthcare industry require the support from service sections to provide products and services for customers. These are the systems linking to organizations providing healthcare services and sources as well as managing data and finances from manufacturers to healthcare service centers. Most new countries are driven to access new medical services with qualities and low prices, resulting in challenges for the healthcare systems in developed countries.

According to Szpilko (2017), supply chain has two perspectives: 1) microperspective that is the systematic network of organizational processes or activities and 2) macroperspective is the supply chain network of organizations for delivering raw materials into processes and shipping products to target customers. The organizations or entrepreneurs are the focal firms of the supply chain between the deliverers on the left side and the consumers on the right side with the flows of information, products and services. The tourism supply chain is considered a concept that links the products, the services, the activities, and the components of the tourism with tourists traveling to destinations (Al-Aomara & Hussain, 2017). It is considered as important for the tourism industry. This is because the tourism industry is an intensive coordination and has a complex of stakeholders because tourist attractions have various products and services. The components of the tourism and the tourism supply chain management (TSCM) issues include tourism transportation information technology, resource facilities, organization structure, and health tourism products.

3.2. Tourism Supply Chain Firm's Performance (TSFP)

Hanafiah et al. (2016) proposed a performance-based destination competitiveness measure for tourist attractions based on competitiveness theory. They

confirmed that efficiency is an important measure of a destination's competitiveness.

This study is on the future supply chain, including the transportation and logistics capabilities linked to the structures of the supply chain and the performances, the logistic strategies, the organizational performances, and evaluates the relationships between the logistic qualities and performances to collect the data from the samples and operations for supporting the analysis of the structures of the logistic performance models according to the theories of the logistic models consisting of logistic performances and applying the supply chain management strategies, customer services (CS), safety (ST), and competitiveness (CT). Supply chain management strategies cover the health upstream and downstream and focus on integrating processes such as the procurement, the production, sales, and the logistics of the entire supply chain to meet the objective of maximizing the values for customers/end consumers. The mentioned operations require strategies that strengthen the relationships and develop the trust between the patterns in the supply chain to facilitate the integrations and the provisions of the supply chain. The profits reflected the profitability and returns of the investment organizations compared to the competition.

3.3. Service Quality (SVQ)

Issichaikul and Chanswang (2017) found that transportation could create values for the transporters by providing the certain logistic services with the service characteristics, such as transportation, track, storage, warehouse, custom clearance, and registration, in order to measure the performance of the resource management. Additionally, the logistic service quality is required for transportation companies to evaluate the results of the logistic activities, to reduce the gaps of the services and to improve customer satisfaction and loyalty. The logistics depends on the time and activities focusing on the customers in the supply chain. Therefore, the indicators were used for evaluating the services such as reliability (RL), tangibles (TG) and empathy (EP). The foreign tourists valued the services. The components of the services that made the tourists perceive and respond while using the services were the main factors of the health tourism. The service qualities were the important factors of the medical tourism.

3.4. Competitive Advantage (CA)

According to Office of the Permanent Secretary, Ministry of Tourism and Sports (2020), the competitiveness depends on the performance of the downstream in providing the supplies and creating the demand for the tourism. The evaluations of the tourism activities are important for the policy makers of the tourist attractions. Studies used the indicators such as price, quality, efficiency, and product innovation. The downstream could convert these factors into the income from the tourism (Hanafiah et al., 2016). This requirement is consistent with the main objectives of the tourism sector: to improve the quality of life,

maximize profits, and maintain the competitiveness. These can be achieved by increasing the industrial growth and improving the qualities of the provided services and products as well as the qualities of the stakeholders and the economy. The tourists were interested in the Thai traditional medical tourism and dependent on various factors such as price, quality, herbal innovation and efficiency. According to the social exchange theory, expanding sustainability with a focus on supply chains enables partners to engage in social responsibility practices through the promotion of the intangibles. Assets, such as the relationship between the buyer and the supplier Trust and shared learning on sustainability (Wang & Dai, 2018) that help companies stay ahead of competitors (Um & Kim, 2019).

4. Research Model and Hypothesis Development

In the following portion, the relationship between various constructs is reviewed and thus hypothesized.

4.1. Supply Chain Activities and Competitive Advantages

Ge et al. (2018) found that a sustainable competitive advantage could be beneficial for companies to keep their businesses running smoothly in rapidly changing technology life cycles and agile scenarios. As a result, organizations can gain long-term benefits and avoid strategic competition that may arise in the industry. The supply chain is specified as two or more chains connected to each other to create the competitive advantages through exchanging data, mutually making decisions, and sharing benefits from the improved profitability from the responses of the end customers, cooperation, flexibility, delivery times, product quality and other factors (Wardani & Widodo, 2020). The social factors of the chained operations of the supplies such as interactions, trust and technological factors including information technology and data sharing skills mutually affect the value innovations of the supply chain. The supply chain is the resource that improves business efficiency and potential. This study implied that the supply chain affected the competitive advantages through the abilities of the supply chain.

H1: The supply chain activities (SCA) positively affected the competitive advantages (CA).

4.2. Tourism Supply Chain Firm's Performance and Competitive Advantages

According to Wamba et al. (2017), the performance of a company can be measured by its financial and market performance. Its financial performance includes its ability to retain existing customers. Sales growth provides higher profit margin and higher return on investment. The company's financial investment, along with market efficiency, includes an increased success rate in the market penetration and an increased market share. Careful logistical decisions can improve a company's profit margins and vice versa. It is important

that the management makes decisions related to choosing a supplier return management service-level agreement with the service provider. The logistics network will be done carefully to avoid the loss and dissatisfaction of the customers. The concepts of the tourism supply chain firm's performance lead to competitive advantages: demand management, supply management, information management, customer focus, safety, prices, qualities, product innovations, performance, and performance evaluations. After systematically reviewing the literature, we concluded that the supply chain firm's performance had three aspects: demand management performance, supply management performance and information management performance. The researchers accepted that the supply chain firm's performances could be the sources of the competitive advantages. The supply chain firm's performance, for example, consisted of demands and information management performance for differentiating its logistic activities from those of its competitors. If all supplies, system cost reductions, time, wasted budgets and warehouses, demand, and supply chain firm's performance are managed appropriately, these would be the main performance for organizations aiming at achieving competitive advantages and superior performance.

H2: The tourism supply chain firm's performances (TSFP) positively affected the competitive advantages (CA).

4.3. Supply Chain Activities and Tourism Supply Chain Firm's Performance

Kinra et al. (2020) and Ivanov (2020) studied risk issues and reputation to provide tourism services under such conditions. The risk of disruption in the supply chain is low-frequency, high-impact events that characterize long-term business disrupted by unexpected scales such as COVID-19 great outbreak. Disruption risks in the supply chain also look like spread, simultaneous disruptions in the supply chain, and reductions. The logistic system refers to the levels of the cooperation, interaction, and the coordination between logistic activities. Specifying the direction of customers and the costs is important. The integration capability affected the logistic efficiency and effectiveness. The logistic integration could be both internal and external. The supply chain must integrate the logistic skills to obtain competitive advantages. The logistic integration, the roles of SCM and the internal and external coordination contributed to the integration and developed the cooperative relationships in the supply chain. The practical guidelines of SCM, such as cooperation, coordination and communication led to the supply chain firm's performances.

H3: The supply chain activity (SCA) has a relationship with the tourism supply chain firm's performance (TSFP).

4.4. Supply Chain Activities and Service Quality

According to Baloui Jamkhaneh et al. (2022),

service quality is one of the most important factors of the successes of organizational services in the interested competitive environments. The service qualities were the differences between expectations and performances. By applying the concepts of SERVQUAL for explaining the effects of the supply chain quality management (SCQM), achieving the company's operational goals, conducting the first orientations for customers, the qualities, the leadership, focusing on the suppliers, the supply chain integration, the organizational management with information and the technological skills; it was found that the performance of SCQM significantly affected achieving the organizational goals. Dellana and Kros (2018) improved the knowledge about SCQM by studying ISO 9001 regarding the positions of the supply chain and the differences in the qualities of the approved organizations and those of the unapproved organizations in the United States. It was found that the organizations approved by the ISO 9001 standard had the improved quality and more programs and suppliers than the unapproved organizations. Hong et al. (2018) investigated the relationships between the quality management practices (QMP) and the knowledge transfers (KT) in the supply chain and the general effects on the organizational performances. The findings improved the understanding of improving the performance and the innovations by upgrading the supply chain quality management practices (SCQMPs). The "gap analysis" was one of the most appropriate and reliable models with the highest values and the most significant contributions to the service qualities (Shahin & Razavi, 2020). Amat-Lefort et al. (2020) studied the quality management methods and models in the environments using the services with SERVQUAL and analyzed the tourism management performance. It was found that all aspects of SERVQUAL were in the appropriate range. Gupta and Singh (2020) studied the service quality indices in order to analyze the service quality and the operational excellence. It was found that the resources for improving the performance and the environmentally friendly management practices for the logistic service providers were important for the environmental performance standards and improved the service qualities and the operational excellence. The relationships between the total quality management (TQM) and the supply chain management (SCM) were identified. The findings provided a better understanding of TQM and SCM for successfully implementing TQM and SCM to improve the customer services and the perceptions of the organizations and link processes for achieving the organizations' goals (Jovanović et al., 2017). The guidelines, processes, systems, management and interactions for implementing the policies, the strategic plans of the organizations, the spa services, and the Thai traditional massages caused the tourism service qualities. If the tourists perceived the services, it would affect their loyalty.

H4: The supply chain activity (SCA) had a relationship with the service qualities.

4.5. A Tourism Supply Chain Firm's Performance and Service Quality

In the study by Ataguba (2020), the company had to deal with the costs associated with closing the premises. To maintain disinfection in the work environment, employees go out to prevent or stop the spread of the virus. Additionally, some companies have provided infrastructure and even funding to help governments deal with plague. The tourism supply chain firm's performances and the services significantly and positively affected the logistic performances. The service quality could reduce the costs and improve customer satisfaction. This led to the customer loyalty and improved the financial performance of the companies. Infrastructure innovations such as the efficient information technologies could reduce the transportation and commercial costs as well as stimulate the international trading systems. The delivery quality standards were timely deliveries, reliability, risks of transportation, and frequency (Arvis et al., 2018). The good service quality eventually led to the reduced costs, customer satisfaction, and improved performance.

H5: The tourism supply chain firm's performances (TSFP) positively influenced the service qualities.

4.6. Service Quality and Competitive Advantages

In the study by Guzman et al. (2019), the service qualities were the main drivers and sources of the competitive advantages that were recorded and positively affected the performance. Regarding continuously changing the knowledge and thoughts, the service qualities were the new processes and systems beneficial for the companies and the stakeholders. The effects on the competitive advantages were studied. Some findings showed that the service qualities significantly affected the competitive advantages and the efficiency. The competitive advantages in the health and Thai traditional medical tourism were one of the main factors of the tourism competitiveness of the country. Each country had the policies differently developing the competitive advantages based on the efficient resource deployment.

H6: Service quality positively affected the competitive advantages (CA).

From the reviews, there is a relationship, as shown in Figure 1.

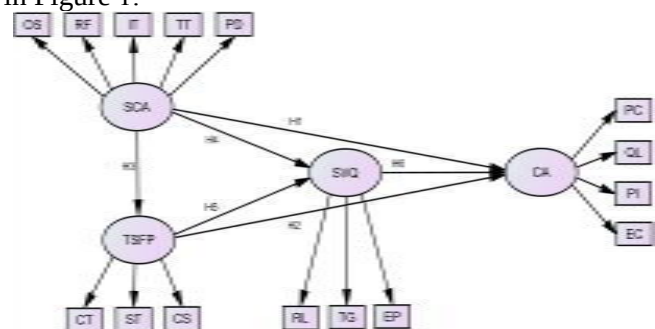


Figure 1. Research framework

5. Methodology

5.1. Methods of Analysis

This study is a confirmatory factor analysis (CFA). The data were collected with the questionnaires and analyzed with structural equation modeling (SEM) by using SEM based on AMOS was used to perform the confirmatory factor analysis (CFA), to confirm the measurement model of the theoretical constructs. SEM was also used to test the model fit, reliability, and validity. The structural model fit was then tested, and the structural path model was used to test the hypotheses based on the path coefficients, the total, direct, and indirect effects. The fit indices for the measurement model and structural model indicated a good fit of the model to the data: $(\chi^2/df) < 2.0$. The goodness of fit index (GFI), comparative fit index (CFI), normed fit index (NFI), incremental fit index (IFI), and the Tucker Lewis index (TLI) were all higher than the suggested cut-off value of 0.90, root mean square error of approximation (RMSEA) was below the suggested cut-off level of < 0.05 (Hair et al., 2022).

5.2. Data Collection

The population and the samples included the tourists in Thailand who used the Thai traditional medical tourism services. The number of the tourists was unclear. This study used the structural equation model (SEM) according to the theory of Hair et al. (2018). The size of the samples for SEM must not be smaller than 100. The ratio of the size of the samples and the number of the parameters must be 10–20 samples per parameter. In this study, there were 15 variables. The size of the samples should be 150 – 300 (10 times x 15 observable variables equal to 150 samples. 20 times x 15 observable variables equal to 300). Therefore, the size of the sample was 400. This was enough and more than the minimum size of the samples for SEM.

For the sampling methods, the non-probability sampling method was used by applying the convenience sampling method. The paper-based and online questionnaires were administered by the researchers. The multi-stage sampling method was used by applying the simple random sampling method to select the approved health establishments and then the convenience sampling method was used. The questionnaires were administered at the different times on the different dates.

5.3. Measurement

The questionnaires were developed by the researchers. The theories in the documents and studies on the Thai traditional medical tourism were reviewed by the researchers, and the data were analyzed to specify the scope and structure according to the variables. Then, the questions were created according to the operational definitions. The structure of the questionnaires consisted of three parts: 1) the general information – this part used the nominal scale and the ordinal scale, 2) the questionnaire on the variables with

the 5-point Likert scale (5 is the highest level, 4 is the high level, 3 is the moderate level, 2 is the low level and 1 is the lowest level) and 3) the questionnaire about the respondents' opinions. Content validity was determined by five experts. After the qualities were checked, the reliability was tested by calculating the Cronbach's alpha coefficient with Cronbach's method. The questionnaires were revised according to the experts' suggestions and piloted on 30 samples that were not the research samples. The items with α value of 0.70 or higher were selected since this value was considered enough for the scale. The tested reliability was 0.927. This meant that this set of the questionnaires had the high reliability, as shown in Table 2. The questionnaires were submitted to the human research ethics committees of Phranakhoon Rajabhat University to protect the rights of the respondents, and the questionnaires were approved on November 9, 2021.

5.4. Data Analysis

As shown in Table 1, 59% of the respondents were female and 41% of them were male. Most of the respondents were 20–40 years. Their highest education levels were from lower bachelor's degree to doctoral degree. Their occupations were student, private employee, public officer, business owner and unemployment.

Table 1. Respondent profiles

General information		Frequency (N = 488)	Percentage (%)
Gender	Male	200	41
	Female	288	59
Age	Under 20	4	0.8
	20–40	244	50
	41–60	208	42.6
	More Than 60	32	6.6
Education level	Under Bachelor's Degree	188	38.5
	Bachelor's Degree	232	47.5
	Master's Degree	64	13.1
	Ph.D.	4	0.8
Occupation	Student/Student	24	4.9
	Employees Of	120	24.6
	Companies/State	36	7.4
	Enterprises	180	36.9
	Government Service	122	25
	Private	6	1.2
	Business/Owner		
	Employer/Employee		
	Not Working		

The reliability of the structure was tested with Cronbach's alpha, while the correctness of the structure was tested with CFA.

Table 2. Operationalization of variables: reliability and validity

Construct Name	Item measures	Factor loadings	Cronbach's Alpha	Mean	SD
Supply Chain Activities (SCA)	Tourism	0.831	0.936	3.99	.722
	Transportation (TT)				
	Information Technology (IT)	0.857	0.930	3.89	.857
	Resource Facility (RF)	0.826	0.953	3.90	.748
	Organization Structure (OS)	0.853	0.928	3.80	.738
	Thai Traditional	0.794	0.919	4.08	.695

Construct Name	Item measures	Factor loadings	Cronbach's Alpha	Mean	SD
Tourism Supply Chain	Medical Tourism Products (PD)				
Customer Service (CS)		0.755	0.947	4.15	.761
Firm's Performance (TSFP)	Safety (ST)	0.789	0.918	4.05	.826
Competitive Advantage (CA)	Competitiveness (CT)	0.786	0.945	4.07	.778
Service Quality (SVQ)	Reliability (RL)	0.884	0.938	4.14	.762
	Tangible (TG)	0.788	0.900	4.03	.833
	Empathy (EP)	0.907	0.951	4.08	.798
	Price (PC)	0.831	0.950	4.15	.793
	Quality (QL)	0.839	0.953	4.14	.728
	Product Innovation (PI)	0.770	0.927	4.12	.779
	Efficiency (EC)	0.809	0.934	4.20	.744

Cronbach's alpha was used to test the hypotheses of this structure (internal consistency), as shown in Table 2. Cronbach's alpha values were from 0.900 to 0.953. All these values were higher than the suggested value of 0.7. This indicated that the reliability and consistency were excellent.

Table 3. Discriminant validity test

Variable	Supply Chain Activities	Tourism Supply Chain Firm's Performance	Service Quality	Competitive Advantage
Supply Chain Activities	1			
Tourism Supply Chain Firm's Performance	.817**	1		
Service Quality	.809**	.833**	1	
Competitive Advantage	.804**	.791**	.819**	1
Mean	3.93	4.08	4.08	4.15
S.D.	0.752	0.635	0.687	0.594

Notes: Bartlett's Test of Sphericity Chi-Square = 1843.923; df = 6, p = .000; Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .868
 ** Correlation is significant at the 0.01 level (2-tailed).

According to Table 3, it was found that the square root of AVE (the separated average variance) for each factor was higher than the correlations and other factors. This indicated that it was correct enough for practices.

6. Results

6.1. Measurement Model

CFA was used to test all measurements and evaluate the models regarding the correctness (Hair et al., 2022). According to Table 3, CFA shows the relationships between the four pairs of the variables. All pairs had a correlation of the variables significantly different from zero at the statistical significance level of .01. TSFP and SVQ had the highest relationship value of .833, and CA and SVQ had the lowest relationship level of .791. For checking the suitability of the samples, Bartlett's test of sphericity had chi-square = 1843.923; df = 6, p = .000. This was significantly different from 0 at the statistical significance level of .01. Kaiser-Meyer-Olkin measure of sampling adequacy = .868. This was statistically significant and usable for the analysis.

6.2. Structural Model

Table 4 shows the statistical consistency of the research models and the empirical data after adjusting

the research models. The final model was appropriate for the actual uses.

Table 4. Overall goodness-of-fit for the identified model

Measure	Criteria used in consideration	Initial Model	Interpretation	Final Model	Interpretation
Relative (χ^2/df)	< 2.0	9.601	Terrible	1.619	Excellent
IFI	> 0.90	.884	Terrible	.996	Excellent
CFI	> 0.90	.864	Terrible	.996	Excellent
GFI	> 0.95	.816	Terrible	.982	Excellent
AGFI	> 0.95	.737	Terrible	.950	Excellent
RMR	< 0.05	.025	Excellent	.009	Excellent
RMSEA	< 0.05	.133	Terrible	.036	Excellent

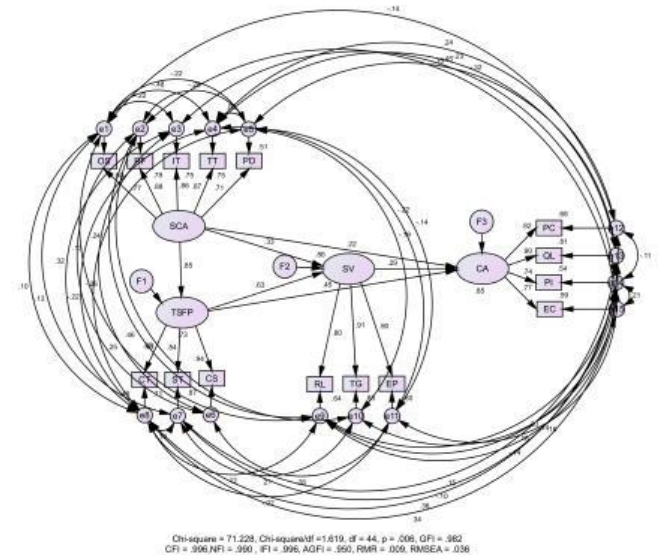


Figure 2. The structural model

According to Figure 2, the consistency of the causal models of the supply chain management of the Thai traditional medical tourism was shown based on the hypotheses and the empirical data. It was found that the models were consistent with the empirical data. The statistics for checking the consistency were as follows: chi-square = 71.228 and p-value = .006. That is, the chi-square was insignificantly different from zero. This was consistent with the hypothesis that the developed models are consistent with the empirical data. This was consistent with the analysis results: GFI = .982. AGFI = .950. RMR = .009. RMSEA = .036. These values were close to zero.

Table 5. Results of path coefficients

Hypotheses	Outcome	Predictor	β	S.E.	C.R.	P	Result
H1	CA	<- SCA	.222	.075	3.419	***	Supported
H2	CA	<- TSFP	.446	.081	5.085	***	Supported
H3	TSFP	<- SCA	.855	.065	16.593	***	Supported
H4	SVQ	<- SCA	.331	.080	5.858	***	Supported
H5	SVQ	<- TSFP	.630	.063	11.140	***	Supported
H6	CA	<- SVQ	.290	.074	3.229	.001	Supported

Note: p < 0.001

Table 5 shows the results of testing the hypotheses with SEM. There were the following variables: the supply chain activities, the supply chain firm's performance, the service qualities and the competitive advantages. It was found that the relationship between the supply chain activities and the competitive advantages was significant ($\beta = 0.222$; p = .000). The

coefficient indicated that the supply chain activities positively influenced the competitive advantages with the coefficient of 0.222 because the activities were important and improved the potential, the Thai traditional medical products and the services of the entrepreneurs.

The relationship between the supply chain firm's performances and the competitive advantages was significant ($\beta = 0.446$; $p = .000$). The coefficient indicated that the performance positively influenced the competitive advantages with the coefficient of 0.446. The system of transportation to the health attractions was important for the competitive advantages.

The relationship between the supply chain activities and the supply chain firm's performances was significant ($\beta = 0.855$; $p = .000$). The coefficient indicated that the activities positively influenced the performances with the coefficient of 0.855. The variety of the activities for meeting the tourists' demands and the logistic systems facilitate access to tourist attractions and promote the identities of the Thai traditional medical tourism to add value to the Thai massages and the tourism.

The relationship between the supply chain activities and the service qualities was significant ($\beta = 0.331$; $p = .000$). The coefficient indicated that the activities positively influenced the qualities with a coefficient of 0.33. The qualities were priceworthy, and there were various tour guide programs that meet the demands of the tourists of the Thai traditional medical tourism.

The relationship between the supply chain firm's performances and the services was significant ($\beta = 0.630$; $p = .000$). The coefficient indicated that the performances positively influenced the services with the coefficient of 0.630. The establishments must promptly adjust their services according to the customers' needs. The service qualities, the communication and the cares must be focused.

The relationship between the services and the competitive advantages was significant ($\beta = 0.290$; $p = .001$). The coefficient indicated that the services positively influenced the competitive advantages with a coefficient of 0.290. The service system was efficient. The services were fast and timely. The product innovations (PI), fast services, and clean establishments affected the competitive advantages of the tourism.

7. Conclusion and Discussion

Regarding the variables of the supply chain activities, the most influential variable was the facilities. There were signs of informing the tourists. There were facilities for old or disabled people. This was consistent with the study by Aliman et al. (2016) who studied the tourist satisfaction with the destinations. It was found that the tourists were satisfied with visiting the island. Langkawi is a tourism destination with the natural attractions and the facilities. Regarding the supply chain firm's performance, the most influential variable was the customer services. For example, the medical workers had the knowledge and

skills for working and improving the Thai traditional medicine. The services could improve healthcare to specify strategies and improve the medical tourists' satisfaction. Regarding the services, the most influential variable was the tangibles. The establishments were clean, modern and ready to attract both Thai and foreign tourists (Mulyana & Ayuni, 2019). Regarding the competitive advantages, the most influential variables were the qualities, the access to the services, the facilities for transportation, the revisions of the rules the obstructed crossing borders, and the uses of the information technologies for providing knowledge and information as well as facilitating tourists (Liao et al., 2017). Additionally, knowledge of Thai traditional massage such as "Whirlpool Oil Massage for Osteoporosis," Thai massage techniques can help relieve headaches caused by stress. Use the Thai traditional massage and Chaloyasak techniques. Massage service providers must increase their skills, namely "Using English in work and everyday English for Thai massage profession" 1) In case of having to serve foreign customers Thai spa staff and massage therapists must use English. In daily life for greeting customers at work, 2) using standard hotel words, phrases, and sentences to serve foreign customers; 3) spa and Thai massage staff have difficulty using anatomical vocabulary; and 4) suggesting Thai massage courses should focus on practice.

8. Limitations and Suggestions for Future Research

There were limitations regarding the population. The data were collected from May 2021 – April 2022. Therefore, the data of the samples might change according to the situations because of the COVID-19 pandemic that might change the behavior or the tourism. Consequently, the modernity of the data might not be consistent with all applications.

There were limitations in the contents. The big data might create new routes for the service users and new concepts. Therefore, the modernity of the concepts and theories supporting this study might not be sufficient to develop models for modern tourism.

1. New research areas should be added to find potential herbs that will be the outstanding herbs from all provinces according to the criteria of the potential evaluation and the surveys. The properties of the herbs should be studied by analyzing the chemical properties; the pharmaceutical effects of the herbs; the qualities, the effectiveness and the safety of the herbs according to the international standards to develop herbal products with good quality, local identities, and marketing potential that can meet the customers' needs.

2. The behavior and needs of the elderly people or the foreign tourists of the Thai traditional medical tourism should be studied. Tourists interested in the Thai traditional medical or herbal tourism should be studied. New data can be collected using online questionnaires to reach more tourists.

3. In-depth studies should be conducted to prepare marketing plans, strategies and channels for the tourism regarding tastes, tourism styles, spending, transportation, and travel periods.

4. Travel routes, tourism activities, marking plans and communications should be studied and linked to other types of tourism in the different parts of the country to attract tourists and promote the perception of the tourism.

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