The Determinants of the Medical Tourism Supply Chain of Thailand

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***Abstract*-The present study emphasized the integration of medical tourism supply chain practices among organizations, its antecedents as well as consequences in the medical tourism industry. The study has used the survey-based methodology and employed SEM-PLS as a statistical tool to answer the research questions raised in the study. The findings of this study confirmed the significance of mutual dependency in medical tourism supply chain, and also reported that there is lack of commitment as well as trust within the medical tourism supply chain members', which has not identified completely in earlier researches. In the meantime, medical tourism supply chain information sharing, and coordination also found to be the significant contributory factors in improving the performance of organization. However, certain level of integration and collaboration is still missing in medical tourism supply chain, due to certain deficiencies. Thus, medical tourism is an important sector and business for the tourism industry in Thailand, which needs to enhance SC operations to outperform its competitors and for achieving competitive advantage. The study provides guideline to researchers, policymakers and researchers and argues that the drivers of medical tourism supply chain i.e. mutual dependency, commitment and trust must be focused as those organizational areas which require more efforts to enhance medical tourism supply chain relationships.**

Keywords: *Medical tourism, Supply chain, Thailand*

1. Background

SC management, a powerful management approach to coordinate and integrate business activities and suitable producers as well as suppliers for undertaking timely products and services delivery to customers [1]. Tourism SC (TSC) which was derived from SCM, presented an interdisciplinary area i.e. medical tourism SC (MTSC). Although, functioning of TSC is different from usual SCs, as under TSC, the suppliers are completely independent and complex in nature as compared to other sectors' suppliers [1]. In addition, MTSC comprises of a network of complex organizations, having a minimum of five different organizational sectors, i.e. hospital, chemistry and pharmaceuticals, insurance, transportation, and accommodation.

A number of operational objectives that were identified by manufacturing SCs, can be applied to MTSC. Strategic alliances and supplier partnerships are generally established with a purpose of enhancing distribution and control of supply channels, reducing uncertainty and improving the operational and financial performance of each member of SC [2]. This occurs using inventory and total cost reduction within the SC [3]. The alliances and antecedents of SC members and partnerships exhibit dependency, commitment, and trust of a certain level, for developing long-term SC connections to increase organizational and industrial competitiveness. The medical tourism in Thailand is increasing and has become one of the key revenues generating sectors. According to the world health organization Thailand ranked at 18th in overall medical service quality and 13th for the medical facilities. The data of medical tourism in Thailand is shown in the figure 1.

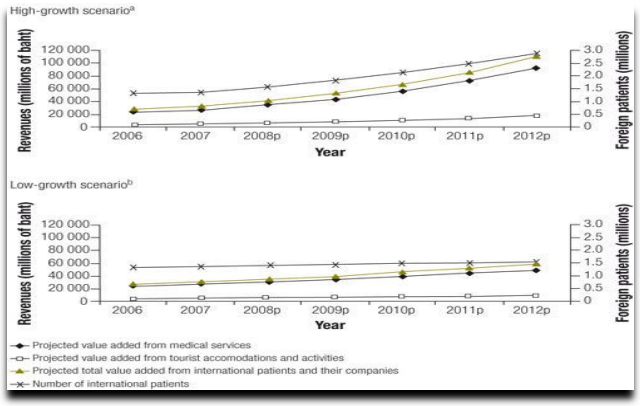

Figure 1. Medical tourism in Thailand, Source: WHO

The problems arising from TSC gained considerable interest from practitioners and scholars. However, the earlier published studies [1, 2, 4], that were conducted on tourism SC management has not received enough attention majorly because of their emphasis upon product development and marketing research [5]. In addition, most prior researches conducted in this area were based on the developed economies, and only limited studies are available concerning the developing economies. Kavala,

Devi [5] stated in their study that out of all fifty percent of them were based on European economies whereas only one-third were Asian based studies. The arrival of Asian medical tourists are assumed to reach above 10 million by 2015, with India, Singapore and Thailand to capture 80% of market share, according to a forecast [2].

2. Literature Review

2.1 Tourism SC (TSC)

The tourism industry is identified to be different as compared to other industries, since it consists of mobile population which travel to destination areas for gaining service, product or experience, although the elements of supply are generally found to be geographically fixed at certain areas. Contrarily, SC has been viewed as a network of organization, connected among the ultimate suppliers and customers within the SC. SC management is an advantageous approach having the ability to integrate all SC players for the timely delivery of goods and services, and bring motivation for the TSCM usage as a systematic process of integrating the coordination of organizational processes [1, 37]. With respect to TSC, the business management must essentially improve profitability, sustainability and efficiency of tourism industry, because of its division into downstream and upstream network involving both non-business and business organizations [5].

The TSC comprises of several firms including transportation, attraction providers, souvenir shops, hospitality suppliers, public sectors, travel agencies, and so on, delivering goods and services to tourists. TSC does not exhibit persistence because of the variations and insatiable customer demands [1]. Such qualities bring uniqueness in this industry as suppliers from other industries supply goods and services in this sector [6].

2.2 Medical Tourism SC (MTSC)

According to Adebanjo, Laosirihongthong [7], SC occupies a significant place in the healthcare industry. Similar to TSC, MTSC also has a complex structure and also require the support in providing goods and services by other sectors. MTSC possess similar features as other SCs, for instance, the services and manufacturing SCs operate and work together through business-to-business ties and for improving the business operations. According to Lee and Fernando [2], MTSC is an organizational network which sources funds, organizes, manages the relevant information, distributes medical services and manage finances and deliver to the medical service delivery point after collecting it from the manufacturers. Other highly significant factors which may influence MTSC include waiting time, medical costs, reliability, and privacy. The MTSC refers to SC involving various partners from the medical tourism sector, which come into collaboration for holiday and medical service provision to the relevant customers, resulting in the reduction of SC costs, increasing suppliers' efficiencies, and serving healthcare communities. The collaboration of the members of MTSC generally involves five sectors.

In developing economies, the MTSC is mainly driven by the quality healthcare availability having affordable costs, thus posing various challenges on the developed economies' medical system. The partner firms in MTSC must understand the nature of the contributory factors of industrial growth and medical tourist's demand to be selected by them. Factors such as, waiting time, privacy, and cost were used as metrics for individual choices to predict the global requirements of medical tourism service [2]. However, this study cannot sufficiently provide a comprehensive review of MTSC. Indeed, there is an urgent need for MTSCs to collaborate with each other, in order to support a country's medical tourism service. In addition, medical organizations must adopt MTSC practices for sustainable industry and better organizational performance. A country would more likely to achieve competitive advantage if medical organizations could play their part in sustaining such businesses through recognizing themselves as a destination for medical tourism.

2.3 MTSC practices and drivers of MTSC

Trust is an important factor which greatly contributes to the SC's stability, particularly in the long-run, in addition, it is also preferred in maintaining relationships between the members of SC. Firms must develop trusted connections, as such types of relationships may facilitate in promoting cooperation, reducing costs, strengthening the competitive abilities, and enhancing timely reactions [1]. Lukinskiy and Dobromirov [8] suggested that trust is recognized as an essential factor for maintaining successful relationship and acts as critical for a collaborative SC relationship.

Trust provides a foundation for accomplishing SC integration (SCI), with the combined efforts and strategic planning of SC members. In another study, Fu, Dong [9] found trust as a significant element of sharing SC information. Moreover, in the presence of trust, SC members would feel confident to exchange information among one another [2].

In view of Lee and Fernando [2], the SC partners generally seek to develop relationship traits and attributes, such as commitment and trust. According to Ariesty [10], commitment and trust are the essential SCI elements. Thus, the concept of commitment acts as a crucial element in developing and maintaining SC relationship. It refers to an agreement or promise in a network and also considers to be a vital element for the successful long-term SC relationship. Scholar argued that SC member can collaborate with each other through developing trust and commitment. Therefore, developing commitment may result in increased coordination in SC. Another study Lee

and Fernando [2] has identified commitment, mutual dependency and trust as the factors which may significantly affect the SC integration.

Mutual dependency is an inherent factor existing within the SCs [11]. Generally, the SC members cannot compete independently and depend on other members for information and resource sharing. Therefore, dependence management is an essential process in developing collaboration among the SC members. The collaborative relationship existing between SC members indicate mutual dependence, thereby enabling the SCI to work and develop mutual preparedness for sharing relevant information and knowledge [8]. Besides, Dwivedi, Shareef [12] suggested that it is the mutual dependence between the members of a SC which create SC coordination, on the other hand, scholar also identified that the existence of mutual dependence is essential for the SC members to coordinate and share information. Similarly, Author have argued that SC collaboration and information were found to be significantly associated with interdependence, for establishing successful SC relationships and aiming to fulfill organizational goals and objectives. An organization engages with other partners to share information, only if there is high interdependence between them. Thus, based on the aforementioned arguments, the study proposed this hypothesis:

2.4 MTSC practices and organizational performance

Several prior studies have emphasized the significance of SC collaboration. Scholar suggested that strategic collaboration within a SC may facilitate in obtaining desirable and beneficial outcomes. According to Sari [13], understanding characteristics and nature of SC collaboration and significance of integration process is important for the SC members, besides, they must also be well-aware regarding information sharing, joint knowledge creation, and communication among the SC partners. Since collaboration within the SC is critical, therefore, it is essential to maintain good collaboration within TSCs and MTSCs, because of the network complexity involving several numbers of players. Another study Park, Chang [14] argued that overall organizational competitiveness can be improved through collaborative SC partnerships. Furthermore, SC collaboration contributes in benefiting SC members as well as the overall SC performance. Meanwhile, [15] described SC collaboration as the alignment of decisions through developing mutual cooperation with other entities, for enhancing overall SC performance. Thus, in order to stay responsive towards customer demands and maintain competitiveness in global environment, a well-coordinated SC processes are needed.

According to Kavala, Devi [5], since tourism industry consists of a mixture of goods, combining various players, goods and services which are highly committed, therefore, coordination in this medical tourism industry seem to be highly intensive. For a successful TSC's performance, coordination is identified as a crucial element for the TSCM, as it critically depends upon the SC members' coordination for achieving sustainable competitive advantage and in decision-making regarding tourism industry. Moreover, it is also crucial to develop strategic coordination among tourism and healthcare industry Adebanjo, Laosirihongthong [7]. Furthermore, Puche, Ponte [16] have suggested that coordination within SC plays its role in financial and operational performance, if and only if information processing, dissemination and n collection accompany with members' willingness to utilize this obtained information to their businesses.

With respect to MTSC, the information sharing facilitates and bring improvement in MTSC when relevant information is shared by each SC member in a timely manner. According to Kavala, Devi [5], information sharing refers to an exchange of demand information from downstream to the upstream suppliers. In addition, information sharing within the SC may result in inventory and cost reduction, as well as enhancing customer value and service. The Medical Tourism SC comprises of downstream and upstream suppliers, where upstream suppliers refers to the ones which provide goods and services to the medical tourism industry, including airlines, hospitals, hotels, whereas, downstream suppliers refers to the ones who sell and promote medical tourism products, such as intermediaries, or travel agents. Thus, information sharing considers to be essential for the purpose of facilitating the TSC. Accurate and timely sharing of relevant information may improve the performance of organization as it may minimize the operating errors and adds value to the SC business. Lee and Fernando [2] noted IS as extremely beneficial for the organizations to accomplish good operational performance.

Over the last two decades, considerable research has been carried out for analyzing integrating relationship between tourism SCs and firms. Therefore, SC integration is a significant approach to develop and maintain the organization's competitive advantage [1]. Several recent researches reported a significant positive association among organizational performance and SC integration [17]. In another study, on the basis of empirical investigation and after analyzing 21 studies, Fernando and Khei [18] concluded that SCI result in better organizational performance. Najmi and Khan [17] also analyzed 33 quantitative studies and reached to the conclusion that SCI has the ability to improve the organizational performance, as SCI is an important SC driver. Thus, as a whole, various MTSC members should collaborate to make contribution in medical tourism. SCI acts as an internal strategic resource which has the power

to improve organizational performance and competitive advantage of organization. Therefore, hypothesis 2 is proposed as follows:

Shows the theoretical framework developed using a number of supporting theories, such as transaction cost theory, relational view (RV), social exchange theory (SET), and resource-based view (RBV). The relational view (RV) identify relationships as the possible means to achieve superior SC performance and also identify four potential means for obtaining relational rents, namely, substantial knowledge exchange, relation-specific assets, lower transaction costs, and rare and complementary resources. Relational view also facilitates in exploring value-creating connections among firms, thereby assisting firms to establish associations and achieve competitive advantage. Furthermore, several studies have incorporated this theory for identifying those factors which influence the performance of SC and for reinforcing the SCM's impact on the organizational performance. According to Najmi and Khan [17], RBV states that distinctive organizational performance basically occur not due to industrial structure rather due to the firm heterogeneity. Rahman and Zailani [1] suggested that for tourists, the most important tourism aspects are rareness and differences, although, the imbalance of economic development and resource scarcity of regional tourism can be resolved through tourism SC. The four attributes that must be possessed by individual organizations to improve customer value and develop core competencies, include, inimitable, rare, non-substitutable, and valuable. Author mentioned that the transaction cost accounts for all the expenses for recognizing market prices, making bargain, and undertake economic exchange. According to the transactional cost theory, transaction costs may involve money, human resource, time, information issues, risk, environmental and human elements. Reimann and Ketchen Jr [19] stated in their study that social exchange theory based largely upon the idea of sharing organizational resources through social interaction, whereas, commitment and trust also significantly contribute to the SC relationships. All these theories have identified the complexity of collaborating with unique and limited set of internal resources by each company. The ultimate goal of collaboration is sustainability and improved organizational performance, which is specifically designed to achieve long-term goals and objectives.

H1: The trust in the medical tourism SC has significant impact on firm performance.

H2: The commitment in the medical tourism SC has significant impact on firm performance.

H3-5: The trust in the medical tourism SC has significant impact on medical tourism practices (collaboration, coordination, and information sharing).

H6-8: The commitment in the medical tourism SC has significant impact on medical tourism practices (collaboration, coordination, and information sharing).

H9-11: Medical tourism practices (collaboration, coordination, and information sharing). Has significant impact on firm performance

H12-14: Medical tourism practices (collaboration, coordination, and information sharing). Mediates the relationship between the trust in the medical tourism SC firm performance

H15-17: Medical tourism practices (collaboration, coordination, and information sharing). Mediates the relationship between the commitment in the medical tourism SC firm performance

3. Methodology

This section is based on the statistical approaches and methodology used for research. The research is based on the hypothetico-deductive method. It is scientific method and is based on seven steps such as identification of problem, statement of problem, formulation of hypotheses, establishing measures, collection of data, analysis of data, and interpretation of results or findings. The basic element of the research is deductive approach in which the generational theoretical framework is formulated and applied to a specific case. The previous research findings are used for a theoretical base. Moreover, the research has used quantitative survey technique. The objectives of the research have been determined through a research design. The validity and reliability of research instrument has been determined. The survey is conducted, and information gather from the respondents has been processed for analysis. Finally, the results have been interpreted and suggestions are made.

The research is cross-sectional, which means it is based on a certain period because of convenience for the researcher. The method used of collection of data is survey method. The responses have been collected through use of survey approach. A five-point scale has been used for measurement of responses regarding the questions. The sample technique was cluster sampling used in the survey research. The information is collected from people regarding a specific issue or topic in the survey research method. Questionnaires were distributed through emails and data was collated. This requires less cost and time and can cover a large geographical region. The data was analyzed using statistical approaches. Moreover, the questionnaire survey makes the collection of information under natural circumstances. People or respondents are free to make choices in questions irrespective of any fear or pressure. No interference is shown by the researchers and survey is conducted in a natural setting.

The results of the survey can be generalized. The items in the questionnaire were directly linked with the items of

dimensions and relevant, this makes it valid. The total population is estimated before the estimation of sample size. The sample size is calculated through the table presented by [20]. The sample size was selected to be 345 based on the table. The response rate came out to be 63.2 percent.

4. Results

The research has adopted PLS-SEM approach for analysis. CB-SEM could not be used in research due to issue of non-normal data and small size of sample. The sample size was determined to be 345 in this research, which is considered sufficient according to Hair, Sarstedt [21]. This sample size can be determined using PLS-SEM approach. There is some resemblance in PLS-SEM and CB-SEM [22-24]. Both the techniques consist of two-steps. In PLS-SEM path model, the initial step is the assessment of measurement model (MM), which is followed by the assessment of structural model (SM) [24].

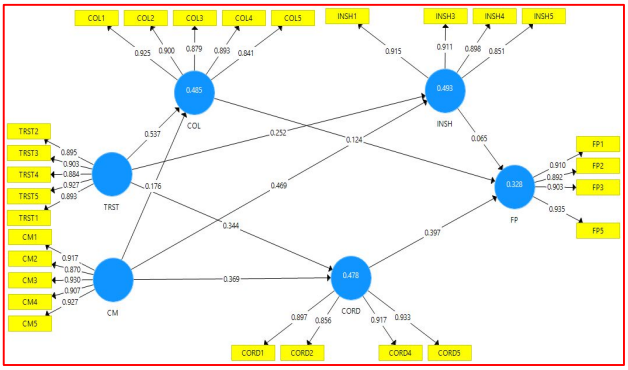

Figure 2. MM

The assessment of statistical elements in the model is referred as evaluation of MM. It ensures that the model is sufficiently good enough to proceed with further statistical analysis. Internal consistency, convergent validity, constructs validity and discriminant validity has been examined for MM. The validities have been measurement through use of SmartPLS. The pre-requirement of validity is reliability. It is related to the level of error free measures for consistency of results [25]. The focus is on reliability because of its defective influence on weakening the association between the measures. Hosany, Prayag [25] has recommended multiple item scales measurement to deal the errors of measurement. The research can eliminate the items having measurement errors for improving the reliability of model. In this research, there were no errors of measurement detected. All the measurements were determined by a minimum of five items.The reliability is tested in internal consistency through homogeneity of a set of items [21, 25]. The level of items measuring the similar construct is assessed in reliability. In order to determine reliability of data, composite reliability (CR) is frequently used by most of the researchers [21]. The value of composite reliability is interpreted similar to the value of Cronbach's alpha (CA). All the reliability values shown in Table 1reveal that they are above the standard value of 0.70 [23, 24, 26]. This indicates that there is high internal consistency shown by every construct.

According to the recommendation of Lonial and Carter [27], the values of reliability in the range of 0.70-0.90 are considered sufficient. The values of Cronbach's alpha to be greater than 0.9 or 0.95 are considered as inappropriate. It reflects that there is change of indicator variables to determine the similar phenomenon [21]. The discriminant and convergent validity determine the construct validity. The evaluation of loadings and cross-loadings ensure the validity of specific items in constructs along with serving as a requirement for determining convergent validity. Generally, the construct validity is well assessed through convergent and discriminant validity. When the item is highly loaded within the construct, it is considered as a good indicator of the construct. Moreover, when the item is high loading under a different construct, it reflects some issue with the item.

Table 1. Reliability

	Cronbach's Alpha	rho_A	CR	AVE
CM	0.948	0.951	0.960	0.829
COL	0.933	0.934	0.949	0.789
CORD	0.923	0.929	0.945	0.813
FP	0.931	0.937	0.951	0.828
INSH	0.916	0.923	0.941	0.799
TRST	0.942	0.944	0.955	0.811

According to the recommendation of Hair Jr, Hult [26], the value of outer model loading equal or greater than 0.50 is considered as sufficient and acceptable. However, the value of outer model loading less than 0.50 should be deleted in order to improve the quality of data. The loading values of this research according to the constructs have been presented in Table 2. It has been indicated that the value of loading for all indicators is in the range 0.749-0.950. Therefore, it ensures that there is sufficient construct validity in the MM.

Table 2. Outer loadings

	CM	COL	CORD	FP	INSH	TRST
CM1	0.917					
CM2	0.870					
CM3	0.930					
CM4	0.907					
CM5	0.927					
COL1		0.925				
COL2		0.900				
COL3		0.879				

COL4		0.893				
COL5		0.841				
CORD1			0.897			
CORD2			0.856			
CORD4			0.917			
CORD5			0.933			
FP1				0.910		
FP2				0.892		
FP3				0.903		
FP5				0.935		
INSH1					0.915	
INSH3					0.911	
INSH4					0.898	
INSH5					0.851	
TRST2						0.895
TRST3						0.903
TRST4						0.884
TRST5						0.927
TRST1						0.893

According to the suggestion of Tzempelikos and Gounaris [28], there is need to assess AVE (average variance extracted) as a standard should be greater than 0.50. Moreover, there is need to determine CR (composite reliability), factor loadings and AVE and the values of loadings should be greater than benchmark 0.70. The value of CR should be above 0.50 and CR should be greater than 0.70. When the value of AVE comes to be 0.50, it means that half of the variation in the manifest variable is because of the latent variable [24]. Another measurement linked with convergent validity is the discriminant validity. The different among the measurement tools of different constructs is assessed through discriminant validity. The discriminant validity is assessed to ensure the external consistency of model. It was noted by Tzempelikos and Gounaris [28] that when the value of square root of every construct is greater than the highest correlation, it confirms the discriminant validity.

Table 3. Validity matrix

	CM	COL	CORD	FP	INSH	TRST
CM	0.911					
COL	0.649	0.888				
CORD	0.672	0.821	0.901			
FP	0.568	0.547	0.569	0.910		
INSH	0.692	0.876	0.893	0.729	0.894	
TRST	0.883	0.692	0.669	0.725	0.666	0.901

After the assessment of MM, the SM is assessed. It determines the correlation between the variables and regression. In the process of SM assessment, there are five steps [21]. Initially, the issue of collinearity is determined. After this, the significance and SM relevance is determined. The coefficient of determination is assessed along with the effect size. Coefficient of determination is regarded as R2 and effect size is F2. The predictive relevance (Q2) is assessed as well. Moreover, the mediation influences are determined before the completion of data analysis. This has been discussed in detail in the next sections.

It is important to determine the issues of collinearity in the assessment of SM. This refers to high level of association among the indicators [21]. The results show that standard collinearity values having tolerance greater than 0.20 and value of VIF to be less than 5. Therefore, it is revealed that there is no multicollinearity. The VIF and tolerance of all the variables lie in the range of 2.278-4.122 and 0.243-0.439 respectively.

Similarly, the next step is the determination of relationships in the SM and significance of the variables. The SM path coefficients are examined for the testing of hypothesized relation between the constructs [21]. The relation between the constructs, t-values and path coefficients are assessed in PLS-SEM.

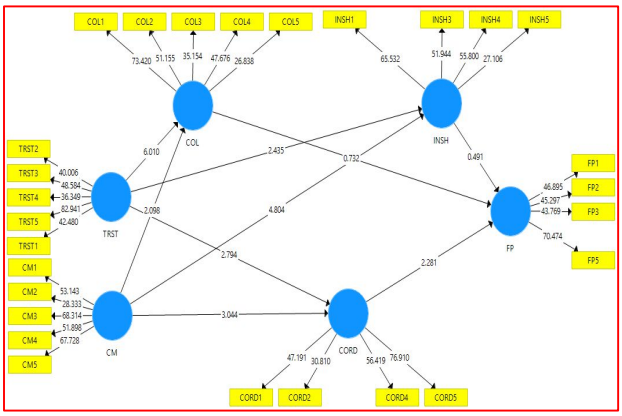

Figure 3. SM

Using a re-sampling iteration of 5000, t-values were calculated [21]. A sample of 5000 bootstrap was selected to ensure the empirical sampling distribution by every parameter model and standard deviation of the distribution to be used as empirical standard error [26]. The one-tail test was done, and the critical values were used to determine the level of significance. The critical values were 2.33, 1.65 and 1.28 at significance level of 1%, 5% and 10% respectively.

Table 4. Direct relationship

	(O)	(M)	(STDEV)	(|O/STDEV|)	P Values
CM -> COL	0.176	0.183	0.084	2.098	0.018
CM -> CORD	0.369	0.380	0.121	3.044	0.001
CM -> FP	0.199	0.209	0.079	2.513	0.006
CM -> INSH	0.469	0.477	0.098	4.804	0.000
COL -> FP	0.124	0.113	0.169	0.732	0.232
CORD -> FP	0.397	0.398	0.174	2.281	0.011

INSH -> FP	0.065	0.077	0.133	0.491	0.312
TRST -> COL	0.537	0.532	0.089	6.010	0.000
TRST -> CORD	0.344	0.335	0.123	2.794	0.003
TRST -> FP	0.219	0.216	0.079	2.761	0.003
TRST -> INSH	0.252	0.247	0.104	2.435	0.007

Table 5. Indirect Relationship

	(O)	(M)	(STDEV)	(|O/STDEV|)	P Values
CM -> COL -> FP	0.022	0.021	0.036	4.610	0.000
TRST -> COL -> FP	0.066	0.061	0.092	0.721	0.235
CM -> CORD -> FP	0.146	0.151	0.083	3.762	0.039
TRST -> CORD -> FP	0.136	0.134	0.081	6.676	0.000
CM -> INSH -> FP	0.031	0.037	0.065	4.473	0.000
TRST -> INSH -> FP	0.016	0.020	0.038	0.433	0.332

The value of R2 is in the range of 0-1 and the higher the value the greater is the predictive accuracy. There is no standard value of R2. It was suggested by Henseler, Hubona [24] the value of R2 as 0.75, 0.50, and 0.25 are considered good, moderate and weak respectively. The greater the paths reflecting towards a target construct, the greater is the value of R2 of the construct.

Table 6. R-square

	R Square
COL	0.485
CORD	0.478
FP	0.328
INSH	0.493

Most of the researchers look for parsimonious model that is considered good at the explanation of data having few independent constructs. It is important to determine the predictive relevance of the model after the determination of effect size. For this, the predictive capacity of the model is examined. As noted by Hair Jr, Hult [26], the value of predictive relevance is reflective through Q2.

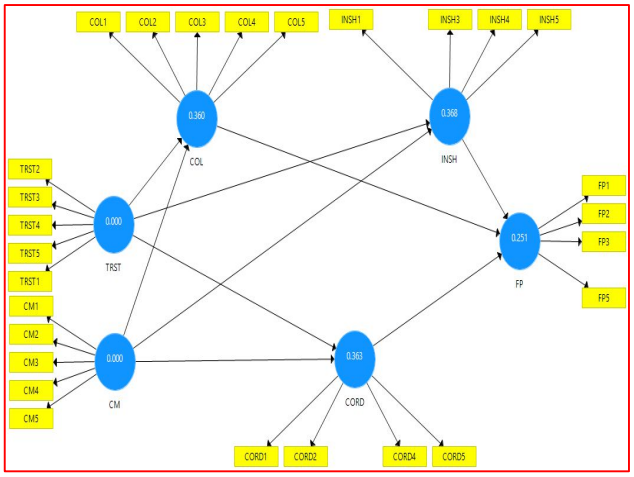

Figure 4. Q2

This process is used for reflective endogenous single item construct and exogenous construct. However, there is no requirement of the formation endogenous construct. It has been suggested by Hair, Sarstedt [21] that the value of Q 2 is calculated through the process of blindfolding.

Table 7. Q-square

	SSO	SSE	Q^2 (=1-SSE/SSO)
CM	1,085.000	1,085.000	
COL	1,085.000	694.545	0.360
CORD	868.000	552.779	0.363
FP	868.000	650.206	0.251
INSH	868.000	548.998	0.368
TRST	1,085.000	1,085.000	

5. Conclusion

The results for current study support the proposed causal association which has been put forward in the underlying hypotheses, specifically in case of medical tourism industry. The findings supported the proposed hypothesis and indicate that MTSC collaboration and trust are significantly related with each other. This finding confirmed the results of previous researches and show that the element of trust plays a crucial role in establishing MTSC collaboration for long-term SC cooperation among the SC members. However, no relationship was found among MTSC information coordination and trust, and also among MTSC integration and MTSC information sharing. Although, these outcomes provide contradictory findings from what was found in prior researches, where reported the element of trust as a key element for these practices of MTSC [29, 30]. Majority participant organizations were at their early stages, with some of them involved in medical tourism industry only for being 6 years, which can be a possible reason for the absence of trust among SC partners. These organizations may be reluctant to integrate and coordinate among other SC partners, because of which they have failed to share important market and industry-based information among others. Trust develops and increases over a period of time when organizations tend to be a part of MTSC for longer period of time, thereby improving the practices of medical tourism SC. This paper found a significant association of commitment with the information sharing and coordination in MTSC.

This finding is consistent to what was found in earlier researches [31, 32], i.e. commitment is positively associated with information sharing and coordination, whereas, negatively associated with MTSC integration and collaboration, which is contrary to previous researches [33]. Long-term SC relationship is also required for SC commitment; thus, the participating firms may seem to be less committed towards the TSCM which may resulted in insignificant result for MTSC.

Previous studies have widely discussed and identified it as a major contributor of firm performance. Although, this study did not find a significant association of MTSC collaboration with non-financial and financial

performance of organization. However, several prior researches identified various potential benefits of SC collaboration, but this collaboration may does not necessarily meet the desired or expected SC outcomes and may also involve certain potential risks [34]. Thus, two or more organizations are required which work together to develop SC collaboration, for making decisions and successfully achieving mutual goals. However, different goals are set by different businesses, therefore, such organizations may share some common organizational goals and work closely in the MTSC. However, it does not signify that these organizations tend to move towards the same direction for gaining mutual benefits that may also affect the collaboration among firms within MTSC. Moreover, in a SC, establishing collaborative initiative is a time consuming process. Oguz, Xie [35] also argued that it is somehow difficult to adopt SC collaboration, since deciding with whom a firm should collaborate (supplier or customer) is quite challenging. the significance of trust in the SC collaboration and also stated that a SC may face failure to integrate collaboration if there is no trust existing among the SC partners. Thus, failure to implement SC collaboration may result in the absence of its positive potential effects on the organizational performance. Levels of commitment, mutual dependency, and trust among SC partners must be increased for obtaining potential SC collaboration benefits. However, such increased commitment, dependence, as well as trust can be achieved through interaction and open communication of the SC partners.

The present study found that a positive association exists between MTSC coordination and financial performance of an organization, whereas, a negative association exists among MTSC coordination and non-financial performance of an organization. This is in contrast to what Silva, Crowley [36] found in their study, i.e. operational performance of an organization is positively associated with SC coordination. Author stated that during the infancy stage of SC coordination, SC members are required to put in more efforts, in order to provide a comprehensive view of coordination among SC members. Thus, dysfunctional activities and poor performances, i.e. lower competitive position and customer satisfaction level may occur as a result of poor SC coordination.

In MTSC, excellent coordination considers to be essential since MTSC depends largely upon the partners' coordination for establishing competitive advantage and decision-making regarding medical tourism industry. Poor coordination in decision making process of operational performance resulted in negative association among non-financial performance of organization and MTSC coordination. The information sharing in MTSC has reported to be positively associated with the non-financial performance of organization but negatively associated with its financial performance. Organizations may share various kind of information with each other, but do not share every kind of information even though such firms exist in a same SC. Therefore, a firm has a right not to share sensitive or relevant proprietary information, as it may result in decline in its business revenue and instead share irrelevant data to preserve the financial performance of organization. In that case, incorrect decisions may be taken resulting in low financial performance by organization. However, exchange of operational information is a separate phenomenon, as it may not significantly harm the financial performance or business revenue of a firm. Thus, the drivers of medical tourism SC i.e. mutual dependency, commitment and trust must be focused as those organizational areas which require more efforts to enhance MTSC relationships.

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