TOURISM SUPPLY CHAIN PRACTICES ON LEAN TOURISM PERFORMANCE IN THAILAND: COMMUNITY-BASED IN PHATTHALUNG

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ABSTRACT

The study is carried out to explore the nexus among the supply chain practices, firm supply performance and lean Tourism Performance in Thailand. The study has examined the mediating role of firm supply performance. In LSC, a crucial aspect of PMS (Performance Measurement Systems) is related to the reduction of measures for selection to make an effective system, which is flexible and easy to analyze and use. There is a need for holistic consideration of performance measurement of entities in a supply chain that reflect the significance of drivers of strategic performance in the future. Over the years, several methods have been suggested for the evaluation of SCM of any organization. A significant role is played by the tour operators in providing advice to the customers regarding the local products and services. Further, tour operators ensure the provision of products and services by local producers to the tourists without any discrimination. Some information related to these aspects is also provided by several tour operators, which requires more effort. It has been mentioned earlier that businesses are greatly influenced by technological advancements. Several challenges are faced by the management with the changing customer needs, the flexibility of production, delivery performance, and word of mouth strategy supported by digitalization. Therefore, researchers have conducted studies on the emerging problems for businesses in supply chain management and their corresponding solutions.

Keywords: Supply Chain, Lean, tourism, Thailand

I. BACKGROUND

Several issues related to working conditions and environment in the destination countries, safety measures for staff and customers, utilization and disposal of resources, recycling and reuse of materials, proper handling of resources, initiatives to improve utilization of resources determine the sustainability of a tourism product. There are many components of SCs in the tourism sector, which include transport and excursions, accommodation, handicrafts, production of food, disposal of waste, and infrastructure supporting the tourism in destination countries.

All these factors are the component of a holiday product, which is expected by tourists while making a purchase. It is not important whether the tour operates contracts the suppliers of these components. The sustainability of a tour product is linked with the components at every level. For instance, a tour operator will never provide low class transport service to the customers for taking them to a 5-star hotel. Thus, the quality factor at every level in the SC matters for the overall performance. The activities of customers during the holiday with respect to their behavior and expectations from the tour are another aspect of the tourism SC. The entire holiday experience to the customers is marketed by the operators, which includes opportunities to experience the local products and services of a destination.

For achieving an effective and efficient SC (SC), it is crucial for several organizations to evaluate their performance. The concepts, lean principles, techniques, and tools have expanded across the entire SC because of their potential advantages including improved quality, cost reduction, flexibility, and timely deliveries. The significance of Lean SC Performance (LSCP) has increased for various stakeholders because of the elimination of waste and added value of a customer. These methods are based on various outcomes, measures, and drivers of performance. It can be inquired about the basic issues that result in lean performance are identified or not. The designing of a Balanced Scorecard (BSC) has not been done specifically for the LSC. It gives a good overview of
the core measures of a company (Rezaei, Rahiminezhad Galankashi, & Mansoorzadeh, 2020). The relation between SCM and BSC has been discussed by researchers in the literature, which offers a clear understanding of the way lean performance is linked with strategic objectives (Hristov & Chirico, 2019).

Organizations have become able to stay in competition because of the tools, principles, and lean techniques. Managers have been encouraged by the advantages of this application in the expansion of lean philosophies to the entire SC, i.e. producers, suppliers, distributors, customers, and related stakeholders in the process of lean thinking. A combination of lean techniques should be used by managers across the SC. The key difference between the conventional model of LSC and SC is that SC focuses on the activities from sourcing of raw materials till the final production without major complications. Alternatively, the focus of LSC is on achieving value and elimination of waste during the processes within the SC. Three approaches have been identified in literature that can be used to determine lean performance.

The first approach is based on determining the level of implementation of lean approaches and techniques, such as the identification of leanness degree of the organization. The second approach is related to the determination of outputs that result from the implementation of lean approaches. The key focus in this dimension lies in quality, cost, flexibility, delivery, and continuous improvement. The combination of these two approaches is regarded as the third approach.

The practices and perspectives related with consumers, manufacturers, suppliers, and distributors aiming at the achievement of long term performance goals are regarded as SC management practices (SCMP) (Arab, Sahebi, & Alavi, 2017; Maan, 2018). Three product-centered SCs were identified by Ghofar, Kundarto, and Arundati (2020) in their research that includes benchmark products, products with a little degree of differentiation, and innovative products with a high level of differentiation and hybrid products with a moderate degree of differentiation.

It was argued by researchers that the standard or benchmark products should be manufactured using a lean SC that focuses on the reduction of waste and continuous improvement. The manufacturing of innovative product should be done through agile or adaptive SC. However, the manufacturing of hybrid products should be done by adopting hybrid SC with a number of suppliers. The key for integration of SC is the sharing of information and it can make an organization agile and responsive towards the changing needs of consumers (Kembro, Näslund, & Olhager, 2017).

A set of actions conducted in an organization for improving the information and product flow among the stakeholders is regarded as SCM. The concept of SCM has become complex with the emergence of the latest approaches and business perspectives. It involves partnership with supplier, reduction of production time, outsourcing, a smooth flow of information, and continuous technological sharing.

II. LITERATURE REVIEW

The SC performance of an organization can be improved through the managerial activities in SCM (Abebe, Beyecha, & Gemeda, 2020). It was claimed that for effective SCMP, organizational learning plays a significant role. Moreover, a positive influence of learning is created on performance outcomes. An in-depth analysis is required for determining the success factors of an organization in implementing quality programs (Wilson & Campbell, 2020).

A SC has been declared as a strategically integrated network by the global SC forum and not just a simple chain relationship. The integration of important business processes from original suppliers to end-users is referred to as SC management practices (SCMP). These processes add value for the various stakeholders and customers (Arantes, Leite, & Bornia, 2018). A similar definition was presented by Kaur, Singh, and Singh (2019) to define SCM, which is an integrated technique of purchasing and management of logistics. SCM was defined by Hadrawi (2019) as the function of customer delivery, lean strategy, inventory management, and strategic integration.

Some common SCM goals have been agreed upon by several scientists in the operational research. It was declared by Ghofar et al. (2020) that the basic goal of a SCM is to eliminate the communication barrier and redundancies.
Some of the goals of SCM were defined by Hadrawi (2019), including synchronized operation, waste reduction, delivery performance, flexibility and quality management. It was confirmed by Kaur et al. (2019) and the researchers added some other goals of SCM, i.e. warehousing, time, cost, customer satisfaction, and supplier relationship management.

Therefore, SCM has been considered as an integrated approach that aims at reduction of waste, delivery performance, synchronized operation, quality management, customer satisfaction, flexibility, warehousing, time, cost and long term supplier relationship development to achieve competitive advantage and improved effectiveness (Brown & Bajada, 2018; Umam & Sommanawat, 2019). It has been claimed by Giannakis, Spanaki, and Dubey (2019) that SC collaboration can take many forms. However, the most crucial form is the one, which increases the supply and demand by improving the overall SC efficiency. Lack of effective operationalization of SC collaboration can result in cost inefficiency for the organization.

Different organizations connected by upstream or downstream flow of information, services, funds, and products and work in collaboration to reduce waste and cost is referred to as lean SC management (LSCM). It involves efficient product development in response to the needs of individual customers (Tortorella, Miorando, & Tlapa, 2017). A different business model is involved in the adoption of LSCM, i.e. enhanced profits emerge from collaboration among the SC partners rather than imposing power or bargaining over the partners in the SC (Tortorella et al., 2017). The overall flow in the SC from raw materials to final customer is referred to as lean SC, which is consistent with the vision of an integrated LSCM. The interconnection between organizations is the outcome of economic arrangements of resources, i.e. geographical location of input materials, tier level and organizational size (Frazzon, Tortorella, & Dávalos, 2017). The LM principles have been implemented by previous studies in activities of SCM and it was found to result in increased outputs of the organization (Frazzon et al., 2017). The LM principles integrated into SCM need further exploration to better understand the lean approaches adaptation (Psomas & Antony, 2019). It is not a simple process to integrate LM principles into the activities of SCM because of several reasons. The reasons include easier identification and quantification of waste in the environment as compared with the SC. Moreover, the process of manufacturing can be controlled by the top management. However, attention is required by SCM for the entire SC, i.e. suppliers processes to the final customer (Marodin, Tortorella, & Frank, 2017).

The technology, products, and services from suppliers to end customers without any wastage are referred as a lean SC. The current trading mentality has been overcome by the approach of LSCM, where profits were based on market prices, and negotiations with customers and suppliers. This has been transformed by LSCM, which is based on long term commitment among the partners in SC in systematic and collaborative elimination of waste along the SC (Tahir, Saleemi, & Khan, 2017). Several organizations have made efforts to implement the practices of LSCM because of improper implementation approach. The focus of several studies has been on LSCM’s individual aspects. However, a few researchers have considered both the up and downstream organizational activities in LSCM (Marodin et al., 2017). Further, the LSCM concepts have not been developed fully irrespective of the unidirectional and stable theory (Marodin et al., 2017). Most of the researchers are limited to a specific industry rather than the general framework of LSCM.

The leading business organizations in the world, such as Walmart, have made it clear that SCMP and SCP are the critical factors and processes for achieving successful competitive advantage (Tirastittam & Aunyawong, 2020; Vanichchinchai, 2019). The focus of SC management practices has been at every process or stage in the product development. Moreover, SCMP requires efficient utilization of resources by every individual at every production stage. Every supplier partner and user in the SC is connected by this process of value addition, which makes it recognized as SC management practices (SCMP).

It can be concluded that SCMP involves the sourcing of input materials from suppliers, value addition process is done and products are delivered to the final customers. In order to established and maintain sustainable competitive advantage by a company, it is crucial to consider the significance of SCMP. It was found by Samizadeh, Aghagoli, and Vatankhah (2019) and Abebe et al. (2020) that the supply performance of a firm is significantly influenced by the information management process. It was argued that information technology and knowledge have a significant influence on supply performance. By the adoption of information technology in the process, the SC performance can be enhanced. Two measurement models have been used in SC literature to determine the performance of a SC.

The first is the cost measure, which may involve operating and inventory costs.
The second is the mix of customer responsiveness and cost.

The measures, i.e. relationship, flexibility, cost, customer responsiveness, and activity time, can be individually or collectively used to determine the performance of a SC. The important dimensions of a successful SC include flexibility (FL), cost (CT), responsiveness (RS), and relationship (RL) (Tirastittam & Aunyawong, 2020; Vanichchinchai, 2019).

The successful integration of internal and external members of a SC into a network with mutual vision is referred to as the effectiveness of SC integration. Integration alone is not sufficient for an effective SC. However, cost reduction, customer satisfaction, and sustainable product quality are crucial factors.

The implementation of SCM may result in some failures irrespective of efforts. The solution to failure is to pay consideration to concepts that have been proposed by Han, Wang, and Naim (2017). The concepts proposed by Han et al. (2017) concepts for successful integration and SCM have been categorized as below:

Integration of a SC: the informational flow from input sourcing and across the entire SC is ensured by integration of a SC. Management is asked to focus on improving the level of communication between the partners of a SC.

Strategic and planning – it is of great significance, as it is linked with planning and implementation activities, which are based on strategic decision making.

Implementation – in the process of implementation, it is crucial to consider and incorporate every issue within and outside the organization, which has the potential to influence the performance of the implementation process or afterward.

The above concept is incorporated because of the significance of the supply change in overall cost structure. In the post-implementation performance, the planning of a SC has a crucial role (Han et al., 2017). In order to determine the practices of SCM, Vanichchinchai (2019) developed some tools, which have been used. These tools involve the dimensions, i.e. Lean System (LS), Information Management (IM), Strategy and Organization, (SO), and Partnership Management (PM). The previous research has found that there is a significant and positive relationship between the four dimensions and the performance of a SC.

In the 21st century, there have been rapid technological developments that have transformed the patterns of organizational working. The mass media has spread across the globe, making customers aware of the key activities of organizations. The competition has become intense in the business world. Several challenges are faced by organizations in the achievement of competitive advantages. The sole purpose of every organization is to offer high-quality products to the customers within a short time and high customer responsiveness. The flexibility of production with enhanced agility level is a crucial aspect in the dynamic market. Several companies consider outsourcing as a solution to respond to the dynamic market conditions. It enables organizations to focus on the creation of virtual enterprises. It reflects the role of information technology in changing management styles and market determinants. The process of information sharing related to any product or service between different suppliers is regarded as information sharing (Kembro et al., 2017).

It has been provided by previous research studies that information is a crucial determinant of SCM. It was declared by Doan and Bui (2020) that collaborative working within a single organization can be effectively done with information technology (Kembro et al., 2017). Every partner in the SC is supported by information technology to develop an integrated synergic network through a shared vision. Moreover, the negative influences created by the Bullwhip effect are reduced by information management. It was found by Gopal, Subashini, and Velmurugan (2019) that the flow of information across the integrated SC is a crucial determinant of an effective SC.

It was explored by Khalil, Khalil, and Khan (2019) that sufficient and reliable information and time are important determinants of quality of information. The source and point of information are also important along with the information quality. It was claimed by SIKhwari (2016) that information sharing at the right time is a crucial aspect of a flexible SC. Previous researchers have observed that delay and distortion in the information are common in the horizontal and vertical flow within the organization and SC respectively. Sometimes, information distortion is done intentionally to keep some secrets from the competitors or SC partners, believing that they may lose power by sharing information. This intentional information distortion results in complexities in the SC. In order to eliminate this problem, there is a need for developing trust among the strategic partners. An efficient and
accurate information flow results in an integrated and strong virtual enterprise. A survey was conducted related to
the planning and SCM implementation among 300 firms involved in SC activities. It was found by the researcher
that planning is a strong determent of activities for the managers. The significance of information management in
SCMP cannot be highlighted without showcasing the emerging SC management paradigm and design (Wang,
Han, & Davies, 2019). The focus of the emerging paradigm is on the incorporation of the latest information
technologies to improve data exchange and communication.

The partnership was defined by Vanichchinchai (2019) as a function of working, sharing of knowledge for
improved benefits, and long-term relationship development. The partners in trade work on mutual and shared
goals. Previously, the literature was based on effective communication and partnership conflict management.
However, several researchers have explored dimensions of partnership management within a SC.

The role of partnership management was explained by Mofokeng and Chinomona (2019) in SC management
practices. It was found that the attributes of partnership management include information sharing, integrated
efforts, mutual efforts of a relationship, and investments.

A significant impact is created by products and services on customer/supplier as well as organizational
perception. It is important to understand and respond to this triangulation to achieve optimal benefits. Lack of
effective coordination between suppliers is a key issue in the food sector of the United States. For this reason,
almost $30 billion are wasted every year. About 50-60 percent of the total product is outsourced that directs
towards the significance of coordination among suppliers. The dynamics of the market and demand of customers
are changing continuously, organizations need to be responsive. Organizations have to implement an SRM
program for an agile SC.

Two different perspectives of the partnership were used in their research based on Korean firms, i.e. performance
of a strategic partner and performance of an operational partner. It was found by the researchers that sharing of
information, trust, and mutual relationship management are important factors determining the management of a
SC partner. Moreover, it was argued that successful partnership and outcomes are determined by strategic
partnership. The results of the researchers were in line with the previous studies (Arantes et al., 2018).

According to Mofokeng and Chinomona (2019), the strategic partnership involves the promotion of trust and
leadership support. SCMP were considered to be based on leadership supplier and mutual trust. Moreover, it is an
element of long-term relationship. It is aimed by the SCMP to secure and ensure advantages for every partner in
the information sharing process. Thus, information technology plays a significant role in SC management.

The development of SCM was highlighted by Arampantzi, Minis, and Dikas (2019) and SCM was considered to
be based on operational activities such as distribution, warehousing, SC activities, and procurement. It involves
every step from the sourcing of raw products to manufacturing and purchasing process. At strategic level, SCM is
a new concept of operational management and it focuses on the satisfaction of customers through ensuring the
quality of the product. This can be only done through SCMP.

The organizational goals i.e. cost saving, customer satisfaction, quality management within a SC, can be achieved
through the SRM implementation. This supports the vision of the suppliers' network for achieving the set goals of
an organization. Moreover, it focuses on different strategic initiatives, as every customer and supplier is different.
A single strategy may not fit every customer or supplier. The study has proposed the following hypothesis.

H1: SCMP has significant impact on the LSCM.

H2: FSPP has significant impact on the LSCM.

H3: SCMP has significant impact on the FSSP.

H4: FSPP mediates the relationship SCMP and LSCM

III. METHODOLOGY

This section presents data collection and data analysis technique appropriate for this research and the discussion
of the findings obtained from the statistical and inferential analyses. In the first step, the constructs’ validity and
reliability are checked that are included in the model, followed by the hypothesis testing. In present research,
Cluster sampling was employed for collecting samples and the information and responses obtained through the survey were then used for the statistical testing.

Structural Equation modeling (SEM) technique is adopted for the data analysis and to assess the structural relationship among the measured and the latent constructs. Choosing appropriate sample size is an important SEM aspect. Initially, 302 sample size was chosen following the benchmarked table designed by Hair, Hult, and Ringle (2016). Afterwards, to avoid response bias the sample size was increased to 565 and thus obtained 77% response rate from the survey.

The popularity of Partial Least Square-Structural Equation Modeling increased during the past few decades because of its proficiency in handling advanced statistical procedures. This is one of the multivariate techniques and uses factor and regression analysis for analyzing the data. For analyzing the PLS-SEM, a two-step process was employed, and the measurement or outer model is observed in the first step, while inner or structural model is observed in the second step (Hair et al., 2016; Henseler, Hubona, & Ray, 2016). The measurement model explains the linkage among the model’s observed and measured variables, while structural model describes the nature of relationship between latent constructs.

IV. RESULTS

To analyze data and PLS path modeling, Smart PLS software was adopted. Internal consistency reliability, composite reliability, content validity, convergent and discriminant validity are the key measures which are observed for determining the measurement model. Therefore, composite reliability test was performed for determining the reliability and internal consistency of the latent constructs (Hair, Matthews, Matthews, & Sarstedt, 2017; Ong & Puteh, 2017). The composite reliability value for each item must be equal or above 0.70, and the results confirmed the reliability and internal consistency of all the indicators involved in this research model.

Table 1: Outer Loading

<table>
<thead>
<tr>
<th></th>
<th>FSPP</th>
<th>LSCM</th>
<th>SCMP</th>
</tr>
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<tbody>
<tr>
<td>FSPP1</td>
<td>0.917</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSPP2</td>
<td>0.872</td>
<td></td>
<td></td>
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<tr>
<td>FSPP3</td>
<td>0.930</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSPP4</td>
<td>0.907</td>
<td></td>
<td></td>
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<tr>
<td>FSPP5</td>
<td>0.926</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LSCM1</td>
<td></td>
<td>0.857</td>
<td></td>
</tr>
<tr>
<td>LSCM10</td>
<td></td>
<td>0.823</td>
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<tr>
<td>LSCM2</td>
<td></td>
<td>0.831</td>
<td></td>
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<tr>
<td>LSCM4</td>
<td></td>
<td>0.915</td>
<td></td>
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<tr>
<td>LSCM5</td>
<td></td>
<td>0.900</td>
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<tr>
<td>LSCM6</td>
<td></td>
<td>0.919</td>
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</table>

Figure 1: Measurement Model
Cronbach alpha was also performed for checking the internal consistency of all the latent constructs, and the value of Cronbach alpha must not be less than 0.70. The next criterion is the convergent validity, for which AVE values were obtained. Since the AVE statistics obtained in this study are within the range 0.511-0.725, i.e., above threshold level that is 0.50, thus it indicates that adequate convergent validity is established (Hair et al., 2016; Henseler et al., 2016; Shuhaiber, 2018).

The discriminant validity explains the uniqueness of a measuring construct. Adequate discriminant validity means that certain phenomenon is not possessed by other latent variables. Thus, criterion was employed for observing the discriminant validity, which requires AVE square root values to be larger as compared to correlations among latent constructs. AVE square root values are presented in Table 3 (Henseler et al., 2016).

This study aims to assess the existing relationship among the latent constructs. Therefore, path coefficients were calculated to assess the association between the constructs and to test the hypotheses. For the estimation of PLS-SEM’s structural model, the significance of path coefficients, coefficient of determination, and predictive relevance were observed. According to, bootstrapping method is powerful method for checking the significance of path coefficients. Thus, taking 5000 samples and 266 cases, the bootstrapping procedure has been carried out for this research to obtain t and p statistics, and standard errors.
According to, coefficient of determination or $R^2$ explains the endogenous variable’s proportion of variation which can be predicted by the set of exogenous variables. Range of $R^2$ is 0-1, where $R^2=1$ indicates complete predictability of variation in dependent variable by independent variables or vice versa.

Table 5: Mediation

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<thead>
<tr>
<th></th>
<th>(O)</th>
<th>(M)</th>
<th>(STDEV)</th>
<th>(O/STDEV)</th>
<th>P Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCMP -&gt; FSPP -&gt; LSCM</td>
<td>0.369</td>
<td>0.378</td>
<td>0.103</td>
<td>3.580</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Finally, the predictive relevance test was also performed for estimating the structural model through a blindfolding method, which is mainly used for checking whether a model is a good fit.

Table 6: R-Square

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<th>R Square</th>
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<tbody>
<tr>
<td>FSPP</td>
<td>0.797</td>
</tr>
<tr>
<td>LSCM</td>
<td>0.512</td>
</tr>
</tbody>
</table>

Figure 3: Blindfoldings

According to, $A$ model has predictive relevance when the $Q^2>0$ on the other hand, if $Q^2<0$ it indicates that the model has no predictive relevance.

V. CONCLUSION

It has been mentioned earlier that businesses are greatly influenced by technological advancements. Several challenges are faced by the management with the changing customer needs, the flexibility of production, delivery performance, and word of mouth strategy supported by digitalization. Therefore, researchers have conducted studies on the emerging problems for businesses in SC management and their corresponding solutions. These studies have resulted in significant recognition of SCM. It is recommended to develop a model for achieving maximum benefits (Mofokeng & Chinomona, 2019). Several authentic techniques of are being adopted by firms to deal with intense competition in the markets such as cost of production, customer satisfaction, quality, and delivery performance.

Different mutual objectives and goals are set by a firm and its suppliers in a SC strategy to deal with the market competition by value addition in business activities. Assessment of the demand involves the nature of demand, which is the foremost step in the development of SC strategy (Arampantzi et al., 2019). An argument was started by Lee and Nam (2016) that as flexibility of production is strong; there is slow product innovation in the market because of high product range offered by a company as compared with the companies offering few products. The performance of a SC is referred to as the ability to offer different products with different characteristics. Thus, the successful implementation of a lean SC results in reduced lead time and cost (Lee & Nam, 2016). The relationship between the performance of a firm and SC strategy was analyzed by Gligor (2016). It was found by researchers that there is a positive association between supply responsiveness and production flexibility. The
increased production flexibility results in improved performance. The findings of Gligor (2016) were consistent with the studies declaring responsiveness of a SC as an important performance determinant.

For achieving the goals of a SC, an effective course of action is required that must be in line with the long-term strategy of the firm. It was argued by Gligor (2016) that practices of a SC such as sharing of information and lean strategy are implemented to achieve some goals. The reputed organizations such as Walmart and Toyota are using these approaches to achieve their SC objectives. However, every organization does not experience the same outcomes. For instance, Barilla Spa and Hewlett-Packard have experienced the negative outcomes of this approach. This issue was solved by (Jajja, Kannan, & Brah, 2016) by stating that the approaches should be related to the strategy and goals of a SC

REFERENCES


