



TOURISM SERVICE SUPPLY CHAIN MANAGEMENT MODEL IN THE CONTEXT OF THE PANDEMIC

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Abstract

This paper explores inter-organizational collaboration in a tourism service supply chain management (TSSC) in times of pandemic. Its main focus is on TSSC successful management model within the chain, addressing the key components. Tourism service supply chain coordination management strategies have already been adopted by many large tourism service providers, such as hotels and airlines, tour operators, and travel agencies. Amongst the key benefits that businesses receive are: improved brand value, reputation, image and status. In the context of the current Covid-19 pandemic, special attention must be given to priorities such as cost reduction and operational efficiency. This new study selected to examine the TSSC management of bilateral relations in the context of economic disruption: relations with government, tour operators and competitors to achieve productive performance indicators such as customer satisfaction, profit and profit margin, flexibility, liquidity, reliability, productivity, transparency, sustainability, and risk resilience. Overall, the management of the tourism services supply chain (TSSC) during the pandemic became one of the most dominant topics in the tourism business environment. As circumstances change, consumer behavior and constraints imposed by public administrations, business organizations must respond and change their supply chain management strategy, which depends on the region, size and nature of the business. A properly functioning TSSC is the optimal balance between two opposite poles - efficiency and sensitivity, which represent customers' satisfactory level. This balance is dictated by the adopted TSSC performance governing strategy, which must specify the relevant requirements for the management of relations with the government, tour operators and competitors. This achieves the level of service dictated by the market, and provides a competitive advantage. Based on the analysis of the scientific literature and the available empirical data, it has been established that the problems of the tourism service supply chain lie in its mismanagement.

KEY WORDS : Management, organization, pandemic, strategy, supply chain, tourism services.

JEL: Z30; Z32; Z39.

Introduction

In many countries tourism is one of the priority sectors, contributing 15–35% to gross national income (Hungary, Czech Republic, Austria, Sweden, Italy, France, Spain, Portugal) (Буценко and Кулакова 2017). The fragmented but closely interlinked nature of the components of the tourism industry forces tourism companies to engage with many industrial sectors - suppliers, distributors, competitors, governmental and private organizations - leading to the continuity of the tourism service supply chain (TSSC) (Chen, Federguen and Zheng 2001). The integral cooperation of these companies can be seen as a mobile, flexible and organized activity. However, intensive coordination poses a risk to the industry due to its high dependence on the supply chain.

Failure to plan for such events could disrupt the supply chain of tourism services, which could be detrimental to the operations and profitability of businesses and cause irreparable damage to organizations. Adams et al. (2014) indicated that collaboration as a supply chain resource is questioned due to concerns about cooperation technologies. Organizational strategy and behavior in supply chain collaboration is one of the main reasons for supply chain failure (Arvitrida, Robinson, Tako, and Robertson 2016).

Any shock to one part of the chain affects the other parts (Barua 2020; OECD 2020). And tourism services are highly sensitive sector and also vulnerable to any

risks, posed by external factors, be it a natural disaster, an economic crisis, an international conflict, terrorism or an outbreak of an epidemic (Baum and Hai 2020; Armaitienė and Bočkus 2016). Therefore, the rapid spread of the Covid-19 epidemic forced the World Health Organization (WHO) to declare the pandemic on the 11th of March, 2020, which caused the cross-border closures, the introduction of compulsory quarantine, which subsequently has led to a complete disruption of the economic activities of the TSSC. The impact of this pandemic on the travel and tourism sector is unprecedented. Airlines have had to drastically reduce operations and in some cases even shut down. It has been established that the number of international flights in 2020 decreased to 80% (Eurocontrol 2021). Most tour operators have also partially restricted or discontinued their activities since March to mid-May, 2020 (OECD 2020). For the hospitality industry, this meant extremely low employment rates, reduced tariffs and even mass closures. During the first wave of the epidemic in Europe, 76% of hotels were closed, and catering services in hotel establishments fell by as much as 95.1%. (UNWTO 2021). Following the Covid-19 pandemic, according to the data of the Lithuanian State Consumer Rights Protection Service, Lithuanian tour operators in suffered 9.5 million. Eur loss during the months of January – December, 2020, and their income fell by an average of 58%. Eur. (VVTAT 2021). The manifestation and spread of the pandemic has put enormous pressure on the tourism industry.

Significantly declining incomes have led to liquidity problems for the organizations (Benbouziane and Saidi 2020). They had to cover the costs of closing the premises, maintaining the disinfection of the working environment, retaining staff, etc., in order to prevent the spread of the virus. Government funding has been used, and companies have been partially or fully restructured (Ataguba 2020).

The pandemic has also caused the following disruptions in the tourism service supply chain: reciprocity, ticket switching, unstable airline flight schedules, different levels of pandemics in countries, the cruise ship industry that has stalled due to pandemic outbreaks. According to global statistics Statista, throughout the year of 2020, global hotel employment fell by 32% since the start of the Covid-19 pandemic, while the catering sector counts 90% lower income than in 2019 (Statista 2021).

The scientific literature states that in the 21st century, organizations compete in the market not with each other but with their supply chains (Szpilko 2017; Guo and He 2012; Christopher 2011). Therefore, special attention must be paid to the development of the flexibility and dynamics of the tourism service supply chain to make it easier for the organizations to adapt to the ever-changing market environment and customer expectations.

Problem: How to manage the tourism service supply chain during a pandemic to reduce the negative impact on businesses.

Object: Tourism service supply chain management.

Goal: After analyzing the problems of tourism service supply chain management in pandemic conditions, to develop a tourism service supply chain (TSSC) management model to deal with pandemic outbreaks.

Objectives:

- To reveal the problems of tourism service supply chain management during the pandemic;
- To analyze tourism supply chain management strategies;
- To develop effective tourism supply chain management model.

Research methodology: Relatively unstructured document analysis was applied. According to J. Daubariene (2018), it is based on the researcher's ability to delve into the content of documents, solving the tasks presented in the article and substantiating the conclusions. The main thoughts and ideas, regularities, logical connections and tendencies are revealed. The impact of the phenomenon, in this case the Covid-19 pandemic, on the tourism industry is being studied. It was chosen to examine the scientific and legal literature, reports of financial tour operators and to perform statistical data analysis. This is useful for researching a relatively small number of tasks in a narrow field of research. Based on foreign and Lithuanian scientific literature, mainly 2010–2021 and significantly less 2001–2010 articles and books were used. Literature accessed through the electronic resources of Klaipėda University Library: Scholar Google and virtual library data platforms, SFX, DOI systems, EBSCO scientific database. European Union

databases such as eur-lex.europa and ec.europa were also used. Statistical data obtained from SATISTA, Stat.gov, VTTAT, Eimin.lrv data portals were analyzed.

Analysis of related literature to the relevance of the topic: D. Dranove (2010) and M. Christopher (2007), examined tourism service supply chain performance problems, B. Kühne, X. Gellynck, and R. D. Weaver (2013); A. Mohaghar and R. Ghasemi (2011); E. Ambrose, D. ve Lynch, and D. Marshall (2010) examined the importance of tourism supply chain management for an organizations that take parts in TSSC.

The development of TSSC relationships is not a new area of research. Jiang, Ritchie, and Benckendorf (2017) and Zhang, Song, and Huang (2009) explored methods that need to be addressed in order to benefit from the TSSC in times of crisis. According to recent research on crisis management in the tourism industry, TSSC interrelationships and relationships could be a key aspect of recovery, reducing the negative impact on the economy (Baldwin and Di Mauro 2020; Barua 2020; Orchiston and Higham 2016). Given the nature and characteristics of the TSSC, these researchers examine the coordination of relations between partnerships, but the governance aspect of the relationship between the TSSCs is left out. According to a study performed by A.C.B Tse (2003), after events such as terrorist attacks or epidemic outbreaks, many hotels are directly trying to sell accommodation services. This strategy reduces dependence on tour operators, as well as reducing losses if they fail to meet their obligations. In such cases, tour operators need to assess possible operational changes and losses and the prospects for further cooperation. Science has little knowledge of how to manage relations with key stakeholders in order to address the risk of unprecedented epidemic outbreaks that have affected all EU Member States TSSCs in different ways.

In scientific literature, tourism services (products) are seen as components of different chain services resulting from complex interactions between stakeholders (Guo and He 2012; Zhang, et al 2009). This interaction is called the tourism supply chain: companies involved in the organization of leisure activities, from various components of tourism products and services, such as flights and accommodation, to the final distribution and marketing of a package of tourism services in a specific destination and involving both the private and public sectors. In order to fully meet the needs of consumers, a very large part of the role in business enterprises is played by the supply chain, its process management and its efficiency (Christopher 2007).

Typical tourism supply chain consists of suppliers, tour operators, competitors, partners, governments, and other organizations (Zhang, et al 2009; Kaukal, Werthner, & Hoepken 2000). Supply chains can be modified according to the needs of the supplier and the customer. It cannot be assumed that good services (products) will sell themselves or that today's success will move to tomorrow. Managers who are attentive to the realities of this market are constantly looking for a

competitive advantage in the tourism business. On this basis, organizations in the tourism business industry are constantly looking for new opportunities. Supply chains can serve this purpose.

But there is a growing awareness that a disaster affecting the supply chain is a disaster for all the organizations involved. Arvitrida et al. (2016) believe that companies' strategy and behavior in supply chain collaboration is one of the main reasons for supply chain failure. Even minor disruptions in traffic and transportation systems can also reduce efficiency (Calvert and Snelder 2018). Another problem is information sharing in supply chain management. This is still an evolving field (Marshall 2015).

In the past, events affecting the supply chain have often been ignored in business continuity planning for the tourism business. One of the signs of a growing awareness of the vulnerabilities of today's supply chains is to fully integrate the supply chain into all risky aspects of management, including business

The effectiveness of TSSC management

Value to shareholders increases through active management of the tourism service supply chain. Given the goals of different organizations, effective relationship management in the supply chain is a key goal in achieving and maintaining the competitiveness of the entire supply chain and its individual parts (Christopher 2011; Tapper and Font 2004).

While contemporary theorists (Soratana, Landis, Jing, and Suto 2021; Mariani, Czakon, Buhalis, and Vitouladiti 2016) focus on service distribution strategies, much of the necessary attention should also be paid to supply chain intermediaries. These organizations need to make key decisions together to reach their markets and close deals. Therefore, the study of these relationships is very important to understand the strategies they use.

The effectiveness of tourism service supply chain management is reflected in the buyer-supplier relationship (Nunkoo and Ramkinsson 2011; Leenders, Fearson, Flynn, & Johnson 2002). The supply chain is as strong as its weakest link, as achievements depend on the targeted action of all actors in the chain. This requires managing the relationships between interconnected organizations to minimize overall logistics costs. The efficiency of tourism service supply chain management is increased by four components: customer satisfaction, financial, operational and sustainable development.

Therefore, the problems of managing the supply chain of tourism services during a pandemic are addressed through a transformation of strategies: relationships with the government and within the TSSC (Aritvida, et al 2016; Adams, et al 2014).

continuity. However, this can be changed. There are three main options for managing this risk:

1. Organizations cannot fully control the risk and are awaiting for help.

2. Only a functioning management plan would allow an organization to anticipate any risks that it may face in the future.

3. Maintain and develop an organization service business continuity program, covering all internal and external components of the supply chain, with the ability to prepare for risk management in response to stakeholder expectations in the event of a pandemic.

Altogether, tourism service supply chain management is a concept that helps service enterprise groups manage external factors, optimally manage internal resources, and help increase business profitability by reducing operating costs and losses (Ellis 2017; McKinsey and Company 2016).

Mandatory relationship specifics between TSSC components

Relationships based on coordination and beneficial philosophy can improve organization's performance (Guo and He 2012). Coordination requires that each component (participant) in the supply chain act according to the impact of its actions on other members. Vertical integration is recognized as the most effective way to achieve such coordination (Wan and Sanders 2017; Ursino 2015). Organizations involved in the supply chain need to be carefully managed to ensure that goods and services effectively reach the target market. This shows a focus on consumer needs and the supplier, using their resources efficiently. They take responsibility for controlling these factors, including intermediaries, suppliers, and do not take into account the fact that the intermediary itself must also manage their two-way communication in the supply chain.

Much attention is paid to the management of decision-making by TSSC participants through various transactions, (Szpilko 2017; Zhang, Song, and Huang 2009; Tapper and Font 2004). The TSSC relationship is usually addressed by the service delivery vision of the selected two countries. A new contribution to science, business and national governments is to manage the relationships between key parts of the TSSC through government, tour operators and competitors, focusing not on providing services to get the final tourism product, but on overcoming economic disruption. At the same time, this study contributes to the perception of relationship hermeneutics in the TS supply chain. There is a need to examine key areas of coordination between TSSC agents in order to overcome the circumstances of economic upheavals, such as finance, labor, demand, supply and regulation. This provides a more in-depth look at technology deployment and leadership, while giving more opportunities in areas such as resource-based approaches and strategic management.

The importance of the government role in TSSC management

The role of government in promoting the international demand for tourism is of significant importance (Lord and Saad 2020; Nunkoo and Ramkissoon 2011). Recent researches recognize that government intervention is critical to the growth of the tourism industry, both politically and economically. In the early post-pandemic period, it is necessary to ensure the liquidity of companies, i.e. to help them recover and avoid operational collapse (Cohen et al. 2020). Since 2020 mid-March, most European governments announced business support programs to reduce funding and liquidity constraints on tourism businesses. The main purpose of the support packages is to provide companies with concessional funds to cover the costs related to the production cycle, in particular working capital: wages, supplier payments, goods, etc. (Correa-Martinez, et al 2020; Mertens, Rubio and Thiemann 2020). Coordination of financial and fiscal policies is needed to ensure liquidity efficiently and effectively. Measures used include tax deferral or adjustment (Kopczuk 2020; Cohen, et al 2021), temporary layoffs or downtime (Chris, Hirt, Hudson, Northcote, & Smith 2020), various subsidies to employers (Lord and Saad 2020). Tourism is a highly sensitive industry to environmental change, so working with governments is crucial to surviving a pandemic crisis. The activities of TSSC members are determined by tourism demand (Zhang, et al 2009) and are directly influenced by economic conditions (Kim, Lee, & Mjelde 2017).

However, outbreaks of an epidemic can encourage tourists to avoid the area if it is associated with a risk to their health or disruption of the medical system (Lee, Song, Bendle, Kim, & Han 2012). Accordingly, the decline in tourism due to the Covid-19 crisis would be linked not only to economic conditions but also to health problems. Demand management includes forecasting, marketing, and sales planning (Zhang, et al 2009). Research highlighting the role of governments in promoting international tourism demand has focused mainly on marketing activities such as destination advertising (Chinazzi, Davis and Ajeli 2020; Tosun 2002;) and government-sponsored tourism priority areas (Kim, Lee and Mjelde 2018). Given the current situation of tourism, with the opening of the EU's borders and the anticipation of the fourth wave of the pandemic in the autumn, attempts can be made to further develop international tourism in cooperation with governments. Countries such as Estonia, Latvia and Lithuania or the Nordic region have already created so-called "travel bubbles" or "air bridges" (OECD 2020). The East-West Economic Corridor between the Andaman Sea and the South China Sea is another example of cross-border government cooperation, including simplification of entry and exit procedures, road improvements and travel promotion campaigns to these areas (EP 2020). These types of economic corridors are global and regional value chains that provide a link between economic operators according to a defined geography. They link the supply

and demand sides of markets, stimulate economic growth, reduce poverty and reap the benefits of globalization. Accordingly, they thrive as part of an economic interaction network (Costaguta 2020; Correa-Martinez, et al 2020).

Tour-operator viability in TSSC management

Many famous hotel chains are owned by tour operators. They focus on the distribution of their services and increasing their visibility in the markets (Armaitienė and Bertužytė 2014; Karamustafa 2000). Conflicts between tour operators and hotels often stem from different commercial and strategic interests. Hotels aim to increase their revenue and achieve a return on investment by balancing the number of customers with room prices, thanks to accommodation agreements with tour operators. On the other hand, the competitiveness of tour operators is based on price reductions and profit margins paid to hotel companies (Tapper and Font 2004; Buhalis 2000). Thus, tour operators can influence hotels to pursue their individual goals or interests.

Fundamental market changes, internet penetration and technological developments caused by Covid-19 are forcing tour operators to restructure (Karsokiene and Dromantiene 2021). In the face of many new challenges, assessing the drivers of changes in the travel agency business market can be a key element in enabling successful agencies to stay in business (Ellis 2017). Successful TSSC management depend on the government's flexibility and willingness to find consumer- and business-friendly solutions that do not conflict with health security requirements (Guo and He 2012). A smooth and timely restructuring process allows companies in temporary difficulties to reshape their operations by changing the company's strategy, abandoning unprofitable forms of activity and focusing on the most efficient ones. The difficulties are successfully overcome by those companies that preventively monitor and evaluate key performance indicators - if the indicators are not satisfactory, they take all possible measures to improve performance (Ataguba 2020; Barua 2020). Those measures are as follows: investments in employees and innovations, correctly formed customer expectations, cost optimization, maximum use of public funds, flexible sales conditions, continuous cooperation and improvement with service providers, return of deposits from partners, focus on future sales, caring for existing customers, expanding supply to safe areas, introducing a digital vaccine passport, and comprehensive flexibility (Mertens, Rubio and Thiemann 2020).

Relationship management within the TSSC components

Managing relationships with competitors within the TSSC is an important subject of the matter. Competitive strategies affect other companies' business strategies, such as the distribution of products and services. The establishment of associations is

increasingly seen as a critical aspect to achieving the competitive advantage of accommodation establishments (Pechlaner and Volgger 2012). Horizontal cooperation between competitors is also called collaboration (Gnyawali and Madhavan 2001). Such collaboration typically exists between firms providing homogeneous services at the same level of the supply chain (Pomponi, Fratocchi, & Tafuri 2015). Value and mutual benefits between different accommodation providers are created when the sharing of resources neutralizes the weaknesses of the individual company. Effective collaboration exists when there are common interests (Wang and Krakover 2008). To achieve this, competitors should take into account the impact of their actions on other agents (Szpilko 2017). Trust-based mutual benefits provide a sustainable competitive advantage. Trust means that short-term benefits are not sought, even if there are incentives to do so (Yu 2019). As mentioned earlier, tourism demand at the destination is a common goal of all TSSC members. According to the Organization for Economic Co-operation and Development, the main goal to maintain destination demand during a pandemic is to maintain services for visitors when they arrive (OECD 2020). Cooperation in tourist destinations is a key decisive factor in gaining a competitive advantage (Szpilko 2017). Typically, organizations work with competitors to eliminate environmental threats associated with industrial development (Chathoth and Olsen 2003). From a TSSC perspective, collaboration is particularly useful in increasing bargaining power at the industrial level (Tether 2002; Chathoth and Olsen 2003). To achieve this, sector-specific regulatory issues as well as the importance of individual sectors in the TSSC must be further examined.

Proposed TSSC management model for succesful cooperation in times of pandemic

Research analyzing the impact of Covid-19 on the TSSC and identifying the most effective means of collaboration will aid governments and organizational leaders reduce the negative chain effects that may arise in the future during various pandemics. The results of literature analysis will assist in understanding the consequences of this phenomenon and provide recommendations for future tourism management. In line with the above analyzed strategies, building collaborative relationships between different TSSC agents - government, tour operators and competitors - is the basis for overcoming crises in the tourism industry.

Therefore, it is important to stress that the whole world has been trying for more than a year to deal with the human and economic challenges posed by the Covid-19 pandemic, affecting the economies of all countries in the world. The changes have not escaped the tourism industry either, which makes a significant contribution to the process of economic development. In response to the "pandemic" environment, tourism businesses, which focus on supply chains for tourism services, are forced to change management strategies. Effective management of the tourism service supply chain will lead to the development of innovative tourism services. Therefore, the changing environment due to the pandemic requires the development of an appropriate model for the management of the supply chain of tourism services, which would allow the implementation of pandemic resilience in the tourism services sector. The proposed TSSC management model for successful cooperation in times of pandemics is as follows:

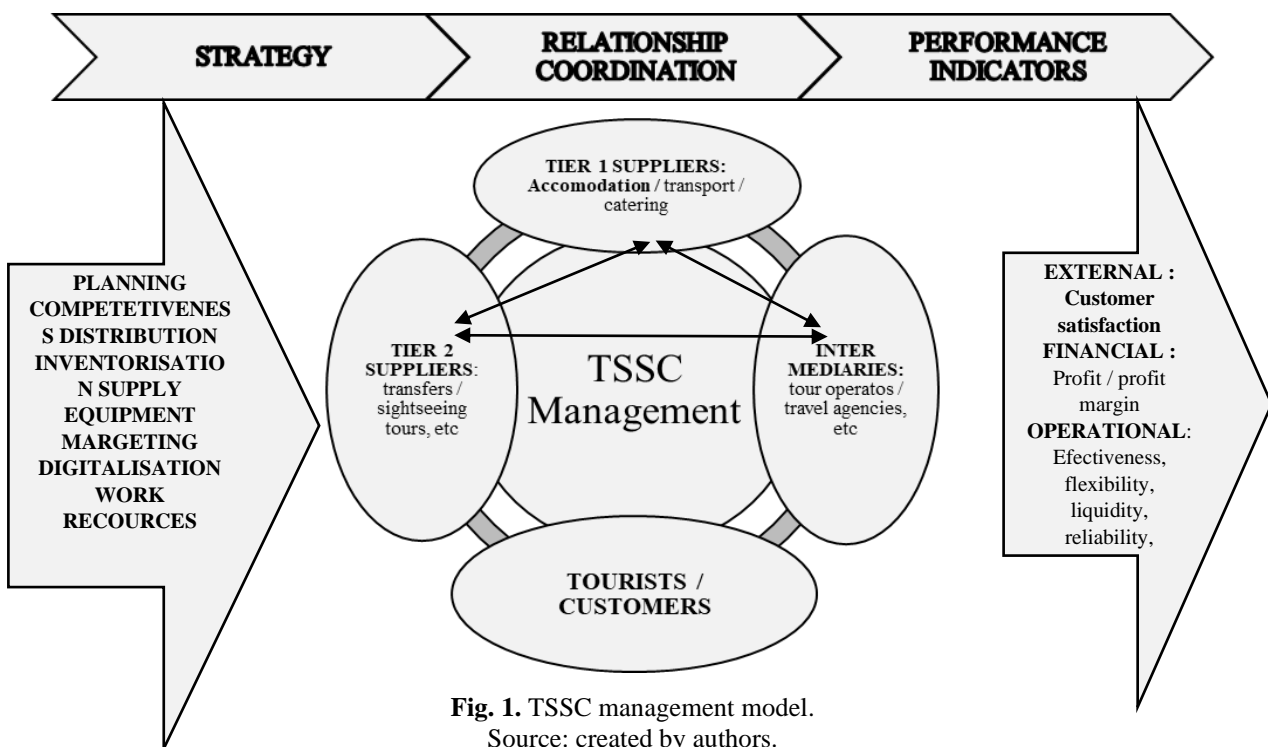


Fig. 1. TSSC management model. Source: created by authors.

A TSSC is a complex system (Fig. 1). There are four main parts in a generic TSSC, three compulsory and one service user. Three main parts are tourism service providers or first-tier suppliers (e.g., accommodation or passenger transport), input providers or second-tier suppliers (e.g., food and beverage suppliers) and the intermediaries - tour operators or travel agencies. The fourth party of TSSC are the consumers. Tourists can purchase combined tourism products directly from tour operators or via travel agencies. However, tourists also have an option to arrange their trips themselves by separately purchasing tourism products such as airline tickets and hotel rooms. Therefore, supply chain management performance in the tourism industry is measured through both financial indicators and the non-financial ones. So besides profit, costs, market share, etc. the performance indicators have also to be reached in terms of customer satisfaction, efficient internal processes, degree of innovation, employee satisfaction and other indicators related to movement of tourists. A successful tourism chain management strategy can be identified upon analysing the contribution of each participant on

Conclusions

In conclusion, the analysis of the entire tourism service supply chain management requires the observation of relationships with suppliers, but also the study of customer satisfaction to offer a touristic product adapted to the market trends. The literature overview shows an intense focus on sourcing activities and on establishing strategic partnerships, in order to benefit from a competitive advantage. But very few have researched the downstream tourism service supply chain management, especially demand management. Once tourism activity is fully reactivated, the results of the study reveal that the recovery of supply chains will depend on coordination agreements with the government to stimulate demand. While demand management includes forecasting, marketing and sales planning, several issues indicate that arrangements must be made in the area of marketing, more specifically in the development of government-supported tourism. The above results are a starting point for future research on tourism service supply chain management in order to better understand the importance of reducing the whole systems' deficiencies in times of pandemic.

Tourism service supply chain coordination management strategies have already been adopted by many large tourism service providers, such as hotels and airlines, tour operators, and travel agencies. Safe tourism corridors in the form of common standards and health protocols would make travel safe and ensure the proper functioning of TSSCs and therefore the survival of the industry. Another insight into successful coordination strategy is the importance of time and coordination in the planning of key partnerships to

the chain, while a model of TSSC can be defined only upon a complete evaluation. There are several reasons for considering tourism chains as the unit of performance analysis. First, the tourism chain can be characterized based on the tourism companies and attractions within a certain location, as the tourism chain is unique considering the interactions between its elements. To maintain and manage such uniqueness and characteristics properly, each tourism chain may need a different approach for analysis. When analysing the tourism service supply chain, the following elements must be considered: its structure (strategies, concepts, distribution channels, competitive advantages etc.), market relations (e.g. between the accommodation, transportation services, food units and tour operators or travel agencies) and chain performance measurement (tourist satisfaction). Considering and well managing this two way relationship amongst the key parts of the TSSC, financial performance, operational performance and sustainable development of tourism is achieved.

avoid delays that can have multiplier proportions in the sector. Operating with tour operators is the most cost-effective way for the hospitality industry to distribute accommodation services. According to key researches, for this reason many hotel chains depend almost entirely on these agents to extend its sales and marketing efforts. Having good relationships based on trust, commitment and coordination within the chain components is crucial leading to successful management strategy.

To conclude this paper, it is important to stress that the whole world has been trying for more than a year to deal with the human and economic challenges posed by the Covid-19 pandemic. Effective management of the tourism service supply chain should lead to the development of innovative tourism services. Therefore, the changing environment due to the pandemic requires an appropriate model for the management of the supply chain of tourism services, which enables the implementation of pandemic resilience in the tourism services sector. Effective TSSC management model is a key aspect of this research. According to the results, a potential way to evolve to a coordination relationships can be moving towards a direct sales model, combined with the tour operators. Finally, in order to overcome the effects of economic disruption caused by epidemic outbreaks, competitors should collaborate in those areas where there is no rivalry, like destination promotion or to influence an industry favorable regulatory framework from a sector level. In line with the decision-making process, the creation of close relationships between different parties, such as, government, tour operators and competitors, are key to achieve successful management and overcome crises in the tourism industry.

References

- Adams, F. G., Robert G. R., Chad W. A., Tyler R. M. ir Colin B. G. (2014). *Supply Chain Collaboration, Integration, and Relational Technology: How Complex Operant Resources Increase Performance Outcomes*. Journal of Business Logistics 35(4): 299–317.
- Ambrose, E., Lynch, ve D. ir Marshall, D. (2010). *Buyer supplier perspectives on supply chain relationships*. International Journal of Operations & Production Management, Vol. 30(12), p. 1269-1290.
- Armaitienė, A. ir Bertužytė, R. (2014). *Tourism policy in Lithuania: management of permanent transition*. European tourism planning and organisation systems. The EU member states. Ed. by C. Coasta, E. Panyik, D. Buhalis, p. 131–147.
- Armaitienė, A. ir Bockus, D. (2016). *Kelionių agentūrų verslo rinkos kaitos veiksniai Lietuvoje*. Tiltai, 1, 39–58, doi : <http://dx.doi.org/10.15181/tbb.v73i1.1264> [žiūrėta 2021m. liepos 16 d.].
- Arvitrida, N. I., Robinson, S., Tako, A. A., ir Robertson D. A. (2016). *An AgentBased Model of Supply Chain Collaboration: Investigating Manufacturer Loyalty*. Proceedings of the Operational Research Society Simulation Workshop 2016, SW 2016: 35–44.
- Ataguba, J. E. (2020). *COVID-19 Pandemic, a War to be Won: Understanding its Economic Implications for Africa*. Applied Health Economics and Health policy Journal. Springer Link.
- Baldwin, R. ir Di Mauro, B. W. (2020). *Economics in the time of Covid-19*. Centre for Economic Policy Research. London. ISBN: 978-1-912179-28-2
- Barua, S., PhD. (2020). *Understanding Coronanomics: The economic implications of the coronavirus (COVID-19) pandemic*. Manuscript. Prieiga internete : <https://ssrn.com/abstract=3566477> [žiūrėta 2021m. liepos 19d.].
- Baum, T. ir Hai, N.T.T. (2020). *Hospitality, tourism, human rights and the impact of COVID19*. International Journal of Contemporary Hospitality Management, 32(7), pp. 2397-2407. Prieiga internete : <https://doi.org/10.1108/IJCHM-03-2020-0242> [žiūrėta 2021m. liepos 16 d.].
- Benbouziane, M. ir Saidi, T. (2020). *The universal impact of the health crises on the international tourism: the COVID-19 pandemic as a case*. Business Excellence and Management, Faculty of Management, Academy of Economic Studies, Bucharest, Romania, vol. 10(5), p. 98-111. Prieiga internete : http://beman.ase.ro/special_issue_1/8.pdf [žiūrėta 2021m. sausio 7 d.].
- Буценко И. Н., Кулакова Д.С. (2017). *Международный туристический рынок: динамика развития и основные участники. Экономические исследования и разработки. № 1. С. 98–105.*
- Buhalis, D. (2000). *Relationships in the distribution channel of tourism: conflicts between hoteliers and tour operators in the Mediterranean region*. International Journal of Hospitality and Tourism Administration, Vol.1 (1), p.113–139.
- Buhalis, D. ir Laws, E. (2001). *Tourism Distribution Channels: Practices, Issues and Transformations*. Cengage Learning EMEA, Hampshire.
- Calvert, Simeon C., and Maaik Snelder. 2018. *A Methodology for Road Traffic Resilience Analysis and Review of Related Concepts*. Transportmetrica A: Transport Science 14(1-2): 130–54.
- Chathoth, P.K. ir Olsen, M.D. (2003). *Strategic alliances: a hospitality industry perspective*. International Hospitality Management, Vol. 22 (4), p. 419–434.
- Chen, F., Federgruen, A. ir Zheng, Y.S. (2001). *Coordination mechanisms for a distribution system with one supplier and multiple retailers*. Management Science. Vol.47 (5), p.693–708.
- Chinazzi, M., Davis, J. T. ir Ajelli, M. (2020). *The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak*. Science 368, p.395–400.
- Chris, B., Hirt, M., Hudson, S., Northcote N. ir Smith, S. (2020). *The great acceleration*. McKinsey & Company. Prieiga internete : <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/the-great-acceleration?cid=otheremlaltmipmck&hlkid=33f92356dad34cd3a14c8e964310e224&hctky=1543015&hdpid=d9cf6b8a-1d54-4d03-8b7b-be32198560be> [žiūrėta 2021m. liepos 15 d.].
- Christopher, M. (2011). *Logistics & Supply Chain Management*. Pearson education limited, United Kingdom.
- Cohen, J., Hardy, D., Kelly, M., Arnfield, S. ir Honey, J. (2021). *Beyond Covid-19*. KPMG publisher, Miles Partnership American study. ISBN : 978-92-95107-42-7
- Correa-Martinez, C. L., Kampmeier, S., Kumpers, P., Schwierzeck, V., Hennies, M., Hafezi, W., ... ir Mellmann, A. (2020). *A pandemic in times of global tourism: superspreading and exportation of COVID-19 cases from a ski area in Austria*. American Society of Microbiology. Journal of clinical microbiology. doi : 10.1128/JCM.00588-20
- Costaguta, A. (2020). *The coronavirus outbreak: the unprecedented shock to aviation*. News and features by ICAO. Prieiga internete : <https://www.unitingaviation.com/news/economic-development/the-coronavirus-outbreak-the-unprecedented-shock-to-aviation/> [žiūrėta 2021m. liepos 18 d.].
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed-Method Approaches*. Sage Publications, University of Michigan, 3rd edition. Prieiga internete : <https://doi.org/10.1177/1558689808330883> [žiūrėta 2021m. liepos 18 d.].
- Daubarienė, J. (2018). *Literatūros analizė studijų darbuose*. Kauno kolegija, ISBN 978-9955-27-550-3.
- Dranove, D. (2010). *Quality disclosure and certification : theory and practice*. Journal of economic literature, 48:4, p. 935 – 963.
- Ellis, S. (2017). *Sales and Marketing report 2017 : The Progress Report*. Consumer Goods Technology Jr., June 2nd, 2017.
- European Commission, (EC, 2020). *Travel During the Coronavirus Pandemic, Safely Resuming Travel: Re-open EU – New Web Platform to Help Travelers and Tourists*. Prieiga internete : https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response/travel-during-coronavirus-pandemic_en. [žiūrėta: 2021m. liepos 16d].
- European Parliament, (EP, 2020). *Covid-19: EU Support for the Tourism Industry*. Prieiga internete: https://www.europarl.europa.eu/news/en/headlines/society/20200429STO7_8175/covid-19-eu-support-for-the-tourism-industry. [žiūrėta: 2021m. liepos 16d].
- Eurocontrol (2021). *Comprehensive assesment of Covid-19's impact on European air traffic*. Supporting

- European Aviation. Prieiga internete : <https://www.eurocontrol.int/publication/eurocontrol-comprehensive-assessment-covid-19s-impact-european-air-traffic> [žiūrėta 2021m. kovo 10 d.].
- Gnyawali, D.R. ir Madhavan, R. (2001). *Cooperative networks and competitive dynamics: a structural embeddedness perspective*. *Academical Management Rev.* Vol. 26, p.431–445.
- Guo, X. ir He, L. (2012). *Tourism supply-chain coordination: the cooperation between tourism hotel and tour operator*. *Tourism Economics*, Vol.18 (6), p.1361–1376.
- Jiang, Y., Ritchie, B.W. ir Benckendorff, P.(2019). *Bibliometric visualisation: an application in tourism crisis and disaster management research*. *Curr. Issues Tour.* 22 (16), p.1925–1957.
- Karamustafa, K. (2000). *Marketing-channel relationships: turkeys resort purveyors' interactions with international tour operators*. *Cornell Hotel Restaur. Adm. Q.* 41(4),p.21–31.
- Karsokienė, R. ir Dromantienė, L. (2021). *Lietuvos kelionių organizatorių restruktūrizacijos prielaidos ir principai COVID-19 sukeltos krizės kontekste*. *Regional formations and development studies. Journal of social science*, No. 2 (34), 2001.
- Kaukal, M., Werthner, H. ir Hoepken, W. (2000). *An approach to enable interoperability in electronic tourism markets*. *ECIS 2000 Proceedings* 121. <https://aisel.aisnet.org/ecis2000/121>.
- Kim, J., Lee, C.K. ir Mjelde, J.W. (2018). *Impact of economic policy on international tourism demand: the case of Abenomics*. *Current Issues Tourism*, Vol. 21 (16), p.1912–1929.
- Kopczuk, W. (2020). *Some Thoughts on Economics and Policy at the Time of the Pandemics*. Department of Economics and SIPA, Columbia University, New York.
- Kühne, B., Gellynck, X. ir Weaver, R.D. (2013). *The influence of relationship quality on the innovation capacity in traditional food chains*. *Supply Chain Management: An International Journal* 18 (1): 52-65. <https://doi.org/10.1108/13598541311293177>.
- Lee, C.K., Song, H.J., Bendle, L.J., Kim, M.J. ir Han, H. (2012). *The impact of nonpharmaceutical interventions for 2009 H1N1 influenza on travel intentions: a model of goal-directed behavior*. *Tourism Management*, Vol. 33 (1), p.89–99.
- Leenders, M.R., Fearson, H.E., Flynn, A.E. ir Johnson, P.F. (2002). *Purchasing and Supply Management*. McGraw-Hill/Irwin, New York.
- Lord, P. ir Saad, L. (2020). *Tackling the COVID-19 Pandemic*. <https://doi.org/10.1016/j.arcmed.2020.04.012>.
- Mariani, M. M., Czakon, W., Buhalis, D. ir Vitouladi, O. (2016). *Tourism Management, Marketing and Development*. Palgrave MacMillan Publishing, London.
- McKinsey and Company (2016). *Customer experience: Creating value through transforming customer journeys*. *Modern Supply Chain Management*. Handbook for innovation focused business leaders. Oracle.
- Mertens, D., Rubio, E. ir Thiemann, M. (2020). *COVID-19 and the Mobilisation of Public Development Banks in The EU*. *India Policy Forum*, p. 1–9.
- Mohaghar, A. ir Ghasemi, R. (2011). *A conceptual model of supply chain relations quality and supply chain performance by structural equation modeling: A case study in the Iranian automotive industry*. *European Journal of Social Science*, Vol 21, Nr 3.
- Nunkoo, R. ir Ramkissoon, H. (2011). *Developing a community support model for tourism*. *Annual Tourism Res.*, Vol. 38 (3), p.964–988.
- Orchiston, C. ir Higham, J.E.S. (2016). *Knowledge management and tourism recovery (de) marketing: the Christchurch earthquakes 2010–2011*. *Current Issues Tourism* 19(1),p.64–84.
- Organisation for Economic Co-operations and Development (OECD, 2020). *Tourism Policy Responses to the Coronavirus (COVID-19)*. Prieiga internete : <https://www.oecd.org/coronavirus/policy-responses/tourism-policy-responses-to-the-coronavirus-covid-19-6466aa20/#endnotea0z14>. [žiūrėta 2021m. liepos 21d.].
- Pechlaner, H. ir Volgger, M. (2012). *How to promote cooperation in the hospitality industry: generating practitioner-relevant knowledge using the GABEK qualitative research strategy*. *International Journal Contemporary Hospitality Management*, Vol 24 (6), p. 925–945.
- Pomponi, P., Fratocchi, L., ir Tafuri, S.R. (2015). *Trust development and horizontal collaboration in logistics: a theory based evolutionary framework*. *Supply Chain. Management International Journal*, Vol 20 (1), p. 83–97.
- Song, H. (2011). *Tourism Supply Chain Management*. Routledge publishings, London.
- Soratana, K., Landis, A.E., Jing, F. ir Suto, H. (2021). *Supply Chain Management of Tourism Towards Sustainability*. Springer publishings, Switzerland. ISBN978-3-030-58225-8 (eBook).
- Statista. (2021). *S. Lock. Hotel industry worldwide, March 15, 2021*. Prieiga internete : <https://www.statista.com/topics/1102/hotels/> [žiūrėta 2021 rugpjūčio 15d].
- Szpilko, D. (2017). *Tourism supply chain—overview of selected literature*. *Procedia Eng.* 182, p. 687–693.
- Tapper, R. ir Font, X.(2004). *Tourism Supply Chains*. Report of a Desk Research Project for The Travel Foundation, Leeds Metropolitan University, Leeds.
- Tether, B.S. (2002). *Who co-operates for innovation, and why: an empirical analysis*. *Res. Policy* 31 (6), p. 947–967.
- Tosun, C. (2002). *Host perceptions of impacts: a comparative tourism study*. *Annual Tourism Res.* 29 (1), p.231–253.
- Tse, A. C. B. (2003). *Disintermediation of travel agents in the hotel industry*. *Int. J. Hosp. Manag.* 22 (4), 453–460.
- United Nations World Tourism Organisation (UNWTO). (2021). *2020: worst year in tourism history with 1 billion fewer international arrivals*. Prieiga internete : <https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals> [žiūrėta 2021m. kovo 2 d].
- Ursino, G. (2015). *Supply chain control: a theory of vertical integration*. Working paper, Nr. 27. Doi: <http://hdl.handle.net/10419/170624>
- Valstybinė Vartotojų Teisių Apsaugos Tarnyba (VVSTAT). (2021). *Licencijuotų turizmo paslaugų teikėjų sąrašai*. Prieiga internete : <https://www.vvstat.lt/vartojimo-paslaugos/turizmo-paslaugos-turizmo-paslaugu-teikejai/128> [žiūrėta 2021m. liepos 9 d].
- Wang, Y. ir Krakover, S. (2008). *Destination marketing: competition, cooperation or cooptation?* *International Journal. Contemporary Hospitality Management*. Vol. 20, p.126–141.

Yu, P.L. (2019). *Interfirm cooperation, trust, and opportunism: a mediated moderation model*. *Revision Management Science*. 13 (5), p.1069–1092.

International journal of production economics, Elsevier, Vol 186.

1. Zhang, X., Song, H. ir Huang, G.Q. (2009). *Tourism supply chain management: a new research agenda*. *Tourism Management* 30 (3), p.345–358.
2. Wan, X. ir Sanders, N. R. (2017). *The negative impact of product variety : forecast bias, inventory levels and the role of vertical integration*.

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