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Innovation of Tourism Supply Chain Management: A New Agenda for Optimization. The Case of Kazakhstan

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Abstract:

Despite the recognition of tourism as a priority sector, the development pace and indicators remain low. Innovation management methods are required that will positively affect the entire industry. The main article goal is to identify the problems of tourism sector development for the positive effects achievement and the system transition to a new, qualitative one, as well as identifying barriers and constraints. The problems raised by the authors in the article require comprehensive

study and analysis. The authors conducted a comparative analysis of travel and tourism competitiveness index of the Republic of Kazakhstan for 2017 and 2019 years. The authors also analyzed the main indicators of the development of the tourism sector, financial and economic activities of tourism companies in the Republic of Kazakhstan, studied the tourism potential of Nur-Sultan city and Akmola region. As a result of the conducted research, conclusions are drawn, and recommendations are given.

Keywords: tourism supply chain management; supply chain management; tourism innovation, tourism infrastructure, competitiveness of tourism industry.

JEL Classification: F60; Z32; R11.

Introduction

The tourism industry is one of the fastest growing industries in the world and is in third place after the export of oil, petroleum products and automobiles. In terms of key indicators and investment efficiency, tourism is compared with the oil industry. The tourism sector accounts for about 10% of the global total production, 30% of world exports of services, 7% of world investments, 10% of jobs and 5% of all tax revenues. According to statistics, each tourist spends an average of about \$ 20 every hour, 30 tourists generate 1 job. Therefore, tourism is one of the most profitable businesses in the world (Government of the Republic of Kazakhstan 2019). However, domestic practice shows that the contribution of the tourism industry to the national economy is insufficient. This is due to the state of the existing industry management system in tourism and weak investment opportunities to bring tourism to a new level. The existing management system is not effective enough. Consequently, in the current conditions of fierce competition and economic instability, as well as the growing demand of tourists, a transition to an innovative way of developing the tourism industry is immediately needed (Gabdullina *et al.* 2020). Thus, the supply chain system in tourism has to be improved to reduce costs and risks, meet systematic demands of customers, and form the win-win situation of companies within the chain.

The supply chain nature of the tourism industry is defined by the regional expansion, sector coordination, company cooperation and social communication (Tovma *et al.* 2020). A supply chain is a network of independent organizations connected by a common goal - to maximize profits for all participants in the chain through the most effective cooperation, joint organization and management of the processes of providing all necessary resources, development of tours and their sale. This means that it connects suppliers, service providers, distributors, retailers, with core units, by control of the flow of information, materials, and funds. For this reason, the supply chain management is one of the most advantageous management methods and it covers all planned, organized, and controlled changes.

Kazakhstan possesses natural and recreational resources, objects of world cultural and historical heritage, has a unique natural diversity, therefore, the country has great potential for the development of new tourism products and all the prerequisites to become a world-wide popular tourist destination. At the same time, the tourism sector in Kazakhstan is developing at a moderate pace with a slight socio-economic effect (Allayarov *et al.* 2018). In order to increase tourist flows to the country, it is necessary to create conditions for the development of tourism potential, for example, strategic planning of the industry (Government of the Republic of Kazakhstan 2019). For this reason, the readiness of the tourism sector to change and adopt innovations is an important condition for progress in the organization of tourism activities. However, there are significant problems in making management decisions.

Based on this, the study of ways and means of overcoming technological backwardness, in comparison with the accelerated innovative development of the leading countries of international tourism, is particularly relevant. The relevance of the study of innovation in tourism is associated with the rapid growth of competition in the global tourism market. According to the constantly changing requirements of the external competitive environment, in order to maintain their position in the domestic tourism market and enter the international one, tourism industry entities need to introduce advanced technologies for the provision of services, new management, motivation and control methods.

1. Literature Review

Special attention should be paid to authors, who carefully studied the problems of innovation as a socio-economic phenomenon – Buhalis and Foerste (2015); Ottenbacher (2007); Camisón and Monfort-Mir (2012); Rodríguez *et al.* (2014); Najda-Janoszka and Kopera (2014); Latypova (2014); Vartanova (2017); Vetrov and Lapshin (2016). Their research is devoted to the analysis of modern innovation processes in the global tourism industry and the most relevant areas of innovation in tourism. However, these issues have not yet been studied in Kazakhstan's

economic science. Over the past decades, a significant amount of scientific research in the field of tourism has been accumulated. The following main directions of studying innovative issues in tourism can be distinguished:

Hjalager (1997, 2002, 2010) developed a classification of innovations in tourism: product, process, managerial and institutional and an innovative model in tourism, reviewed scientific research on innovations in tourism, investigated user-oriented innovation and established a typology of its forms in the context of tourism using sixteen different approaches. The author also systematized 100 innovations that influenced the development of tourism; contributed to the history of tourism and presented a new aspect of innovational research in the field of tourism (Hjalager 2013; Hjalager and Nordin 2011).

Ottenbacher (2007) measured the economic effect of the introduction of innovations in tourism based on a three-dimensional model, which includes market, financial and reflective indicators of organization's development. The results of the study showed that successful entrepreneurial innovation projects are the result of a five-stage process model, different from previously proposed models aimed at large corporations.

Buhalis and Foerste (2015) introduced the concept of e-tourism into scientific circulation in order to promote and create tourism projects based on social media, online resources and mobile applications; developed an innovative strategy for a tourism company based on the use of information technology. Camisón and Monfort-Mir (2012) investigated the challenges in measuring tourism industry innovation at the travel company level in terms of Schumpeter and dynamic capabilities. Rodríguez *et al.* (2014) investigated the innovation policy in the tourism sector, its implementation and results, analyzed the barriers hindering innovation, put forward proposals for further improving the innovation policy in the tourism sector, including the importance of polycentricity in effective policy development and implementation. Najda-Janoszka and Kopera (2014) investigated various factors hindering the innovation activities of micro, small and medium-sized tourism enterprises, identified organizational, environmental and innovation barriers.

Latypova (2014) systematized the factors of innovative transformations in tourism enterprises, presented arguments substantiating the need for strategic innovative development in conditions of hyperactive competition. Vartanova (2017) investigated the issues of state regulation of innovation in tourism. Vetrov and Lapshin (2016) investigated the problems and prospects of building an innovative process in the tourism industry, revealed the reasons, factors and determinants that limit the widespread introduction of innovations in the tourism sector.

Although the studies regarding supply chain management in tourism are limited, there are several studies, determining the industry development vector. Among these studies, Zhang *et al.* (2009) defines the Tourism Supply Chain (TSC) as a network of tourism organizations engaged in a variety of different activities, ranging from providing a whole spectrum of tourism product and service components, such as flights, accommodation and sale of tourism products in the tourism region. This network comprises a broad range of subjects, both from the private and the public sector that are involved in the creation, sale, and promotion of tourism products. He also considered the studies about the tourism supply chains. Hong and Zailani (2011) have pointed out the tourism supply chain components, explicated its structure and elements. In addition, they have determined service-supply chain in six activities and adapted them to the tourism supply chain (Buyukkeklik *et al.* 2014). Buyukkeklik *et al.* (2014) have investigated the barriers to supply chain development in tourism and defined them as:

- (a) the behaviour of chain members (lack of trust between chain members, inflexibility, reluctance for integration between chain members);
- (b) company structure (size, security affairs about document exchange, conflict between organizational structures);
- (c) employees (lack of knowledge);
- (d) the structure of 'tourism'.

Nevertheless, the analysis of publications shows that these areas have not been sufficiently studied. In connection with this, the authors' study is aimed at further investigation of the problems of tourism sector's innovative development in the Republic of Kazakhstan in a regional aspect. The study uses materials on supply chain management in tourism of the city of Nur-Sultan and Akmola region.

2. Methods

2.1. Research Design

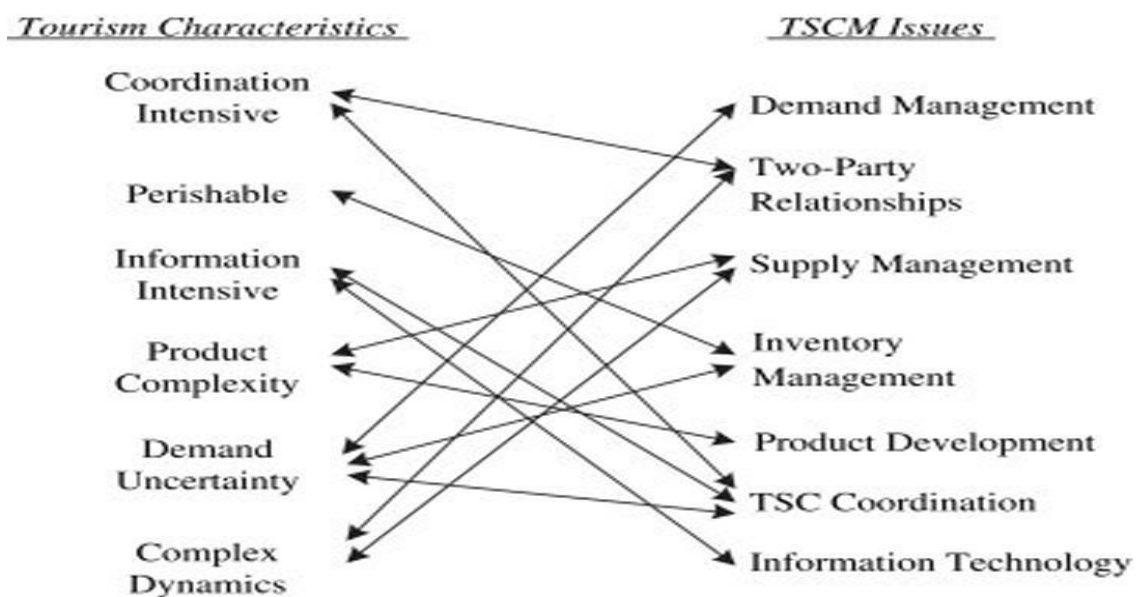
In modern conditions, it is important to identify, analyze and use factors of innovative development in the field of management to ensure the development of the tourism sector. Consequently, a high degree of controllability of this sphere can ensure its sustainable innovative development. Therefore, the problem of innovative development

of the tourism sector must be considered in the context of the socio-economic development of territories. First of all, the innovative development of tourism depends on the creation of conditions that make it possible to improve the qualitative and quantitative indicators of the tourism sphere (Shvets 2015).

These conditions should be based on the competitive advantages of the tourism sector in the city of Nur-Sultan and the Akmola region, dynamically changing under the influence of external and internal factors. To create an effective management system for the innovative development of the tourism sector in the city of Nur-Sultan and Akmola region, it is necessary to constantly monitor the deviations caused by various factors. Thus, it is important to comprehensively study the effects of external and internal factors that have both a positive and negative impact on the development of the tourism sphere.

In the light of the foregoing, the following seven key tourism supply chain management (TSCM) issues are defined (Zhang *et al.* 2009) in Figure 1.

Figure 1. Tourism characteristics and related TSCM issues



- (1) Demand management is a fundamental part of TSCM that links the processes within the chain. Tourism demand directly drives the activities of supply chain members including airlines, tour operators, hotels, recreation facility providers, as it is a key factor of business profitability;
- (2) In Two-party relationships all tourism organisations build relationships with other entities such as suppliers, distributors, competitors, partners, governments and other firms performing supplementary activities to better execute their operations and meet customer needs (Mihardjo *et al.* 2020). For this reason, it is a key issue in TSCM;
- (3) Supply management is focused on the relationships between suppliers (hotels, resorts, attractions, airlines) and travel agencies/tour operators, the relationships between wholesale and retail travel agencies, and supplier selection problems;
- (4) Inventory management plays a key role in TSCM. Demand uncertainty and variation can be treated by inventories, which represent financial expenditures;
- (5) Product Development. Effective product development can improve the quality of products, reduce production costs and smooth out demand fluctuation. This complex process requires joint efforts from various players within the supply chain;
- (6) TSCM coordination. In the context of TSCM, coordination occurs between service providers such as hotels, airlines, tour operators and travel agencies;
- (7) Information technology. IT is an effective instrument of promoting collaboration between supply chain members and enhancing supply chain efficiency through providing real-time information regarding product availability, inventory levels, shipments status and production requirements. It allows upstream TSC suppliers, such as airlines and hotels, to monitor, manage and control their capacities through communicating with intermediaries, such as tour operators and travel agencies and tourists.

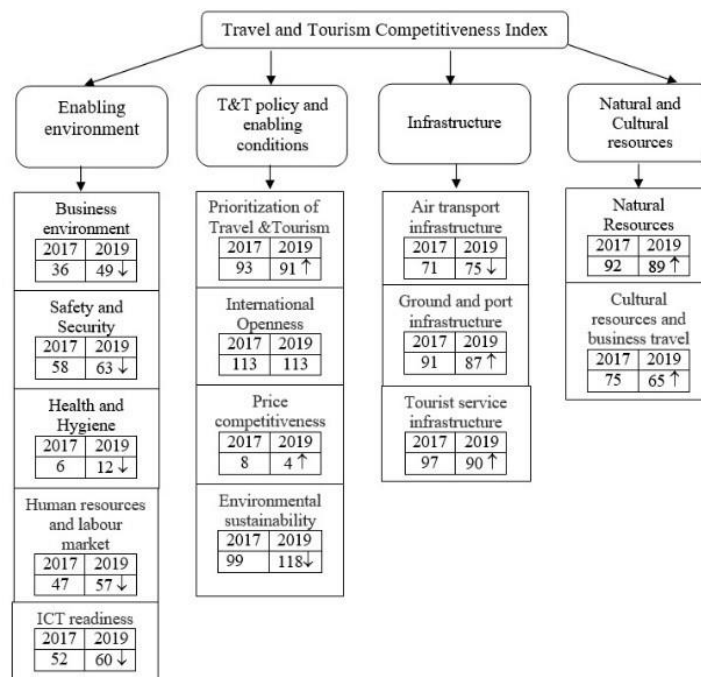
Research sample

The rating of the “Travel and Tourism Competitiveness Index’ (TTCI), developed in the framework of research by the World Economic Forum (WEF) is of great importance for the tourism industry. The report allows comparing countries by drivers of travel and tourism competitiveness based on both qualitative and quantitative data. Let us consider the key indicators of the Republic of Kazakhstan in the ranking of TTCI (World Economic Forum 2019a):

- International tourist arrivals: 4,559,500;
- International tourism inbound receipts: US \$1,780.5 million;
- Average receipts per arrival: US \$390.5;
- T&T industry GDP: US \$2,998.4 million;
- T&T industry Share of GDP, %: 1.8 %;
- T&T industry employment: 186,200 jobs ;
- T&T industry Share of Employment, % total employment: 2.2 %.

In the 2019 TTCI Report, the top five were led by Spain (1st place), France (2), Germany (3), Japan (4) and the United States (5). China - at 13th place, UAE - at 33th, Russia - at 39th, Turkey - at 43th. Kazakhstan took 80th place from 140 countries of the world, having improved its position compared to the previous index in 2017 by 1 position (81st place). Qualitative data complement quantitative, which provides a certain objectivity to the final assessment (Figure 2).

Figure 2. Comparative analysis of the competitiveness index of the travel and tourism sector in the Republic of Kazakhstan for 2017 and 2019 years (World Economic Forum 2019a)



Processing techniques

According to the data in Figure 1, a comparative analysis of the competitiveness index of the travel and tourism sector for 2017 and 2019 years was carried out. Improvement of indicators is observed in the prioritization of the tourism industry (from the 93rd to the 91st), the improvement in positions is also due to the improvement of price competitiveness indicators (from the 8th to 4th), land and port infrastructure (from the 91st to 87th), the tourist service infrastructure (from 97th to 90th). In addition, Kazakhstan has achieved significant improvements in natural resources (from 92nd to 89th), cultural resources and business travel, moving from 75th to 65th place. In general, positions have weakened in the business environment (from 36th to 49th), safety and security (from 58th to 63rd), human resources and labor market (from 47th to 57th), ICT readiness (from 52nd to 60th), air transport infrastructure (from 71st to 75th), environmental sustainability (from 99th to 118th) (World Economic Forum 2019a). Let us consider key indicators of the tourism sector more extensively (Table 1):

Table 1. Key indicators of the tourism sector of the Republic of Kazakhstan

№	Key indicators of the tourism sector	Position in 2017	Position in 2019	+/- positions
<i>Business environment</i>				
1	Efficiency of legal framework in settling disputes 1–7 (best)	47	70	-23 ↓
2	Extent of market dominance 1–7 (best)	69	84	-15 ↓
3	Time to start a business (lower is better)	53	23	+30 ↑
4	Cost of starting a business (lower is better)	7	7	=
5	Effect of taxation on incentives to work 1–7 (best)	27	67	-40 ↓
6	Effect of taxation on incentives to invest 1–7 (best)	55	49	+6 ↑
7	Total tax rate (lower is better)	34	36	-2 ↓
8	Profit tax rate (lower is better)	65	71	-6 ↓
<i>Safety and security</i>				
9	Reliability of police services 1–7 (best)	84	84	=
<i>Prioritization of Travel & Tourism</i>				
10	Government prioritization of travel and tourism industry 1–7 (best)	94	82	+12 ↑
11	T&T government expenditure (government budget)	46	45	-1 ↓
12	Effectiveness of marketing and branding to attract tourists 1–7 (best)	102	99	+3 ↑
13	Comprehensiveness of annual T&T data 1–120 (best)	59	81	-22 ↓
14	Timeliness of providing monthly/quarterly T&T data 0–22 (best)	88	87	+1 ↑
15	Country brand strategy rating 1–100 (best)	102	120	-18 ↓
<i>International Openness</i>				
16	Visa requirements 0–100 (best)	114	81	+33 ↑
17	Openness of bilateral Air Service Agreements 0–38 (best)	121	123	-2 ↓
<i>Price competitiveness</i>				
18	Ticket taxes and airport charges 0–100 (best)	24	6	+18 ↑
19	Hotel price index, US \$ (lower is better)	25	17	+8 ↑
20	Purchasing power parity \$ (lower is better)	60	23	+37 ↑
<i>Air transport infrastructure</i>				
21	Quality of air transport infrastructure 1–7 (best)	89	86	+3 ↑
22	Number of operating airlines	61	69	-8 ↓
<i>Ground and port infrastructure</i>				
23	Quality of road infrastructure 1–7 (best)	106	106	=
24	Quality of railroad infrastructure (survey question) 1–7 (best)	26	32	-6 ↓
<i>Tourist service infrastructure</i>				
25	Hotel rooms	82	81	+1 ↑
26	Quality of tourism infrastructure 1–7 (best)	121	127	-6 ↓
27	Presence of major car rental companies 1–7 (best)	113	95	+18 ↑
28	Automated teller machines	30	36	-6 ↓
<i>Natural resources</i>				
29	Number of World Heritage natural sites	30	32	-2 ↓
30	Total protected areas	123	114	+9 ↑
31	Natural tourism digital demand 0–100 (best)	118	116	+2 ↑
32	Attractiveness of natural assets 1–7 (best)	97	105	-8 ↓
<i>Cultural resources and business travel</i>				
33	Number of World Heritage cultural sites	61	62	-1 ↓
34	Number of international association meetings, 3-year average	87	93	-6 ↓
35	Cultural and entertainment tourism digital demand 0–100 (best)	105	104	+1 ↑

Note: Compiled by the authors based on (World Economic Forum 2019a).

According to the key indicators of the TICI, the main problems in the development of the tourism sector in Kazakhstan are as follows:

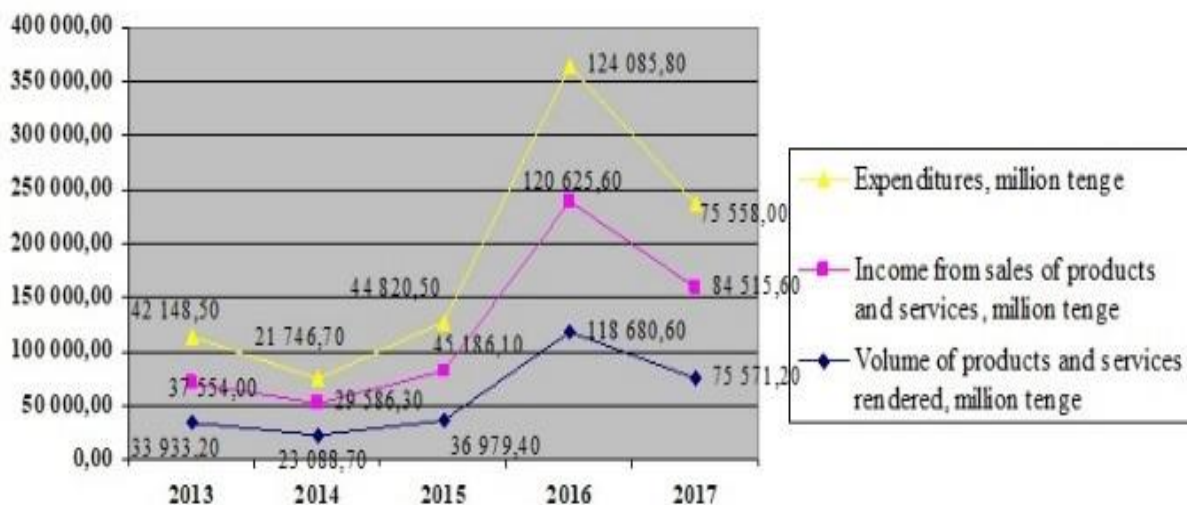
- the extent of market dominance;
- effect of taxation on incentives to work;
- profit tax rate;
- the incompleteness of T&T annual data;
- the country's brand strategy;
- openness of bilateral air service agreements;
- the number of operating airlines;
- the quality of railroad infrastructure;
- the quality of tourism infrastructure;
- the attractiveness of natural assets.

However, there are improvements in the following positions: time to start a business, purchasing power parity, government prioritization of travel and tourism industry, simplification of visa requirements for foreign citizens.

3. Results and Discussion

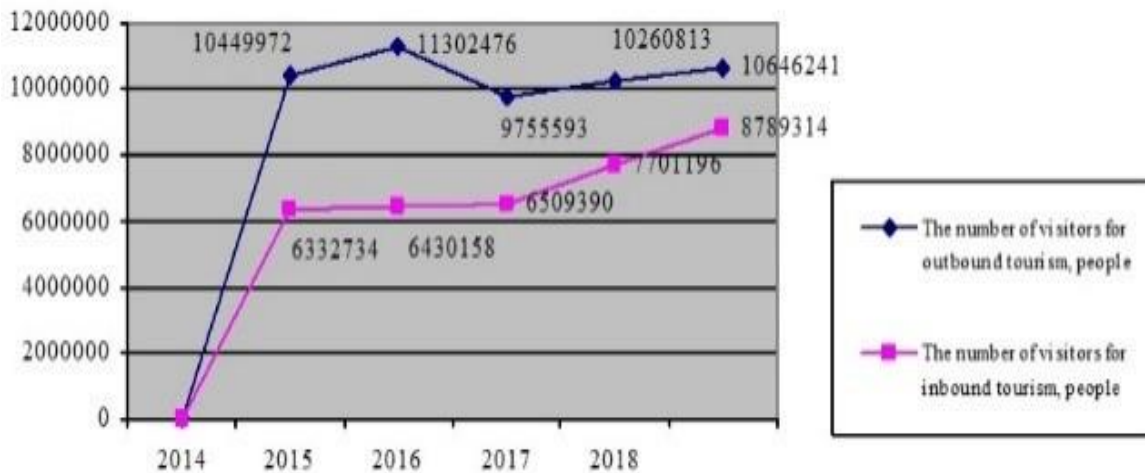
In the management of supply chains in the field of tourism products circulation, it is necessary to single out the managing and managed subsystems. The managing subsystem (logistics entities) are tour operators who form a tourism product and coordinate the work of participants in the process of providing services. The managed subsystem partially includes travel agencies, transport systems and clients of the tourism industry. Tour operators, who form the basic and additional services into a single tourist product and then sell it to the consumer through travel agencies, play a key role in tourism. The main market function of travel companies is to connect service providers with tourists. Let us consider the financial and economic activities of travel agencies in the Republic of Kazakhstan (Figure 3).

Figure 3. Financial and economic activities of travel agencies in the Republic of Kazakhstan (Statistical digest 2016)



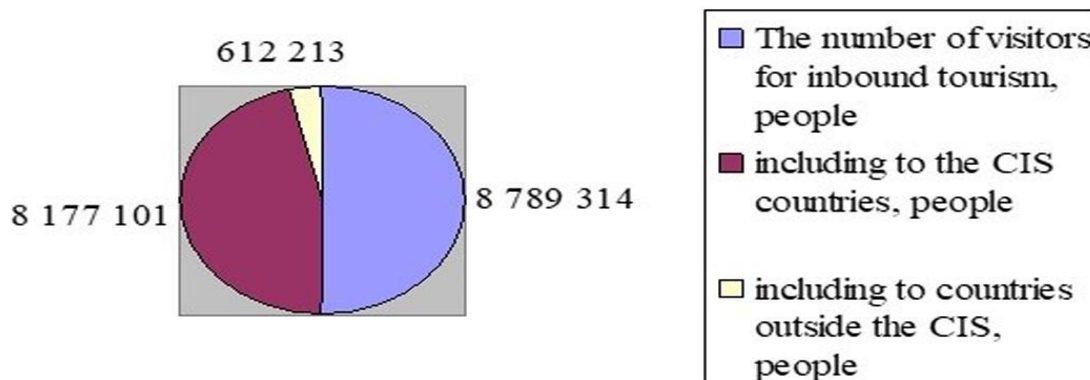
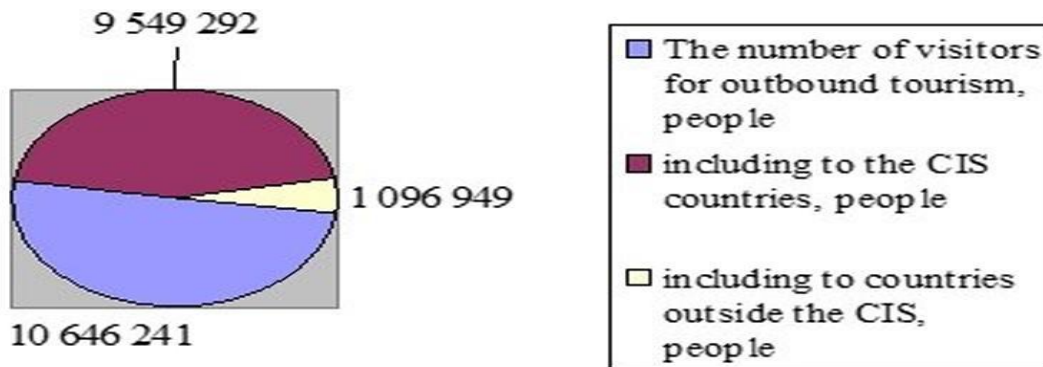
According to the Statistics Committee, the financial and economic activities of tourism companies in the Republic of Kazakhstan have improved compared to 2013, however, to increase the share of tourism in the country's GDP, these indicators are not enough. The volume of manufactured products and rendered services in 2017 increased by 122.7%, income from sales of products and services – by 125.05%, expenses – by 79.2%, of which taxes and other obligatory payments increased by 42.8%. Nevertheless, as can be seen from the graph, expenditures in 2013 exceeded revenues by 12.2%, in 2016 – by 2.8%, revenues in 2014 were higher than expenditures by only 36%, in 2015 – by 8%, in 2017 – by 11.8%. Most tour operators work on outbound tourism, however, due to exchange rate fluctuations and market uniformity, tour operators and travel agencies have to work in conditions of fierce competition (Figure 4). However, few of them are trying to innovate or develop unique tourism products for inbound and domestic tourism.

Figure 4. The number of visitors for outbound and inbound tourism (Statistical digest 2016)



The graph shows that in 2018 there were 21.1% more outbound tourists than inbound ones (in 2014 - 65%). In 2018, the volume of tourism services provided amounted to 26 million dollars. According to official statistics, last year the country recorded 4.7 million domestic tourists, which is 7% more than a year earlier. From this, the authors conclude that despite the declared priority of the development of inbound and domestic tourism, the flow of foreign visitors arriving in Kazakhstan does not have stable positive dynamics, compared with previous years. There is a slight improvement in indicators, in general, while outbound tourism prevails over inbound tourism (Figures 5-6).

Figure 5. The number of visitors for outbound tourism (Statistical digest 2016) Figure 6. The number of visitors for inbound tourism (Statistical digest 2016)



From these charts, it can be seen that 89.7 % of outbound tourism visitors go to the CIS countries, 10.3 % to other countries. While 93 % come to Kazakhstan from CIS countries, 7 % from other countries. Kazakhstan should work hard to attract tourists not only from Russia, but also from target markets such as India, China, the Middle East, Western Europe and North America. Let us consider the number of visitors for inbound tourism by purpose (Table 2).

Table 2. Number of visitors for inbound tourism by purpose, people (Statistical digest 2016)

	Number of visitors for inbound tourism					+- %
	2014	2015	2016	2017	2018	
Total	6 332 734	6 430 158	6 509 390	7 701 196	8 789 314	138,7
including:						
business and professional	1 178 900	1 044 743	1 096 899	1 186 542	1 223 324	103,7
personal	5 153 834	5 385 415	5 412 491	6 514 654	7 565 990	146,8
of them						
tourism	61 953	54 374	56 228	81 635	65 822	106,2
private	4 439 556	4 839 040	4 814 757*	5 853 816	6 865 255	154,6
transit	652 325	492 002	541 507*	579 203	634 913	-2,66

According to statistics, inbound tourism is dominated by personal trips, of which, private visits dominate. For example, in 2018, only 0.74% of the total number of inbound visitors arrived for tourism and 13.9% for business and professional visits. Compared to 2014, visitors for tourism purposes increased by only 6.2%, the exception is 2017, when during the international specialized exhibition, there were 24% more visitors that arrived for tourism purposes in 2018, the indicator for business trips was not better, in 2018 the growth was 3.7% compared to 2014. Unfortunately, the indicator shows a low rate of development of the tourism sector.

Let us consider the number of visitors served in the city of Nur-Sultan and resort areas of the Akmola region for 2017-2018 (Table 3).

Table 3. The number of visitors served in the city of Nur-Sultan and resort areas of the Akmola region for 2017-2018 (Statistical digest 2016)

	Number of inbound and domestic visitors	Including			The number of 'self-organized' inbound and domestic visitors (estimate)
		staying in places of accommodation	vacationing in sanatorium and resort organizations	visiting specially protected natural areas	
2018					
The Republic of Kazakhstan	7 062 769	5 526 864	299 091	1 236 814	4 851 381
Akola region	1 070 323	338 698	38 188	693 437	748 618
Of them:					
Shchuchye-Borovsky resort area	813 080	156 647	37 888	618 545	348 577
Zerenda resort area	99 717	44 985	-	54 732	122 746
Nur-Sultan city	767 587	767 587	-	-	622 727

Akmola region occupies a territory favorable for the development of tourist business and has unique natural and climatic conditions. In the region, there are State National Nature Parks "Burabay" and "Kokshetau", as well as Korgalzhyn State Nature Reserve of international significance, which is one of the unique places in Euro-Asian continent (Government of the Republic of Kazakhstan 2019). These destinations are "points of tourist growth" and are identified as key areas for tourism development (Figure 7).

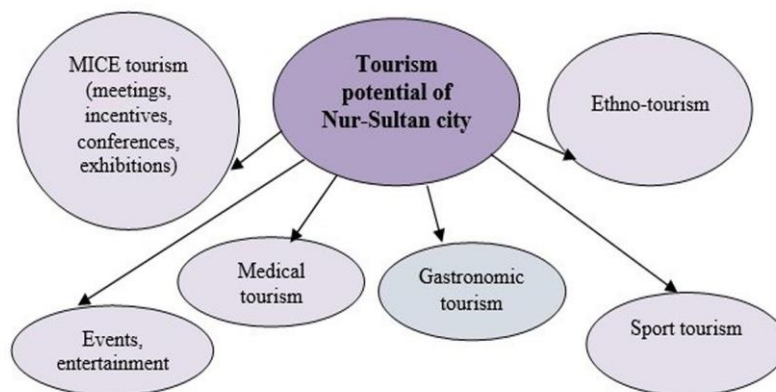
Figure 7. Tourism potential of Akmola region

Ecotourism: national parks, adventure tourism (Korgalzhyn, Ereymentau, Sandyktau)	Hunting tourism (Sandyktau)	Sacred tourism (Kokshetau, Burabay, Zerendinsky, Korgalzhyn and Yereymentau districts and Birzhan Sal district of Akmola region).
	Camping tourism, motor tourism and caravanning	
Entertainment (Borovoe, Shortandy)	Tourism potential of Akmola region	Event (Borovoe)
Ethnic tourism (horse tour (Korgalzhyn), gastronomic tours (Borovoe), falconry (Borovoe), handicraft)	Children and youth tourism (Zerendy, Sandyktau, Ereymentau, Katarkol)	Healthcare and wellness tourism at sanatorium-resort organizations (Shchuchinsko-Borovsky resort area)
	Weekend Tours	

Note: compiled by the authors on the basis of (Government of the Republic of Kazakhstan 2017, 2019)

The tourist potential of the city of Nur-Sultan, as the center of Akmola region, is no less interesting and saturated (Figure 8).

Figure 8. Tourism potential of the city of Nur Sultan



It is significantly important for tourism sector that all members of the supply chain perform their duties strictly, accurately and punctually. One of the objectives of TSCM is to coordinate and integrate all of the functions and activities executed by the supply chain members in the provision of tourism products and services to tourists. From the entire TSCM's perspective, it is critical that all of the tourism products/service providers reduce production costs, maximize operational efficiency and enhance tourist satisfaction at each stage of the supply chain to enhance the competitiveness of the whole chain. Therefore, the tourism businesses within a TSC need to establish a close relationship with both upstream and downstream partners (Nurgaliyeva *et al.* 2020). The upstream suppliers provide individual tourism products and services to their midstream partners to ensure that individual products/services are packaged and assembled. In the downstream of the chain, these products/services are sold to tourists through various distribution or marketing channels. On the one hand, the development of a high-quality tourist product requires good conditions in terms of infrastructure, service, and transportation. On the other hand, there are other reasons such as weak interest and lack of motivation for the

introduction and application of innovations by the tourism business due to the high level of costs for the development of innovations, the dependence on foreign innovative technological developments, and insufficient use of cultural heritage sites (Sutono 2019). Since the introduction of innovations requires large investments, the financial support for the tourism industry is also an important issue (Tables 4-5).

Table 4. State support measures for SMEs (Ministry of Industry and New Technologies of the Republic of Kazakhstan 2014)

Measures	Total unit	Tourism	Share of tourism
Conditional allocation of funds in second-tier banks	30 394	1 167	4%
Interest rate subsidies	12 083	634	5%
Loan guarantee	3 729	196	5%

Table 5. Amount of funds allocated for state support measures for SMEs in millions of dollars (Ministry of Industry and New Technologies of the Republic of Kazakhstan 2014)

Measures	Total unit	Tourism	Share of tourism
Conditional allocation of funds in second-tier banks	4177,5	120	3%
Interest rate subsidies	4777,5	252,5	5%
Loan guarantee	332,5	17,5	5%

In addition, the urgent problem of the country's tourism industry is seasonality and it needs to be leveled (Baiburiev *et al.* 2018). Firstly, if earlier the Shchuchinsko-Borovsky resort area was known as a summer destination, now all conditions for winter recreation have been created. Secondly, seasonality can be regulated due to the development of medical tourism in the city of Nur-Sultan, for example, the check of a medical tourist on average is 1.3 times higher than the check of an ordinary tourist. Thirdly, it is possible to introduce a system of subsidies for tourist vouchers based on the experience of France, where the state subsidizes vacation vouchers for employees during the off-season. Solving the seasonality problem will evenly distribute the load on tourism infrastructure.

Based on the general state of development of the tourism sector, the authors conclude about the state of the innovative development of this sector in Kazakhstan (Table 6):

Table 6. Status of innovation development of the tourism sector in Kazakhstan

The main factors affecting the innovative development of tourism	Note
Rating in the global innovation index, 2019 - 79th place out of 129	
level of scientific and technological development	56th place out of 129 countries in research and development in the ranking of the Global Innovation Index, 2019
economic stability	55th place out of 141, 60th place in macroeconomic stability in the ranking of the Global competitiveness index of the world economic forum, 2019
political stability	61th place out of 129 countries in the ranking of the Global Innovation Index, 2019
availability of relevant legislative framework in tourism	The Law of the Republic of Kazakhstan 'On Tourism in the Republic of Kazakhstan' dated June 13, 2001
availability of natural resources	89th place out of 140 countries in The Travel and Tourism Competitiveness Index, 2019
availability of financial resources	104th place out of 141 countries in the ranking of the Global competitiveness index of the world economic forum, 2019
government spending for the tourism industry	45th place out of 140 countries in The Travel and Tourism Competitiveness Report, 2019
level of development of tourist infrastructure	90th place out of 140 countries in The Travel and Tourism Competitiveness Index, 2019
prevailing tourism market conditions, degree and type of competition	Inbound and domestic tourism are not developed, there is no competition in these directions (Concept of tourism industry development of the Republic of Kazakhstan until 2023, State Program for Tourism Development in the Republic of Kazakhstan for 2019-2025)
availability of highly qualified personnel	57th place out of 140 countries in the ranking of The Travel and Tourism Competitiveness Index, 2019

Note: Compiled by the authors based on (Government of the Republic of Kazakhstan 2017, 2019; WIPO 2019; World Economic Forum 2019a, 2019b)

Each of the above factors and key indicators of the tourism sector represent a whole system and only by improving them, changes can be achieved and the problems of innovative development in tourism supply chain management can be solved. The authors consider it necessary to use the following innovation concepts of supply chain management in tourism (Chen 2009):

- (1) Tourism Business Reconstruction, applied by the companies in the tourism supply chain to optimize the internal and external flow: the tourism companies coordinate the relations among the departments and staff to form an effective network. Companies enhance their production flexibility with the total quality management (TQM) and just in time (JIT) concepts;
- (2) External business reconstruction: based on rapid market changes, it is necessary to form a flexible tourism supply chain with the integration of core companies and reduce logistics costs, gain powerful competitive advantages;
- (3) Importance of Strategic Union of Tourism Companies: the members of the chain share information, risks and profits. In order to reach win-win goal, members of the chain work hard to reduce the cost, to enhance the product quality and to satisfy the customers' needs;
- (4) Fourth Party Logistics Conception that integrates and manages various resources, capabilities and technologies of supplementary company departments and suppliers;
- (5) Multiple Value-added Tourism Service Implementation: the chain applies innovation on the practical and potential demands of customers to shorten delivery time, enhance service quality, reduce logistics costs, increase company flexibility, improve production efficiency, and strengthen main business;
- (6) Information System Integration: The related companies have full access to the tourism information in the management of the chain;
- (7) Supply Chain Management System Innovation: the tourism supply chain is totally different from the product one, which needs a completely new model for coordinating relations among the companies:
 - intermediary service institution: it plays a role as main body in the regional supply chain system as the important and indispensable part of the supply chain;
 - regional tourism industry cooperation association: defines key items and plans, sets up the strategic unions according to the principle of sharing benefits collectively, coordinates relations of companies in the chain, monitors and forecasts the tourism industry chain's activities;
 - monitoring department of tourism quality that assesses and monitors the information on the companies within the chain.
- (8) Supply Chain Guarantee System Innovation: improvement of guarantee system including trust management system, crisis-dealing mechanism, financing mechanism that contributes to reduce costs, improve management innovation, and enhance performance for tourism supply chain.

Conclusions

The following problems can be identified in the management of supply chains: the presence of consumer influence on the quality of services; environmental impact; reliability and security of the supply chain; social and economic efficiency of supply chain's functioning. Thus, tourism businesses need to engage in supply chains for sustainable development. Managing supply chain is very important as a core competence of tourism organisations to deliver profit and return on investment. This conclusion follows from the fact that the low performance of the tourism industry in Kazakhstan in international ratings prove the inefficiency of state policy. Certainly, it is necessary to introduce flexible approaches to industry management in order to respond quickly to changes in the global situation.

First, to ensure a sustainable tourist flow, it is necessary to increase the level of development of tourist resources. Secondly, for a nascent tourist destination like Kazakhstan, it is necessary to improve the tourism infrastructure, develop tourism products, which have practically no analogues in the world tourism market. For this purpose, the state needs to encourage the innovative activity of the tourism business, also create conditions for attracting investments and develop public-private partnership projects in tourism. The paper concludes that the tourism supply chain needs an innovation management system based on the principles of quality, competitiveness, profitability and sustainable development.

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