

MODELING A TOURISM REGIONAL CLUSTER: THE IMPACT OF ADMINISTRATIVE AND LOGISTIC RESTRICTIONS ON THE DEVELOPMENT OF REGULATED CLUSTERS

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Abstract

The article proposes a tourism cluster structure dividing it into four main sectors: the production of tourism services (tourism enterprises, accommodation, catering, and transport services), the service sector, the auxiliary sector, and the life support sector. The article systematizes various models of regional tourism clusters depending on the distribution of roles, areas of interaction, the impact of integration, and the stages of the cluster life cycle: a non-core cluster, an axial cluster, a satellite cluster, and a regulated cluster. Authors concluded that due to the crisis caused by the pandemic, sanctions, and trade wars, the role of regulated tourist clusters in Russia will only increase since these clusters are more stable due to state support. In relation to external restrictions on outbound tourism, the state will focus on the development of domestic tourism while regulating the activities of tourism clusters. In this case, new projects of large-sized tourism businesses will be aimed not to obtain economic benefits but rather to demonstrate their loyalty to the existing government. On the contrary, businesses will rely on subsidies and economic support from the state.

Keywords: Cluster; Tourism industry; Sector of tourism cluster; Model of tourism cluster.

MODELANDO UM CLUSTER REGIONAL DE TURISMO: O IMPACTO DAS RESTRIÇÕES ADMINISTRATIVAS E LOGÍSTICAS NO DESENVOLVIMENTO DE CLUSTERS REGULADOS

Resumo

O artigo propõe uma estrutura de cluster do turismo, dividindo-o em quatro setores principais: a produção de serviços turísticos (empresas de turismo, alojamento, restauração e serviços de transporte), o setor de serviços, o setor auxiliar e o setor de suporte à vida. O artigo sistematiza vários modelos de clusters regionais de turismo dependendo da distribuição de papéis, áreas de interação, o impacto da integração e os estágios do ciclo de vida do cluster: um cluster não-núcleo, um cluster axial, um cluster satélite e um cluster aglomerado regulamentado. Os autores concluíram que, devido à crise causada pela pandemia, sanções e guerras comerciais, o papel dos clusters turísticos regulamentados na Rússia só aumentará, pois esses clusters são mais estáveis devido ao apoio do Estado. Em relação às restrições externas ao turismo emissor, o Estado focará no desenvolvimento do turismo doméstico ao mesmo tempo em que regula as atividades dos clusters turísticos. Neste caso, novos projetos de empreendimentos turísticos de grande porte terão como objetivo não obter benefícios econômicos, mas sim demonstrar sua lealdade ao governo existente. Pelo contrário, as empresas contarão com subsídios e apoio econômico do Estado.

Palavras-chave: Agrupamento; Industria do turismo; Setor do cluster de turismo; Modelo de cluster de turismo.

MODELANDO UN CLUSTER REGIONAL DE TURISMO: EL IMPACTO DE LAS RESTRICCIONES ADMINISTRATIVAS Y LOGÍSTICAS EN EL DESARROLLO DE CLÚSTERS REGULADOS

Resumen

El artículo propone una estructura del clúster turístico, dividiéndolo en cuatro sectores principales: la producción de servicios turísticos (empresas turísticas, alojamiento, restauración y servicios de transporte), el sector servicios, el sector auxiliar y el sector de soporte vital. El artículo sistematiza varios modelos de clústeres turísticos regionales según la distribución de roles, las áreas de interacción, el impacto de la integración y las etapas del ciclo de vida del clúster: un clúster no central, un clúster axial, un clúster satélite y un clúster clúster regulado. Los autores concluyeron que debido a la crisis provocada por la pandemia, las sanciones y las guerras comerciales, el papel de los clústeres turísticos regulados en Rusia solo aumentará, ya que estos clústeres son más estables gracias al apoyo estatal. En relación con las restricciones externas al turismo emisor, el estado se enfocará en el desarrollo del turismo interno mientras regula las actividades de los clústeres turísticos. En este caso, los nuevos proyectos de empresas turísticas de gran porte no estarán dirigidos a obtener beneficios económicos sino a demostrar su lealtad al gobierno existente. Por el contrario, las empresas dependerán de los subsidios y el apoyo económico del Estado.

Palabras clave: Clúster; Industria del turismo; Sector del clúster turístico; Modelo de clúster turístico.

1 INTRODUCTION

The issues of clustering the tourism industry are of particular relevance in the current crisis associated with the pandemic, sanctions, and trade wars since such structures stimulate enterprises within the cluster, the rational use of the natural, recreational, material, technical, financial, and human potential of a region (Lordache et al., 2010). Therefore, it is relevant to substantiate and solve the regional development of

tourism on an innovative basis, which involves the use of integration mechanisms based on clustering.

An innovative way of developing the tourism industry is clustering, which will ensure the development of horizontal integration and the formation of network structures (Novelli et al., 2006). This will improve various organizational forms of management and their cooperation, ensuring the sustainable development of domestic tourism based on the principles of economic self-sufficiency (Kruzhalin, 2009).



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In Russia, due to administrative and logistical changes, a promising direction for economic reproduction is the development of tourism as the most dynamic industry. However, tourist and recreational resources in a region cannot be a sufficient condition for creating a quality product that can compete in the tourist services market (Higgins-Desbiolles, 2018). Therefore, it is necessary to ensure the targeted development of new organizational forms in tourism, whose activities would maximize the consolidated result (Asmelash & Kumar, 2019; Mosalev et al., 2018).

The study aims at analyzing the impact of administrative and transport (logistic) restrictions on the development of regulated tourism clusters. Thus, the research tasks are as follows: a) to reveal the main sectors of the regional tourism cluster; b) to analyze various models of the regional tourism cluster in terms of their effectiveness in modern conditions; and c) to consider the case of a regulated regional tourism cluster.

2 LITERATURE REVIEW

Many scholars have dwelled on the effective functioning of tourism enterprises based on their association with clusters. Thus, the study from Melisidou et al. (2014) defines the structural components of the tourism cluster and reveals the mechanism of relationships between its participants. Huybers and Bennett (2003) consider the critical aspects of forming and operating integrated tourism complexes. Romero & Tejada 's work (2011) focuses on tourist and recreational complexes, analyzes the economic mechanism of their functioning, and develops practical recommendations for their improvement.

The tourism cluster is a system of intensive technological and informational interaction among tourism enterprises and providers of basic and additional services to create the main product of the cluster, i.e. tourism services (Boja, 2011). Tourism clusters include groups of enterprises geographically concentrated within a region that share specialized tourism infrastructure, local labor markets, and other functional structures of the economy (Ferreira & Esteveao, 2009).

Benner (2017) studies the so-called recreational cluster model as a form of territorial organization of tourism enterprises that stimulates the economic growth of the region, but little attention is paid to the issues of determining benefits for the cluster members.

Fernando and Long (2012) analyze tourism clusters, as well as substantiates scientific and practical foundations for their implementation as a form of organizing the tourism activities of national enterprises. Miller and Gibson (2005) study the effective functioning of the tourism cluster as a factor in increasing the competitiveness of the tourism product. Considering scientific studies (Benner, 2017; Boja, 2011; Fernando & Long, 2012), which define the dominant roles and the mutual influence of integration participants, we identified four cluster models.

The non-core (rootless) cluster model presents enterprises with the size and power to control the cluster, and the overall market and cluster dynamism determine its form and development. All cluster members are predominantly small-sized business entities, equal in scope and impact. This model is a clear example of the functioning of a small

tourism cluster that is based on the principles of self-organization and includes a sector for the production of tourism services and an auxiliary sector. The boundaries of the cluster are rather relative, as a rule, they coincide with the border of a particular territory (settlement), while tourist sites that are not related to this territory, but located nearby, can be part of the cluster (Benner, 2017). An example of this cluster is the California wine cluster that has developed in the Napa Valley north of San Francisco (California, USA). Every year it registers up to 5 million tourist arrivals, mainly for visiting vineyards and wine tasting (Aleksandrova, 2007).

Within the axial cluster, the dominant enterprises have all the necessary conditions for recreation and tourism, often creating additional conditions to meet the needs of tourists. Such enterprises emerge within pre-existing clusters and take on the role of leaders. Most cluster enterprises provide hospitality services. Small-sized businesses depend on the customer strategy of strong partners (Fernando & Long, 2012). An example of this cluster can be the Norwegian tourism cluster on the Svalbard archipelago, including seven national parks, serviced by 16 suppliers of tourism products and more than 20 tour operators. The cluster also comprises 13 hotels, 10 restaurants, and eight cruise shipping companies united in the association (Fundeanu, 2015).

It is advisable to consider a satellite cluster model for the tourism sector from the viewpoint of its narrow focus, for example, for thematic or health tourism, where the main attraction will be not only the corresponding natural conditions but also unique tourist (recreational) offers. The activities of all subsidiary enterprises will depend on the policy and control power of the leader, on whom their entrepreneurial results will also depend (Benner, 2017). An example of this cluster is the Finnish tourism cluster "Official Residence of Santa Claus". This is a thematic complex that includes the core (Santa Claus's house in Lapland, Santa Claus post office, ski area, accommodation area), service, and support sectors (Chalupa et al., 2013).

The fourth model of the tourism cluster (regulated model) is built around public, governmental, or non-profit organizations that have a direct impact on the activities of the cluster. The cluster management is centralized and depends on the policy of the management apparatus. Only an indirect impact is possible on the activities of other market participants related to the sector of providing tourism services in a certain region. Currently, such a cluster is the most effective in tourism. Under the influence of administrative and transport restrictions, it is supported by government agencies and aims, as a rule, at the development of domestic tourism, and all services provided within it are improved in accordance with the relevant requirements.

Israel uses a regulated model of regional tourism clusters. The structure of clusters is transparent, and the state controls all results of tourism activities. The achievements of Israeli management in the premium segment are worthy of world recognition; specialized centers with huge areas have been built for organizers of international exhibitions and conferences (lordache et al., 2010).

Although there are some studies on the clustering of the tourism industry, the most effective model of the tourism cluster in modern conditions has not been found yet.

3 METHODS

In the research, we employed several methods to investigate the clustering of the tourism industry. The analysis of scientific literature on clustering provided a theoretical foundation for our study. Authors such as Zhao et al. (2021), Ayrapetyan et al. (2022), and Kim (2023) discuss the concept of clustering and its potential for stimulating regional development and improving the management of tourism enterprises.

We also conducted an expert survey to gain insights into the main sectors of the tourism cluster. This approach is supported by scholars such as Melisidou et al. (2014), Huybers and Bennett (2003), and Romero & Tejada (2011), who emphasize the importance of understanding the mechanisms and relationships within a tourism cluster.

Furthermore, we utilized the case method, analyzing a regulated regional tourism cluster in Ryazan Oblast as a specific example. This method allows for an in-depth examination of a real-life case, as recommended by

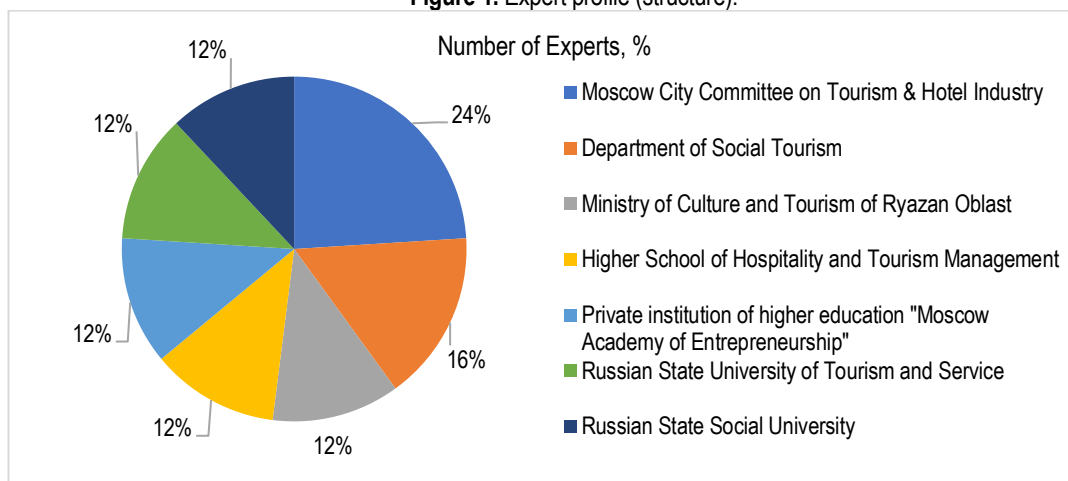
researchers like Benner (2017), Fernando and Long (2012), and Miller and Gibson (2005), who have explored different aspects of tourism clusters and their impact on regional development and competitiveness.

These methods collectively contributed to our understanding of clustering in the tourism industry and facilitated the identification of effective models and practices for regional tourism cluster development.

The criteria for the selection of experts included at least 5 years of experience in managing (coordinating) the tourism industry at the regional level, or at least 10 years of teaching experience in the specialty "Tourism".

The online survey involved 42 experts, including 22 employees (11 men aged 30-45 years and 11 women aged 28-40 years) of regional (municipal) administrative bodies managing the tourism industry at the regional level and 20 lecturers (10 men aged 36-46 and 10 women aged 35-44) from Russian universities. Thus, we tried to ensure maximum variability based on the type of activity, gender, age, and work experience (Figure 1 and Table 1).

Figure 1. Expert profile (structure).



Source: own elaboration.

Table 1. Expert profile (affiliation of experts).

Expert	Age	Organization	Location
Male-1	30	Moscow City Committee on Tourism & Hotel Industry	Moscow
Male-2	40	Moscow City Committee on Tourism & Hotel Industry	Moscow
Male-3	45	Moscow City Committee on Tourism & Hotel Industry	Moscow
Male-4	36	Moscow City Committee on Tourism & Hotel Industry	Moscow
Male-5	42	Moscow City Committee on Tourism & Hotel Industry	Moscow
Male-6	38	Department of Social Tourism	Moscow
Male-7	40	Department of Social Tourism	Moscow
Male-8	41	Department of Social Tourism	Moscow
Male-9	37	Ministry of Culture and Tourism of Ryazan Oblast	Ryazan
Male-10	42	Ministry of Culture and Tourism of Ryazan Oblast	Ryazan
Male-11	39	Ministry of Culture and Tourism of Ryazan Oblast	Ryazan
Male-12	37	Higher School of Hospitality and Tourism Management	Moscow
Male-13	36	Higher School of Hospitality and Tourism Management	Moscow
Male-14	44	Higher School of Hospitality and Tourism Management	Moscow
Male-15	41	Private institution of higher education "Moscow Academy of Entrepreneurship"	Moscow
Male-16	36	Private institution of higher education "Moscow Academy of Entrepreneurship"	Moscow
Male-17	35	Russian State University of Tourism and Service	Moscow
Male-18	38	Russian State University of Tourism and Service	Moscow
Male-19	43	Russian State Social University	Moscow
Male-20	44	Russian State Social University	Moscow

Male-1	36	Russian State Social University	Moscow
Female-1	28	Moscow City Committee on Tourism & Hotel Industry	Moscow
Female-2	34	Moscow City Committee on Tourism & Hotel Industry	Moscow
Female-3	36	Moscow City Committee on Tourism & Hotel Industry	Moscow
Female-4	39	Moscow City Committee on Tourism & Hotel Industry	Moscow
Female-5	37	Moscow City Committee on Tourism & Hotel Industry	Moscow
Female-6	40	Department of Social Tourism	Moscow
Female-7	39	Department of Social Tourism	Moscow
Female-8	35	Department of Social Tourism	Moscow
Female-9	32	Department of Social Tourism	Moscow
Female-10	33	Ministry of Culture and Tourism of Ryazan Oblast	Ryazan
Female-11	37	Ministry of Culture and Tourism of Ryazan Oblast	Ryazan
Female-12	36	Higher School of Hospitality and Tourism Management	Moscow
Female-13	38	Higher School of Hospitality and Tourism Management	Moscow
Female-14	44	Private institution of higher education "Moscow Academy of Entrepreneurship"	Moscow
Female-15	37	Private institution of higher education "Moscow Academy of Entrepreneurship"	Moscow
Female-16	36	Private institution of higher education "Moscow Academy of Entrepreneurship"	Moscow
Female-17	38	Russian State University of Tourism and Service	Moscow
Female-18	43	Russian State University of Tourism and Service	Moscow
Female-19	35	Russian State University of Tourism and Service	Moscow
Female-20	38	Russian State University of Tourism and Service	Moscow
Female-21	39	Russian State University of Tourism and Service	Moscow

Source: own elaboration.

The experts were asked to express their opinion online via e-mail regarding the structure of a typical regional tourism cluster, as well as to rank models of regional tourism clusters to determine the most significant one for the development of domestic tourism in Russia under administrative and transport restrictions. The consistency of expert opinions was assessed using the concordance coefficient. The concordance coefficient was defined using the SPSS software.

All the respondents were informed about the survey objective and plan to publish its results in a summarized form.

The study was conducted in three stages:

– Stage 1: to determine the structure of a typical regional tourism cluster based on the expert survey;

– Stage 2: to identify the most significant model of a regional tourism cluster for the development of domestic tourism in Russia under administrative and transport restrictions based on the expert survey;

– Stage 3: to analyze the case of a regulated regional tourism cluster as exemplified by Ryazan Oblast based on the expert survey and secondary sources.

4 RESULTS

Based on an expert survey, we have identified four main sectors in the structure of a typical regional tourism cluster (Table 2).

Table 2. Sectors of the regional tourism cluster

No.	Sector	Feature
1	Sector producing tourism services	Enterprises that directly produce and sell tourism services: tour operators and travel agencies, accommodation facilities, health improvement, transportation, catering, and leisure activities for tourists
2	Service sector	It embraces banking, credit, and insurance institutions, educational institutions in the sphere of tourism, scientific institutions, business centers, leasing companies, etc.
3	Auxiliary sector	It includes enterprises for the production of souvenirs, tourist equipment, goods specific to a certain area, printing enterprises, cartographic factories, periodicals, television and radio broadcasters, public authorities, regional development agencies, state funds, and programs
4	Life support sector	It connects the other sectors and coordinates their activities, including marketing, advertising and information, logistics and legal and audit departments

Source: own elaboration based on the expert survey.

Based on the analysis of the relevant literature and the expert survey, we described four models of the regional

tourism cluster and determined their role in the development of domestic tourism in Russia (Table 3).

Table 3. Models of a regional tourism cluster.

No.	Model	Feature	Rank
1	Non-core cluster model	All participants are equal members and cooperate with each other in direct competition or in supplier-manufacturer relations, this is a cluster without one leader	4
2	Axial cluster model	There are several dominant enterprises representing its core, as well as numerous small- and micro-sized enterprises attached directly to them	3
3	Satellite cluster model	The core (leader) of the cluster is the main enterprise in the industry	2
4	Regulated cluster model	It is built around public, governmental or non-profit organizations that have a direct impact on the activities of the cluster	1

Note: the value of the concordance coefficient $W = 0.74$ ($p < 0.01$), which indicates strong consistency of expert opinions.

Source: Source: own elaboration.

Based on the data presented, the regulated cluster model best fits the findings. The article emphasizes the importance of government support, coordination, and control in the development of regional tourism clusters. The regulated cluster model, which involves public and governmental organizations playing a central role in cluster activities, aligns with the identified case study in Ryazan Oblast and the need for state support and coordination in overcoming limitations and promoting domestic tourism.

Here is a case "The regional tourism cluster in Ryazan Oblast". Despite the significant potential for developing tourism in Ryazan Oblast, the limiting factors undermining the competitive advantages of the region were as follows: the underdevelopment of the tourist infrastructure and the insufficient number of accommodation facilities for guests (especially the tourist class), the unsatisfactory state of the supporting infrastructure. As a result, these constraining factors and restrictions in the development of tourism in Ryazan Oblast were overcome by creating a tourist and recreational cluster "Ryazansky" in its territory.

During the creation of the "Ryazansky" tourist and recreational cluster, the construction of tourist infrastructure facilities and the corresponding infrastructure facilities was completed. The "Ryazansky" tourist and recreational cluster is located in the Rybnovskiy district and the city of Ryazan, Ryazan Oblast. These municipalities have common borders, and complex tourist routes pass through their territory.

The "Ryazansky" tourist and recreational cluster was implemented in three phases:

Stage 1 – the construction of the hotel and entertainment complex "Okskaya Zhemchuzhina", the tourist complex "Rybatskaya derevnya", and the entertainment complex "Once upon a time in the Ryazan district, Ryazan Oblast". The objective is to increase the number of rooms, create a new recreational product for family holidays, and expand the possibility of organizing recreational water activities.

Stage 2 – the construction of the entrance zone of the State Museum-Reserve of S.A. Yesenin in the Rybnovskiy district of Ryazan Oblast. The objective is to centralize the flow of clients, expand the range of services for transit and long-term stays in the territory of the museum, and create conditions for organizing different types of recreation.

Stage 3 – the construction of the hotel and restaurant complex "Staryi gorod" in the city of Ryazan. The objective is to transform the historical area of the city and increase the number of rooms.

The coordinating organization of the tourism cluster is the Ministry of Culture and Tourism of Ryazan Oblast, which provides the following services:

- The guided development of the cluster and strengthening of cooperative ties among its participants;
- Holding themed meetings to develop various areas of the cluster and organizing events for participants in order to exchange experience;
- The preparation or adjustment of strategic, program and planning documents regulating the development of the cluster, as well as the realization of proposals in documents of the cluster participants in order to ensure the necessary level of coordination of their activities;
- The implementation of the single-window concept to provide cluster members with support on paperwork, certification, and licensing, provision of legal, patents, and financial and accounting services;
- The publication of internal information resources containing data on the activities of the cluster and its participants;
- The organization of meetings and negotiations with potential investors;
- Participation in the selection of top managers and specialists for cluster-related organizations;
- The organization of workshops and other communication events in specialized universities in order to inform and attract undergraduate and graduate students to work in the cluster;
- The formation of a common brand and growing recognition of the cluster, preparation and distribution of printed information materials about the cluster and its members;
- The organization of exhibitions, fairs, and communication events aimed at promoting the cluster, as well the involvement of participants;
- The preparation and publication of press releases, news reports, videos about the activities of the cluster, as well as the organization of press conferences, responses to journalists' requests.

Table 4. Advantages and disadvantages of the Cluster Models

No.	Model	Characteristics	Advantages	Disadvantages
1	Non-core cluster model	- Equal participation and cooperation among small-sized businesses - No single leader or dominant enterprise	- Promotes self-organization and direct competition - Flexibility in decision-making and resource utilization	- Lack of centralized leadership - Potential for fragmentation and lack of coordination
2	Axial cluster model	- Dominant enterprises serving as leaders - Small-sized businesses attached to dominant enterprises	- Coordination and support from strong partners - Access to specialized resources and expertise	- Potential dependence on dominant enterprises - Limited autonomy for smaller businesses
3	Satellite cluster model	- Core leader with a narrow focus (e.g., thematic or health tourism) - Dependent enterprises with activities aligned to the core leader	- Unique and specialized tourist offerings - Opportunity for targeted marketing and branding	- Reliance on the core leader for direction and support - Limited diversification outside the core focus
4	Regulated cluster model	- Public, governmental, or non-profit organizations as central regulators - Direct impact on cluster activities	- Comprehensive support and guidance from the state - Access to resources and funding	- Potential bureaucracy and slow decision-making - Dependence on government policies and priorities

Source: Source: own elaboration.

These advantages and disadvantages highlight some key aspects of each cluster model. However, it is important to note that the suitability of a particular model depends on the specific context and objectives of the tourism industry within a region. Therefore, careful consideration of the advantages and disadvantages, along with the characteristics discussed earlier, will help in determining which cluster model best fits the presented data and aligns with the desired goals of regional tourism development.

5 DISCUSSION

Within the structure of a typical regional tourism cluster, we identified four main sectors. The first sector (core) is the production of tourism services. It creates tourism products, and its key features attract consumers. The remaining sectors are additional sectors (service, auxiliary, and life support).

The service sector aims at enterprises that participate in the production of a tourism product and contribute to improving the quality of tourism services. The auxiliary sector focuses on the full satisfaction of the needs of visitors, while all the efforts are directed to improving the quality of tourist attractors and increasing their number. The life support sector is responsible for management and coordination and provides scientific and practical recommendations on the issues of harmonizing the goals of enterprises. The critical point is that the sector producing tourism services includes accommodation, health improvement, catering, leisure activities, as well as transport enterprises that provide non-direct tourism services (Table 2).

However, we understand a tourism product as "a pre-developed complex of tourism services, which includes transportation services, accommodation services, and other tourism services not related to transportation and accommodation" (Kruzhalin, 2009, p. 29). The latter should also be attributed to the tourism services production sector because the offers they provide are part of the tourism product. In the context of administrative, transport, and logistics restrictions, some organizations providing indirect tourism services require state support (Khavanova et al., 2022).

For example, the demand for tourism services is quite long-lasting in Russia, primarily due to climatic conditions and the traditions of the population (Redikultseva et al., 2022). People are more likely to go on vacation in summer and winter (especially during the New Year holidays). Therefore, transport enterprises require budget subsidies to increase the workload of passenger transport (during a period of low demand for tourism products), which is possible only in a regulated tourism cluster.

According to the study results, additional sectors of the regional tourism cluster are the sectors identified by the experts, which are called functional. The main functional obligation of the service sector is to serve enterprises that are part of the main sector producing the tourism product, i.e. full or partial assistance for the functioning of enterprises in the main sector. Under administrative restrictions, the service sector, including educational and scientific institutions in the sphere of tourism (Table 2), also needs state support, for example, in the form of grants for scientific research. This is possible only in a regulated tourism cluster.

The auxiliary sector of a regional tourism cluster focuses on the full satisfaction of the needs of tourists, while all efforts are directed to improving the quality of tourist attractors and increasing their number, promoting the development of the cultural, natural, and recreational potential of the region, and diversifying the supply of related tourism services and goods (Boja, 2011; Sokolova et al., 2021), as well as the economic growth of business entities within the cluster, improving the welfare of the population and creating a positive image of the region (Ukhina et al., 2021). At the same time, public authorities and regional development agencies that are part of this sector (Table 2) play the main coordinating role in the functioning of a regulated regional tourism cluster. Their task should be to respond to emerging administrative and logistical restrictions in a timely manner.

Not all the elements of regional tourism clusters mentioned above are mandatory. Their inner structure can expand depending on the closeness of ties and the level of formation (Zamiralova et al., 2021). The tourism cluster, including its state bodies regulating the activities of the cluster, can conclude cooperation agreements with some companies from the service and auxiliary sectors that involve their entry into the cluster (Shayakhmetova et al., 2020). The activities of cluster members can be regulated by partnership agreements concluded as part of the provision of tourism services (Novikova et al., 2020).

It is worth mentioning that clusters can be formed "from below" as a result of the desire of companies to increase productivity and competitiveness (non-core, satellite, axial cluster models), or "from above", with the participation of government bodies (regulated cluster model), which in terms of administrative and transport restrictions (Table 3) is the most effective for the development of domestic tourism in Russia.

While analyzing the case "The regional tourism cluster in Ryazan Oblast", we highlighted the advantages and disadvantages of business partnerships in a regulated tourism cluster.

The advantages of participating in a regulated tourism cluster are as follows:

- Comprehensive support from state and municipal structures;
- The ability to implement internal specialization and minimize the cost of introducing innovations;
- The partnership of flexible business structures (small enterprises) that form innovative vectors for the growth of the tourism industry in a certain region;
- Privileged or cheap access to specialized, including budget, resources for participants of the tourism cluster;
- The mutual complementation and interchangeability of activities in the cluster, as well as an increase in the quality and efficiency of work.

The disadvantages of participating in a regulated tourism cluster include:

- The risk of losing confidentiality and commercial information;
- Additional costs for participation in joint projects, including public-private partnerships;
- Priority cooperation with large tourism enterprises rather than small ones.

6 CONCLUSIONS

The article demonstrates that a regulated model of the tourism cluster formed around public, governmental, or non-profit organizations that have a direct impact on the activities of the cluster is the most effective in Russia. Due to the crisis caused by the pandemic, sanctions, and trade wars, the role of regulated clusters, including tourism, will only increase since these clusters are supported by the state and thus more stable.

In case of external restrictions on outbound tourism, the state regulating the activities of tourism clusters will focus primarily on the development of domestic tourism. In this regard, new projects of a large-sized tourism business will aim not so much at obtaining economic benefits, but rather at demonstrating their loyalty to the existing government, for which tourism clusters with a predominance of domestic tourism will be a project for social support of the population and earning political points.

The study limitations include the insufficient variability of the experts selected with due regard to the type of activity and location. Further research might be a quantitative analysis of the effectiveness of regional tourism clusters in the context of the existing restrictions on tourism activities.

REFERENCES

- Aleksandrova, A. Yu. (2007). Klasteri v mirovoi industrii turizma [Clusters in the global tourism industry]. *Vestnik MGU. Seriya 6. Ekonomika*, 5, 43-62.
- Asmelash, A. G., & Kumar, S. (2019). Assessing progress of tourism sustainability: Developing and validating sustainability indicators. *Tourism Management*, 71, 67-83. DOI: 10.1016/j.tourman.2018.09.020
- Ayrapetyan, D., Befort, N., & Hermans, F. (2022). The role of sustainability in the emergence and evolution of bioeconomy clusters: An application of a multiscalar framework. *Journal of Cleaner Production*, 376. <https://doi.org/10.1016/j.jclepro.2022.134306>
- Benner, M. (2017). From clusters to smart specialization: Tourism in institution-sensitive regional development policies. *Economies*, 5(3), 26. DOI: 10.3390/economies5030026
- Boja, C. (2011). Clusters models, factors and characteristics. *International Journal of Economic Practices and Theories*, 1(1), 34-43.
- Chalupa, P., Prokop, M., & Rux, J. (2013). Use of cluster analysis for classification of tourism potential. *Littera Scripta*, 6(2), 59-68.
- Fernando, I. N., & Long, W. (2012). New conceptual model on cluster competitiveness: A new paradigm for tourism? *International Journal of Business and Management*, 7(9), 75-84. DOI: 10.5539/ijbm.v7n9p75
- Ferreira, J., & Esteveo, C. (2009). Regional competitiveness of a tourism cluster: A conceptual model proposal. *Tourism & Management Studies*, 5, 37-51.
- Fundeanu, D. D. (2015). Innovative regional cluster, model of tourism development. *Procedia Economics and Finance*, 23, 744-749. DOI: 10.1016/S2212-5671%2815%2900501-8
- Higgins-Desbiolles, F. (2018). Sustainable tourism: Sustaining tourism or something more? *Tourism Management Perspectives*, 25, 157-160. DOI: 10.1016/j.tmp.2017.11.017
- Huybers, T., & Bennett, J. (2003). Interfirm cooperation at nature-based tourism destinations. *The Journal of SocioEconomics*, 32(5), 571-587. DOI: 10.1016/J.SOCEC.2003.08.011
- Iordache, C., Ciocinã, I., & Asandei, M. (2010). Clusters tourism activity increase competitiveness support. *Theoretical & Applied Economics*, 17(5), 99-112.
- Khavanova, N. V., Morozov, V. Yu., Gubachev, N., Morozova, T., & Duborkina, I. (2022). The mechanism of forming state governance of territories. *International Journal of Ecosystems and Ecology Science*, 12(3), 109-116.
- Kim, H., Hwang, S.-J., Yoon, W. (2023). Industry cluster, organizational diversity, and innovation. *International Journal of Innovation Studies*, 7(3), 187-195.
- Kruzhalin, V. I. (2009). Turistsko-rekreatsionnye klasteri – Novye strategii razvitiya regionalnogo turizma [Tourism and recreation clusters as new strategies of developing regional tourism]. *Kurortnoe delo, turizm i rekreatsiya*, 3(4), 29-32.
- Melissidou, S., Papageorgiou, A., Papyiannis, D., & Varvaressos, S. (2014). Tourism clusters as a potentially effective tool for local development and sustainability. *Review of Tourism Sciences*, 9, 218-232.
- Miller, M. M., & Gibson, L. J. (2005). Cluster-based development in the tourism industry: Putting practice into theory. *Applied Research in Economic Development*, 2(2), 47-63.
- Mosalev, A. I., Kryukova, E. M., Mukhomorova, I. V., Egorova, E. N., & Khetagurova, V. S. (2018). Experience of socially responsible tourism projects in Russia. *IOP Conference Series: Earth and Environmental Science*, 204, 012030. DOI: 10.1088/1755-1315/204/1/012030
- Novelli, M., Schmitz, B., & Spencer, T. (2006). Networks, clusters and innovation in tourism: A UK Experience. *Tourism Management*, 27(6), 1141-1152. DOI: 10.1016/j.tourman.2005.11.011
- Novikova, N. G., Pirozhenko, N. T., Saburova, L. N., & Bokareva, E. V. (2020). The role of financial institutions in the development of innovation in Russia. *REICE: Revista Electrónica De Investigación En Ciencias Económicas*, 8(16), 361-371. DOI: 10.5377/reice.v8i16.10702
- Redikultseva, E. N., Stakhova, L. V., Feoktistov, S. V., Panova, N. A., & Tretyak, E. B. (2022). Economic and legal aspects of developing green tourism. *International Journal of Ecosystems and Ecology Science*, 12(2), 657-662. DOI: 10.31407/ijeec.12.240
- Romero, I., & Tejada, P. (2011). A multi-level approach to the study of production chains in the tourism sector. *Tourism Management*, 32(2), 297-306. DOI: 10.1016/J.TOURMAN.2010.02.006
- Shayakhmetova, L., Maidyrova, A., & Moldazhanov, M. (2020). State regulation of the tourism industry for attracting international investment. *Journal of Environmental Management and Tourism*, 11(6(46)), 1489-1495. DOI: 10.14505/jemt.11.6(46).19
- Sokolova, A. P., Serychev, R. V., Livson, M., Baranova, E. A., & Zunde, V. V. (2021). Prospects for the development of domestic gastronomic tourism in conditions of restrictions caused by the COVID-19 pandemic. *Journal of Environmental Management and Tourism*, 12(8(56)), 2121-2128.
- Ukhina, T. V., Maidanovich, Y. P., Abdimomynova, A. S., Stepanova, D. I., & Zambinova, G. K. (2021). Tourism after lockdown: Will business travel maintain popularity? *Journal of Environmental Management and Tourism*, 12(8(56)), 2217-2223.
- Zamiralova, T. A., Fomina, S. N., Medvedeva, G. P., Shukshina, L. V., & Starovojtova, L. I. (2021). Correlation of the concepts "educational" and "intellectual" tourism: Main similarities and differences. *Revista EntreLinguas*, 7(S4), e021089.
- Zhao, M., Liu, X., & Sun, Z. (2021). Development of decision support tool for clustering urban regional risk based on R-ArcGIS Bridge. *Applied Soft Computing*, 110. <https://doi.org/10.1016/j.asoc.2021.107621>

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Table 1. CRediT author statement

Term	Definition	Author 1	A.2	A.3	A.4	A.5	A.6
Conceptualization	Ideas; formulation or evolution of overarching research goals and aims	+	+	+	+	+	+
Methodology	Development or design of methodology; creation of models	+	+	+	+	+	+
Software	Programming, software development; designing computer programs; implementation of the computer code and supporting algorithms; testing of existing code components	+	+	+	+	+	+
Validation	Verification, whether as a part of the activity or separate, of the overall replication/ reproducibility of results/experiments and other research outputs	+	+	+	+	+	+
Formal analysis	Application of statistical, mathematical, computational, or other formal techniques to analyze or synthesize study data	+	+	+	+	+	+
Investigation	Conducting a research and investigation process, specifically performing the experiments, or data/evidence collection	+	+	+	+	+	+
Resources	Provision of study materials, reagents, materials, patients, laboratory samples, animals, instrumentation, computing resources, or other analysis tools	+	+	+	+	+	+
Data Curation	Management activities to annotate (produce metadata), scrub data and maintain research data (including software code, where it is necessary for interpreting the data itself) for initial use and later reuse	+	+	+	+	+	+
Writing - Original Draft	Preparation, creation and/or presentation of the published work, specifically writing the initial draft (including substantive translation)	+	+	+	+	+	+
Writing - Review & Editing	Preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision – including pre-or post-publication stages	+	+	+	+	+	+
Visualization	Preparation, creation and/or presentation of the published work, specifically visualization/ data presentation	+	+	+	+	+	+
Supervision	Oversight and leadership responsibility for the research activity planning and execution, including mentorship external to the core team	+	+	+	+	+	+
Project administration	Management and coordination responsibility for the research activity planning and execution	+	+	+	+	+	+
Funding acquisition	Acquisition of the financial support for the project leading to this publication	+	+	+	+	+	+

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