

Универзитет "Гоце Делчев" – Штип

Факултет за туризам и бизнис логистика Goce Delchev University Shtip

Faculty of Tourism and Business Logistics

### Петта Меѓународна Научна Конференција Fifth International Scientific Conference

ПРЕДИЗВИЦИТЕ ВО ТУРИЗМОТ И БИЗНИС ЛОГИСТИКАТА ВО 21 BEK

CHALLENGES OF TOURISM AND BUSINESS LOGISTICS IN THE 21ST CENTURY

ЗБОРНИК НА ТРУДОВИ CONFERENCE PROCEEDINGS



Универзитет "Гоце Делчев" – Штип Goce Delcev University

Shtip

Факултет за туризам и бизнис логистика

Faculty of Tourism

a n d

**Business Logistics** 

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#### PANEL SESSION

## Challenges and implications of COVID-19: reducing disparities and addressing distributional impacts in different sectors

Session chair: Tatjana Boshkov, Assoc.professor and Dean at Faculty of tourism and business logistics, ,,Goce Delcev University - Stip, N. Macedonia

#### Panelists

- 1. Prof. Dr. Tamara Klicek, Ph.D., International Programme on Urban Governance IPUG, National Taipei University, Taiwan
- 2. Prof. Dr. Madalina-Teodora Andrei, Ph.D., "Spiru Haret" University, Faculty of Geography, Bucharest, Romania
- 3. Prof. Dr. Mirela-Elena Mazilu, Ph.D. Department of Geography
- 4. Director of Research Center in Innovative and Regional Tourism, University of Craiova, Romania
- 5. Dr. Nikolina Vrcelj, Ph.D., Executive Director, Association of Economists and Managers of the Balkans, headquartered in Belgrade, Serbia
- 6. Prof. Dr. Kemal Cebeci, Marmara University, Faculty of Economics, Department of Public Finance, Director of MIRDEC, Istanbul, Turkey
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- 9. Prof. Dr. Mazhar Abbas Ph.D., Department of Management & MIS, College of Business Administration, University of Hail, Kingdom of Saudi Arabia
- 10. Prof. Dr. Kanita Imamović-Čizmić, Ph.D., Department of Legal and Economic Sciences, University of Sarajevo-Faculty of Law, BiH
- 11. Prof. Dr. Slagjana Stojanovska, Ph.D., Integrated Business Faculty, Skopje, Republic of N. Macedonia
- 12. Prof. Dr. Slavi Dimitrov Ph.D., Department of Tourism, Deputy Dean of the Faculty of Economics, "St. Cyril and Methodius" University of Veliko Tarnovo, Bulgaria
- 13. Dr. Žarko Rađenović, Research Associate, University of NišInnovation Center, Serbia
- 14. Prof. Dr. Boban Melovic, Ph.D., Vice-Dean for international cooperation, Faculty of Economics Podgorica, University of Montenegro

#### Moderators

#### First session: Business logistics and business administration

Natasha Miteva, PhD, Vice-Dean for Education, Faculty of Tourism and Business Logistics, Goce Delcev University - Stip, N. Macedonia

#### Second session: Tourism, hospitality and gastronomy

Natasha Miteva, PhD, Vice-Dean for Education, Faculty of Tourism and Business Logistics, Goce Delcev University - Stip, N. Macedonia



# УНИВЕРЗИТЕТ "ГОЦЕ ДЕЛЧЕВ" - ШТИП GOCE DELCEV UNIVERSITY OF STIP

# ФАКУЛТЕТ ЗА ТУРИЗАМ И БИЗНИС ЛОГИСТИКА FACULTY OF TOURISM AND BUSINESS LOGISTICS

ПЕТТА МЕЃУНАРОДНА НАУЧНА КОНФЕРЕНЦИЈА

FITH INTERNATIONAL SCIENTIFIC CONFERENCE

# ПРЕДИЗВИЦИТЕ ВО ТУРИЗМОТ И БИЗНИС ЛОГИСТИКАТА ВО 21 ВЕК

CHALLENGES OF TOURISM AND BUSINESS LOGISTICS
IN THE 21ST CENTURY

# ЗБОРНИК НА ТРУДОВИ CONFERENCE PROCEEDINGS

Петта Меѓународна Научна Конференција ПРЕДИЗВИЦИТЕ ВО ТУРИЗМОТ И БИЗНИС ЛОГИСТИКАТА ВО 21 ВЕК »ISCTBL 2022« Fifth International Scientific Conference CHALLENGES OF TOURISM AND BUSINESS LOGISTICS IN THE 21ST CENTURY »ISCTBL 2022«

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# ECONOMIC EFFECTS OF CONGRESS TOURISM: TWO-STEP CLUSTER APPROACH

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#### **Abstract**

The development of congress tourism was conditioned by the development of civilization, which aimed to gather an increasing number in various communities to spread knowledge and ideas and transfer technology. The role of congress tourism in the organization of congress events as well as in the choice of destination in the 21st century is an important factor in the development of the tourism sector since this form of business tourism is very important for the professional development of its participants and actors. Also, due to the exchange of knowledge and experiences at various congress events, the overall development of the economy and science. Accordingly, the aim of this paper will be a two-step cluster analysis that will group countries into clusters based on two indicators - The number of meetings and the number of participants in meetings in 2019, according to the last updated data from ICAA. The lowest value of Schwarz's Bayesian Criterion will reveal the number of clusters, while the average value by clusters will determine the most dominant cluster of countries based on the mentioned indicators.

Keywords: Congress Tourism, Two-Step Cluster Analysis, Schwarz's Bayesian Criterion

#### Introduction

One of the special forms of tourism is congress tourism. For this type of tourism, the term MICE is often used, which is synonymous with the congress industry. MICE is an acronym of English words (Meetings, Incentives, Congresses & conventions, Exhibition & events) and according to *Geić* means a specific sub-form of tourism in which the main motive is not a vacation but the active or passive participation of individuals in gatherings and events of a different character. *Rogers* states that the convention industry is a young and dynamic industry that is growing and maturing at a very fast rate. In his work, Rogers also points out as one of the biggest advantages of congress tourism, is the creation of year-round employment as opposed to the seasonal jobs that come with mass tourism. It, therefore, provides citizens with career development and not just temporary jobs. In his work, *Getz* emphasizes the importance of increasing trade and industrialization at the end of the 19th century for the development of congress tourism. He also states that the first congress was held in Detroit, in the USA in 1896.

Lazo cites the combination of professional work and entertainment of participants as a specificity of congress tourism and states that congress organizers have to satisfy professional problems at the request of participants but to create opportunities to use various forms of recreation, leisure, and entertainment as purely tourist motives. In their work, Swarbrooke and Horner pointed out the origins of business tourism, which arose from the increase in trade and diversity among communities. In the distant past, when agriculture was sufficiently developed in Africa, Asia, and Europe, people began to trade in agricultural products, which led to an increase in interpersonal trade, and people often traveled far to make exchanges.

#### Literature Background

In congress tourism, the product is a destination with all the necessary services, ie it is the overall impression of the destination for the organizers and participants of the congress. To enable adequate satisfaction of congress participants in the form of added value created by this type of tourism for the economy, it is necessary to form an adequate price which, in addition to the registration fee for participation in the congress, must include other accompanying content. In addition to the price element that affects the choice of destination, other factors/elements influence the decision on the congress destination (Davidson and Rogers, 2006):

- Location
- Previous experiences of the destination
- Capacity of congress facilities
- Availability of entities
- Quality of services
- · Facility staff
- Food quality
- Quality of congress facility services
- Cleanliness of the facility.

On the other hand, for the participants of the congress event to be sure of their decision when choosing a congress destination, they should have a list of questions prepared in advance that will answer their requests. Consequently, some established doubts about the choice of congress destination can be eliminated if an adequate plan for participation in the congress event is made. Some of the questions that could be shortlisted are (Krugman and Wright, 2007):

- Does the destination supports the goals of the event?
- Is it attractive to event participants?
- Is it politically and economically stable?
- Are there reasons for increased security measures?
- Are participants from certain countries, ethnic or religious groups at greater risk than other participants?
- Are there airlines to major international destinations?
- Are there international airports near the destination?
- Are hotels and maintenance facilities adequate in terms of size, quality, and price of services?
- Is there adequate support from local service providers needed for the event in terms of equipment and staff?
- Are the climatic conditions favorable?
- Do the destination and its surroundings offer cultural and recreational activities?
- Are there organizations in the destination that are in the area relevant to the event?
- What are the customs regulations and procedures?
- Swarbrooke and Horner conclude that several factors affect the nature and type of all of these destination elements, and these are:
- The size of the destination in terms of geographical area and population size
- Population structure and nature of society in the destination
- The level of economic development and the state of the economy in the destination
- Infrastructure in the destination in terms of quantity and quality of the infrastructure itself
- The contribution that business tourism brings to the local economy compared to other economic activities
- The main types of business tourism that the destination attracts
- Government policy towards business tourism in the destination

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- What percentage of business tourists come from abroad and/or richer countries and cities
- The question of ownership of hotels, and carriers (are they locals or owned by foreigners?)
- As the basic characteristics of congress tourism, Lucianović states:
- The main motive of every tourist is to satisfy his recreational needs, while the main motive of the congress tourist is to attend a meeting to discuss some issues of common interest in a short time and one place. This is considered the only type of tourism that combines work and leisure.
- The system of organization in congress tourism uses all organizational forms used by classical tourism such as transportation, accommodation, food, and various other activities
- Consumption is higher in congress tourism than in other types of tourism and is divided into the consumption of participants and consumption of organizers.
- Tourism has a highly seasonal character and tourist spending is concentrated for a shorter period, which causes several problems in the business of tourism companies.
- Analyzes of trends in congress tourism show that climatic elements are one of the factors when choosing a place to hold a meeting, but the main reason is only the congress opportunities that the place provides.
- There are tendencies to organize various exhibitions in addition to gatherings, for which economic and trade organizations are especially interested, paying large sums to the congress organizer for various stands or spaces. The reason for this lies in the fact that the delegates of one set represent a selective market for certain products that the company in question exhibits.
- The safety of participants is one of the most important factors in organizing gatherings and choosing destinations since we live in a time when different incidents occur every day.
- The political significance of congress tourism can be manifold. This importance is reflected in the fact that it enables the participants of a gathering to get acquainted with the host country, its social relations, political system, as well as economic and social achievements.

#### Methodology

The data set in this research consists of two indicators which represent the last updated data for congress tourism (Table 1)- The number of meetings per country and the Number of participants in meetings per country for 2019. The top 20 countries will be clusterized into groups using a two-step cluster analysis in IBM SPSS 26.0. Two-step cluster analysis creates subclusters using hierarchical methods like the agglomerative approach. "The Two-Step cluster analysis is a hybrid approach which first uses a distance measure to separate groups and then a probabilistic approach (similar to latent class analysis) to choose the optimal subgroup model (Benassi et. al, 2020)."

Table 1: Number of meetings and participants in meetings in 2019.

Rank	Country	Number of meeting s in 2019	of eting k Country in		Number of participant s in meetings in 2019
1	SAD	934	1	SAD	357.137
2	Germany	714	2	Spain	348.728
3	France	595	3	Germany	252.688
4	Spain	578	4	France	251.097

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5	United Kingdom	1 36/		Italy	217.638
6	Italy	550	6	United Kingdom	215.929
7	China	539	7	Japan	175.955
8	Japan	527	8	China	170.066
9	Netherland s	356	9	Canada	168.102
1 0	Portugal	342	10	Netherland s	152.010
1 1	Canada	336	11	Australia	132.957
1 2	Australia	272	12	Portugal	130.186
1 3	South Korea	248 13 Austria		Austria	111.783
1 4	Belgium	237	14	South Korea	109.075
1 5	Sweden	237	15	Sweden	84.455
1 6	Austria	231	16	Denmark	82.662
1 7	Switzerlan d	221	17	Argentine	81.748
1 8	Argentine	214	18	Mexico	79.945
1 9	Poland	213	19	Thailand	74.603
2 0	Brasil	209	20 Switzerlan d		74.522

Source: ICAA Statistics Report 2019: Country and City Rankings http://www.iccaworld.org/dcps/doc.cfm?docid=2396

The Auto-clustering table summarizes the process by which the number of clusters is chosen. The clustering criterion is computed for each potential number of clusters. Smaller values of the BIC indicate better models, and in this situation, the "best" cluster solution has the smallest BIC. A good solution will have a reasonably large Ratio of BIC Changes and a large Ratio of Distance Measures. The number of clusters is automatically assigned by the authors. Accordingly, the best number of clusters is 4, because this cluster solution represents the highest value for the Ratio of Distance Measures and the lowest value of Swarz's Bayesian Criterion (Table 2).

Table 2: Auto-Clustering

Auto-Clustering							
Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Changes	The ratio of BIC Changes	Ratio of Distance Measures <sup>c</sup>			
1	234.792						
2	266.031	31.239	1.000	1.445			
3	310.717	44.686	1.430	1.996			
4	370.479	59.763	1.913	1.751			
5	436.733	66.253	2.121	1.039			
6	503.314	66.581	2.131	1.102			
7	570.663	67.350	2.156	1.211			
8	639.328	68.664	2.198	1.088			
9	708.496	69.169	2.214	1.127			

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10	778.312	69.816	2.235	1.303			
a. The changes are from the previous number of clusters in the table.							
b. The ratios of changes are relative to the change for the two cluster solution.							
c. The ratios of distance measures are based on the current number of clusters against the previous number of							
clusters.							

Source: Author's calculation in IBM SPSS 26.0 based on available data

Similar to the scree plot, the graphically displayed change in BIC values indicates the existence of four clusters which can be seen on the first "elbow" of the line chart.

Auto-Clustering BIC Change

Tighte 1 Trumber of clusters

Auto-Clustering BIC Change

Auto-Clustering BIC Change

Auto-Clustering BIC Change

Auto-Clustering BIC Change

Number of Clusters

Figure 1: Number of clusters

Source: Author's calculation in IBM SPSS 26.0 based on available data

Based on the Cluster Distribution Table (Table 3), the structure of clusters by country can be determined:

Table 3: Cluster Distribution

	Clu	ster Distributio	n		
Countries	Cluster	N	% of Combined	% of Total	
SAD, Germany	1	2	25.0%	25.0%	
UK, Japan, Spain, France, China	2	5	20.0%	20.0%	
Portugal, Canada, Australia, Netherlands, Italy	3	5	25.0%	25.0%	
Argentine, Switzerland, Sweden, South Korea, Poland, Brasil, Belgium, Austria	4	8	30.0%	30.0%	
Combined		20	100.0%	100.0%	
Total		20		100.0%	

Source: Author's calculation in IBM SPSS 26.0 based on available data

#### Results and discussion

The output of the Two-step cluster analysis shows the mean value of the mentioned indicators by clusters. Based on the Mean column, it can be concluded that Cluster 1 has the highest mean value of the mentioned indicators by clusters. Accordingly, countries belonging to other clusters should follow the dominant cluster when they consider arranging congress tourism (Table 4).

Table 4: Clusters Mean

Centroids								
		Conferences		Participants		PPC_100		
		Mean	Std.	Mean	Std.	Mean	Std.	
		Mean	Dev.		Dev.		Dev.	
	1	600.80	65.36	183.00	34.65	512.40	174.21	
Cluster	2	293.00	64.91	141.25	6.13	523.75	157.89	
Cluster	3	209.60	24.87	105.60	10.92	884.00	202.37	
	4	151.33	31.12	79.66	7.68	1529.3	248.05	

Source: Author's calculation in IBM SPSS 26.0 based on available data

The validity of the cluster analysis and the set model was proven through the Silhouette measure of cohesion and separation (Figure 2) which is over 0.5 which is very good (green separation part)

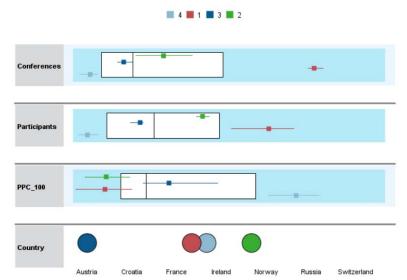
Figure 2: Two-step cluster quality measure

# Cluster Quality Poor Fair Good -1.0 -0.5 0.0 0.5 1.0 Silhouette measure of cohesion and separation

Source: Author's calculation in IBM SPSS 26.0 based on available data

In the following comparison diagram (Figure 3) of the mean values of the indicators individually by clusters, it can be determined that the red cluster (Cluster 1) is the furthest from the mean value within each box plot individually.

Figure 3: Cluster comparison chart by box plot



Source: Author's calculation in IBM SPSS 26.0 based on available data

Conclusion

When we talk about MICE, it is about the fact that organized events should be more than just education or business opportunities but should create good for all communities globally. An example is Copenhagen, which has become one of the cities with a highly developed congress industry, thanks to continuous work on sustainability and the goal of becoming the first "carbon neutral" city by 2025, which is being implemented quite successfully given that 70% of hotel capacities have eco certificates. In 2022, a slight increase in the prices of hotel accommodation and airline tickets is expected. One of the most important trends is considered to be the abolition of the commission in hotel accommodation, followed by the abolition of the commission model in the aviation industry. Event organizers take security as one of the most important factors. Thus, each destination is assigned a "risk rating" that covers both health and safety issues. Some companies deal with identifying such risks and they provide their clients with an assessment of the situation before the trip so that they can decide whether the destination is suitable for their event. The importance of safety in determining the destination of congress tourism as evidenced by the fact that 48% of cases of change occur precisely for security reasons, 38% due to destination risk assessment, and 36% due to natural disasters or extreme weather conditions. At the time of the COVID-19 pandemic, the notion of security came to the fore. Some of the prominent measures are: maintaining physical distance, determining the maximum number of people on the premises, mandatory disinfection at the entrances to the premises, and prominent notices to inform participants. Creating global meeting and event programs is a strategy that has proven successful for many multinational organizations, and there are indications that this type of centralized approach is becoming increasingly used among organizations around the world. Just some of the benefits of global programs are cost control and optimization of MICE industry activities in all markets. Another strong trend is "content that travels outside the conference room." There are many ways to use free time and companies try to devise as creative ways as possible, with the aim that these short sessions result in a positive outcome in engagement and inspiration, participants. The importance of mobile applications is evidenced by the fact that the number has more than doubled since 2017. In addition to the growth in the number of applications, the technological development of augmented reality (AR-Augmented Reality), artificial intelligence (Artificial Intelligence), faster WiFi, and new 5G networks is also growing. Today, mobile applications are used at more than 80% of all events, and on average threequarters of participants use them. Applications help participants in several ways: they speed up the application process, guide participants through the exhibition space, and answer frequently asked questions (most often using AI chatbots). The biggest benefit that event organizers have

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from applications is the collection of valuable data for marketing use to improve the experience of participants.

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