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## Economic and Strategic Implications of MICE Tourism: A Case Study of Medellín's Hospitality Sector

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### Abstract

*The Meetings, Incentives, Conferencing, and Exhibitions (MICE) industry plays a crucial role in tourism by driving economic growth, increasing hotel occupancy rates, and enhancing destination branding. This study examines the economic and strategic implications of MICE tourism in Medellín's hospitality sector, focusing on its impact on accommodation and lodging establishments (ALEs). Using a mixed-method approach, primary data was collected through surveys from 81 ALEs to assess the sector's contribution to revenue generation, employment, and business performance. Findings indicate that MICE events significantly boost hotel occupancy rates, with key events like Colombia Moda, Colombia Tex, and Feria de las Flores generating over 80% occupancy for many establishments. While larger hotels are better prepared to capitalize on MICE events through digital marketing and strategic planning, smaller ALEs face challenges in accessing market intelligence and event coordination. Moreover, MICE tourism contributes to employment growth, yet most ALEs rely on temporary staff and overtime work rather than long-term workforce expansion. The study highlights the importance of stakeholder collaboration, digital marketing strategies, sustainability initiatives, and policy support to strengthen Medellín's position as a competitive MICE destination. Recommendations include capacity-building programs for smaller ALEs, investment in digital transformation, and sustainable tourism policies to ensure long-term industry growth.*

**Keywords:** MICE tourism; Economic Impact; Medellín; Hospitality Sector; Accommodation And Lodging Establishments; Hotel Occupancy

### Introduction

Tourism plays a crucial role in the economy, contributing significantly to both economic growth and social development. In this sense, tourism has a substantial impact on the GDP of many countries, supporting various sectors such as transport, communications, construction, and agriculture, thereby stimulating overall economic activity (Kadriu, 2016; Lipkova et al., 2020). The tourism industry is a major source of employment, creating direct jobs in hotels, accommodations, and entertainment, as well as indirect jobs in related sectors like transport, finance, and insurance (Klinmalai & Kaewlai, 2024; Nepomnyashchyy et al., 2023; Zainullina & Kedrova, 2023).

In addition, it is estimated that 10% of jobs worldwide are directly related to tourism, 7% of the world's exports being produced thanks to this activity. Therefore, tourism can become one of the most effective tools for achieving the ambitious sustainable development goals (SDGs) (ONU,

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2020). Likewise, tourism stimulates investment (Alyusuf, 2021; Honuş et al., 2016) and contribute to changes at the social and cultural level through sustainable practices that affect value systems, individual behavior, family structure, collective lifestyles, and community organizations (Jovičić, 2011; Pai et al., 2024). Tourism also contributes in preserving cultural heritage and promoting regional stability, boosting local products, local businesses and further economic activities and job creation in other sectors (Nepomnyashchyy et al., 2023; Zainullina & Kedrova, 2023)

Among the sub-sectors of the tourism industry, MICE industry represents a significant contributor to the gross domestic product (GDP) in various countries, such as the United States and the United Arab Emirates, with a total economic impact amounting to billions of dollars and supporting millions of jobs (Fenich, 2014). Since, seasonality is a dominant feature of tourist activity (Honuş et al., 2016), the MICE industry contributes to economic diversification and the overall tourism sector, actively stimulating the rational use of cultural-historical and natural recreational resources (Aburumman, 2020). MICE events generate substantial revenue and economic impact on a national level, with cities aiming to become international convention destinations (Klinmalai & Kaewlai, 2024). In Singapore, MICE activities have a positive relationship with tourism demand, significantly boosting tourist arrivals and economic activity (Lim & Zhu, 2018). Then, the MICE industry is considered a highly effective way to augment a city's tourism income, contributing to its economic growth and sustainability (Danthanarayana et al., 2023).

In the case of Colombia, tourism has evolved significantly, becoming a major economic driver in Colombia, generating employment and foreign exchange (Vásquez & Villegas, 2021) (Crespi-Vallbona et al., 2019). Moreover, the peace agreement has allowed previously inaccessible areas to be developed for tourism, promoting social integration and economic revitalization (Mora et al., 2019). Medellín, the second largest city in the country, has undergone a significant transformation from being known as "the most dangerous city in the world" in the 1990s to "the most innovative city in the world" in 2013. This change has been driven by technological, social, cultural, and educational projects, which have improved the city's image and attracted tourists (Auschner et al., 2020).

Tourist satisfaction and the likelihood of revisiting Medellín are influenced by factors such as visiting historical places and traveling at low prices, with peak tourist seasons in December-January and June-July (Vanegas & Santa, 2024)(Valencia et al., 2017). Consequently, tourism has become a vital part of Medellín's economy, contributing between 8% and 9% to the city's GDP from 2005 to 2015 (Brida et al., 2020). According to the International Congress and Convention Association (ICCA), which measures the number of associative events or international congresses that take place in different countries and cities around the world, Colombia ranked 6th among the countries of the American continent, being the only country with three cities in the top ten of the Latin American ranking, while Medellín was the second city of preference in Colombia for international meeting organizers (ICCA, 2022).

This allows the city of Medellín to be considered as a provider of MICE tourism, which requires an in-depth knowledge of the behavior of this industry. Globally, the MICE sector faced severe economic challenges due to travel restrictions and reduced demand during the Covid-10 pandemic, which resulted in significant losses for airlines, hotels and other tourism-related businesses (Aburumman, 2020). However, the MICE sector has focused on resilience-building strategies, including re-evaluating operational costs and integrating virtual components into

traditional business models, such as health and safety practices, technological innovation, visitor diversity and effective communication and crisis management practices (Lekgau & Tichaawa, 2021a, 2022, 2023b, 2023a). This is not alien to Medellín, which is why the MICE industry has facilitated economic reactivation through massive events that permeate other economic activities of subsectors such as accommodation and food services, among other productive subsectors.

Consequently, it is necessary to analyze the economic dynamics generated by the MICE industry in Medellín to understand its transversality in the different subsectors of the industry, to define an appropriate terminology for the homologation of concepts and for the projection and generation of new plans and strategies for the city. In this sense, the aim of this article is to measure the economic impact of the MICE industry on accommodation and hospitality establishments, to examine the existing concepts for measuring economic impact and to formulate a methodology that will be a management tool for the industry. In this way, this study will contribute to the continued consolidation of Medellín as a quality, competitive destination with a strong tourism brand positioning, and will allow ALEs to make more accurate decisions and projections based on market demand and trends. The remainder of the article is organized as follows: Section 2 presents a framework for the MICE industry. Section 3 presents the methodological approach. Section 4 describes the results, while section 5 discusses the implications of the study. Section 6 concludes the paper and suggests future research.

## **Framework**

The MICE industry has emerged as a pivotal force in enhancing destination marketing and branding, utilizing regional cultural heritage and natural landscapes to appeal to business travelers and corporate events. By showcasing a destination's unique attributes, MICE events enable cities and regions to distinguish themselves as desirable locales for high-level professional gatherings, thereby contributing to sustained tourist interest and economic growth (Ciuffreda & Simonetti, 2024). With cities globally aspiring to become premier convention and exhibition hubs, the economic implications of MICE tourism are profound. For instance, cities actively seeking international convention status benefit from the substantial revenue generated by MICE events, which in turn augments the city's overall tourism income and solidifies its economic sustainability (Danthanarayana et al., 2023; Klinmalai & Kaewlai, 2024).

The economic contributions of the MICE sector are also quantifiable on a macroeconomic scale, particularly in major markets such as the United States, where the industry has been reported to contribute approximately US\$80.7 billion to the GDP, support 1.57 million jobs, and generate tax revenues nearing US\$12 billion (Fenich, 2014). This economic impact reverberates through local economies by boosting tourist arrivals and creating demand for an array of services, such as lodging, catering, and entertainment, which are essential for successful events (Lim & Zhu, 2018; Rahayu, 2017). Moreover, by fostering a professional environment where knowledge exchange and networking can thrive (Zazueta-Hernández & Velarde-Valdez, 2024), MICE events contribute not only to the immediate economic growth but also to the long-term development and image enhancement of tourist destinations (Danthanarayana et al., 2023; Kerdpitak, 2019).

Collaboration among stakeholders within the MICE sector, including local government bodies, tourism boards, and private enterprises, is essential for maximizing economic and branding benefits. Effective stakeholder integration, particularly in social capital and supply chain efforts, has been shown to elevate corporate performance and enhance the destination's competitiveness

on a global scale (Yoon & Wang, 2023). In addition, the exhibition segment within MICE serves as a vital marketing platform, where factors such as quality infrastructure, service standards, and host city leadership become critical for exhibitors' satisfaction and event success (Jin et al., 2013; Pan et al., 2014; Shereni et al., 2018).

### **Accommodation and Venue**

The MICE industry encompasses several crucial areas for its success and sustainability, including accommodation and event spaces infrastructure, enabling cities to host high-level events. Hotels not only provide lodging for participants but also offer meeting spaces and additional services, making them central to MICE activities (McCabe, 2014). Additionally, the quality and availability of infrastructure, such as exhibition halls and conference centers, are vital to attract large-scale events and meet organizers' expectations (Yao et al., 2024). To select MICE accommodations and venues effectively, several key factors should be considered such as venue facilities, where the quality and layout of the venue, including the availability of modern amenities and technology, should be well-designed to meet the specific needs of different types of events (Burger & Saayman, 2009; Whitfield et al., 2014). Therefore, the quality of convention centers and hotels, including their facilities and services, is a major consideration (Lee & Lee, 2017).

Adequate and convenient lodging options near the venue are also important issues for attendees, especially for multi-day events. Hotels often play a significant role by providing both accommodation and meeting spaces (Hamid et al., 2012; McCabe, 2014). High standards of service quality are demanded in the MICE market, making it necessary for destinations to maintain excellent service levels (Rojas Bueno et al., 2020) (Çakmak et al., 2024). For this reason, well-trained staff and efficient management are also vital for the smooth operation of MICE events since the quality of service provided by the venue staff can significantly impact the success of the event (Burger & Saayman, 2009).

Easy access to the venue is crucial for attracting attendees, including proximity to major transportation hubs like airports and public transit systems (Kasagrande et al., 2017; Klinmalai & Kaewlai, 2024). In this way, as the MICE industry grows, so does the competition among destinations, so cities must continuously improve their infrastructure and services to remain competitive (De Lara & Har, 2008). In addition, the economic stability and social environment of the destination can influence the attractiveness of the venue, so factors such as local hospitality, safety and the general economic environment need to be considered (Jin et al., 2013) (Rittichainuwat et al., 2020). Consequently, investment in infrastructure, such as transport and event facilities, is therefore essential to enhance the attractiveness of a destination (Ciuffreda & Simonetti, 2024; Sylla et al., 2015). Support infrastructure is also important to enhance the overall experience for attendees, making the destination more attractive, and it includes restaurants, entertainment options, and other leisure activities (Jin et al., 2013; Rittichainuwat et al., 2020).

### **Marketing and Collaboration**

Destination branding and image are also essential components in the MICE industry, as well-positioned destinations are more appealing to business travelers and event planners. Incorporating cultural and heritage resources into destination branding efforts significantly enhances its attractiveness and strengthens its image, directly influencing travel decisions for MICE attendees (Danthanarayana et al., 2023; Kim et al., 2022). A destination with a strong,

positive image, supported by effective marketing and promotion, can compete on a global scale, attracting events, and a continuous flow of attendees and sponsors, and tourists (Yusoff et al., 2015).

On the other hand, collaboration among stakeholders, including event planners, suppliers, government entities, and other organizations is essential for the resilience and recovery of the MICE sector, particularly during periods of economic or health-related uncertainty (Lekgau & Tichaawa, 2024). Establishing councils and partnerships facilitates information sharing and capacity-building, fostering a support network that benefits local providers and the broader economy alike. In this regard, government policies, and financial support, and airline connectivity are critical in the development and recovery of the MICE (Lekgau & Tichaawa, 2021b, 2023a; Wan, 2022). In this sense, limited marketing efforts to attract business travelers is pivotal to face low brand recognition and market specialization (Aburumman, 2020; Ciuffreda & Simonetti, 2024; Zhou, 2011).

### **Cultural Heritage**

Cultural heritage resources significantly enhance the attractiveness of MICE destinations (Çakmak et al., 2024). By integrating cultural and heritage resources into MICE tourism, it can build brand equity and improve the overall destination experience (Kim et al., 2022). Then, the emergence of the global cultural and creative industry has led to the need for innovative economic development through MICE events (Hung et al., 2021). In countries such as the UAE, the MICE industry has a significant impact on the country's GDP, highlighting the importance of MICE tourism in leveraging cultural and historical resources for economic development (Aburumman, 2020). In some regions, such as Campania, the exploitation of cultural heritage and scenic landscapes is seen as a strategic opportunity to promote MICE tourism. However, inadequate infrastructure and limited marketing efforts need to be addressed to fully attract business travelers, in line with the intersection of cultural heritage and MICE tourism (Ciuffreda & Simonetti, 2024).

In this sense, advanced technologies like virtual reality and 3D modeling are being used to preserve and share cultural heritage, making it more accessible and engaging for MICE tourists, thus, democratizing access to cultural heritage sites (Rizou et al., 2024). Furthermore, technologies such as gesture-based interfaces and motion sensing can enhance user interaction with cultural heritage in virtual environments, providing a more immersive experience compared to traditional mouse and keyboard control (Ismail et al., 2024; Manghisi et al., 2018).

### **Technology Innovations**

Technological advancements have profoundly impacted the MICE industry, especially with the rapid shift toward virtual and hybrid events, which became critical for business continuity during the COVID-19 pandemic (Litvinova-Kulikova et al., 2023). This shift has driven the integration of digital tools, such as mobile apps and virtual platforms, which enable real-time event information, virtual conferencing, and personalized engagement opportunities for participants. For example, mobile applications specifically designed for convention centers have improved participant experiences, offering seamless access to event schedules, session details, and networking tools (Parthasarathi et al., 2017; Ryu, 2016).

The COVID-19 pandemic accelerated the adoption of virtual and hybrid event formats, transforming the MICE landscape to adapt to new health guidelines and participant expectations (Lekgau & Tichaawa, 2021b; Litvinova-Kulikova et al., 2023). Many organizations had to

realign their policies and operational strategies to address the logistical challenges of online and hybrid events, investing in technology and rethinking engagement methods. This transition, while initially challenging, enabled the MICE sector to remain resilient, keeping business activities functional despite restrictions on physical gatherings (Martín-Rojo & Gaspar-González, 2024). South Africa, for instance, implemented policy measures that included financial support and strategic realignment to strengthen industry resilience, illustrating the crucial role of supportive policies in sustaining MICE tourism amid global crises (Lekgau & Tichaawa, 2021b).

Looking forward, the resilience and future growth of the MICE industry will likely depend on a combination of technology-driven adaptability, safety and hygiene practices, and effective crisis management. As organizations continue to adopt hybrid models, diversity among attendees is expanding, enhancing the exchange of ideas across different cultural and professional backgrounds (Lekgau & Tichaawa, 2023b). Moreover, these models necessitate reliable digital infrastructure and innovative communication practices to keep pace with evolving participant expectations, provide immersive, impactful experiences in both virtual and physical spaces, allowing attendees worldwide to engage with content and speakers, regardless of their location.

### **Sustainability**

The tourism industry faces increasing pressure to manage its environmental footprint, prompting a demand for products that are socially, environmentally, and economically responsible. This requires extensive collaboration between tourism businesses, destinations, and regulatory authorities to address a variety of challenges while maintaining competitiveness (Kenza & Bark Houssas, 2021). In the MICE sector, prioritizing sustainable practices in the selection of accommodations and venues is essential to ensure long-term benefits (Hamid et al., 2012). This includes choosing eco-friendly facilities and ensuring accessibility, such as providing disabled access to promote diversity and inclusion, thus making venues welcoming to all attendees (An et al., 2021; Dashper & Finkel, 2020).

Resource efficiency is also vital for reducing the environmental impact of MICE events, encompassing areas like energy efficiency, water conservation, and waste management to demonstrate a clear commitment to sustainable practices (Smith, 2009). Venues should strive to operate with energy-efficient systems, integrating renewable energy sources and energy-saving technologies wherever possible, as well as adopting water-saving measures and technologies. Recycling programs that include the separation and composting of organic waste further contribute to sustainable operations, helping to minimize environmental impact (Draper et al., 2011).

In addition, careful planning and procurement practices are essential to avoid unnecessary pollution and waste. For example, sourcing food and materials locally can significantly reduce transportation emissions, support local economies, and promote the use of goods and services with a lower environmental impact (Chang & Chang, 2022). Likewise, procuring goods and services with a lower environmental impact, considering life cycle assessments, and carbon neutrality can contribute to a more responsible tourism sector that aligns with broader environmental and social goals (Kitamura et al., 2020).

Therefore, MICE tourism faces several challenges in terms of sustainability and environmental impact, including inadequate infrastructure, limited marketing efforts, and the need for sustainable practices to attract environmentally conscious business travelers (Ciuffreda & Simonetti, 2024). Factors like accessibility, venue facilities, and the economic environment of

the destination also play a role in the attractiveness and success of MICE events (Jin et al., 2013), as well as competitiveness, and addressing service quality (Jotikasthira et al., 2016) (An et al., 2021). This requires the integration of MICE into tourism strategies, including marketing and collaboration, cultural heritage and the correct use of big data to improve MICE operations (Kim et al., 2022; Ruoxin & Yujun, 2019; Yi et al., 2020).

## **Methodology**

The methodology proposed for this study independently measures several variables that are subsequently compared and analyzed for decision making purposes. To this end, the variables for measuring the economic impact on ALEs in the MICE sector, the design of the research tool and the sample size and data collection are presented.

### **Variables to Measure Economic Impact on ALEs in the MICE Industry**

In order to establish the variables to measure the economic impact generated by the MICE industry, the concept of economic spillovers applied to tourism was taken into account, as tourism contributes to regional convergence and regional growth and positively affects the economy of a region or country (Andraz et al., 2016). Tourism generates significant local economic benefits, thanks in part to important positive spillovers in the manufacturing sector (Faber & Gaubert, 2019). In this way, economic spillovers represent the injection of money into the economy through direct and indirect income, jobs for people directly linked to the tourism industry, and support for other sectors of the economy when tourism revenue is reflected in the purchase of goods and services produced in the region.

Economic spillovers allow for the identification of how economic growth in one area promotes economic growth in another area that is geographically close, thus generating benefits for neighbors through tourism growth (Ma et al., 2015; Yang & Fik, 2014). In the case of tourism, spillovers allow for relationships and interactions between tourism growth and industrial output growth (Cee et al., 2019). Intra- and inter-sectoral spillovers work together to systematically shift economic resources to tourism-oriented regions, ultimately maximizing the overall economic benefits of tourism (Faber & Gaubert, 2019).

Furthermore, economic spillovers can be used to assess the direct and indirect effects of tourism on the local economy and the impact of tourism demand between several countries with similar climatic conditions and macroeconomic factors, as well as geographical proximity to each other (Mitra et al., 2019). It has also been established that tourism in one region has regional spillover effects on other regions, so such effects should not be ignored in tourism, and even more so considering that each region benefits differently from tourism depending on its location (Andraz et al., 2016).

Spillover effects thus include both positive and negative externalities resulting from the activity or economic processes that affect any element not directly related to the activity and are typically associated with (i) labor turnover; (ii) imitation of successful practices, technologies and management strategies of more advanced counterparts; (iii) intense competition, innovation, productivity enhancement and development of competitive advantages (Yang and Wong, 2012).

Considering the characteristics of ALEs, the variables relevant for defining the economic impact of a MICE event in an ALE have been selected and are presented in Table 1.

<b>Variable</b>	<b>Description</b>
Media	Types of media used to get information and inform about MICE events and to promote ALEs for MICE events.
Type of event	Different types of events, such as conferences, exhibitions, incentive trips and others, attract different attendee profiles, which can affect both the average spend per attendee and the total revenue volume.
City events	Impact of relevant annual tourism events in the city (In the case of Medellin: Flower Fair, Colombiamoda, ColombiaTex, among others), or seasonality
Room occupancy	Shows the percentage of room occupancy for the different types of event and city events.
Revenue	Revenue generated by MICE events through payment for accommodation services, consumption of additional services in ALEs and higher consumption rate than other types of tourists.
Employment	Jobs and opportunities created by the MICE industry.

Table 1. Variables used to define the economic impact of MICE events

### Design of the Research Tool

Considering the selected variables and the objective of the research, the questionnaire presented in Table 2 and Table 3, composed of two sections, ALE Overview and ALE and MICE, was designed to collect the necessary information to carry out the analysis of the economic impact of the MICE industry on ALE SMEs in the city of Medellín.

<b>N°</b>	<b>Question</b>	<b>Response option</b>
1	ALE name	Open-ended question
2	NIT	Open-ended question
3	Contact person	Open-ended question
4	Job title	Open-ended question
5	Email	Open-ended question
6	ALE size	1- 30 rooms 31- 70 rooms + 71 rooms

Table 2. Section 1: ALE overview

<b>N°</b>	<b>Variable</b>	<b>Question</b>	<b>Response option</b>
7	Media	Does your company have advance information about MICE events in the city?	<ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul>
8	Media	If you answered yes to question 7, please choose 3 ways in which you heard about the event	<ul style="list-style-type: none"> <li>• Social networks</li> <li>• Street Crossings</li> <li>• Billboards</li> <li>• Radio</li> </ul>

			<ul style="list-style-type: none"> <li>• Print press</li> <li>• Television</li> <li>• Guild</li> <li>• Other. Which?</li> </ul>
9	Type of event	Rank the following options from 1 to 6, where 1 is the type of event with the highest economic benefit and 6 is the type of event with the lowest economic benefit for your company.	<ul style="list-style-type: none"> <li>• Congresses and conventions</li> <li>• Concerts</li> <li>• Trade fairs</li> <li>• Exhibitions</li> <li>• Shows and leisure events</li> <li>• Sporting events</li> </ul>
10	City events	Name the specific events in the city that generate the most economic revenue for your accommodation.	<ul style="list-style-type: none"> <li>• Open-ended question</li> </ul>
11	Room occupancy	What is the approximate percentage of occupancy in the ALE generated by events such as congresses and conventions, concerts, trade fairs, exhibitions, shows and leisure events, sporting events, etc.?	<ul style="list-style-type: none"> <li>• 0.0% - 20%</li> <li>• 21% - 40%</li> <li>• 41% - 60%</li> <li>• 61% - 80%</li> <li>• 81% - 100%</li> </ul>
12	Revenue	Do events, fairs, conventions and trade fairs in the city increase your ALE's sales?	<ul style="list-style-type: none"> <li>1 - Strongly disagree</li> <li>2 - Disagree</li> <li>3 - Neither agree nor disagree</li> <li>4 - Agree</li> <li>5 - Strongly agree</li> </ul>
13	Revenue	Do events taking place in the city promote the consumption of additional services for my guests within the hotel?	<ul style="list-style-type: none"> <li>1 - Strongly disagree</li> <li>2 - Disagree</li> <li>3 - Neither agree nor disagree</li> <li>4 - Agree</li> <li>5 - Strongly agree</li> </ul>
14	Revenue	Do guests travelling to the city for MICE tourism purposes have a higher consumption than guests with other reasons for visiting the city?	<ul style="list-style-type: none"> <li>1 - Strongly disagree</li> <li>2 - Disagree</li> <li>3 - Neither agree nor disagree</li> <li>4 - Agree</li> <li>5 - Strongly agree</li> </ul>
15	Employment	What is the percentage increase in direct employment through MICE events?	Open-ended question
16	Employment	Has the company implemented initiatives or programs to provide training opportunities for young or unskilled employees?	Open-ended question
17	Employment	What is the percentage of	Open-ended question

	t	employment created for women in the hotel?	
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Table 3. Section 2: ALE and tourism

**Sample size and data collection**

To calculate the sample size in this study, the formula for random sampling from a finite population is used in equation (1), where  $n$  is the sample size,  $N$  is the population size,  $Z$  is the value corresponding to the desired confidence level,  $p$  is the expected proportion of the population that has the characteristic of interest, and  $E$  is the acceptable margin of error.

$$n = \frac{N \cdot Z^2 \cdot p \cdot (1 - p)}{(N - 1) \cdot E^2 + Z^2 \cdot p \cdot (1 - p)} \tag{1}$$

To determine the number of SME ALEs in Medellín, the databases of the Medellín Chamber of Commerce and the Colombian Hotel and Tourism Association (COTELCO) in the Antioquia region were consulted. These databases identified 440 hotels registered with the National Tourism Registry (RNT). With this population and taking into account a confidence level of 95% ( $Z=1.96$ ), a  $p$ -value of 0.5 because it is an unknown value, and a margin of error  $E$  of 10%, a sample size of  $n=79$  was obtained.

To cover the calculated sample size, 90 ALEs were randomly selected and sent the survey through Google Forms, of which 81 satisfactorily completed the questionnaire or requested a personal visit to complete the survey, thus complying with the previously calculated sample size. The results of the questionnaire were checked to ensure that there were no unanswered questions or atypical data, and these inconsistencies were again validated with the ALEs that submitted them, thus guaranteeing the reliability of the answers obtained. Once the data had been collected and cleaned, a descriptive analysis was carried out using software such as Statgraphics and Excel to obtain tables and figures that facilitate the presentation and visualization of the data.

**Results**

This section presents the findings on the economic and strategic impact of MICE tourism on ALEs in Medellín. The analysis explores MICE event awareness among ALEs, occupancy trends, revenue growth, guest spending patterns, and employment effects.

**Media**

Accommodation and Lodging Establishments (ALEs) in Medellín are categorized by capacity: micro (1–30 rooms), small (31–70 rooms), and medium (71+ rooms). Table 4 shows that in the sample 49.4% of ALEs were micro enterprises (1 to 30 rooms), 33.3% were small enterprises (31 to 70 rooms) and 17.3% were medium enterprises (over 71 rooms). The study found that 66.7% of ALEs actively collect information about local MICE events. However, awareness levels vary by establishment size, where 85.7% of medium-sized hotels track MICE events, compared to 77.8% of small and 52.5% of micro ALEs. These findings suggest that larger ALEs are better integrated into the MICE ecosystem, proactively monitoring events to optimize marketing strategies and capacity planning. Smaller establishments, with lower access to industry intelligence, may struggle to leverage MICE tourism effectively.

ALE size	ALEs	% ALEs	ALEs collecting MICE information	% ALEs collecting MICE information
1- 30 rooms ALE	40	49.4%	21	52.5%
31- 70 rooms ALE	27	33.3%	21	77.8%
Over 71 rooms ALE	14	17.3%	12	85.7%
Total ALE	81	100%	54	66.7%

Table 4. Sample by ALE size and ALEs with MICE event information collection

Regarding media sources used to track MICE events, Figure 1 shows that 88.5% of ALEs rely on social media, making it the dominant information channel. This suggests that event organizers should focus on high-impact digital campaigns to improve visibility among ALEs. Additionally, 46.2% of ALEs obtain event information through industry associations, reinforcing the importance of collaborative networks in disseminating key updates. Traditional media, including TV, radio, and print, remain secondary sources, used by 15.4%–26.9% of ALEs.

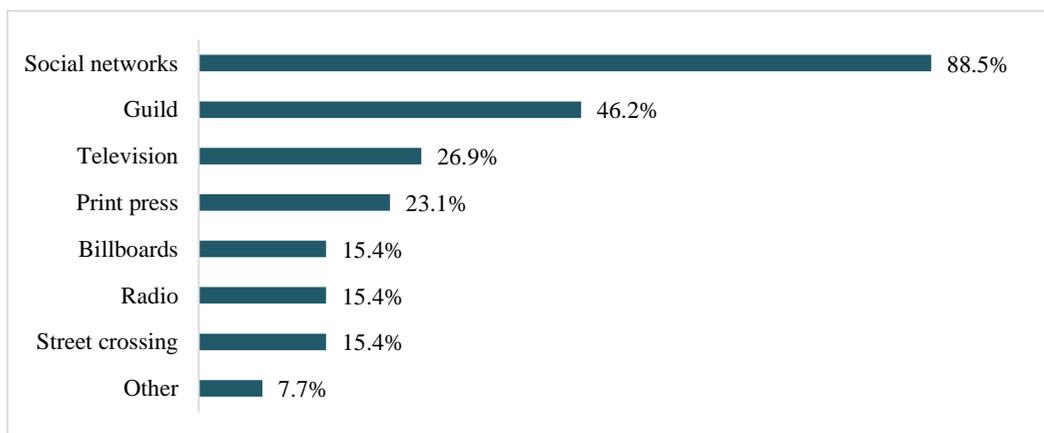


Figure 1. Media used by ales to find out about mice events

### Type of Events

The study assessed which MICE events generate the highest economic benefits for ALEs in Medellín. Table 5 shows that in Medellín, concerts and fairs are the most valued in this respect by the ALEs, receiving an average importance rank of 2.3 and 2.4 respectively, in a ranking from 1 to 6, with a mode equivalent to rank 1, meaning that rank 1 prevails in the responses of the ALEs, and a median equivalent to rank 2, reflecting a moderate dispersion towards higher importance ranks. In this sense, it is important for ALEs to adequately plan marketing and operational activities to make the most of the economic spillover generated by concerts and trade fairs held in the city, and to create value-added offers appropriate to the nature of these MICE events to attract tourists and provide them with an adequate accommodation solution.

Events such as conferences, congresses and exhibitions receive an average importance rating of 3.0 and 3.9 respectively on a ranking of 1 to 6, with the modal and median values corresponding to rank 3 in the case of conferences and congresses and rank 4 in the case of exhibitions, making

them equally important to consider in the planning of ALEs to better exploit the economic benefits of such events.

Type of event	Mean	Mode	Median
Concerts	2,3	1	2
Trade fairs	2,4	1	2
Conferences and conventions	3,0	3	3
Exhibitions	3,9	4	4
Sporting events	4,6	6	5
Shows and leisure events	4,6	6	5

Table 5. Types of events with higher economic benefits for ALEs

Table 6 shows the proportion of ALEs reporting different percentages of occupancy due to the main MICE events in Medellín, highlighting events such as the Feria de las Flores, Colombia Moda, Colombia Tex and Feria de las Dos Ruedas. This information shows that the Feria de las Flores generates an average occupancy rate of 80.9%, as it is the most important and traditional annual fair in Medellín, offering tourist attractions such as parades of vintage cars and *silleteros*, concerts, art exhibitions, gastronomic fairs, musical performances, bicycle rides, among others. Likewise, textile-clothing-fashion fairs such as Colombia Moda and Colombia Tex generate average ALE occupancy rates of 74.4% and 71.5% respectively. Another relevant annual MICE event in Medellín is the Feria de la Dos Ruedas, a trade fair dedicated to the motorcycle, bicycle, sustainable mobility and other two-wheeled vehicles industry, which generates an average ALE occupancy rate of 62.9%.

% occupancy	Feria de las Flores	Colombia Moda	Colombia Tex	Feria de las Dos Ruedas
0.0% - 20%	2,9%	3,7%	3,7%	7,1%
21% - 40%	5,7%	11,1%	7,4%	14,3%
41% - 60%	0,0%	3,7%	14,8%	17,9%
61% - 80%	17,1%	22,2%	25,9%	28,6%
81% - 100%	74,3%	59,3%	48,1%	32,1%

Table 6. Impact of specific MICE events on the ALEs occupancy

### Room Occupancy

In addition to the economic benefits generated by MICE events, room occupancy is a highly relevant outcome for ALE as it reflects the use of installed capacity. In this sense, Table 7 shows that concerts and trade fairs are the types of events that generate a higher proportion of occupancy

than 80%. Specifically, 41.4% of respondents indicate that they achieve over 80% occupancy due to concerts held in the city, and 35.5% of respondents indicate that they achieve over 80% occupancy due to fairs held in Medellín. Conferences and congresses also have an important impact on occupancy rates, generating occupancy rates of over 81% for the 25% of the ALEs surveyed. In addition, Figure 2 shows that concerts and fairs generate an average occupancy rate of 70% and 68% respectively, while congresses and conventions and exhibitions generate an average occupancy rate of 58.8% and 55.7% in the ALEs considered in this study. Nevertheless, the average occupancy rate of 47% of the accommodation capacity generated by shows and leisure events and sports events in these ALEs is not negligible.

% occupancy	Concerts	Trade fairs	Conferences and conventions	Exhibitions	Shows and leisure events	Sporting events
0.0% - 20%	0,0%	0,0%	6,3%	3,6%	17,9%	14,8%
21% - 40%	10,3%	12,9%	12,5%	25,0%	25,0%	18,5%
41% - 60%	20,7%	19,4%	37,5%	35,7%	21,4%	48,1%
61% - 80%	27,6%	32,3%	18,8%	10,7%	25,0%	3,7%
81% - 100%	41,4%	35,5%	25,0%	25,0%	10,7%	14,8%

Table 7. Impact of MICE events on the occupancy rate of ALEs



Figure 2. Average occupancy generated by MICE events in ALEs

## Revenue

Regarding the increase in sales in ALEs due to MICE events in the city, Figure 3a shows that 79% of ALEs surveyed strongly agree that MICE events generate an increase in sales, while 11% agree, reflecting that 90% perceive a significant positive impact of these events on the economic performance of the establishments. 5% of ALEs are neutral (neither agree nor disagree), while 5% disagree, indicating that they perceive little, or no positive impact associated with these events. Figure 3b also shows that the majority of ALEs (59.3%) report an increase in turnover of between 30% and 60% as a result of MICE events, with an average increase of 48.1%, which

represents a significant increase in turnover for ALEs.

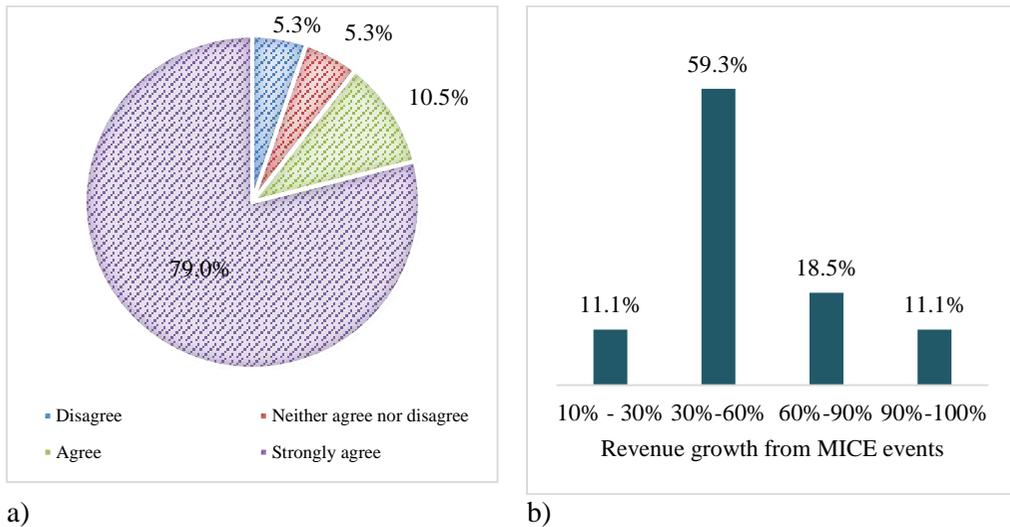


Figure 3. a) Increased sales from MICE events; b) % ALEs reporting MICE revenue growth

Regarding the additional services generated by MICE events, Figure 4a shows that 73% of ALEs agree (strongly agree or agree) that guests consume more services when MICE events take place in the city and that, compared to other guests, 39% of ALEs consider that tourists from MICE events consume more or spend more than guests and tourists staying in ALEs for other reasons (Figure 4b).

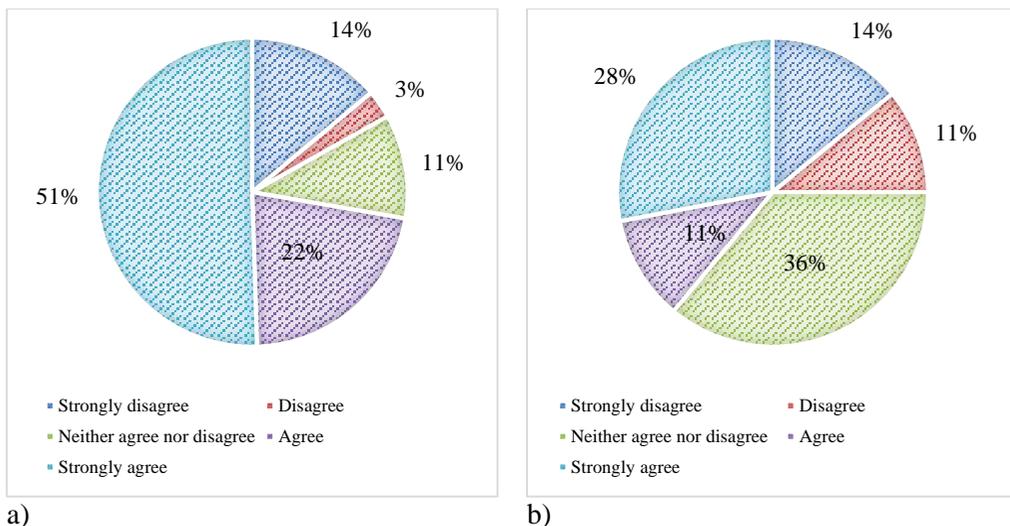


Figure 4. a) Additional services consumption; b) Higher consumption than other guests

## Employment

Due to the impact that MICE events have on tourism in Medellín, ALE entrepreneurs prepare for future demand by hiring personnel when a fair, event or convention is held in the city. In this

case, direct employment refers to people hired directly by ALEs, who generally work as operational and service personnel in areas such as accommodation, food and beverage services, security, reception and reservations, among others. In general, ALEs report that MICE events have an average increase in direct employment of 18.7%, indicating limited growth across most of the sector.

In detail, Table 7 shows that 46.7% of ALEs generate an increase in direct employment between 11% and 40%, while 40% of ALEs generate an increase in direct employment between 0% and 10%. Only 10% of ALEs generate a significant increase in direct employment between 40% and 70%, while only 3.3% of ALEs report a significant increase in direct employment between 70% and 100%. This modest increase in direct employment is partly since ALEs tend to use overtime to meet the increased demand generated by MICE events, highlighting the importance of ensuring the consistency of these events throughout the year to promote a more significant increase in direct employment.

In turn, ALEs must be prepared to provide good customer service and run efficient operations to ensure value for guests, which is why 75.9% of ALEs report that they have provided training initiatives or programs for young people or employees, giving them the opportunity to strengthen or acquire new skills and abilities that can increase productivity and work efficiency. This is essential both for young people entering the labor market and for employees seeking to improve in their current role or to progress in their career, while at the same time enabling greater adaptability to the environment, either through the correct use of technology, tools, processes or procedures, allowing the employee to stay ahead of the latest industry and business trends or EAYH.

Based on the results of the research, it is clear that ALEs are creating gender responsive employment opportunities that promote equal opportunities for women, as 66.7% of ALEs report that between 81% and 100% of their employees are women, as well as 16.7% of ALEs having between 41% and 60% female employees, and only 16.7% of ALEs reporting that between 21% and 40% of the workforce are women. In many cases, ALEs perceive that women have more developed interpersonal and communication skills, making them suitable for customer service roles, and women are also associated with waitressing, reception and other roles that require a greater degree of attention to detail and finesse.

## **Discussion**

The findings of this study highlight the significant economic impact of MICE tourism on ALEs in Medellín. The results demonstrate that MICE events contribute substantially to hotel occupancy rates and revenue growth, aligning with previous studies emphasizing the sector's role in economic development and urban competitiveness (Danthanarayana et al., 2023; Fenich, 2014; McCabe, 2014). The seasonality challenges faced by the tourism industry are mitigated by MICE events, which ensure a steady influx of visitors outside traditional peak leisure seasons, fostering business stability. The data indicate that concerts, trade fairs, and conventions are the most lucrative event types for ALEs, generating the highest occupancy rates and revenue increases. These findings are consistent with research highlighting the positive correlation between MICE activities and tourism demand (Çakmak et al., 2024; Lim & Zhu, 2018; Zazueta-Hernández & Velarde-Valdez, 2024).

The experience of ALEs in Medellín regarding occupancy rates exceeding 80% during key MICE events such as Colombia Moda, Colombia Tex, and Feria de las Flores, confirm that large-scale

events drive economic activity across multiple sectors. Despite the economic benefits, business readiness and participation in MICE tourism vary by ALE size. Larger establishments demonstrate a greater level of awareness and proactive engagement with MICE events, utilizing social media and industry networks to stay informed. In contrast, smaller ALEs exhibit lower levels of information access and strategic planning, which may limit their ability to capitalize on MICE opportunities, suggesting a need for capacity-building initiatives to improve market integration for small and medium-sized ALEs.

Social media has emerged as the primary channel for ALEs to gather information on MICE events (88.5% of establishments rely on digital platforms). This aligns with findings that destination branding and event promotion strategies must prioritize digital marketing to attract business travelers and MICE stakeholders (Danthanarayana et al., 2023; Kim et al., 2022). However, traditional media, such as television, radio, and print, still play a role in event awareness, particularly for larger-scale exhibitions and fairs. In this regard, ALEs that actively monitor MICE events are better positioned to implement dynamic pricing strategies, optimize inventory, and tailor service offerings to MICE travelers. The study highlights the importance of real-time data analytics and business intelligence tools to enhance revenue management and decision-making within the hospitality sector (Martín-Rojo & Gaspar-González, 2024; Ruoxin & Yujun, 2019).

Moreover, the MICE sector contributes to moderate employment growth, with ALEs reporting an average increase of 18.7% in direct employment during events. While this expansion is beneficial, it remains relatively limited compared to the overall economic impact. Many establishments rely on temporary staff and overtime labor, highlighting a missed opportunity for sustained workforce expansion. Additionally, gender inclusivity in employment is a notable trend, with 66.7% of ALEs reporting that over 80% of their workforce is female. This suggests that the MICE tourism sector in Medellín plays a role in empowering women through employment opportunities, particularly in customer-facing roles. However, further initiatives are needed to ensure career progression and training opportunities for both male and female employees in management and specialized MICE services.

## **Conclusions**

This study has provided an in-depth analysis of the economic and strategic implications of MICE tourism in Medellín, focusing on its impact on ALEs. The findings confirm that the MICE sector plays a pivotal role in driving economic growth, boosting hotel occupancy rates, and generating revenue. However, the study also highlights challenges related to accessibility, competitiveness, and sustainability, which must be addressed to maximize the sector's full potential.

The study confirms that MICE events significantly contribute to Medellín's tourism industry, ensuring a steady flow of visitors outside peak leisure seasons. Events such as Colombia Moda, Colombia Tex, and Feria de las Flores generate high occupancy rates, with many ALEs experiencing over 80% room occupancy during these periods. Likewise, the size and readiness of ALEs influence their ability to capitalize on MICE tourism, where larger hotels demonstrate greater engagement with MICE events, leveraging social media and business networks for marketing and strategic planning. In contrast, smaller ALEs have limited access to industry information and event coordination, highlighting the need for capacity-building initiatives and industry collaboration to ensure inclusive growth within the hospitality sector.

The employment opportunities linked to MICE events remain moderate, stimulating temporary

job creation, while relying on overtime labor rather than sustained employment expansion suggests the need for long-term workforce development strategies. Additionally, women represent a significant proportion of the workforce, underlining the potential for gender-inclusive policies and leadership training programs within the sector. Some areas for improvement to enhance Medellín's position as a leading MICE destination include marketing and digital transformation, continued investment in transportation connectivity, venue infrastructure, and MICE-friendly policies, and the need for hybrid event models, flexible booking policies, and proactive risk management strategies to ensure business continuity in times of uncertainty.

### **Limitations and Future Research**

While this study provides valuable insights into Medellín's MICE industry, some limitations must be acknowledged. First, the analysis focuses on ALEs, meaning other key stakeholders such as event organizers, transportation services, and government institutions, were not directly examined. Future research should adopt a broader industry perspective to capture the full scope of MICE tourism's economic impact. Second, the study relies on survey data from ALEs, which may not fully capture consumer perspectives. Future studies could integrate business traveler feedback and demand forecasting models to gain a more comprehensive understanding of MICE tourism dynamics.

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