

The importance of exhibitions and organised events of museums and galleries in tourism

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Abstract: The objective of this article is to examine the provision of temporary exhibitions and events by Slovak museums and galleries, and to highlight their significance in the context of selected performances of these cultural attractions in the tourism sector. The article employs a secondary data analysis of the Ministry of Culture of the Slovak Republic and annual reports from 105 museums and 10 galleries in 2017, as well as 99 museums and 15 galleries in 2022. Correlation and regression analyses were employed to assess the dependence of variables. The results of the analysis confirm a direct, moderate dependence between the number of temporary exhibitions and events and the total number of visitors in museums and galleries. Additionally, the examination demonstrated that the exhibited activity has not had a positive effect on the revenues of museums and galleries. However, with an increasing number of events, their revenues from their own activities grew. The average revenues from one event were found to be higher in museums than in galleries.

Keywords: event; gallery; museum; performances in tourism; temporary exhibition

1. Introduction

The network of museums and galleries with unique exhibitions represents a significant factor in the development of cultural tourism in Slovakia. However, the complexity of these cultural institutions in the market, related both to their long-term problematic management and to the growing competition from tourism attractions, suggests that the permanent presentations of museum and gallery collections, despite their historical and cultural value, are currently insufficient to attract permanent visitors to museums and galleries. A review of the literature reveals a consensus among several authors that an effective instrument for augmenting and regulating the number of visitors throughout the year is the implementation of exhibitions and the organisation of events (Axelsen, 2006; Ekiniet al., 2021; Frey and Meier, 2006; Jaremen and Rapacz, 2018; Komarac et al., 2019; Nogare and Scuderi, 2020). This can facilitate not only a heightened cultural awareness but also the appeal of museums and galleries, thereby partially reducing their dependence on public funding. This prompts an examination of the economic and non-economic benefits of exhibitions and events held in museums and galleries, including those in Slovakia.

The aim of the article is to evaluate the proposals for exhibitions and organised events put forth by Slovak museums and galleries, and to highlight their significance

in relation to selected performances of these cultural attractions in the context of tourism.

2. Exhibitions and organised events as part of the offer of museums and galleries

In the context of cultural tourism attractions, museums and galleries occupy a distinctive position, reflecting the unique role they play in society. As stated by the Ministry of Culture of the Slovak Republic, they oversee a significant portion of the most significant tangible and intangible cultural heritage, in addition to the most valuable collections that document the richness of our country (Ministry of Culture of the Slovak Republic, 2013). To preserve and enhance their scientific, historical, cultural and artistic value, museums and galleries are required to engage in several professional activities in accordance with the Act of the National Council of the Slovak Republic No. 206/2009 Coll. on Museums and Galleries and on the Protection of Objects of Cultural Value, as amended. Such activities include the provision of public access to collections and historical objects under the management of a museum or gallery.

The comprehensive fulfilment of the statutory mission of museums and galleries is therefore linked to activities on the tourism market, in addition to activities aimed at the acquisition and safe management of collections. As posited by Jung et al., (2024), the ability of museums and galleries to meet the ever-changing demands of visitors also provides motivation for these institutions to adopt a strategic approach to management, embrace innovation and adhere to principles of sustainability. Considering the limited financial support available for museums and galleries, particularly those funded by local authorities, and the resulting lack of interest from visitors, there is a pressing need to enhance these institutions with new features that align with current demand (Jaremen and Rapacz, 2018). To ensure a more even distribution of visitors to museums and galleries, which in Slovakia has historically been concentrated primarily on castle and chateau buildings, the preparation of exhibitions and the organisation of events based on conceptual planning and aimed at meeting specific objectives of both a non-economic and economic nature is therefore becoming a key priority. Furthermore, the potential economic benefits of exhibitions and organised events for museums and galleries are emphasised by Frey and Meier (2016) and Nogare and Scuderi (2020), who have identified the key factors influencing their success.

A prerequisite for the success of exhibitions and organised events is the correct identification of the target group and knowledge of their needs and expectations. In general, the profile of a cultural tourism participant is characterised by higher education, technological savvy, activity and high frequency of travel (CBI, 2021). According to UNWTO (2018) cultural tourists spend 38% more per day and stay 22% longer than other tourists.

These characteristics also correspond to visitors to museums and galleries. Results from the UK Department for Digital, Culture, Media and Sport's 2023 and 2024 survey found that the largest proportion of adults who had visited a museum or gallery in England in the previous 12 months were aged 40–44. According to Lopéz

(2024), who examined the characteristics of visitors to Spanish museums between 2021 and 2022, people with a university degree mainly visit museums, with a preference for art museums, followed by archaeological and historical museums. The majority of Spaniards visit museums for leisure and recreational purposes, with 93.7% of survey participants indicating this. In comparison, only a small minority did so for work or study. In Slovakia, there is no similar survey addressing the socio-demographic characteristics and motivations of museum and gallery visitors.

Exhibition activities of museums and galleries. The exhibition activities represent a significant aspect of their role in the tourism industry. These activities are of a professional nature and are legally required of museums and galleries. Their objective is to facilitate public access to cultural heritage and works of art through tours of exhibitions and displays, which represent the fundamental modes of presentation of museum and gallery collections and scientific research activities.

In contrast to the long-term profiling, specialisation and composition of museum and gallery collections, exhibitions are merely temporary, thematically or monographically focused presentations (Civic Association for the Promotion of Cultural Activities (Trakt), 2016; MK SR, 2007). John (2008) posits that, despite the additional costs incurred by museums and galleries in preparing exhibitions, there are also a number of beneficial outcomes. Exhibitions serve to expand and enhance the offerings of museums and galleries, facilitate the re-engagement of existing visitors, and provide a platform for inter-institutional and international exchange and collaboration. It is feasible for museums and galleries to supplement their own exhibitions, which are primarily intended to showcase their own collections, with loaned collections. It is noteworthy that exhibitions held abroad serve to present Slovakia and its history to residents of other countries. These exhibitions typically the result of cross-border collaboration.

The competitive nature of the museum and gallery sector, both domestically and internationally, places a demand on visitors to be able to orientate themselves in accordance with current trends in order to provide a unique experience. Kesner (2005) identified four key factors that shape the experience derived from exhibition activity. These are: (1) the content and message of the exhibition (exhibits, objects, etc.), (2) the mode of presentation (spatial arrangement and organisation, interpretation, etc.), (3) ergonomic factors (type and intensity of lighting, colourfulness of spaces, possibilities of movement, etc.), and (4) the individual abilities, experiences, cultural competences, and behaviours of visitors.

To enhance the visitor experience and its associated positive effects, the Tourism Commission of Canada (2004) recommends that the focus during the development of exhibitions should be on the quality and interactivity of the presentation (McKercher, 2015). As stated by the Ministry of Culture (2007), the quality of the presentation is contingent upon the content, clarity, and accessibility of the exhibits, the symbiosis with the artistic and graphic design, the level of informative texts, and the application of information technology. These presentation elements facilitate the contextualisation of exhibitions, which Dolák (2008) defines as the capacity of museums and galleries to communicate with visitors, providing them with a comprehensive understanding of the original environment and the circumstances surrounding the exhibit. Contextualisation is directly linked to interactivity, which, as posited by Cover (2007),

is an important concept that attributes to the recipients of the message (visitors) the so-called reinterpetive function. This is the extent to which visitors engage with the exhibitions, which encourages and facilitates interpretation in a manner that aligns with their individual preferences. The objective is to provide activities related to the content of the exhibited items, the opportunity to interact with selected objects, and the dissemination of information through the utilisation of audiovisual and multimedia programmes or virtual environments. Maráková (2001) posits that the fundamental attribute of interactivity is the principle of voluntariness. In accordance with this, Kesner (2005) recommends the use of the so-called layering method, which is based on the premise that visitors with greater motivation can utilise a greater number of information channels and obtain more detailed information about the exhibits than those with less motivation. This indicates that the experience derived from visiting museums and galleries, which is a crucial factor in establishing a preference for repeat visits, is contingent not only on the quality of the exhibition but also on the level of visitor engagement. This is why Meng and Dolah (2024) call for museums and galleries to innovate and upgrade interactive exhibitions, add technological interactive elements, and improve usability and responsiveness of facilities. In order to engage and enhance the exhibition experience for younger visitors, especially students, Gao and Keller (2024) recommend that museums and galleries consider the following constructive considerations to facilitate their future development: expanding the application of digital curation, utilizing cutting-edge technologies, implementing data-driven curatorial optimization, enhancing social experiences, integrating education and entertainment, and promoting cultural preservation and environmental stewardship. These insights will help guide museums and galleries toward more engaging and sustainable experiences.

World-renowned museums and galleries are now using virtual reality (VR) and augmented reality (AR) to attract diverse audiences because they can bring history and art to life in innovative ways, giving visitors the opportunity to explore historic sites, distant cultures and the intricate details of artefacts that might be inaccessible in physical form. For example, the Louvre Museum is known for inspiring projects, which in 2021 presented a VR experience “Mona Lisa: Behind the Glass” that brings Renaissance painting to life as part of its spectacular Leonardo da Vinci exhibition (**Figure 1**) (Richardson, 2024).

London’s Victoria & Albert Museum is also known for its virtual exhibitions. In 2021, it presented a VR exhibition “Alice: Curiouser and Curiouser” that explored the origins, adaptations and inventions over 157 years, charting the evolution of Alice’s adventures in Wonderland from manuscript to global phenomenon (V&A Museum, 2024).

The current exhibition Sculpture Park by multidisciplinary artist Xavier Veilhan at Perrotin Gallery in Shanghai was also a success, creating a space to achieve a multidimensional experience in the form of a predominantly white landscape decorated with a multitude of created sculptures rendered in digital form (VIVE Arts, 2024).

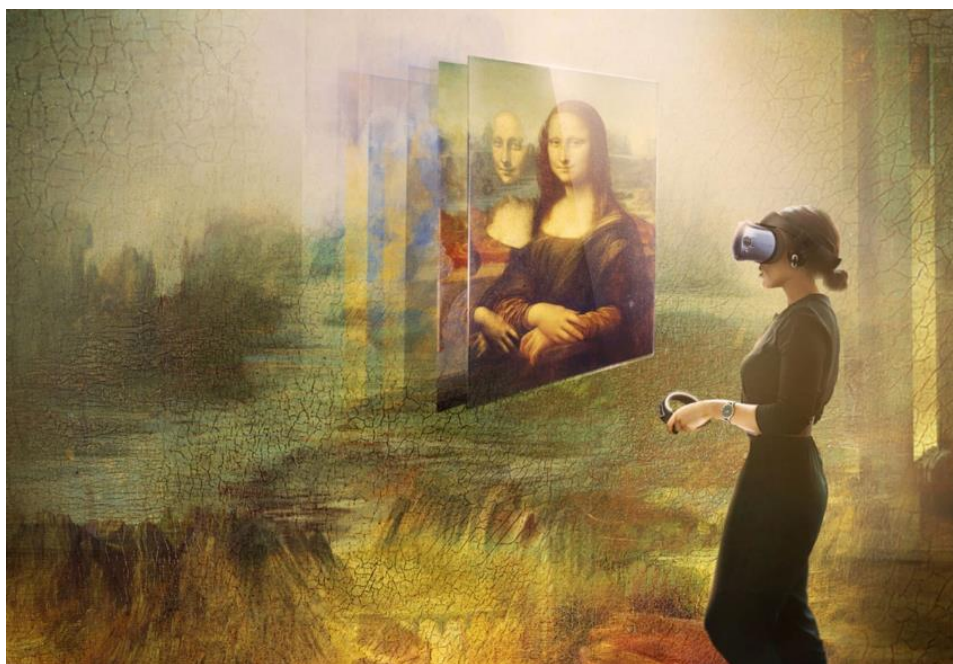


Figure 1. The first virtual reality experience presented by Musée du Louvre, Mona Lisa.

Source: www.artnet.com.

Digital interactive elements are gradually being implemented in museums and galleries in Slovakia. However, their implementation is still at an early stage compared to global trends. Many museums and galleries, as budgetary and contributory organisations of the state, have long been underfunded and understaffed, which they also announce in their annual reports on their activities from 2023.

Examples of good practice in the implementation of interactive solutions, virtual and augmented reality in the environment of Slovak museums include the Gemer-Malohontan Museum, the Liptov Museum, the Museum Červený kláštor, the Spiš Museum in Spišská Nová Ves, the Slovak Olympic and Sports Museum and the Eastern Slovak Museum in Košice (**Figure 2**) (Gemer-Malohontan Museum, 2023; UTAI, 2024).

Organising events in museums and galleries. In addition to exhibitions, which serve as a valuable supplement to the permanent collection, cultural, social, and educational events can also stimulate interest in museums and galleries. The organisation of such events is not a legal obligation for museums and galleries. It constitutes one of the supporting activities of museums and galleries in the tourism sector, the objective of which is to contribute to the attractiveness, complexity and competitiveness of their offer. As posited by Getz and Stephen (2016), the function of organised events is to attract visitors, reinvigorate the attraction, cultivate a favourable image and brand of the attraction, and facilitate capacity expansion at the destination. For museums and galleries, such events represent an attractive form of activation within the tourism market, offering the potential to contribute to their own social and economic objectives while also exerting a positive influence on their destination locations. Jaremen and Rapacz (2018) even argue that nowadays, organized events are an integral and even predominant part of the services provided by most museums and also an important tool for creating their new future.



Figure 2. Interactive exhibition “Atelier Matz” in the Museum of Spiš in Spišská Nová Ves.

Source: www.utai.sk.

The capacity of Slovak museums and galleries to organise events is contingent upon the availability of differentiated spaces with variable and broad-spectrum use. In order to guarantee the security of the exhibits, Kesner (2005) suggests that the implementation of events, contingent on their nature, be separated from the exhibition spaces of museums and galleries.

In accordance with the typology of organised events in tourism proposed by Pompurová (2014), museums and galleries are distinguished by the prevalence of short-term cultural events with local or regional significance. Ambrose and Paine (2012) emphasise the necessity of evaluating the suitability of events for cultural attractions, given the diverse suitability of different types of events. It is of the utmost importance that the selection of organised events aligns with the social mission of museums and galleries in order to ensure the preservation of their authenticity. A variety of events may be organised, including lectures, talks, educational programmes, workshops and social events linked to a cultural programme. Such events might include musical or literary evenings. The objective is to strive for a ‘museum vivum’ or ‘living museum’. This necessitates the development of a multifaced array of educational programmes, incorporating contemporary and innovative themes tailored to the age group of the participants. To optimise participant satisfaction, it is also possible to enhance the engaging programme of events by offering supplementary services for a fee (e.g., refreshments). Accordingly, as Kmeco (2005) asserts, the principal organisers collaborate with a diverse array of private and public sector entities in the preparation of events, thereby enhancing their access to financial, material and human resources. Rosales (2023), Calvi and Vermeeren (2024) emphasize above all collaboration with the local community and local artists when

organizing events in museums, which combines different artistic disciplines and makes it possible to connect with diverse audiences.

Considering the numerous advantages associated with organised events, Timothy (2011) underscores their significance for cultural tourism attractions, particularly during the off-season. Like exhibitions, they have the potential to not only stimulate additional demand but also generate supplementary revenues during off-peak periods, contingent upon the implementation of an optimal pricing strategy.

Despite the above benefits of experiential events, it must be taken into account that the museum and gallery market is currently facing a number of constraints in their realization. Wandhwani and Ambekar (2024) identify high operational costs, limited funding, competition from digital entertainment for visitors' attention, as well as staff resources and their skills that are essential in managing successful events, as the main barriers.

3. Materials and methods

The objective of the study is to evaluate the proposals for exhibitions and organised events put forth by Slovak museums and galleries, and to highlight their significance in relation to selected performances of these cultural attractions in the context of tourism.

The relationship between the number of exhibitions and organised events held at museums and galleries, and the number of visitors to these institutions, is investigated using Spearman's correlation coefficient. This is a non-parametric variant of the Pearson correlation coefficient, which is employed to ascertain the strength and direction of the dependence of ordinal variables.

The calculations are based on data from the annual reports of 105 museums and 10 galleries for the year 2017 and 99 museums and 15 galleries for the year 2022. The sample of museums and galleries represents 82% of the baseline population in both years under study. The impact of the number of exhibitions and organised events on the revenues of museums and galleries is analysed based on a time series of data from the core set of museums and galleries from 2007 to 2022, summarised by the Ministry of Culture of the Slovak Republic.

To identify and quantify the relationship between the variables under investigation, we employ regression analysis, specifically multiple linear regression. By employing this methodology, we can ascertain the mean revenue generated by a single organised event for museums and galleries in Slovakia. In contrast to simple correlation analysis, which merely identifies the existence and strength of a relationship between variables, regression analysis also allows for the examination of the shape of the relationship, thereby verifying the direction of causality. The results allow us to assess whether one or more of the examined variables exert an influence on another variable and to compare the relative influence of the variables in question (Ostertagová, 2015; Rimarcik, 2007). The results are validated at a significance level of $\alpha = 0.1$ using the SPSS Statistics statistical program.

4. Results and discussion

As documented in the Register of Museums and Galleries maintained by the Ministry of Culture of the Slovak Republic, the network of cultural attractions in Slovakia is currently comprised of 110 museums (including 18 separate organisational units or specialized museums of the Slovak National Museum) and 25 galleries. The Ministry of Culture of the Slovak Republic collates basic statistical data on exhibitions and organised events on an annual basis through the Annual Report on Museum KULT 9-01 and the Annual Report on Gallery KULT 6-01.

4.1. Offer of exhibitions and organized events of museums and galleries in tourism

A comparison of data from the decade 2012 to 2022 reveals a decline in the exhibition activity of museums and galleries in Slovakia. This is contrary to the priorities identified in strategic documents at the national level, which indicate a need for such activity to develop. In 2022, museums organised 905 exhibitions, representing a 19.7% decline from the 2012 figure. Similarly, the number of exhibitions held by galleries fell to 351, a 21% reduction compared to 2012. Nevertheless, the average number of exhibitions per museum and per gallery in 2022 is estimated to be 8 and 14, respectively. However, the annual reports of museums and galleries indicate that their exhibition activity is highly uneven. While some institutions produce more than forty exhibitions per year, there are still museums and galleries that hold only one or two exhibitions per year (**Figure 3**).

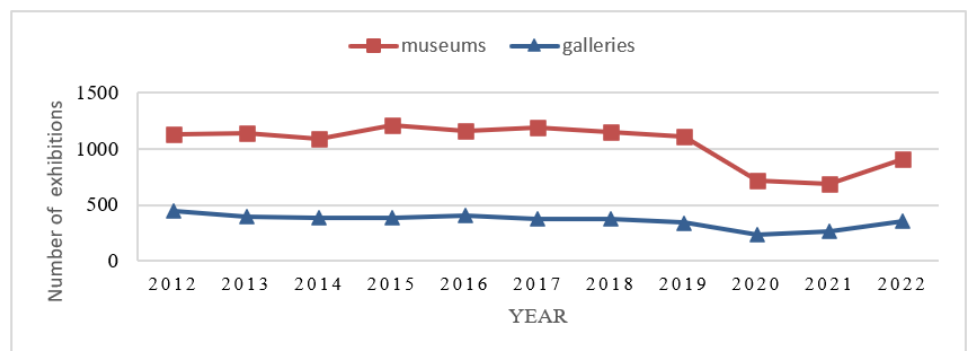


Figure 3. Number of exhibitions of Slovak museums and galleries between 2012 and 2022.

Source: Processed according to the reports of the Ministry of Culture of the Slovak Republic, 2013–2023.

The structure of exhibitions organised by museums and galleries has remained largely unchanged over the past decade. The prevalence of domestic exhibitions in comparison to those organised in collaboration with foreign countries is noteworthy. The low percentage of exhibitions exported abroad, and its decline in the past period, indicates a lack of mobility of collection objects and an underdeveloped promotional activity of Slovak museums and galleries on foreign markets. Conversely, the higher share of own exhibitions compared to the share of taken-over exhibitions suggests that museums and galleries do not rely on other entities to expand their offer, but rather present the results of their own collection and scientific research activities (**Table 1**).

Table 1. Structure of museum and gallery exhibitions in %.

Year/Type of exhibitions	Own, implemented domestically	Taken from other institutions in the country	Exported abroad	Imported from abroad
2012	65.9	24.4	4.2	5.5
2013	63.0	27.1	4.6	5.3
2014	61.2	28.9	4.3	5.6
2015	70.0	21.7	3.4	4.9
2016	71.3	19.4	4.2	5.1
2017	72.7	20.4	2.7	4.3
2018	67.1	24.8	2.6	5.5
2019	69.0	21.8	3.5	5.7
2020	73.0	21.5	2.6	2.9
2021	73.6	20.8	2.5	3.0
2022	71.8	22.1	1.6	4.5
On average	67.1	22.2	3.2	4.6

Source: Based on annual reports of the Ministry of Culture, 2012 to 2022.

In comparison to the array of exhibitions on offer, the selection of organised events hosted by museums and galleries is more extensive. The results of the State Statistical Survey of the Ministry of Culture of the Slovak Republic indicate a notable increase in the number of events held in museums, from 8364 in 2012 to over 9297 in 2022. In comparison to museums, galleries demonstrated a higher level of activity, with an average of 8083 events held in 2022, representing a 2114-event increase from the previous decade.

A notable development in national statistics in recent years has been the introduction of a monitoring system for the structure of museum and gallery events. Since 2015, the Ministry of Culture of the Slovak Republic has conducted a separate survey of the number of cultural and social events and the number of educational events (activities). In 2022, the mean number of cultural and social events and educational events (activities) per Slovak museum was 23 and 61, respectively. Of these, over three-quarters were designed for children and young people. Galleries demonstrated greater activity. In 2022, a Slovak gallery produced an average of 43 cultural and social events and 281 educational events (activities), with nearly half of these events primarily aimed at children and youth visitors. The considerable number of educational events (activities) can be attributed to the inclusion of additional formats beyond lectures, talks and educational programmes, such as lectures.

Notwithstanding the fact that the mean number of participants at an event held in a museum was 70, with a mean of 14 participants at an event held in a gallery, the proportion of gallery events in the total number of events attended is higher in the long term than that of museum events. In 2022, event attendees in museums constituted 15% of all visitors, whereas event attendees in galleries accounted for approximately 25% of total attendance. The higher average number of attendees per event and the higher proportion of visitors to exhibitions and displays in museums may be primarily attributable to their more diverse specialisation, which is likely to attract the interest of a greater number of target groups compared to galleries.

4.2. The impact of exhibitions and organised events on attendance and revenues of museums and galleries

Exhibitions and organised events represent a dynamic component of museum and gallery offerings. The multiplicity of such events can therefore have a significant impact on the performance of museums and galleries in the tourism sector, especially in terms of visitor numbers and revenues.

According to the results of the State Statistical Survey of Culture, Slovak museums were visited by 4,333,348 visitors and Slovak galleries by 477,197 visitors in 2022. Compared to 2017, when museums were visited by a total of 4,281,500 visitors and galleries by 644,217 visitors, it can be stated that the cumulative attendance of museums and galleries in Slovakia has not yet reached the pre-pandemic level and is rather close to their attendance a decade ago (MK SR, 2023).

Of the total number of visitors to museums and galleries, approximately 25%–30% were non-paying visitors (MK SR, 2023). Children and visitors with disabilities can probably be included in this group. The structure of visitors by place of residence is not systematically and long-term monitored by the State Statistical Survey of Culture for the Slovak Republic, therefore it is not possible to determine the share of local residents, domestic visitors and foreign visitors. The proportion of children and young people is monitored separately only in connection with educational events (activities). In 2022, children and young people accounted for 65% of the 282,104 visitors of educational events (activities) in museums. In galleries, their share was almost 80%.

A simple correlation analysis of annual report data for 105 museums and 10 galleries in 2017 and 99 museums and 15 galleries in 2022 revealed a positive correlation between the number of exhibitions and overall visitor numbers. The value of the correlation coefficient substantiates the assertion of a direct medium dependence of the variables under study in 2017. The results of the analysis for the year 2022 also confirm the existence of a correlation relationship, demonstrating a direct weak dependence between the variables under study (**Table 2**).

Table 2. Relationship between the number of exhibitions and museum and gallery attendance.

Year	Spearman correlation coefficient	P-value	Number of museums and galleries
2017	0.470	0.000	115
2022	0.237	0.011	114

Source: Own elaboration, 2024.

Considering the established correlation between attendance and exhibition activity, it is imperative to enhance the former, particularly in the context of urban museums and galleries. In addition to the implementation of high-quality scientific and research activities, the intensification of exhibition activities at museums and galleries is contingent upon the establishment of mutually beneficial cooperative relationships. In the domestic context, this should result in reciprocal loans of collection objects to complement the presented collections thematically, as well as the

re-presentation of exhibitions, which will in turn be better appreciated and result in increased attendance at more museums and galleries.

The results of the correlation analysis indicate that the number of events organised is also related to the number of visitors to museums and galleries. The Spearman correlation coefficient values for 2017 and 2022 indicate a direct and moderate dependence between the variables under study, suggesting that museums and galleries that host a greater number of organised events are generally visited by a greater number of visitors (**Table 3**).

Table 3. Relationship between the number of organised events and the number of visitors to museums and galleries.

Year	Spearman correlation coefficient	P-value	Number of museums and galleries
2017	0.559	0.000	115
2022	0.484	0.000	114

Source: Own elaboration, 2024.

In addition to the social value of communicating cultural values to as many visitors as possible, museums and galleries should also consider the economic value of their exhibitions and organised events to ensure the long-term financial viability of their operations.

However, the results of the regression analysis, which, according to the significance level calculated by the ANOVA test, is suitable for describing the dependence of the variables under study in both 2017 and 2022, indicate that the intensity of exhibition activity does not have a statistically significant effect on the revenue from their own activities in the case of museums (p -values greater than α). This may be attributed to the fact that the expense of hosting exhibitions does not adequately reflect the level of admission fees, which, according to John (2008), should be determined separately from the level of admission fees for tours of permanent exhibitions. Conversely, museums' own revenues are markedly contingent upon the number of events held (p -values less than α) (**Tables 4 and 5**). The values of the multiple correlation coefficient indicate a strong dependence between the variables under study. The coefficient of determination for the year 2017 indicates that the organisation of events was responsible for approximately 74% of the observed variation in revenue from museums' own activities during this period. The remaining portion was attributed to unexplained variability, the influence of random factors, and other unspecified influences. The regression analysis indicates that, on average, the revenues from Slovak museums' own activities increased by EUR 769 because of one organised event in 2017 (**Table 4**).

The value of the coefficient of determination in 2022 is higher than that observed in 2017, indicating that during this period, the organisation of events was a significant predictor of changes in museums' own revenues, accounting for approximately 86% of the variance. The number of exhibitions was not found to be statistically significant with respect to the amount of revenue generated by museums' own activities. However, the data indicates that one organised event brought Slovak museums an average of EUR 998 in 2022 (**Table 5**).

The regression function selection is also suitable for examining the relationship between the number of exhibitions, events organised, and the revenue generated by the galleries' own activities, based on the calculated significance level in 2017 (0.039) and in 2022 (0.031). As with museums, the number of exhibitions (p -values exceeding α) has no impact on galleries' own revenues. It is of particular significance in relation to their revenues that the number of events organised (p -values less than α) (Tables 4 and 5) should be considered.

Table 4. Impact of the number of exhibitions and organised events on the income from own activities of museums in 2017.

Statistics	Multiple correlation coefficient R		Coefficient of determination R^2	Calculated significance level (ANOVA)	
Calculated value	0.858		0.736	0.059	
Variables/Regression coefficients	Non-standardised coefficients		Standardised Beta coefficient	Time	P -value
	B	Standard deviation			
Constant	11,835,003	8,783,686	-	1.347	0.227
Exhibition	-8798	7206	-0.259	-1.221	0.268
Event	769	263	0.722	2.925	0.026

Source: Own elaboration, 2024.

Table 5. Impact of the number of exhibitions and organised events on the revenue from own activities of museums in 2022.

Statistics	Multiple correlation coefficient R		Coefficient of determination R^2	Calculated significance level (ANOVA)	
Calculated value	0.926		0.858	0.000	
Variables/Regression coefficients	Non-standardised coefficients		Standardised Beta coefficient	Time	P -value
	B	Standard deviation			
Constant	1×10^7	1,567,389	-	8.030	0.000
Exhibition	-10,436	1657	-0.775	-6.298	0.112
Event	998	116	1.060	8.608	0.000

Source: Own elaboration, 2024.

The value of the multiple correlation coefficient in 2017 corroborates the existence of a robust interdependence between the variables under examination. According to the coefficient of determination, the organisation of events accounted for 56% of the fluctuations in revenue generated by the galleries' own activities during this period. Conversely, the mean revenue per event held was markedly inferior in galleries in comparison to museums. The organisation of a single event resulted in an average increase in revenue for the galleries of EUR 31.

In the case of a p -value less than α , the locus constant is also statistically significant. The value of the standardised coefficient indicates that, in the absence of event organisation, Slovak galleries would have generated revenues of less than EUR 779,000 (Table 6).

Furthermore, in 2022, the value of the multiple correlation coefficient corroborated a direct and robust interdependence between the variables under study. The coefficient of determination indicates that the organisation of events was responsible for 41% of the observed change in the galleries' own revenues during the

specified period. The average increase in galleries' own revenues resulting from the organisation of an event was EUR 48.

Table 6. Impact of the number of exhibitions and organised events on galleries' own revenues in 2017.

Statistics	Multiple correlation coefficient R		Coefficient of determination R^2	Calculated significance level (ANOVA)	
Calculated value	0.745		0.555	0.039	
Variables/Regression coefficients	Non-standardised coefficients		Standardised Beta coefficient	Time	P -value
	B	Standard deviation			
Constant	778,246	226,623	-	3.434	0.009
Exhibition	-496	391	-0.358	-1.362	0.210
Event	31	14	0.533	2.076	0.072

Source: Own elaboration, 2024.

Considering the p -value being less than α , the locus constant is statistically significant in 2022, a finding that is analogous to that observed in 2017. Nevertheless, the value of the standardised coefficient indicates that in the absence of any events organised by Slovak galleries in 2022, their revenues from their own activities would have amounted to approximately EUR 1,070,000 in aggregate (**Table 7**).

Table 7. Impact of the number of exhibitions and organised events on galleries' own revenues in 2022.

Statistics	Multiple correlation coefficient R		Coefficient of determination R^2	Calculated significance level (ANOVA)	
Calculated value	0.644		0.414	0.031	
Variables/Regression coefficients	Non-standardised coefficients		Standardised Beta coefficient	Time	P -value
	B	Standard deviation			
Constant	1,070,430	283,341	-	3.778	0.002
Exhibition	-1355	546	-0.527	-2.483	0.127
Event	48	26	0.387	1.821	0.092

Source: Own elaboration, 2024.

A synthesis of the findings from the correlation and regression analysis reveals that while the attendance of museums and galleries is positively influenced by both an increase in intensive exhibition activity and a rise in the organisation of events, only the number of organised events has a statistically significant impact on their revenues and the related financial self-sufficiency.

5. Conclusion

Exhibitions and organised events in museums and galleries represent a valuable opportunity for meaningful leisure time for the population, particularly children and young people. Concurrently, they can be regarded as a significant factor in determining the number of visitors to museums and galleries. To enhance their competitive advantage in the tourism sector, it is imperative that a strategic and systematic approach to coordinating their offerings is adopted.

In order to ensure a more balanced utilisation of museums and galleries in the context of Slovakian tourism, it is imperative that the frequency of exhibitions and organised events is not augmented in those museums and galleries that have already

demonstrated their capacity to attract both domestic and international visitors through the quality of their permanent exhibitions. These are primarily castle and chateau museums and galleries, as well as open-air museums, which collectively account for a significant proportion of the total number of visitors to museums and galleries in Slovakia. Considering the necessity to adhere to sustainable principles, it is crucial to emphasise the concentration of exhibitions and organised events in the months outside the main season, as well as the diverse structure of their animation programmes. Conversely, considering the established correlation, it would be advantageous to devise a strategy that involves the organisation of a greater number of exhibitions and events in municipal museums and galleries that are not as well-known, despite their valuable collections. In addition to the domestic exhibition activity of museums and galleries, it is important to consider exhibitions prepared in collaboration with foreign countries. It is recommended that joint exhibition projects by museums and galleries be pursued, as they have the potential to stimulate the interest of foreign visitors and contribute to enhancing Slovakia's appeal as a tourist destination with a rich cultural and historical heritage.

Furthermore, modifications to the pricing policy of museums and galleries are also necessary to enhance their economic standing, in addition to alterations pertaining to the level of intensity of exhibitions and events. It is imperative that a more robust economic evaluation of exhibitions be conducted, which necessitates a reasonable increase in admission fees to museums and galleries at the time of their implementation. This is to guarantee that the expenses linked to their preparation are compensated for and that supplementary revenue is generated, thus enabling the further advancement of presentation activities in the future.

In view of the pivotal role of exhibitions and organised events in not only gauging the tangible achievements of museums and galleries but also in fostering a knowledge-based society, it is imperative that the state and its associated institutions provide robust support for their meticulous preparation. The elimination of differences in the performance of Slovak museums and galleries and the all-round development of their educational function can be facilitated by the establishment of specific strategic objectives and instruments at the national level concerning the frequency and focus of exhibitions and organised events. Such strategies should be tailored to the specific characteristics of museums and galleries, including their specialisation, location and attendance levels. This is particularly important to facilitate the elimination of differences in performance.

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References

- Ambrose, T., Paine, C. (2012). *Museum Basics*. London: Routledge. 496 p.
- Axelsen, M. (2006). Using special events to motivate visitors to attend art galleries. *Museum Management and Curatorship*, 21(3), pp. 205–221. <https://doi.org/10.1080/09647770600302103>
- Calvi, L., Vermeeren, A. P. O. S. (2024). Small museums designing new visitor experiences: needs, limitations and opportunities. *Museums & Social Issues*, 1–21. <https://doi.org/10.1080/15596893.2024.2415648>
- CBI (2021). The European market potential for cultural tourism. Available online: <https://www.cbi.eu/market-information/tourism/cultural-tourism/market-potential> (Accessed on 9 November 2024)
- Cover, R. 2006. Audience inter/active: Interactive media, narrative control and reconceiving audience history. *New Media & Society*, 8(1), pp. 139–158.
- Dolák, J. 2008. Communication through Museum Exhibitions (Czech). *Museum and Museology. Their Determinants and Perspectives in the Context of the Contemporary World. Proceedings of a Scientific Conference*. Banská Bystrica: Faculty of Natural Sciences, Matej Bel University, 2008., pp. 35-39.
- Ekinil, G., Petrenko, A., Davydova, E. (2021). Event museum events as a factor in increasing the tourist attractiveness of the Rostov region. In *E3S Web of Conferences* 273, 09025, 2021. <https://doi.org/10.1051/e3sconf/202127309025>
- Frei, S. B, Meier, S. (2006). The Economics of Museums. In *Handbook of the Economics of Art and Culture*, Vol. 1, 2006, pp. 1017-1047. [https://doi.org/10.1016/S1574-0676\(06\)01029-5](https://doi.org/10.1016/S1574-0676(06)01029-5)
- Gao, F., Keller, V. (2024). The effect of digital curation on visitor behavior in museum expositions. *Journal of Infrastructure, Policy and Development*. 8(9): 6153. <https://doi.org/10.24294/jipd.v8i9.6153>
- Gemer-Malohontan Museum, (2023). A return to the past. New generation experiential exhibition (virtual reality). Available at: <https://gmmuzeum.sk/podujatie/navrat-do-minulosti-2/> Accessed on 8 November 2024)
- Getz, D., Stephen, J. P. (2016). *Event studies: Theory, research and policy for planned events*. 3. ed. Oxon; New York: Routledge, 2016. 514 p.
- Jaremen, E. D., Rapacz, A. (2018). Cultural events as a method for creating a new future for museums. *Tourism*, 28(1). <http://dx.doi.org/10.18778/0867-5856.28.1.11>
- Johnová, R. (2008). *Marketing of Cultural Heritage and Art*. Prague: Grada Publishing, 288 p.
- Jung, Y., Shane, R., Wells, J. (2024). *Financial Management in Museums: Theory, Practice, and Context*. UK: Taylor & Francis.
- Kesner, L. (2005). *Marketing and Management of Museums and Monuments*. Prague: Grada Publishing, 2005. 304 p.
- Kmeco, L. (2005). Organised Events in Selected Tourism Centres in Slovakia. *Economic Review of Tourism*, 38(2), pp. 88 – 99.
- Komarac, T., Došen, O. D., Bulatović, J. D. (2019). The role of special event in attracting museum visitors and popularizing museums. *ToSEE – Tourism in Southern and Eastern Europe*, Vol. 5, pp. 375-387, 2019. DOI:10.20867/tosee.05.38
- Travel Commission of Canada. (2004). *Canada: Destination Culture. A Symposium on Cultural and Heritage Products. A Discussion Paper*. In DU CROSOVÁ, H., Mckercher, B. 2015. *Cultural tourism*. 2. edition. New York: Routledge, 269 p.
- Lopéz, M. A. (2024). Statista. Museums in Spain - statistics & facts. Available online: <https://www.statista.com/statistics/775186/penetration-from-the-visits-to-monuments-in-spain-by-ccaa/> (Accessed on 9 November 2024)
- Maráková, V. (2001). Use of Museums in the Tourism Offer (Slovenčina). *Culture and tourism. Proceedings of the scientific conference*. Banská Bystrica: Ekonomická fakulta Univerzity Mateja Bela, 2001. pp. 61-64.
- Meng, W., Dolah, J. (2024). The intersection of history and modernity: A multi-dimensional experience of the Jinsha Site Museum. *Journal of Infrastructure, Policy and Development*. 8(11): 7888. <https://doi.org/10.24294/jipd.v8i11.7888>
- MK SR (2007). Report on the analysis of the current state of registration, protection and access to collections and exhibitions of museums and galleries in the Slovak Republic (years 2004 – 2006). Available online: <http://www.culture.gov.sk> (Accessed on 2 October 2024)
- MK SR (2023). State statistical survey in the field of culture. Results for the years 2012 - 2022. Museums. Galleries. Available online: <http://www.culture.gov.sk/ministerstvo/statistika-kulturny-1a8.html> (Accessed on 5 October 2024)
- MK SR (2013). Strategy for the Development of Museums and Galleries until 2018. Available online: <http://www.culture.gov.sk> (Accessed on 1 September 2024)

- Nogare Ch. D., Scuderi, R. (2020). Branching out beyond the core: Museums hosting events. In *Annals of Tourism Research*, Vol. 82. <https://doi.org/10.1016/j.annals.2019.102773>
- NR SR (2009). Act No. 206/2009 of the National Council of the Slovak Republic on Museums and Galleries and on the Protection of Objects of Cultural Value and on Amendments to Act No. 372/1990 Coll. of the National Council of the Slovak Republic on Misdemeanours, as amended. Available online: <http://www.zakony.preludi.sk/zz/2009-206> (Accessed on 12 September 2024)
- Ostertagová, E. (2015). *Applied Statistics in MATLAB Computer Environment Applied Statistics in MATLAB Computer Environment* (Slovenčina). Košice: Technická univerzita v Košiciach, 175 p.
- Pompurová, K. (2014). *Organized Events as a Tool for Tourism Dynamization*. Banská Bystrica: Belianum, Faculty of Economics, 198 p.
- Richardson, J. (2024) Virtual Reality Is A Big Trend In Museums, But What Are The Best Examples Of Museums Using VR? Available online: https://www.museumnext.com/article/how-museums-are-using-virtual-reality/?fbclid=IwAR2HDHtGka50AGdll_kemNm9Ax7I2CAbUT_mNPRxt0KKKrn1FZZ7LJRS3jCM
- Rimarčík, M. (2007). *Štatistika pre prax [Statistics for practice]*. Košice: Marián Rimarčík, 200 p.
- Rosales, Ch. (2023). 12 Creative Event Ideas for Museums to Engage New Audiences. Available online: <https://info.eventvesta.com/organizer/event-ideas-for-museums/> (Accessed on 7 Novembre 2024)
- Timothy J. D., (2011). *Cultural Heritage and Tourism*. Bristol: Channel View Publications, 2011. 509 p.
- Trakt. (2016). *Výstava [Exhibition]*. Available online: <http://www.trakt.sk/tagy/vystava> (Accessed on 6 October 2024)
- UK Department for Digital, Culture, Media and Sport's (2024). Statista. Museums in the United Kingdom (UK) - statistics & facts. Available online: <https://www.statista.com/topics/8973/museums-in-the-united-kingdom-uk/#topicOverview> (Accessed on 9 Novembre 2024)
- UNWTO (2018). *Tourism and Culture Synergies*, UNWTO, Madrid, DOI: <https://doi.org/10.18111/9789284418978>.
- UTAI, 2024. *Portfólio*. Available online: <https://utai.sk/sk/> Accessed on 8 Novembre 2024)
- V&A Museum (2024). Curious Alice: the VR experience. Available online: https://www.vam.ac.uk/articles/curious-alice-the-vr-experience?srsId=AfmBOoomyrJrN1xk_szAMamqttrfBuxv61e9COXXfz1ORjKVGGETND3v (Accessed on 5 Novembre, 2024)
- VIVE Arts (2024). Xavier Veilhan: Sculpture park. Available online: <https://www.vivearts.com/projects/xavier-veilhan-sculpture-park> (Accessed on 5 Novembre 2024)
- Wadhvani, P., Ambekar, A. (2024). *Museums Market Size & Share, Growth Forecasts 2024-2032. Report of Global Market Insights*. Available at: <https://www.gminsights.com/industry-analysis/museums-market> (Accessed on 8 Novembre 2024)