

Yushan H. (2024) THE SOCIOECONOMIC IMPACT OF MEGA SPORTING EVENTS: A CROSS-CULTURAL ANALYSIS. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 24 (94) pp. 198-221.

DOI: <https://doi.org/10.15366/rimcafd2024.94.014>

ORIGINAL

THE SOCIOECONOMIC IMPACT OF MEGA SPORTING EVENTS: A CROSS-CULTURAL ANALYSIS.

He Yushan^{1*}

¹ School of Martial arts, Henan University; Kaifeng Henan 475001 China.

E-mail: 13030771888@163.com

Recibido 18 de Abril de 2023 **Received** April 18 2023

Aceptado 25 de Octubre de 2023 **Accepted** October 25, 2023

ABSTRACT

The attention of the whole globe has been focused on major sporting occasions such as the Olympic Games, the FIFA globe Cup, and the Super Bowl. Sporting events have the potential to significant social and economic repercussions on host towns and countries. This study intends to examine the cultural, economic, and infrastructural variables that contribute to the varying impacts of large sports events on different countries. Our study takes a comparative approach, looking at how different host cities and countries have fared throughout the years. In this article, we explore the social, economic, and cultural effects of hosting major sports competitions and the differing degrees to impact various communities. In this study, we examine the beneficial effects of athletic mega-events by attributing them with characteristics like the ability to stimulate economic development, catalyze urban regeneration, inspire social change, and build destination brands, among others. Negative effect studies claim that sports mega-events can cause things like human rights violations, pollution, unbridled nationalism, corporate exploitation, and bribery of government officials. In the context of large-scale events, such as the Olympics or the World Cup of Football. Some of the biggest sporting events, like the Alpine and Biathlon World Championships have been able to go under the radar in the face of their more popular Mega counterparts. Chi-Square test is used to evaluate the performance of participants in mega sports events. Conclusions from this study show that the societal and economic effects of large-scale sporting events are intricate and situational. Ultimately, this study helps us better understand how big sporting events transform the socioeconomic landscape of host communities, which in turn improves our ability to plan and execute policies for future events.

KEYWORDS: Mega sports; Olympic; socioeconomic; host countries and championship

1. INTRODUCTION

Mega events are one-time, short-lived, high-profile events presented by a whole city. Mega events are once-in-a-lifetime occasions that can draw a sizable number of viewers, are accessible pricey (at a high cost), and affect the host city and its residents. According to this, the events might be held in several locations, which would host it when it's planned to happen again, for example, and an Olympic game takes place every four years. A lot of interest is sparked by the idea that a Mega event will happen once in every few years, which increases its significance (Perić & Vitezić, 2019). According to several academics, various major athletic events have different economic benefits. For instance, an examination of the economic impacts of the Olympic Games revealed that the summer Olympics were the ones linked to a favorable announcement period effect. It contrasted that the FIFA World Cup and the Summer Olympics affected the rates of GDP development in each country (Ferris, Koo, Park, & Yi, 2022). Mega-events have generated a lot of research because of the long-lasting consequences they have on the host towns. Mega-events are infrequent, massive occasions that take place on a global scale. They impact the host city through new facilities, economic growth, and urban revitalization. They are considered huge or mega by their size, attendance, public attention, amount of financial investments, and coverage in the media (Mair, Chien, Kelly, & Derrington, 2023). To increase education and responsiveness about the environment between countries that holds the upcoming significant of sports events. Every mega sports event harms the environment, involving the continual use of buses, planes, and vehicles by teams and fans, the production of enormous amounts of garbage during contests, and the clearing of natural areas to make way for sporting infrastructure like stadiums (Pourpakhdel & Oboudi, 2022). Earlier research has emphasized the benefits of athletic events for the environment, society, economics, culture, and politics. Therefore, it is determined whether or not holding a major athletic events has a noticeable beneficial impact. This topic is up for debate. Thus, it would be beneficial to have a greater depth of understanding on the consequences of holding major athletic events, both immediately and over time (Zawadzki, 2022). There are several benefits to the term socioeconomic impact of mega sporting events. First, it outlines the study's primary topic, which is the socioeconomic effect of major athletic events.

Furthermore, by including Cross-Cultural Analysis, it emphasizes the methodology of looking at these effects from different cultural angles. The research's intention to investigate the comprehensive, worldwide ramifications of such occurrences is also indicated by the title. Overall, readers are given a clear understanding of the study's scope and methods. Large-scale sporting

events benefit host communities and nations socioeconomically in several ways. Through increased tourism, the creation of jobs, and the construction of infrastructure, they benefit the economy. By promoting the host site to a worldwide audience, hosting such events boosts trade and tourism. In addition to their financial advantages, they may encourage cultural interaction, increase physical exercise, and inspire patriotism. Thorough planning, funding, and legacy initiatives are necessary to optimize these benefits (Chen, Wang, & Tang, 2022). In this paper, we investigate the positive impacts of sports mega-events by identifying attributes such as the capacity to create destination brands, inspire social change, accelerate urban regeneration, and boost economic growth, among other things (Sinyavski, Shatrov, Kremnev, & Pronchenko, 2020).

2. Related Works

The paper (Wolfe, Gogishvili, Chappelet, & Müller, 2022) examined several facets of the global mega-event experience, putting forward innovative theories to explain these extravagant manifestations of international sport, politics, business, and culture. The paper (Achu, Lekgau, & Bob, 2022) evaluated their understanding of mega-events' benefits and costs to society, and their identification, definition, and measurement. It also emphasizes the need for more research to comprehend these events of social repercussions completely. The paper (Wolfe et al., 2022) examined the Women's African Cup of Nations (WAFCON) hosting country of Cameroon's economic impacts. A mixed-methods research strategy was used in the study, with Yaounde and Limbe serving as the case study locations. The paper (Kim & Kaplanidou, 2019) investigated that FIFA Men's World Cup, the Olympic Games, and the Commonwealth Games all employ different procedures to alter metropolitan areas and creative ways to comprehend. This paper (Capasa, Zulauf, & Wagner, 2022) examined the connections among quality of life, support for the 2018 Pyeong Chang Winter Olympics, and effect perceptions. Utilizing a sample of 301 Korean citizens, structural equation modeling (SEM) was used to investigate the assumptions in the suggested model. The paper (Nien et al., 2020) examined the factors influencing individuals' decisions to use virtual reality technology to watch big sporting events (Zhang, Zhou, Zhou, & Zhao, 2022).

To look into viewers' interest and self-perception, the researchers used a model of intention to act. This model was derived from the concept of technology acceptance and the comprehensive approach to accept and utilize technology. The paper (Achu et al., 2022) investigated the harmful effects on the environment of major athletic events. As a result, information was gathered through qualitative interviews, library research, and earlier investigations. The snowball distribution approach was used to pick 15 sports and environmental specialists as samples, by conducting interviews till the point of theoretical saturation. The paper (Bodin & Misener, 2020) ensured that the country or city

hosting a major sports event (MSE) understands the carbon implications of such events if they wish to address climate change issues. Using the Nanjing Youth Olympics (NYO) in 2014 as an example, the study examined the implications of the 'preparatory-hosting-after' stages of an MSE on the host's localized carbon emissions. Using the breakdown of the logarithmic mean division index (LMDI) and the synthetic control technique (SCM). The paper (Serdar & Al-Ghamdi, 2021) employed a mixed-methods methodology, the host cities serving as the locations for the case studies. The information was obtained through 10 key informant interviews and the 759 questionnaires given to event participants. The paper (Kronenberg & Fuchs, 2021) accomplished using a case study investigation technique. Policies, old records, reports, and semi-structured interviews with sports administration were all sources of information. The foundations for interpretation were Neo-institutionalism and the theory of practice. The aims of the Canadian Games are sport, athletes, and community growth. The paper (Addas, Maghrabi, & Goldblatt, 2021) presented a tiered evaluation technique centered on network cohesiveness and crucial trip performance across various disturbance scenarios, such as natural disasters, deliberate assaults, and accidents. This has demonstrated a strong resilience to intentional assaults and unintentional circumstances. The paper (Azzali, 2020) analyzed the socioeconomic effects of tourism by emphasizing Meso level viewpoints from significant tourist organizations, which are reinforced by macro-level findings from an occupation-based Input-Output model. Income disparities in the tourist industry are rather minimal, but they have grown during the past nine years. The paper (Parra-Camacho, Sanz, Pérez, & González-García, 2019) assessed citizens' impressions of a significant athletic event using an importance-performance approach. The scale for evaluating the event's impact was first validated using a confirmation factorial evaluation. The findings demonstrated that, when continuing their attempts to enhance their worldwide image and recognition, athletic associations should focus on developing sports. The paper (Hugaerts et al., 2021) provided reproducible best practices and successful case studies for converting locations and sites of events interested in habitable Public Open Spaces (POS) to people may enjoy by locals during mega-events. The paper (Yamashita, 2021) examined locals' opinions of a major athletic event using an importance-performance analysis.

First, the rating scale for the event's impacts was validated using a confirmatory factorial analysis. The paper (Salgado-Barandela, Barajas, & Sanchez-Fernandez, 2021) investigated sustainability in Participatory Sports Events (PSEs) and assessed a research tool grounded in the United Nations' Sustainable Development Goals (SDGs). The paper (Ma, 2021) perceived the social effect of residents and their intention to support. It was also disclosed to compare the vitality levels. Organizing a para-sporting event can yield fresh insights into educational advantages, and the residents' vitality level affects their perception of these benefits. The paper (Kurtenbach, Zdun, Howell,

Zaman, & Rauf, 2021) developed sustainable sports tourism for host cities is provided by this research, which analyzes the lack of information on event portfolios. The use of leverage and cross-leverage techniques in the management of event portfolios is one of the novel tactics that is thoroughly examined. The paper (Šolcová et al., 2021) examined the characteristics of self-efficacy (SE) and its relationships to gender, socioeconomic position, fear of failure, and academic accomplishment in participants from Finland, the US, and China using multi-group latent profile analysis. The paper (Mohamed, Porterfield, & Chakraborty, 2021) created that there was used to many research on juvenile violence and accepted across several disciplines as a general explanation for teenage violence in high-risk communities. The paper (Preuss, 2019) examined the psychosocial development and health of older adults seldom considers higher education to be a significant contributing element. The relationship between ego integrity, a metric derived from Erikson's notion of psychological maturity in later life and higher education. The paper (Okada et al., 2021) investigated that cultural familiarity with images affects recognition-based graphical password (RBG-P) memorability. The paper (Wallstam, Kronenberg, & Pettersson, 2019) used the Olympic Games as a point of reference to describe creating a novel method for gauging the legacy of mega sport events. For academics and practitioners alike, there is a notable increase in the legacy of important athletic events.

3. Data collection

There was data available on essential variables, such as the activities of volunteers at the various events and their thoughts afterward. It should be noted that some events had many data collection points, while others had one or two. Out of the 2506 replies in the sample, 40.06% were volunteers for sporting events. Sports events had the most significant sample size of the event kinds examined in the research, followed by events on culture, arts, music, religion, and fundraising (Kokolakakis & Lera-Lopez, 2020).

4. The visitor assessment

By emailing a visitor evaluation to individuals who had purchased event tickets, the viewpoint of the attendees was acquired. The Alpine- and Biathlon organizational committees supported the research team's efforts to distribute the questionnaires to the appropriate tourist groups. Furthermore, the advertising team of the Ski pass corporation assisted in reaching out to Ski pass holders. It was essential to get in touch with ski pass holders since they had free admission to the Alpine competition. Overall, the analysis' substance was same for both Alpine and Biathlon guests. In addition to demographics and background questions, an assessment asked that an event affected their decision to travel, the importance that is for an athlete and country succeed and interested in these events, that active and passive the included, their level of

satisfaction it's in different categories, the level of awareness was another championship event, and spent on events(Wee, Ong, Syn, & Choong, 2018).

4.1 An investigation of Regional Residents

A unique method of gathering data was used in the regional resident survey. Finding a way to contact an accurate representation of the population poses the biggest obstacle to gather opinions on events from the local community. In the framework of a regional impact review, traditional methods of data collecting, including randomized telephone interviews or face-to-face surveys conducted on the street were judged too ineffectual. Instead, for several reasons, SMS-based surveys appeared to be the best method of gathering data:

1) A sizable sample from the region was made possible by sending the survey by SMS to telephone registrations. 2) There aren't any email addresses that provide access to various geographic and demographic groupings. 3) When conducted over email, surveys with more significant samples exhibit declining results if the model has been contacted before to participate in a survey. In this instance, there needed to be more efficient means to contact the local populace with survey requests. 4) Since telephone surveys require a lot of resources, the research sample would have fewer respondents. 5) In other situations, including the healthcare industry, SMS-based surveys are an efficient means of gathering information.

5. Analysis of information

5.1 Performance of an event

According to the attendees' opinions, which are gathered through visitor surveys, the event's performance is assessed. Many bivariate tests are used in the analysis in addition to basic descriptive statistics to provide a preliminary overview and summarize the information by comparing distinct responder groups. Four age groups, three residencies, two categories regarding the event's impact on the choice to go, and two categories regarding the significance of a favorite athlete and country's achievement are the grouping factors included in this research. Several fundamental statistical tests are included in the examination of the visitor survey, including: 1) Measures of central trends and descriptive statistics. 2) Chi-square tests applied to nominal and ordinal data

A 95% significance level is used as the basis for determining correlations between the two variables and variations between groups. A significant outcome, denoted by p-values $\leq .050$, indicates 95% confidence level on the authenticity of group differences, excluding chance.

5.2 Assessing the socioeconomic effects in a region

The approach used to calculate the World Championships' economic effect is covered in this subsection. Along with supplementary information on the impact on employment and income of the local people, the study covers the events' only economic impact in terms of the local industry's output. This paper format and content follow the licensure methodology, which uses a comparable technique to estimate the socioeconomic effects of tourism. The concepts of tourist spending and the events of financial effects should be distinguished from one another as they might diverge significantly. In the preceding study, we covered visitor expenditures, simply the sum of money that tourists or visitors directly spend on several types of spending. Comparable sales and turnover would have attained by the suppliers of the matching goods and services. Meanwhile, the expenditure flows connected to the events are traced over the whole region by the economic effect of a particular activity.

The World Championships' economic impact is dependent on visitor expenditure was already indicated in the literature section. Naturally, tourist spending accounts for a smaller portion of the event's economic impact. For instance, expenditure by the event planners on the planning of the events helps local and regional industries like marketing and construction firms. Unfortunately, there was tiny to no data available on the distribution of these organizational expenses across individual business sectors challenging to prepare with any degree of accuracy. As a result, in keeping with the discussed event literature, the study's definition of economic effect is based on visitor expenditure.

The total number of distinct visitors: A total visitor count for both events is required to calculate the region's overall direct and indirect effect from the World Championships. Due to the unavailability of precise data, making educated guesses became necessary by making this operation challenging. Furthermore, attendees at the Alpine events who had a valid ski pass were admitted and did not register as official event guests. It's also essential to consider the discrepancy between the quantity of tickets sold and the number of unique visitors. Every ticket sold may represent a distinct visitor.

On patrons use the arena across many days. They are determining an exact number for the total number of visitors, a range with four possible outcomes known as the maximum and lowest scenarios. The greatest conceivable total number of distinct visitors for each event is referred to the maximum scenario. Since these represent the absolute most significant number of unique attendees for the events, they demonstrate the absolute highest potential economic benefit based on tourist spending. This amounts to almost 102,000 unique visits to the Alpine World Championships. About 63,300 unique visits are the precise maximum anticipated for the championships. The

lowest possible figure is the entire amount of unique visitors, as ascertained by dividing the number of tickets sold by the average number of visits, indicated in the visitor analysis days spent at the location. Therefore, in the lowest case, there will be around 54,700 visitors at the Alpine World Championships. This figure is projected to be around 29,700 for the Biathlon World Championships. Therefore, these figures are more feasible than the utmost scenario. The actual figure, likely in the middle is being determined. Both direct and indirect effects: The supply component of the local economy must be modeled using an economic model to calculate the impact using an initial tourist expenditure. An input-output model that is regionalized was employed in this investigation. By including demand-driven tourist spending patterns in this model, we can calculate the distribution of these expenses across the local economy. Several rounds of hits are able to illustrate this flow, referred as the direct, indirect, and inclusive effects. This makes it feasible to detect shifts in revenue, employment, and sales. This research takes into account the championships' direct and indirect effects. Economic impact studies incorporate induced effects into their approach, resulting in exaggerated impact estimates for the studied activity. Furthermore, it is not advised to include induced effects in economic impact analyses because they are noted as significantly exaggerated, depending on the economic model employed to assess the consequences. At the very least, when utilizing a simple input-output paradigm, they should always be taken extremely cautiously. Therefore, changes in consumer demand in sectors related to manufacturing and distribution products and services connected to tourism, such housing, food and drink, entertainment, and groceries, etc., are considered as direct consequences. The total effect of visitor expenditures is known as the direct effect, visitor expenditures, relate to the precise amount that tourists pay for goods and services.

In light of the local capture rate, this implies that the local suppliers' sales are modified accordingly. For example, a memento a visitor buys is made overseas in a different country. Therefore, when this memento is imported, some of the visitor's spending leaves the area. The direct effect on the region does not include these import expenses. But this modification applies to physical goods offered for sale to visitors, no other changes are made. On-site services, such as restaurant services and meals served at the restaurant are not covered by these changes. The approach assumes that these services are generated entirely inside the region; hence, imports do not need to be considered. On industrial sectors that do not directly provide goods and services to visitor's experience indirect repercussions. For example, local farmers supply meat and veggies to eateries. The need for meat and vegetables from nearby farms is indirectly triggered by event attendees' demand for restaurant services. Inter-sectored connections ensue as companies buy and sell products and services from one another. Usually, these kinds of transactions take place inside the same industry or between other sectors. Strong intersect oral relationships in an area are considered a sign of

regional solid capacities since economic self-sufficiency is common. In these situations, the effect of event attendees on the local economy is usually significant. All the goods and services needed for tourism consumption are typically not available in the borders of a small region though it has a poor economy, few inhabitants, weak inter-sectoral links, or a less varied industry structure. Consequently, goods and services from outside the area must be imported to meet the demands of tourists. The advantage to the local populace diminishes to a marginal degree when leakages develop, and money leaves the area.

6. Statistical analysis

The phases in statistical analysis include data collection, organization, analysis, interpretation, and presentation; chi-square tests are used in this process.

The input output (IO) representation for socio-economic: The model of IO is represented as follows and is obtained using matrix algebra:

$$\Delta y = (I - A)^{-1} \Delta x \quad (1)$$

The identity matrix x , whose diagonal elements are one and the remaining ones are naught, which is represented by the vector y , which is the total sales of each sector. The level of interindustry exchanges is displayed in Technology Matrix I . Each matrix cell's IO coefficient for these transactions is shown. More precisely, the coefficient displays the percentage portion of each input that makes up the overall input. The ultimate demand is indicated by vector y . Determining figures for ultimate demand in this example, visitor spending in each sector allows for the study of the impact of tourism. Owing to importation rates and interconnections, this causes matching changes in sectoral production, employment, and income in every other sector. The model makes it possible to estimate how much employment and output will flow from other backward-linked industries to meet demand. It is essential to acknowledge that transitory and regional occurrences do not inherently provide novel job opportunities. Instead, the model's output shows, how many jobs would need to be created to provide the quantity of goods and services that attendees would need to consume. Full-time equivalents (FTE) are the standard unit of measurement for employment impacts. Consequently, regionalization strategies are necessary to capture industrial structures peculiar to various locations. Based on the unique employment structure of each regional industry sector, the FLQ technique modifies the sector's size. More specifically, the employment-to-output ratio (the quantity of jobs needed in a sector to produce a certain level of output) must be met by that industry. Sectors are considered underrepresented in an area if their regional ratio is lower than their national ratio. As a result, the industry must bring in a specified volume of

resources to meet demand in the area. The FLQ incorporates a weighting indicator to better account for the relative scale of the area economy. As a result, each sector of the regional economy must have some degree of self-sufficiency, and the FLQ regionalization approach implies the corresponding importation needs. The meaning of FLQ is determined by equation (2):

$$FLQ_{ij} = \frac{RE_i/NE_i}{RE_j/NE_j} \left[\log_2 \left(1 + \frac{TRE}{TNE} \right) \right]^\delta \quad (2)$$

The purchase and supply sectors are denoted by the subscripts *i* and *j*. The terms regular employment (RE), national employment, total employment (TNE), and treasury employment (TRE) represent the employment. The duration of $\log_2 \left(1 + \frac{TRE}{TNE} \right)^\delta$ is a weighted indicator of the area's proportional size. The values for parameter δ range from 0 to 1. The importation coefficient is lower, and the input coefficient is higher in more significant regions. Regional coefficients for cells with an FLQ value less than one are calculated by multiplying national coefficients in the appropriate FLQ value.

6.1 Vector for final demand (y)

Product and service consumption by event attendees is distributed across these sectors by the final demand vector (*y*). To define the final demand vector, some demand information consolidation is required because the IO model does not capture all four expenditure categories in such depth. In accordance with the IO model's Classification of Products by Activity (CPA) framework, the visitor spending categories were combined as follows:

Table 1: Spending categories are assigned to input-output sectors

VISITOR EXPENDITURE CATEGORIES	IO MODEL
STREET FOOD, CAFÉS, PUBS, AND RESTAURANTS FOR LODGING	Accommodations and culinary amenities
BUYING AND BROWSING PERSONAL CARE COSTS	Retail and wholesale commerce
SPORT AND LEISURE PURSUITS	Sports services, entertainment and leisure services
CULTURAL EVENTS	Services related to the arts, entertainment, and creativity; libraries, archives, museums, and other cultural facilities

As shown in Table 1, four combined industries connected to visitors comprise the regional model's final demand vector (*y*). As a result, these six sectors get the proceeds from event attendees, which determines *y*. These expenses are transformed into net expenditures. Ensuring that the effect

analysis takes into account only the quantity remaining in the region requires the implementation of this step. Consequently, each sector's direct impacts on tourism equal the vector of ultimate demand.

6.2 Input-Output Model Assumptions

These are the primary presumptions that underpin the IO framework: 1) only one product or service combines the production from every industry. In hotels lodging services are offered. Assuming a stable commodity input structure; ideas like economies of scale to boost efficiency do not apply. 2) Any growth in demand can be met, and resources are not constrained. As a consequence, rising demand always has positive benefits as it demands the same ratio of inputs and does not take into account price elasticity.

6.3 Chi-Square Test

The chi-square test assesses categorical variables significance. It estimates the disparity between observed and predicted frequencies in distinct categories and determines the likelihood that this gap is attributable to chance alone. The test assumes variable independence and uses the chi-square distribution. When the components are few in clinical trials, one statistical technique that can most successfully test a hypothesis is the Chi-square analysis, in contrast to other statistics, may give precise information on the groups responsible for any substantial variability and the relevance of such variability. Instead of using mean and standard deviation, this non-parametric test employs frequencies. Not estimating is not the test's purpose; it is to test the hypothesis. This test was previously indicated.

$$\sum X_{i-r}^2 = \frac{(B-L)^2}{L} \quad (3)$$

Where: P = current situation, L = actual point, X^2 = Chi-squared frequency, $\sum X^2$ = Chi-square values in rows are totaled in the equation, The anticipated Chi-Square values are as follows, regardless of whether they were given management:

$$L = \frac{M_G \times M_T}{Q} \quad (4)$$

Where: L = shows that the unit is working, M_T = illustrates row border of the cell nucleus, M_G = represents the row boundary of it, also Q = represents the entire sample set. The row and column edges of every molecule are multiplied to determine the sample size.

$$x^2 = \frac{(B-L)^2}{L} \quad (5)$$

A statistical measure of a relationship's strength is called a correlation measure. Criterion χ^2 is the most popular Chi-square strength test. The following formula simplifies the computation process using equation (6):

$$\sqrt{\frac{\chi^2/q}{(f-1)}} = \sqrt{\frac{\chi^2}{q(q-1)}} \quad (6)$$

A powerful tool for data analysis, the Chi-square defines a lot regarding the characteristics of study data. Consider a contingency table with r rows and c columns. For each row, j and column i , the observed frequencies are represented by $Q(j, i)$, and the predicted frequencies are represented by $A(j, i)$.

$$Y^2 = \Sigma((Q(j, i) - A(j, i))^2 / A(j, i)) \quad (7)$$

Where Y^2 =the chi-square test statistic, Σ =represents the total value of values, $Q(j, i)$ =refers to the cell's row- j , column- i frequency, $A(j, i)$ = reflects the predicted cell frequency at row j and column i

The resultant total is the chi-square statistic, which gauges the overall difference between observed and anticipated frequencies for each contingency table. The following equation is used to obtain the chi-square Y^2 test statistic:

$$Y^2 = \Sigma((Q - A)^2 / A) \quad (8)$$

When solving for Y^2 displays the chi-square test statistic. Σ represents sum value of each value and Q refers to the contingency table cell frequencies, A reflects each contingency table cell's predicted frequency. This statistic determines categorical variable association statistical significance.

7. Various individual Sports' disparities

The sports legacy effect is discussed in this section, refers to three distinct sport categories, especially in cases of major tournaments like the Olympic Games: combat sports, water-based sports, and team sports. The sports heritage produce affects every four categories and the one category comparatively less, although the experiences no influence. The most popular individual sports are cycling, equestrian, swimming, and athletics, as shown in Figure 1 and Table 2. The sport where the 22% percentage effect is higher than the 36% one is swimming. One hundred twenty-two thousand people participate in this sport at least once a week, representing a 3.90% increase in participation over the pre-Olympic era. The one definition showed no influence, suggesting that no individual began swimming during the time under investigation. The primary sports legacy impacts were identified in the intense definition for both athletics and equestrianism; it was the final outcome for equestrianism. Their rates of involvement increase by 5.75% and 7.50%,

respectively, with 44,450 and 13,494 people raising their frequency of engagement to at least 36%. For athletics, most of the impact happened for equestrian sports, the most significant percentage point impact surpassed 13%. Finally, the sports impact effect on involvement in cycling was 26,591 percentage points and 83,344 additional participants at these intensities, 4.92% and 4.36% in the four and one definitions, respectively.

As with the other sports, there was no influence in one division. A sport was the most popular among young men, while women preferred cycling. Male and female involvement rates in all activities differed significantly, except for cycling. Women were more likely than men to like swimming and cycling. To put it more accurately, barely 20% of males and around 35% of women engaged in swimming. In cycling, there was less of a disparity between the percentages. Approximately 5% more women than men rode this month, accounting for 40%. Statistics on event visitors include gender, age, group size, origin, and kind of lodging is utilized. Factors serve as grouping elements for further analysis, revealing differences and similarities among visitors from diverse backgrounds. For the Biathlon World Championships, women and men have about similar shares (50.5% and 49.4%), whereas for the Alpine World Championships, female visits are lower (43.3% vs. 56.5%).

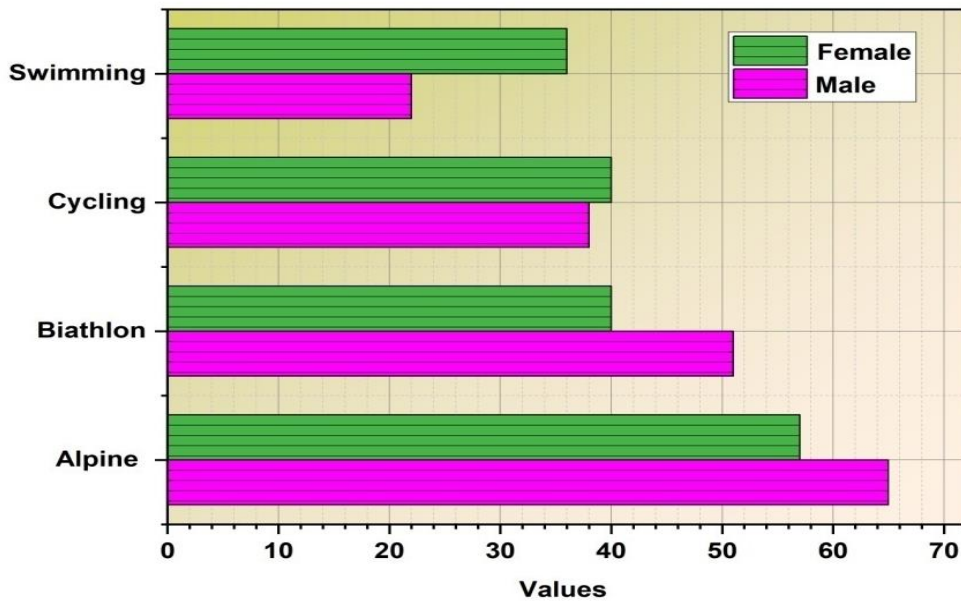


Figure 1: Comparison of various sports disparities

Table 2: Outcomes of various sports disparities

	MALE	FEMALE
ALPINE	65	57
BIATHLON	51	40
CYCLING	38	40
SWIMMING	22	36

8. Assessing the societal impacts in a regional

Visitor studies have historically provided insight for inquiries about scheduled events and their effects. Businesses and governments have to consider the broader ramifications of their actions, which go beyond their financial products, due to this trend. The extensively used TBL (Triple-Bottom Line) impact taxonomy is a significant result of this change. Three categories of impact, economic, environmental, and social, are distinguished by TBL. This paradigm presupposes, since all three sectors have a direct and indirect impact on one another, it is preferable to achieve favorable results in each. For instance, poor community members' health can result in long-term social and financial consequences, similar to the short-term environmental cost of air pollution. These priorities are changing as evidenced by research on how scheduled events affect society. Studies on events affect society, the three main areas of focus for prior social impact research, according to these authors, were (a) developing measures to assess the social costs and benefits of events, (b) researching the relationship between resident support and perceptions of events, and (c) offering advice to local government on to enhance social impacts, and gives a precise categorization of social consequences as seen by local and regional development professionals. To further comprehend the underlying impacts that events impact on society, women propose the concepts of social capital, community well-being, and capacity augmentation, as shown in Table 3.

Table 3: incidents' social impacts

S.NO	POSITIVE IMPACTS	NEGATIVE IMPACTS
1.	A rise in employment prospects	Raucous and misbehaving conduct
2.	a higher living standard	An increase in the number of crimes
3.	Greater chances for entertainment	Drinking too much
4.	Financial gains	disorder
5.	Possibility of meeting new individuals	Environment-related damage
6.	More engaging activities	Noise
7.	Better community perception	Issues with parking and traffic congestion
8.	Pride in the community	disturbance in daily routine
9.	preservation of regional customs and traditions	Overpopulation
10.	A more comprehensive range of skills	Funds allotted for events. not regarding communal needs
11.	New infrastructure and amenities	Rising expense of living

It offers one of the broadest typologies of operationalized indicators for measuring social effect, even though Moscardo aids in conceptualizing the social ramifications of events in the larger framework of development as shown in Table 4. There are 22 indications on the compiled list, split into positive and negative aspects. The given indicators provide a comprehensive picture of the

potential social repercussions of a planned event. Our goal is to identify the most user-friendly and broadly applicable metrics.

This implies that nonacademic, such as politicians, must be able to understand and communicate them efficiently. Our conclusion is an indication is used to make strategic decisions about events at the destination level if it meets these requirements. Six possible indicators that can be utilized for both intraregional and interregional event assessments were identified by using a Delphi technique to narrow the list of prospective indicators further to address the lack of common metrics for assessing the social consequences.

Table 4: Social impact indicators for events

S.NO	INDICATORS
1.	The community's standard of living
2.	Pride in the community
3.	Social Equities
4.	Sense of belonging
5.	Building community capacity
6.	Facilities' influence

8.1 The guests and the viewpoint of the visitors

The research outcome for both World Championships is shown in this section. Visitors completed the surveys. Thus, this part provides information about the kinds of people that attend the events, their histories and opinions of them, and their spending patterns in various areas, and their thoughts and attitudes about the possibilities.

The results of the two events are shown together because the poll questions were same. The assessments' logic-based features made it possible to design pertinent questions for every responder. This suggests that not all respondents answer all questions, which is the number of responses (N) is given for every subject.

8.2 Characteristics and history of event visitors

Overall, responders who attended the Alpine, swimming, and cycling sports were on average 45 years old, but the Biathlon participants were 51 years old. In both Alpine and Biathlon, the median age 49 years old is the average age of the respondents, with half of them being older and the other half being younger. The age distribution of attendees at the events has been divided into four categories to provide an understanding: under 30, between 31 and 45, between 46 and 65, and above 65. These categories were selected for two reasons: These groups need to correspond to the typical life phases.

However, the age variable necessitates a minimum number of

responses for each category because it will be utilized as a grouping variable in subsequent analysis. There are slight variations in the age category allocation among the tournaments. Only 11%–13% of attendees at both events were younger than 31 years old, while about half of them (53% and 50%, respectively) were between the ages of 46 and 65. The increased percentage of attendees over 65 is used to explain the higher average and median age at the Biathlon event as shown in figure 2 and table 5.

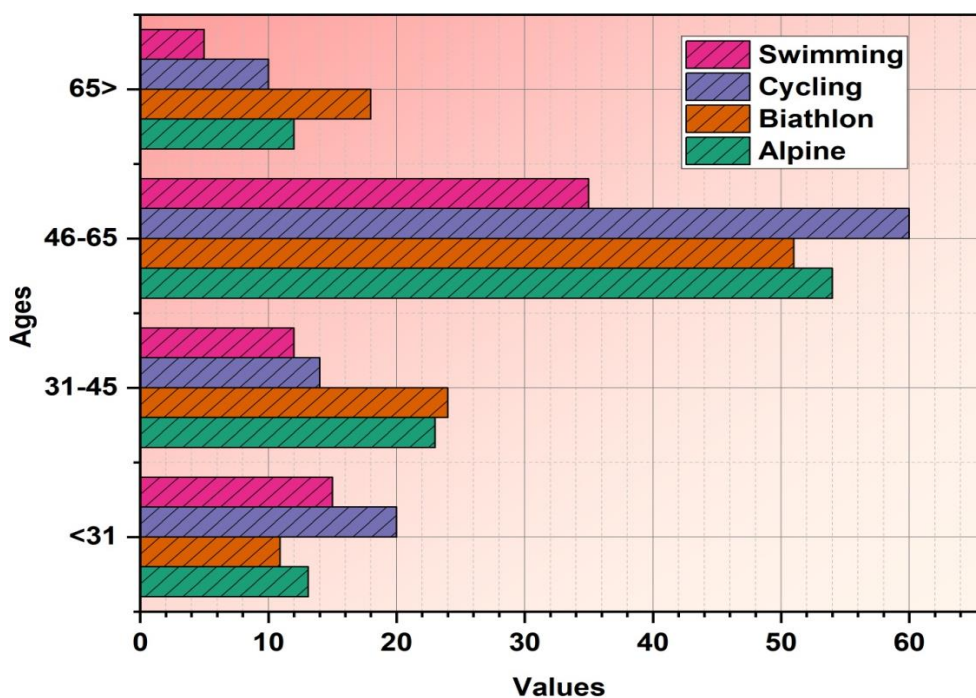


Figure 2: Age factors of Main inclinations and classifications

Table 5: Outcomes of the age factors of primary preference and classification

AGES	ALPINE	BIATHLON	CYCLING	SWIMMING
<31	13.1	10.9	20	15
31-45	23	24	14	12
46-65	54	51	60	35
65>	12	18	10	5

8.3 The importance of success

The relevance of an individual athlete or country's performance for tourists' interest in events like the World Championships is examined in this study. An insight into the driving force behind spectators' decisions to attend the game is gained an appreciating significance about particular athlete and country accomplishment.

Athletes and nations are considered successful if they are thought to have a high chance of winning medals. This indicator's percentage range in this study is 0%–100%. Additionally, the research distinguishes between

respondents: those who responded to 50% or less and those who responded to 50% or more. The latter suggests that respondents' degree of interest in following or attending the events is determined by the performance of a particular athlete or country.

Conversely, those who gave a response rate of less than 50% suggest that attending an event is not always determined by success. In this sense, the accomplishments of a particular sportsman or country may offer important insights into the motives of attendees, which in turn assists with event marketing and design. The distribution of respondents that considered success to be a minor factor in following and attending the events ($\leq 50\%$) and those who believed success to be the primary reason ($>50\%$) is depicted. Consequently, a significant portion of Biathlon attendees, 81 percent said their enthusiasm for these events is shaped by success.

Ticket holders gave similar responses among Alpine visitors: 78% said their interest in Alpine events stems mainly from success. On 59% of Ski pass subscribers cited achievement as their primary motivator for interest. The findings for ticket and ski pass holders differ statistically, according to the Chi-square test.

Accordingly, a large proportion of people who use a Ski pass compared to ticket holders reflect how important it is for an athlete or country to succeed. Thus, other variables beyond the achievement of a particular athlete or nation determine the interest of around half of the Ski pass holders who attended the Alpine event in such events, as shown in Figure 3 and Table 6.

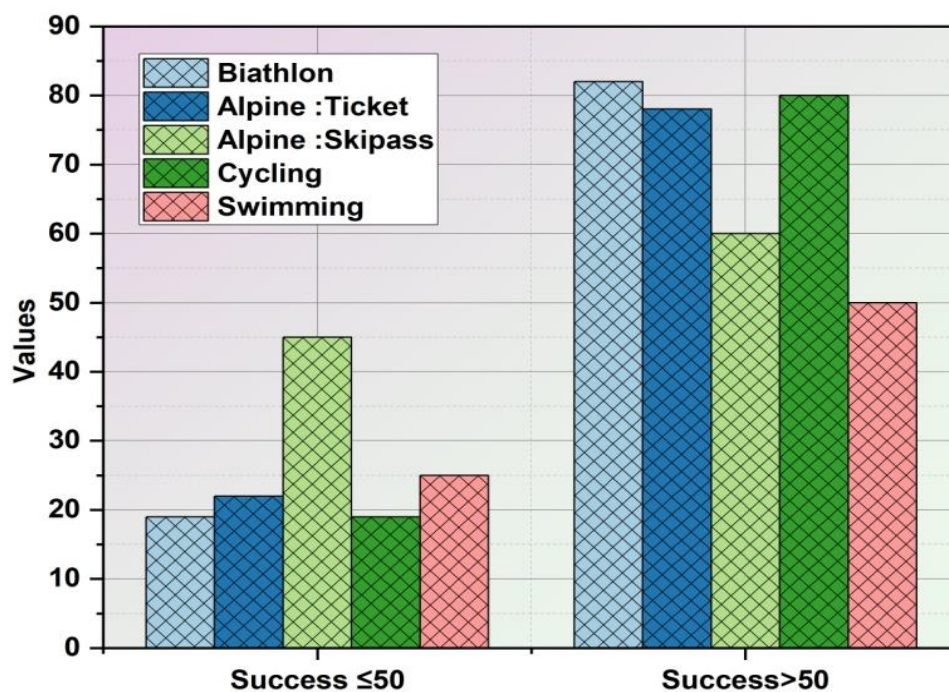


Figure 3: Success is significant: Key patterns and classification

Table 6: Outcomes of the key patterns and classification

	BIATHLON	AIPINE: TICKET	AIPINE: SKIPASS	CYCLING	SWIMMING
SUCCESS ≤50	19	22	45	19	25
SUCCESS>50	82	78	60	80	50

The number of people in the respondent's immediate travel group was one of the survey questions. A central tendency of the group size is presented in Figure 4 and Table 7. In this computation, outliers with high numbers have been eliminated because the goal was to determine the immediate group size. But included the number of young people ages 0 to 14. Thus, the average group size of tourists to Alpine destinations was 3, 7, while that of visitors to Biathlon destinations was 3,3. In the case of Alpine and Biathlon, the median is two and the average is 3.

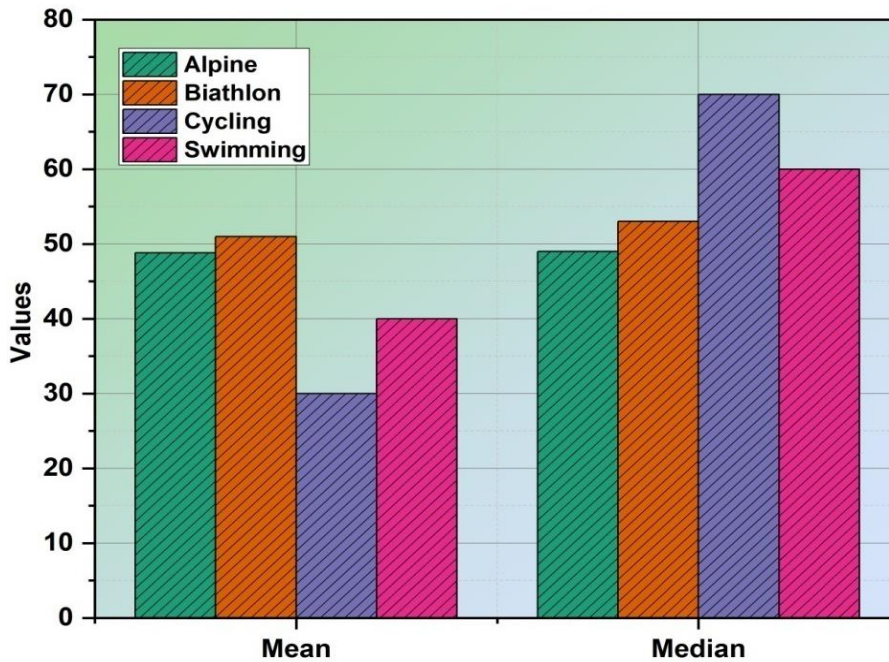


Figure 4: Group size

Table 7: Outcomes of the group size

	ALPINE	BIATHLON	CYCLING	SWIMMING
MEAN	48.8	51	30	40
MEDIAN	49	53	70	60

The socioeconomic impact of cross-cultural interactions for each event is listed in Figure 5 and table 8 with reference to foreign tourists. The majority of foreign attendees at the Alpine and swimming, cycling event from Norway, a neighboring country, accounting for 73% of the total. Great Britain and Switzerland each account for 5% of foreign tourists, with Denmark and Finland

following with 3% and 4% and quarter is gather for 50% cycling of social economic impact, respectively.

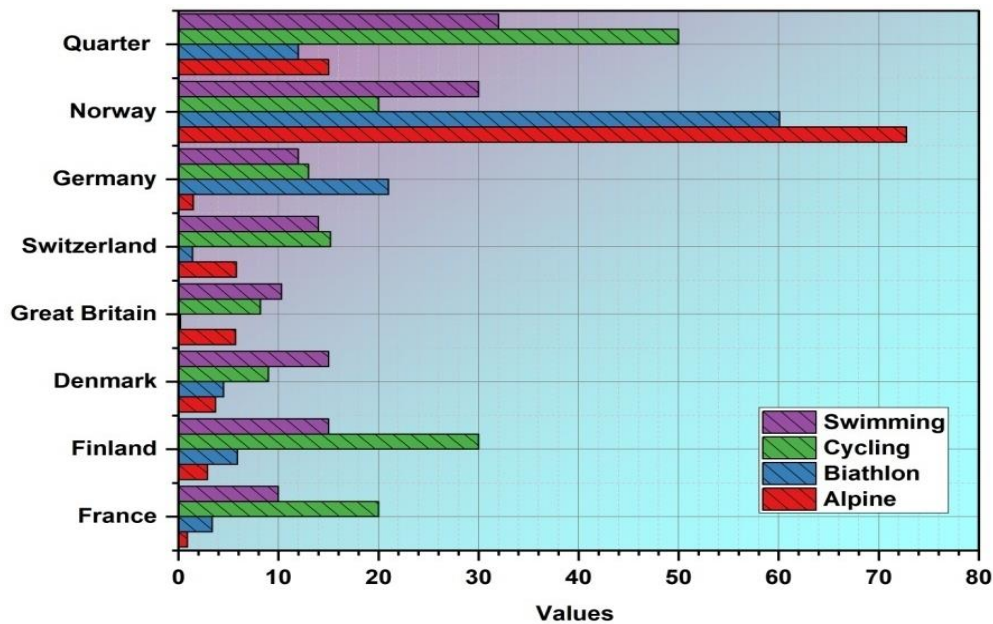


Figure 5: Comparison the socioeconomic impact from other countries

Table 8: Outcome of the socioeconomic impact from other countries

	ALPINE	BIATHLON	CYCLING	SWIMMING
FRANCE	0.9	3.4	20	10
FINLAND	2.9	5.9	30	15
DENMARK	3.7	4.5	9	15
GREAT BRITAIN	5.7	0.2	8.2	10.3
SWITZERLAND	5.8	1.4	15.2	14
GERMANY	1.5	21	13	12
NORWAY	72.8	60.08	20	30
QUARTER	15	12	50	32

In comparison to the Alpine race, there were 59% fewer Norwegians among the international impact for the Biathlon event. The large percentage of German visitors 21% of all foreign immigrant corresponds to the sport's immense popularity in Germany. Finland (6%), Denmark (4%) and France (3%) have the largest percentage of the international economic effect of the biathlon event.

8.4 Visitor Satisfaction

The findings on questions about satisfaction are shown in this paper. The surveys asked participants to rate their satisfaction in six main categories, which are as follows: 1) The availability of information. 2) The staff's degree of service. 3) The array of food and beverages. 4) The arena's atmosphere. 5)

The events' side events inside and around. 6) The general contentment with the 2019 Alpine/Biathlon World Championships.

The first scaling denotes extreme dissatisfaction, dissatisfaction, neutrality, satisfaction, extreme satisfaction, and the extra number I don't know. Based on the original scale, the mean values of each satisfaction variable have been determined. Only a tiny percentage of respondents highly dissatisfied were included in the final sample across all six categories. An inadequate number of observations, or responders, for a given value, reduces the variable's analytical power.

As a result, the first two satisfaction variable values, depressed and unsatisfied have been combined into one value, very dissatisfied, for additional analyses beyond the computation of the mean value (such as the comparison across groups). As a result, the modified format is shown in the bar charts below unsatisfied, Neutral, Satisfied, very satisfied, and I don't know. Figure 6 and Table 9 below provide an overview of the six satisfaction criteria for Alpine World Championship attendees.

On a scale of 1 to 5, where it is neutral, attendees of the Alpine events had an overall favorable experience, with an average of 4.3. The choice of food and drinks served at the events received the least amount of pleasure. Like the Alpine World Championships, the visitors to the Biathlon were generally contented with the proceedings. The level of satisfaction with the food and beverage selection could have been rated better as well. About 19% of those surveyed described as they were (extraordinarily) dissatisfied with the food and drink options available at the events.

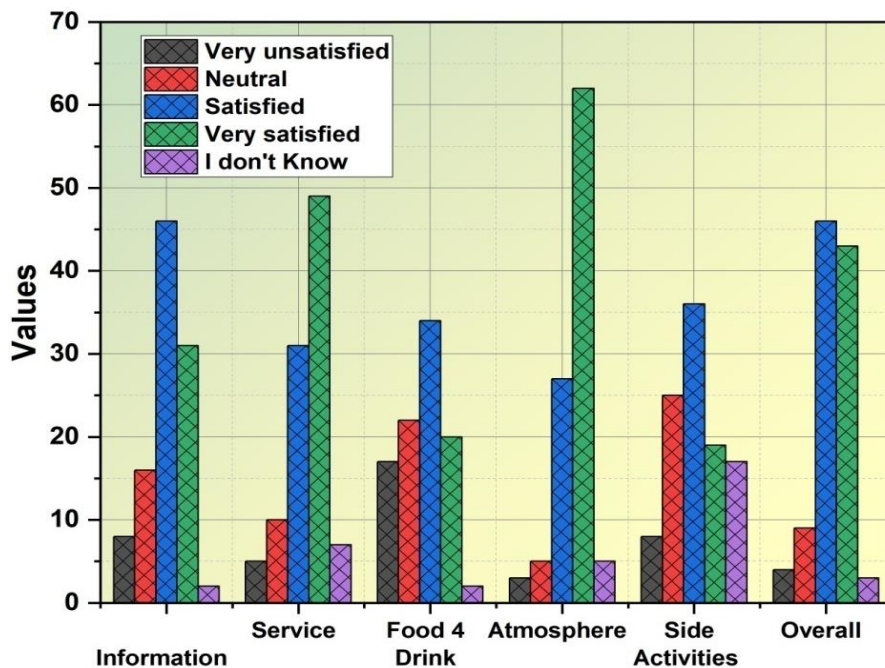


Figure 6: Comparison of satisfied the visitor

Table 9: Outcomes of the Satisfied Visitor

	VERY UNSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED	I DON'T KNOW
INFORMATION	8	16	46	31	2
SERVICE	5	10	31	49	7
FOOD DRINK	4 17	22	34	20	2
ATMOSPHERE	3	5	27	62	5
SIDE ACTIVITIES	8	25	36	19	17
OVERALL	4	9	46	43	3

9. Conclusion

The potential positive and negative socioeconomic effects of major athletic events can be incredibly varied, with advantages like enhanced tourism and infrastructure development and disadvantages like financial risk and community dislocation. Thorough planning and evaluation are essential to optimize benefits and reduce the drawbacks.

The result is evaluated for given the enormous popularity of the sport in Germany, the high proportion of German visitors 21% of all foreign immigrants corresponds. Research studies that assess the effects of major athletic events during the Olympic Games offers a valuable perspective on the economic, social, and environmental ramifications of these events.

This information may be used to guide policy decisions and facilitate the design and administration of future events. These assessments aid in determining the general efficacy and viability of holding these significant international sporting events.

The possibility for major financial strains on host towns and nations, resulting in debt and unmet promises of economic advantages is one contemporary disadvantage of major athletic events. In addition, social injustices and environmental sustainability have come under scrutiny in light of the significant resource use and community uprooting that these events have caused.

The attainment of long-term, sustainable socioeconomic advantages from major athletic events has garnered more attention in recent years, with an emphasis on legacy planning that goes beyond the event itself. Furthermore, there is a growing focus on utilizing technology and data analytics to enhance the planning and administration of significant events, optimize resource allocation, and increase their socioeconomic effect in the future.

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