

- 1) Economic Impact: Methodologies and Common Misuses
- 2) The Use of Economic Impact Analysis for Marketing Purposes

## Economic Impact: Methodologies and Common Misuses

One purpose of economic impact analysis is to provide the public with relevant information regarding the return on an investment in a project or event. Economic impact studies are often used in the field of sports to measure and publicize the economic benefits of events, facilities, or teams. Since most economic impact studies use complex procedures and produce quantifiable outcomes, it is often incorrectly assumed that the methods used are based on a science which produces objective and unequivocal results. This is not the case, as the accuracy of these studies is very dependent on the methodology employed by the author, who must make discretionary decisions and assumptions that ultimately affect the conclusions drawn regarding the impact. It is for this reason that many findings from such studies are full of inconsistencies, double-counting, improper methodologies, and other issues which make it imperative for those affected by the study findings to thoroughly review the entire study before accepting any conclusions.

The purpose of this article is to examine several of the common misuses of economic impact studies in an attempt to show the appropriateness of various techniques and effects on the final impact validity.

### **Economic Impact Methodologies**

The most important underlying principle in evaluating economic impact is to measure new economic benefits that accrue to the region that would not have otherwise occurred without the presence of the event/team/facility being studied. The financial return for residents is in the form of new jobs, new earnings, and new tax revenues that occur because of the occurrence of the sporting or cultural event.

Economic benefit is measured through direct spending, which has two different components. The first component is visitor spending. For example, how much are people spending on their entire stay because of sporting or cultural events? Another component is organizational spending. How much is spent by event organizers to run these events, accounting for the source of funding for the events? Most economic impact studies estimate a direct spending within a geographic area (e.g., a City) due to the event, and then determine how this first round of expenditure circulated throughout the area of impact chosen for the study. Generally, the geographic region upon which the economic impact is measured is the region that is considering funding part of the event costs. In this way, the proper cost-benefit analysis is performed.

The area of impact is a significant factor in determining the amount of economic impact that occurs. As an example, imagine a resident of Houston who typically spends his entertainment dollars attending the movies near home. If this person decides, for instance, to attend an event in San Antonio instead of his usual entertainment habits near home, he is adding new money to the City of San Antonio and providing a positive economic impact,

as his spending would have otherwise occurred in Houston. However, he is not adding new money to the San Antonio MSA or the State of Texas because they include Houston. On the other hand, a resident of Oklahoma would provide economic impact for the State, County, and MSA since Oklahoma lies outside of all of these geographies.

What follows are accepted practices which are commonly violated when assessing economic impact.

- Consistent area of economic impact. Choosing the area of economic impact is one of the earliest steps because it affects the sampling methodology, the surveying techniques, and ultimately the definition of a visitor and a resident. Once the area of impact is selected, care must be taken to only account for the visitors that live outside of the area of impact whose primary reason for visiting the area was to attend the event. Similarly, the multipliers and tax information must all be for the same area of impact. In order to augment the impact of the event, some studies erroneously select a small area of impact to have a high number of visitors, and a large area for the multiplier because a larger multiplier can be used.
- Incremental Visitors. Not all visitors should be included in the measurement of economic impact, even though most studies include everyone who self-identifies themselves as a visitor. Instead, the survey should be structured determine that the visitor's attendance at the event is their primary purpose for traveling to the area, that the visitor was not already in town for another reason, and that attending the event is not replacing a future visit to the area. Only visitors who meet these criteria, known as incremental visitors, can be included in the calculations of impact. A study by Crompton found that approximately two-thirds of all visitors are incremental.<sup>1</sup>
- Verification of Attendee Origin. Most studies simply ask attendees to designate themselves as "local residents" or "visitors". However, many respondents commonly misidentify themselves, as they perceive themselves as "locals" due to the proximity of their residence to the area of impact. For example, in studies where the area of impact was identified as the City of San Francisco, many residents of cities within 20 miles of San Francisco identified themselves as locals, thus excluding their spending from the economic impact.

Although many studies ask for zip codes, most do not include zip code verification to determine whether an individual has appropriately identified themselves as a visitor or local, and to accordingly account for their spending. Using these techniques, we have found that nearly 30% of respondents have inappropriately identified themselves.

Zip code verification is also useful if the area of impact was to change or if the study is being compared to a study of the same event in a different location. For instance, the Games Trust Fund in Texas, which disburses funding to various events based on their economic impact, previously allowed the area of impact to be the city in which the event was hosted. It now considers the area of impact to be the State of Texas. By having the models in place to account for the origin of all respondents based on their zip codes, it is possible to do an ex-ante apples-to-apples comparison between similar events which had different definitions of the area of impact.

With regard to stadium feasibility studies, the area of impact typically is no larger than an MSA and should be related to the source of public funding (e.g., the City). Academic studies have shown that at

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<sup>1</sup> Crompton, John L. *Measuring the Economic Impact of Visitors to Sports Tournaments and Special Events*. Division of Professional Services and the National Recreation and Park Association, 1999.

least 70% of fans for NFL games come from the local metropolitan area, even though some feasibility studies have defined the base as within 150-miles of the proposed facility.<sup>2</sup>

- Unique Visitors. For multiple day events, it is important that each visitor only be counted once. For instance, using the NCAA Final Four as an example, many individuals attend the Semi-Finals, the Finals, and ancillary events such as Hoop City and the Big Dance. The total attendance must be discounted for those persons who attended more than one event that weekend. Similarly, someone who came to an ancillary event that did not attend a game must be accounted for.
- Operational Spending. Most studies do not include spending by outside organizations that is related to the event operations, but they should. Similar to how spending by spectators is assessed, care must also be taken to only measure incremental expenditures by event organizers. Spending by visitors on vendors within an event that are local businesses can be considered as providing economic impact. Since it is difficult to track the base of operations of all vendors, economic impact should be measured including and excluding spending inside of an event/facility so as to provide upper and lower bounds for economic impact.
- Sample Size. Of the dozens of studies we have reviewed, most studies do not capture enough survey responses to have results that are statistically significant. For example, in two studies we reviewed which aimed to measure the economic impact of an NFL team and its stadium, the companies conducting the study captured 400 surveys or less.<sup>3</sup> These sample sizes are too small to provide statistically significant conclusions when one is considering the magnitude of public investment for a facility which is projected to annually host more than 600,000 people. A general rule of thumb is that 500 *completed* surveys should be filled out for every 100,000 persons in attendance.<sup>4</sup> Given that approximately 20% of surveys will be incomplete or filled out erroneously, it is prudent to have the survey sample based on the *projected number of correctly completed surveys*.<sup>5</sup>
- Margin of Error. Most studies do not provide estimates of margin of error, due to the fact that their samples are too small to be statistically significant at accurately predicting economic impact. In order to interpret how representative the sample is to the population being studied, margin of error and the confidence intervals should be calculated.
- Improper Sampling. Survey sampling should be stratified and random to ensure that the survey sample population accurately represents the attending spectator population. Other samples we have critiqued have over-sampled certain spectator groups to artificially augment impact results. One way to assess this for facilities, for example, is to determine the seating allocation among various price tiers and to compare this to the sample population. If the responses are disproportionately from the most expensive seats, for example, the estimates of average spending may be overstated.
- Local Spending. In general, spending by residents within the area of impact is assumed to be entirely displaced. In other words, it is assumed that this spending would have occurred in the local economy in some other form if it were not spent before, during, and after the event for which economic impact is being measured. That said, new research confirms what has been suspected by many within the

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<sup>2</sup> Schaffer, W. A. & Davidson, L. SL. (1984). *Economic Impact of the Falcons on Atlanta*, Georgia Institute of Technology.

Crompton, John L. *The Characteristics of Spending Patterns of Visitors to Arlington (1984)*. Texas A&M.

<sup>3</sup> Studies completed for the San Francisco 49ers and Indianapolis Colts, respectively.

<sup>4</sup> Crompton, John L. *Measuring the Economic Impact of Visitors to Sports Tournaments and Special Events*. Division of Professional Services and the National Recreation and Park Association, 1999, p.43.

industry: that some of the spending by locals is incremental to the area, and rather than displacing spending within the area of impact their spending is displacing that which would have occurred in another region. Using marathon related economic impact studies as a base, Cobb and Olberding found that many local runners, which account for a significant percentage of race participants, actually use their home-city marathon as a substitute for a race out-of-town.<sup>6</sup> They conclude that while the standard practice is to exclude all spending by local residents, they believe that excluding the locals *whose spending is incremental* leads to a significant underestimate of total economic impact.

Improper Multipliers. Direct spending stimulates additional [indirect] spending, which are then added to arrive at total economic benefit. The progression from direct spending to indirect spending is achieved through a process that involves applying spending multipliers. The use of multipliers allows for the calculation of the full economic and fiscal impacts by each industry throughout the local economy. It is imperative that the analyst appropriately identify which type and for what region the multiplier is being used (e.g., sales, income, etc.) – otherwise there is a danger that inaccurate inferences will be drawn from the data. This is especially true for employment and income multipliers, which are not additive to the total economic impact (although they are often stated as such).

Because the multiplier is only a measure of internal linkage within an economy, to simply multiply it by visitor expenditures is meaningless. A general rule is that larger geographic regions (e.g. states) and regions with a diverse industrial base should have higher multipliers. Many studies improperly apply a general “multiplier”, which often ranges from 1.2 to 2.0 times direct spending to arrive at total economic benefit.<sup>7</sup> This is incorrect for two reasons. Firstly, the multipliers should be specific to the area of impact (e.g., the County) being measured. Secondly, the appropriate multipliers to be used are dependent upon certain regional characteristics and also the nature of the expenditure. Therefore, the multipliers should apply to the same categories as the spending being measured (e.g., hotels, food and beverages, entertainment, retail, transportation, misc. spending, etc).

- Inclusion of Costs. Although it is often difficult to do so, where possible that studies should attempt to account for the costs of the project, including the opportunity costs of the subsidy. For instance, if the locality had to turn down a major event (one that would have generated its own economic impact) because of a time conflict with the events being measured, then the total *net* new incremental gain (or loss) from hosting the event should account for. Another opportunity cost is the impact from visitors who would have come to town under normal circumstances, but were unable to attend because the event filled all of the hotels to capacity. Where possible, capacity constraints should be accounted for those visitors that opted to not come to the locality for this reason.
- Public Funding. As pointed out in Crompton (1995), a public funding agency should not claim the full amount of economic benefit for projects that it has only partially funded.<sup>8</sup> The amount of benefit the agency can claim depends on the opportunity costs and purpose of the funding.

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<sup>5</sup> This error rate will decrease if a proven survey that has been tested across multiple events that are similar to the event being surveyed.

<sup>6</sup> Steven Cobb and Douglas J. Olberding, International Journal of Sport Finance, 2007, 2(2), 108-118.

<sup>7</sup> Crompton (1995) believes a multiplier should generally fall between a range of 1.4 to 1.8.

<sup>8</sup> Crompton, J. L. (1995). *Economic impact analysis of sports facilities and events*. Journal of Sport Management, 9(1), 14-35.

## The Use of Economic Impact Analysis for Marketing Purposes

One purpose of economic impact analysis is to provide the public with relevant information regarding the return on an investment in an event or facility. Economic impact not only provides a metric for comparison to other possible investment projects or events, but also allows a local government, event organizer, or facility owner to determine a lot about the event attendee population. While traditional economic impact analysis stops at simply determining participants' expenditure patterns, these studies can also be expanded to show patrons' rationale for expenditure, relationships between participant demographics and expenditure, intent to attend future events, and how event experience influenced spending and sponsor perceptions, to name a few.

### Who Needs Marketing Information?

Almost any entity involved with the production of an event or major facility can benefit from the information from a properly-conducted economic impact study. Event and facility owners can use information marketing techniques to improve attendance yield, to create more customized promotions and marketing programs, and for cross-selling of other events or products relevant to their profile/segment. This can increase marketing efficiency and effectiveness in addition to providing the various ancillary benefits associated with increased attendance. What follows is a brief summary of how each entity can utilize information collected for an economic impact study in their marketing programs:

- **Event Owner:** Event owners can use the findings of an economic impact study to help justify additional funding from the local government of the host city, or for subsidies for public services such as trash removal, facility rental, and police, for instance. Owners can also use the study as an opportunity to collect information to attract additional sponsors; increase the participants' participation in, satisfaction with, and loyalty to the event; increase attendance, to revise the pricing of the event; and increase community and financial support for the event. For example, via data analysis the event owner can learn: the correlation between demographics and spending; what types of visitors attended multiple days of the events; spectator attendance to various activities associated with the event; respondent recall of event sponsors' brands, and how this varies by attendee demographics, demographic factors which influence brand perceptions or sponsor recall; what media resources spectators use and how they learned about the event; the correlation between event experience and spending; and the correlation between event experience and sponsor recall and brand perception, to name a few.
- **Local Government:** Governments can use the findings of an economic impact study to determine which events have the best return on their investment. Study findings can also be used to determine the magnitude of investment, and to justify this investment level to the local citizenry. The return for citizens is in the form of new jobs, new earnings, and new tax revenues that occur in their city/county/MSA because of the occurrence of the sporting event. These new earnings are also generated for citizens who are not associated with the sporting event, and provide positive externalities to the community in the form of increased civic pride and community spirit. Moreover, the positive press from a successful event can also lead to increased media exposure, which can in turn increase

awareness about the locality or create an enhanced image of the area, which may lead to increased tourism, for example.

- **Host Committee or Sports Commission:** Economic impact studies are also used in the decision to publicly fund sports commissions/authorities. They are used as yardsticks to measure the success or failure of an entity that has been given the responsibility of spending taxpayer money to enhance the economic and social well being of the community. Committees, Convention and Visitors Bureaus and Sports Commissions can use economic impact studies to justify funding due to proven increased tourism, visitor spending, community attendance at events, and civic pride. Economic impact studies can not only provide the needed evidence for maintenance of funding, but also can provide the extra boost needed for increased funding and support.

Via data analysis, a Committee or Commission can learn about whether a hotel was booked, and the mode of purchase, which is often used as a mechanism for justifying funding. Although economic impact is based on visitor spending, Committees can also learn about the participation, duration of event involvement, and incremental spending of locals, and how this breaks down by various demographics, psychographics, and sociographics measures. This is especially important for cultural events, which traditionally have low economic impact, but may have high civic pride for locals.

- **Facility Owner/Operator:** Economic impact studies can be used by facilities to justify public funding for venue construction, improvements, or maintenance. These studies are traditionally used prior to facility construction to justify public funding for the venue from local taxpayers and governments. The study findings can help inform the projected benefits of the venue, and to show whether these benefits eclipse the negative externalities sometimes associated with a new venue (e.g., increased traffic or taxes). In addition to direct funding, the venue may be able to attract land grants from a locality or property owner, tax breaks, or subsidies for services by showing a significant and positive economic benefit.

Similar to the benefits for event owners, additional marketing analyses can be conducted and utilized to attract sponsors/naming rights; increase attendance; modify facility amenities; revise pricing (e.g., variable ticket pricing); improve event schedules and selection; and increase community and financial support for the venue.

- **Sponsors:** Sponsors have many of the same questions as event and facility owners, many of which can be answered via additional marketing research in an economic impact study. Via primary research collected during the study, sponsors can determine how well their brand “fits” with the event or facility demography: does the event/facility draw the target population they seek? Additionally, sponsors can test how well the event served in creating brand awareness and recall, and whether the association with the event/facility helped to positively influence the patron’s purchase decisions, brand perceptions, or brand recall, for example. In a recent study, for example, association with the event was found to increase the intent to purchase the sponsor’s product by more than half the spectator population. This positive effect was even higher for the title sponsor, which significantly gained in awareness and purchase intent.

### **Why is Economic Impact Important to Me?**

As shown above, economic impact analyses can assist stakeholders in understanding and measuring marketing concepts as well as understanding their customer segments, positioning their events/facility/locality, finding out if they have a loyal base of customers and how to cultivate them, and generating community and government

support. What follows are some examples of how entities have utilized information collected for economic impact studies in their marketing programs<sup>9</sup>:

- **Event Owners:**

- **Choosing event location.** A sporting event utilized our models to help select the optimal location for their event to be hosted.
- **Secure public funding to host event.** The San Antonio Sports Foundation has conducted several studies on a multitude of sporting events: Men's Final Four Tournaments, Bowl games, an NCAA Volleyball Tournament, and the Big 12 Championship, to name a few. They have worked with SportsEconomics to collect millions of dollars in funding from the State of Texas based on information collected in their primary studies.
- **Add or modify ancillary events.** Based on the success of its ancillary event, Hoop City, drawing additional visitors and generating higher spending per trip rates per visitor the Final Four created an additional ancillary event, the Big Dance. The benefit of this event will be measured for the 2008 Men's Final Four Tournament, and compared to the previous economic impact study conducted for that event in 2004.<sup>10</sup>
- **Improve customer satisfaction or event operations.** In a study for the Bay to Breakers race, the findings showed the event satisfaction ratings and paid entry fees could be enhanced by improvements to the T-shirt lines, giveaways, separation of runners and walkers, and adding bathrooms, to name a few.
- **Attract or Retain Sponsors.** After losing a major sponsor, a Festival owner was able to prove that they had a higher percentage of a sponsor's target market than other similar festivals. The sponsor renewal was several times the cost of the additional analysis.

- **Local Government:**

- **Bidding for events.** Information from economic impact studies have been used to compare the attendance, spectator demographics, and per capita spending between host cities. In a recent study, this aided the host city with the higher impact to resign the same event four years later, and to attract other similar events that previously had not hosted in that locality.
- **Directing public funding to host event.** SportsEconomics has conducted more than a dozen economic impact studies for the City of San Jose. The City uses the data from these studies to determine which events to support, and the magnitude of the return on their investment. It can also determine the local support for an event, and how it is serving its citizens of varying race, gender, and income levels.

- **Host Committee or Sports Commission:**

- **Bidding for events.** By comparing the economic impacts of an event when hosted in two different cities, a local sports commission was able to attract larger collegiate tournaments by

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<sup>9</sup> These are based on analysis conducted by SportsEconomics in the dozens of primary studies that we have conducted in the past decade.

proving the ability of their locality (via the Commission) to support such large scale events, and how their demography spends more, has higher incomes, and attends with higher frequency than other previous host cities.

- **Patron spending patterns.** Many Visitors Bureaus and Commissions get funding depending on how many hotel nights are booked, and the method of booking (e.g., through the CVB website or event website). By asking such questions in economic impact studies, a CVB can quantify its success in generating hotel bookings through a specific medium (e.g., the CVB website).

- **Facility Owner/Operator:**

- **Improve customer satisfaction or facility amenities.** Findings from a study conducted on behalf of the NHRA, showed their event satisfaction ratings could be greatly enhanced by improvements that could be easily and cost-effectively instituted by the track hosting the event (which they owned). In many instances patrons indicated they would pay higher ticket prices, purchase tickets to more events, and stay longer at the facility if certain amenities were improved, which would allow the facility to quickly get a return on the investment for such changes in addition to improving satisfaction and attendance.
- **Increase Sponsorship.** Using the same NHRA study as an example, the NHRA could show sponsors that the patrons of the Mac Tools U.S. Nationals had higher incomes than NASCAR events hosted at the facility, and that the Nationals also drew a higher percentage of men in a target age bracket and drew patrons which had higher per day and per trip spending than NASCAR events hosted at the facility, all of which are appealing statistics to potential sponsors.
- **Ancillary events.** Facilities can also gauge whether attendance will increase by offering a greater variety of ticket-packages. A major college football program found that it could increase the price and attendance for games with historically low-drawing opponents if these games were bundled as part of a package for higher-demand tickets. This analysis can also be expanded to determine the net benefit of promotions on increasing attendance.
- **Ticket Sales and 3<sup>rd</sup> Law of Demand.** Customer segments and profiles can be developed so that facility owners can develop customized ticket offerings and targeted marketing programs. This can be used to increase marketing efficiency and effectiveness, as well as to improve ticket sales. Moreover, these customer segments can be tested for their willingness to pay for various amenity upgrades and specialized ticket packages. For instance, a study we conducted for a football team found that there were customer segments willing to pay high premiums for bundles that included more comfortable seats, food, and parking. These premiums were several times the cost for the program to provide them, presenting a revenue generating opportunity. The programs could also be developed to increase repeat purchase from single-game/single-event purchasers, and could be subsidized by sponsors (e.g., on seat-backs or give-aways).
- **Improve advertising efficiency and effectiveness.** Media vehicles can be tested in primary studies to determine which fans learn of the event through which vehicles, and which vehicles they use to follow the sport. In a study at a large cycling race, we found that a very small

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<sup>10</sup> Both of these studies were conducted by SportsEconomics and Strategic Marketing Services for the San Antonio Sports Foundation.

percentage of visitors learned of the event through advertisements in a cycling publication or via radio, indicating these advertising investments may be better directed into other vehicles.

- **Sponsors:** Many sponsors would like to see if their sponsorship is meeting their return on objectives as well as reaching their target audience. For instance, the Tour of California, sponsored by Amgen, had a goal of raising awareness for services and programs that help cancer patients. The marketing research therefore contained questions regarding how the affiliation with the Tour affected the perceptions of the Amgen brand, and also how it impacted attendee interests in and recall of cancer treatments and other initiatives.
  - **Sponsorship recognition.** In our studies for the Alamo Bowl, respondents are asked various sponsor recall questions. Some of the learnings included that sponsor recognition differed between top-tier sponsors and lower-tier sponsors, and that recall also differed by seat proximity to the field, and by fan income levels. We also were able to test true recall compared to fictitious event sponsors. Sponsors can use this information to determine the magnitude of their sponsorship level, return on objectives, or if they are reaching their optimal fan targets.
  - **Identify vehicles for reaching demographic targets.** One arts festival, which had a relatively low sponsorship cost, was shown to have a high percentage of patrons that were higher-income and technology savvy. The participating sponsors were not only able to generate positive community awareness via what appeared to be a philanthropic effort, but also generated high exposure to their customer targets at a low investment cost.
  - **Ensure positive impact.** One racing study found that the title sponsor derived some negative connotations due to the poor satisfaction of event participants to the event's organizational shortcomings. Many patrons tied the quality of the event management and amenities to the sponsor, which they felt "owned" or was "responsible for" the event. This presents an interesting finding for sponsors and event managers, and underscores how sponsorship value is correlated with event success.

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