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Use of Decision Tree Model in Sport Management

Ceyda Mumcu
University of New Haven, cmumcu@newhaven.edu

Kimberly L. Mahoney
University of New Haven, KMahoney@newhaven.edu

Comments

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Ceyda Mumcu & Kimberly Mahoney

University of New Haven

Abstract

When individuals need to make a decision, they often face alternatives and some uncertainty. Identifying alternatives and anticipating outcomes in a systematic way provides value in better decision-making. Decision trees help to clarify the choices, risks, monetary gains, and other information involved in the decision. As a result, managers can make an informed decision when choosing the alternative that provides the best net gain and whether the net gain is worthwhile to pursue. As such, this case presents a scenario in which the sport marketing manager of the local sports commission is working with the convention center to bring a sporting event to the city in order to enhance the city's image and generate positive economic impact. The manager is faced with evaluating three alternatives (Event A, Event B, or neither) and making a recommendation to the sports commission and convention center executives regarding which event to pursue, if any. This case provides an opportunity for students to practice using this strategic management tool to assist in systematic decision-making while investigating the event bidding process.

Keywords: decision trees, strategic management, systematic decision making, event management

Use of Decision Tree Method in Sport Management

As the sport marketing manager of the local sports commission (an arm of the local convention and visitors bureau) in Jeffersonville, US, you have been asked to work with the convention center to bring a sporting event to the area in order to enhance the city's image and generate additional revenue in the community. This Midwestern city has a diverse metro population of just over 2 million people with a median household income of $43,850. Jeffersonville is centrally located within the state and within the region. The city offers over 4,500 hotel rooms in the downtown area and an amazing food scene. There is both vibrant nightlife and numerous family activities in the area. The city is home to a minor league baseball team and an NBA team, as well as a number of colleges and universities in the area. The city has a history of hosting successful events, both large and small, and city officials are working to enhance Jeffersonville's reputation as an event and tourism destination.

A convention and visitors bureau (CVB) is considered a destination marketing organization (DMO) working to attract events and visitors to a community. DMOs, including CVBs, represent a specific destination and help long-term development of communities through a travel and tourism strategy (Destinations International, 2017). CVBs are generally not-for-profit organizations funded by local government (often through hotel/bed taxes). CVBs work to attract events to their city and in doing so will assist meeting and event professionals with the planning and coordination of their events. In addition, CVBs also encourage business travelers and visitors to visit local historic, cultural, and recreational sites (Destinations International, 2017).

It is common for rights holders organizations (RHOs) (those that own the rights to one or more events) to utilize a request for proposals (RFP) process to solicit proposals from potential

host cities and venues (Greenwell, Danzey-Bussell, & Shonk, 2014). Examples of RHOs include national sport governing bodies, the NCAA, and the NFL, as well as smaller grassroots programs, regional organizations, or any other organization that owns events that are bid out and/or awarded (NASC, 2017). CVBs typically take the lead in preparing a proposal in response to an RFP as part of their efforts to attract events to the city. Those proposals often require coordination with a number of stakeholders including the CVB, local hotels, and facilities.

Many cities with a heightened focus on attracting sporting events, such as Jeffersonville, also utilize a sports commission or sports council. The sports commission may be an arm of the CVB or may be a stand-alone organization, but, regardless of the structure, their function / purpose is the same…to attract events to the city that bring visitors and positive economic impact, though the sports commission is generally focused on sporting events. As such, the mission statement for Jeffersonville's CVB and sports commission is to strengthen the awareness of the city as a convention and visitor destination, attracting individuals, families and businesses from around the world to increase revenue and stimulate economic development and growth for the community.

As the sport marketing manager with the local sports commission, you search for alternative events to bring to the city and you come across Event A and Event B, both of which will accept proposals/bids for hosting rights in the near future. Jeffersonville has the facilities and support structure to support pursuit of either event.

Event A – Girls Volleyball Junior National Championships

This annual event includes over 1,200 teams competing across 5 divisions and multiple age groups. The event draws approximately 18,000 participants and up to 30,000 spectators from across the nation. The event requires 4 move-in days, 10 days of

competition, and 1 move-out day. Historically, the event has been held in late-June to
early-July and the average stay per team is 4.5 nights. Based on data shared by previous
host organizations, the economic impact on the host city is in excess of $50 million. It is
important to note that this high-profile event has garnered great interest from cities across
the country and has been hosted by much larger cities in recent years, both of which may
decrease the likelihood of a successful bid for the city of Jeffersonville. Jeffersonville
meets or exceeds all requirements of the RFP, though larger cities often have greater
resources and amenities to offer potential RHOs and their respective events. Therefore,
submitting a proposal to host Event A would require a particular emphasis on the unique
advantages of Jeffersonville as a host for the event.

Event B – State High School Coaches Association Convention

The flagship event of the coaches' association takes place annually during the summer.
Nearly 2,000 high school coaches from a variety of sports, athletic directors, and
administrators attend this two-day event, along with approximately 80 exhibitors and
sponsors. The convention kicks off with a golf scramble the day prior held at a local golf
course with approximately 250 participants. Securing a central location within the state
for their convention is an important consideration for the coaches' association.
Jeffersonville has hosted this event successfully several times and has become a trusted
host city for the State High School Coaches Association Convention.

Due to current budget constraints, you must identify the best event to pursue, if any. Your
initial reaction may be to pursue the more prestigious event, but a prestigious event does not
automatically translate into increased profits for all stakeholders. On the other hand, your initial

reaction may be to pursue the smaller event where you perceive the greatest likelihood of being

awarded the event even though it may not provide the recognition to help attract larger events in

the future. There are a number of factors at play and there is no simple solution. The sport

marketing manager is best served to utilize a strategic approach to examine the available data

and make a recommendation regarding which event to pursue.

In order to compare the possible outcomes of bidding and hosting alternative sporting

events and not bidding for an event at all, you decided to use a decision tree model as a tool.

Prior to constructing the decision tree, you identified the cost of bidding for Event A and Event

B, the probability of being awarded Event A and Event B, the cost of hosting Event A and Event

B, the probability of an excellent event execution for Event A and Event B, and estimated

financial benefit resulting from an excellent event and a mediocre event for Event A and Event

B. All the necessary information is provided in the payoff table below (see Table 1).

Table1: Payoff Table for Bidding and Hosting Sporting Events

	Event A	**Event B**
Cost of Bidding	$200,000	$10,000
Probability of Being Awarded	.1	.9
Cost of Hosting	$1,000,000	$60,000
Probability of Hosting Successfully	.7	.9
Financial Benefit Expected by an Excellent Event (including revenue for the convention center and economic impact for the city)	$50,000,000	$3,750,000
Financial Benefit Expected by a Mediocre Event (including revenue for the convention center and economic impact for the city)	$38,000,000	$1,600,000

The probabilities are subjective and are established based on industry knowledge and

experience, as well as case specific industry research. In this instance, Event A is a large,

national event with strong anticipated economic impact for the host community. Therefore, it

historically attracts a number of proposals from across the country each year. Due to the

competition and other factors presented previously, the probability of being awarded Event A is

.1. On the other hand, Event B is a smaller, state-based event which limits the number of possible

host cities. In addition to the reduced competition, Jeffersonville has successfully hosted Event B

several times previously, has an established relationship with the coaches association, and the

city is centrally located in the state, which is important to the event organizers. Therefore, the

probability of being awarded Event B is .9.

Additional issues may be taken into consideration when establishing the probabilities for

hosting each event successfully. For Event A, Jeffersonville meets all the requirements as

outlined in the RFP, meaning the city has the infrastructure and resources needed to host the

event. However, as this would be a new event for Jeffersonville there may be unanticipated

challenges and expenses that impact the probability of success. For Event B, Jeffersonville not

only offers the infrastructure and resources needed to host the event, but, most importantly, has a

proven track record of successfully hosting Event B. Therefore, the probabilities for hosting

each event successfully have been established at .7 for Event A and .9 for Event B.

In order to help the executives from the sports commission and convention center make a

decision on which sporting event to pursue, if any, please perform the following by using the

information provided in the pay-off table for the bidding and hosting sporting events:

1. Construct a decision tree as the sport marketing manager of the local sports commission
   and convention and visitors bureau (CVB) for Jeffersonville.

2. Compare the three alternatives (Event A, Event B, or not bidding for any event) for their
   expected values and net gains.

3. Prepare your recommendation to the executives from the sports commission and

convention center and be prepared to explain your decision tree model and the preferred

choice.

Discussion Activities / Questions:

1. Calculate the expected value and the net gain for Event A with the new probability of .3

for being awarded the event, and compare the new outcome for Event A with the

outcome of Event B from previous assignment.

2. What would your recommendation to the executives be now?

3. What are three main take-aways from this exercise?

References

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Teaching notes are available via Case Studies in Sport Management.