Construction of Golf Tournament Marketing Effectiveness Evaluation System

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Abstract

In the society today, when global sports continue to grow, and the economy keeps integrating with the economy, the sports industry has been gained rapid development, and become the most active industry with the most competitive potential in the global cultural industry. In the marketing process of this event, as there are all kinds of uncertainty, therefore, the effect of event marketing need to be evaluated to exercise control over the process of event marketing, so that the planning and implementation process of the event marketing can be as consistent as possible. Organizers and operators of golf tournament need to understand and master the effects of the marketing strategies they apply; and on the basis of its analysis, find the problems and make adjustment in a timely manner, so as to maximize their own interests. In this paper, through the analysis on the effect of large scale individual golf tournament marketing, it adopts scientific research methods, and selects the relevant indicators to build the golf tournament marketing effectiveness evaluation indicator system of our country. After the confirmation of the individual golf tournament marketing effectiveness evaluation indicator system, it applies the decision tree fuzzy comprehensive evaluation model to build the large-scale golf tournament marketing effectiveness fuzzy comprehensive evaluation model of our country.

Key words: GOLF TOURNAMENT, EVENT MARKETING, FUZZY COMPREHENSIVE EVALUATION MODEL, MARKETING STRATEGY

1. Introduction

With the continuous development of global sports, the integration of sports and economic keeps deepening, and the global sports industry has been rapid developed, which has become the most active industry with most competitive potential in global cultural industry [1]. Moreover, although China's sports industry started late, in recent years, as China's economy continues to develop, the marketization level continues to increase, especially after the success of Beijing 2008 Olympic Games, China's sports industry has ushered into a golden development Period. Wherein, the competition performance industry as the main body of sports industry has been the focus of attention of people [2].

Sports events marketing is an important component part of sports marketing, and also an important manifestation of sports marketing. Currently, many scholars have done research on the relevant contents of sports event marketing and have made certain research achievements. In the existing studies, the definition of the meaning of sports events marketing is relatively consistent. Most scholars agree that the meaning of sports events marketing needs to be studied from two angles [3]. Document [4] states that: Event marketing include two aspects, starting from the event itself, sports marketing is considered the multi-faceted marketing activities carried out by the event organizer for the sports event itself. From the business point of view, the document [5] thinks that sports events marketing is a new strategy adopted by businesses, companies and other institutions and organizations different from traditional marketing strategy and media advertising, i.e. the enterprise "sports marketing" that we usually refer to.

The evaluation of the effect of enterprise sports events marketing is currently a research focus domestically. Document [6] points out that: As the biggest

risk of sponsorship marketing lies in the inability to have clear individual evaluation on the effect, thus companies often cannot scientifically assess the feasibility of a sponsorship activity. Document [7] puts forward criticism in the study on the domestic enterprises that do not pay close attention to sponsorship evaluation and the sponsor organizers do not provide evaluation services to enterprises, and points out that enterprises should entrust a third party to evaluate the implementation of sponsorship. These evaluations include not only the image benefit of sponsors, sales and media coverage evaluation, but also shall be an overall evaluation framework, in which the evaluation on the sales volume change is only a small part. Document [8] points out that, sports sponsorship evaluation shall include three parts: 1) pre-evaluation, the evaluation of consistency between sponsorship goals, procedures, programs and business objectives; 2) Evaluation in the event, mainly surrounding the internal and external environment changes, sponsor implementation, and evaluation on stage effect; 3) Post evaluation, mainly including evaluation of exposure, achievement rate, recollection degree, images, sales results and other evaluation. As can be seen, in respect of sports event marketing evaluation research, many domestic scholars have made analysis from different angles. However, it also can be seen from the existing literature that, there is almost no research on the evaluation of the competition events marketing effectiveness itself.

This study hopes through the analysis on the overall effect of golf tournament event marketing, based on the theoretical research, oriented by the practical application, so as to achieve the following research purposes:

1) Analyze the specific structure of golf marketing effectiveness, and study its influencing factors, the evaluation indicators and the logical relationship between the indicators. 2) Build golf tournament marketing effectiveness evaluation model.

2. Fuzzy clustering evaluation algorithm based on the decision tree

Clustering is an unsupervised classification method, which in the absence of pre-defined classification, divides a large data set into several categories, with the requirement that the data in the same category shall be as similar as possible, while the data in different categories shall be as different as possible. Researchers have proposed a lot of data clustering algorithm, the relatively famous ones as previously described K-Means, K-Center, DBSCAN and OPTICS etc.

Common tree algorithm has ID3, C4.5, and C5.0 etc. C5.0 algorithm applies information theory methods to make information volume analysis on the features of a large number of practical cases, calculate the interactive information of each characteristics, adopts the attribute gain rate maximization as the node tree, to form the decision tree on the basis of information entropy.

Take the attribute X calculation as an example. Calculate its information gain rate Gain (x). S represents a set of samples, p_i is the probability of any sample belonging to D_i, indicated by $\frac{S_i}{S}$. Assuming category attributes have n different values, and defines n different categories $D_i\left(i=1,\cdots,n\right)$. Set S_i as the number of samples in category D. Info (S) represents the current sample entropy, the calculation is as follows

$$INfo\left(S\right)=-\sum_{i=1}^{n}p_i\log\left(p_i\right)$$

Set X with n different attribute values $\{X_1,X_2,\cdots X_n\}$, use X to divide S into n subsets $\{S_1,S_2,\cdots S_n\}$. Info (S,X) represents the information entropy required to use attribute X to divide S, the calculated is as follows:

$$Info\left(S,X\right)=\sum_{j=1}^{n}\frac{S_j}{S}Info\left(S_j\right)$$

Gain (X) will increase naturally, thus excluding the impact of this factor, namely, dividing SplitInfo (X) and eliminate the impact of the category number n, to eliminate the deviation value with huge amount of attributes, the calculation is as follows:

$$SplitInfo\left(X\right)=-\sum_{i=1}^{n}\frac{\left|S_i\right|}{\left|S\right|}\log\left(\frac{\left|S_i\right|}{\left|S\right|}\right)$$

$$Gain\left(x\right)=\frac{Info\left(S\right)-Info\left(S,X\right)}{SplitInfo\left(X\right)}$$

Fuzzy clustering evaluation is a method to evaluate clustering results, and a clustering pattern to seek data concentrating most of the vector data in a cluster with high clustering cluster attribute. A fuzzy cluster is represented by the membership matrix P=[Pij]. Pij here represents the membership degree of the j-th element belonging to the category i. Thus the key indicator division factor

$$PC=N\sum_{i=1}^{N}\sum_{j=1}^{c}p_{ij}^2$$

Both fuzzy clustering evaluation method and C5.0 adopts information entropy to evaluate the membership degree, while there is a correlation between the information entropy, and the fuzzy clustering evalua

tion methods that can be drawn are also correlated to the decision tree algorithms, therefore, the clustering fuzzy evaluation method for the size of entropy division to some extent decreases with the increase of the decision tree information entropy gain reduction.

Proof:

Convert the above formula into vector product:

$$PE = -\frac{1}{N\sum_{i=1}^{N}\sum_{j=1}^{c} p_{ij}} \times \log\left(p_{ij}\right)$$

$$= -\frac{1}{N}\left\{\sum_{i=1}^{N} p_{i1} \times \log\left(p_{i1}\right) + \sum_{i=1}^{N} p_{i2} \times \log\left(p_{i2}\right) \cdots + \sum_{i=1}^{N} p_{ic} \times \log\left(p_{ic}\right)\right\}$$

$$= \left(\sum_{i=1}^{N} p_{i1} \times \log\left(p_{i1}\right), \sum_{i=1}^{N} p_{i2} \times \log\left(p_{i2}\right) \cdots, \sum_{i=1}^{N} p_{ic} \times \log\left(p_{ic}\right)\right) \cdot (1,1,\cdots 1) \cdot \left(-1 \cdot \frac{1}{N}\right)$$

(The meaning of each symbol in the formula is: Categorical target attribute has N different values (1,2,3 ... i ... n), the original data set can be divided into C categories according to attribute X.

$$Info(S,X) = -\sum_{j=1}^{N} \frac{S_i}{S} \sum_{i=1}^{N} p_{ij} \log\left(p_{ij}\right)$$

$$= -\left(\frac{S_1}{S}\sum_{i=1}^{N} p_{i1} \times \log\left(p_{i1}\right) + \frac{S_2}{S}\sum_{i=1}^{N} p_{i2} \times \log\left(p_{i2}\right) + \cdots + \frac{S_c}{S}\sum_{i=1}^{N} p_{ic} \times \log\left(p_{ic}\right)\right)$$

$$= -\left(\frac{S_1}{S}\sum_{i=1}^{N} p_{i1} \times \log\left(p_{i1}\right) + \frac{S_2}{S}\sum_{i=1}^{N} p_{i2} \times \log\left(p_{i2}\right) + \cdots + \frac{S_c}{S}\sum_{i=1}^{N} p_{ic} \times \log\left(p_{ic}\right)\right)$$

$$\because (1,1,\cdots,1) \cdot (1,1,\cdots 1) \times \frac{1}{N}$$

$$PE = Info(S,X) \cdot \partial N \cdot (1,1,\cdots,1)$$

As can be known from the theorem, the size of entropy division by fuzzy clustering evaluation method key indicators decreases with the increase of the decision tree information entropy gain to a certain extent, while the key indicator entropy division decrease indicates better clustering effect, the greater the entropy gain is, the better the decision tree categorization effect. As the value of Gain (x) can indicate the compliance extent of different categories with the actual categorization, the higher the resulting information entropy Gain (x), the better degree of compliance it shows. Therefore, it can be drawn that from the execution of the decision tree, the clustering results have actually been tested, and the decision tree process can simulate a fuzzy clustering evaluation process.

3. Construction of large scale gold tournament marketing effectiveness evaluation model of our country

For large-scale events of individual sports, such events often represents the highest level of certain sports items, which are subject to the restrictions of relevant provisions of the General Association of International Sports Federations on the athlete qualification for the match, event sponsors and partners selection, etc. In addition, China has not fully geared to the international standards in the operation of market-oriented sporting events, and still retains part of the operation mode in the planned economy period, mainly shown in the transfer of television rights of golf games not fully market-oriented. Therefore, for the golf tournament organizers or operators in our country, the principal objective to carry out event marketing is to attract more consumers to watch the live games on spot. Events audiences are the direct experience group of the golf tournament marketing effectiveness. All their own experiences, awareness of the events products, satisfaction to the events and services etc. can reflect whether the events marketing is good or not. At the same time, for our golf tournament organizers or operators concerned, the most direct marketing purpose is to organize events to make profit. Therefore, the financial evaluation is also an

indispensable part of the golf tournament marketing effectiveness evaluation in our country.

According to the actual situation of our country's golf tournament marketing, the marketing activities of our golf tournament organizers or operators are focused on the sales of tickets and event-related souvenirs, through two parts of marketing campaigns to implement the complete process of consumer awareness of the events, understanding the events, and recognizing the events, and loving the events. Accordingly, our marketing effectiveness of golf tournament is constituted by two parts, one is the visual economic effect evaluation, i.e., the financial evaluation of the events, including how the event marketing income is, how the event marketing efficiency is and so on; the other is indirect evaluation of the marketing effectiveness, namely, events consumers' response to the events, including the event consumers' awareness of the events, event consumers' satisfaction for the events, and event consumers' satisfaction etc. In addition, as event organizers or event operators, events sponsors have different mode of operation in event marketing. At present, the event sponsors of our country mainly have two different operation modes in the events marketing: First, the event sponsor autonomous event marketing, i.e., the event sponsor will set clear work division in the tournament organizing committee for each responsible department, and a special market development department is responsible for event marketing operations. Second, event sponsor commissions a professional event marketing agency, namely event sponsor will outsource the specific event marketing organization work such as event marketing promotion etc. to specialized event operator. Usually the market-oriented operation level of such events is higher. At the time when we evaluate the golf tournament marketing effectiveness in our country, different event operations shall be fully taken into account. Under different circumstances, the identity of different event sponsors are different, which will have different influence on the event marketing effectiveness evaluation In the case that event sponsors autonomous evaluate the event marketing effectiveness of the golf tournament in our country, the event sponsors undertake the role of event marketing organizer, the effects of the marketing effectiveness plays an important role for the event sponsors to know their event marketing strategy effect, and the event marketing problems in the process.

Therefore, the evaluation on the effectiveness of the event marketing can not only provide effective guidance to carry out the event marketing work in the next cycle, but also need provide a valid basis for the supervisory control of the event marketing in the current event cycle. The control function is one of the four basic functions of management; marketing performance evaluation is an important means of marketing control. Therefore, control theory shall be followed to make rational design of marketing performance evaluation method. Sports events marketing control mainly refers to the application of a designed activity to increase the likelihood of the right implementation and get the desired results in event marketing process. In evaluating the effect of the golf tournament marketing in our country, self-evaluation shall be made from the perspective of event organizer through their own experience. And in the case of entrusted professional event organizer for the event marketing, the golf tournament marketing organizers and executors of our country are mainly third-party professional institutes commissioned by the event organizer. In this case, the event sponsor plays mainly a supervisory role to the work of the third party. When evaluating the effectiveness of event marketing, event organizer shall evaluate whether the professional third-party organizer can get the event marketing work well done. In this case, since the supervisory control of the event marketing work is not executed directly by the event marketing third-party professional organizer, but completed by the event sponsor, therefore, the events marketing third-party professional organizer is not required to conduct self-evaluation on their marketing work.

For the analysis of the golf tournament marketing effectiveness evaluation system based on the golf tournament marketing realities in our country, it can be divided into two different scenarios of autonomous event marketing by the tournament organizers and by the organizer commissioned professional marketing agency. Therefore, this paper establishes the golf tournament evaluation indicator system according to the different characteristics of the golf tournament marketing by the sponsor and by the commissioned professional institutions. Based on the evaluation indicator system under two different scenarios, the golf tournament marketing effectiveness in our country adopts fuzzy comprehensive evaluation model for the golf tournament marketing effectiveness evaluation in our country, so as to build a fuzzy comprehensive evaluation model for golf tournament marketing effectiveness evaluation in our country.

Firstly, under the situation that the sponsors carry out autonomous event marketing, the fuzzy comprehensive evaluation model of the golf tournament marketing effectiveness evaluation indicator system in our country is established according to the sponsor

autonomous golf tournament event marketing effectiveness evaluation system, adopt fuzzy comprehensive evaluation model for sponsor autonomous event marketing to evaluate the golf tournament marketing effectiveness of our country, so as to build a fuzzy comprehensive evaluation model of golf tournament marketing effectiveness under the situation of sponsor autonomous event marketing. The detailed steps are as follows –

Step 1: According to the classification of indicators to determine the indicator level

Let evaluation indicator set be $U=\{u_1,u_2,\cdots u_n\}$, in which $U=\{u_1,u_2,\cdots u_n\}$ is the i-th indicator in the first level, determined by the n-th indicator in the second level, then $U_j=\{u_{j1},u_{j2},\cdots u_{jn}\}$, where $U_{ij}=\{i=1,2,\cdots,m;j=1,2,\cdots,n\}$, and so on. According to the evaluation indicator system of marketing effectiveness of golf tournament, the various indicators can be divided into three levels, specifically as follows: The first level: Let evaluation indicator set be $U=\{u_1,u_2,u_3\}$, in which U_1 is the economic effect, U_2 is the market effect, U_3 is self-evaluation effect.

Level 2: Set evaluation indicator set

$$U_1=\{U_{11},U_{12}\},U_2=\{U_{21},U_{22},U_{23},U_{24},U_{25}\},U_3=\{U_{31}\}$$

Level 3: Set evaluation indicator set

$$U_{11}=\{U_{111}\},U_{12}=\{U_{121}\},U_{21}=\{U_{211},U_{222},U_{223}\},U_{23}=\{U_{231},U_{232}\},U_{24}=\{U_{241}\},U_{25}=\{U_{251},U_{252},U_{253}\},\{U_{311},U_{312},U_{313},U_{314},U_{315}\};$$

Step 2: Establish weight set to determine the weight set is a key step in constructing fuzzy comprehensive evaluation model. Generally the methods to determine the weight include the following: 1) Obtained by the evaluation experts through discussion; 2) Applying paired comparison method; 3) Analytic hierarchy process (AHP). This paper adopts AHP to determine the weight W of each indicator, for the specific methods please refer to the description above.

Given: Weight set $W\Rightarrow(W_1\ W_2\ W_3\ldots\ W_m$, in which $W_i(i=1,2\cdots\ m)$ is the weight of the i-th factor U_j.

$$\sum_{i=1}^{m}Wi=1$$

Under the condition of sponsor autonomous event marketing, our golf tournament marketing indicator weight has been described in detail in the previous section. Our country's golf tournament marketing effectiveness level one indicator weight set can be obtained under the condition of sponsor autonomousevent marketing for o according to the results:

$$W=\{0.6715\quad 0.2969\quad 0.0856\}$$

By the same method we can calculate the level 2 indicator weight set for our country's golf tournament marketing effectiveness under the condition of sponsor autonomous event marketing:

$$W'1=\{0.75\quad 0.25\}$$

$$W'2=\{0.0571\quad 0.2801\quad 0.1086\quad 0.1718\quad 0.3824\}$$

$$W'3=\{1\}$$

The weight of secondary indicator relative to the total indicator weight can be calculated using the formula , so as to build the secondary indicator weight set as follows:

$$W1=\{0.5036\quad 0.1679\}$$

$$W2=\{0.0170\quad 0.0832\quad 0.0322\quad 0.0510\quad 0.1135\}$$

$$W3=\{0.0856\}$$

Finally, establish the weight of level 3 indicators, average the weight of level 3 indicators relative to the weight of level 2 indicators, so as to obtain the level 3 indicator weight set, and the detailed results are as follows:

$$W_{11}=[0.5625]$$

$$W_{12}=[0.1875]$$

$$W_{21}=[0.0143]$$

$$W_{22}=[0.0233\quad 0.0233\quad 0.0233]$$

$$W_{23}=[0.0136\quad 0.0136]$$

$$W_{24}=[0.0430]$$

$$W_{25}=[0.0319\quad 0.0319\quad 0.0319]$$

$$W_{31}=[0.0171\quad 0.0171\quad 0.171\quad 0.0171\quad 0.0171]$$

Step 3: Establish evaluation set V

In this paper, the golf tournament marketing effect of our country is divided into five levels, therefore, the evaluation set

$V=\{v_1,v_2,v_3,v_4,v_5\}$, in which v_1=very good, v_2=good, v_3=fair, v_4=poor, v_5=very poor.

Step 4: Level 1 fuzzy comprehensive evaluation, which is the evaluation on each factor in level 3.

Hence level 3 single factor membership matrix degree is:

$$\widetilde{R}_{ij} = \begin{bmatrix} rij11 & rij12 \cdots rij1p \\ rij21 & rij22 \cdots rij2p \\ \cdots & \cdots \\ rijn1 & rijn2 \cdots rijnp \end{bmatrix}$$

Step 5: Level 2 fuzzy comprehensive evaluation. If a single factor evaluation matrix is level 2 fuzzy comprehensive evaluation matrix, then:

$$\widetilde{R}_i = \begin{bmatrix} \widetilde{B}i1 \\ \widetilde{B}i2 \\ \cdots \\ \widetilde{B}in \end{bmatrix} = \begin{bmatrix} wi1 \circ \widetilde{R}i1 \\ wi2 \circ \widetilde{R}i2 \\ \cdots \\ win \circ \widetilde{R}in \end{bmatrix}$$

Step 6: Level 3 fuzzy comprehensive evaluation, the single factor evaluation matrix U is:

$$R = \begin{bmatrix} \widetilde{B}1 \\ \widetilde{B}2 \\ \cdots \\ \widetilde{B}n \end{bmatrix} = \begin{bmatrix} w1 \circ \widetilde{R}1 \\ w2 \circ \widetilde{R}2 \\ \cdots \\ wn \circ \widetilde{R}n \end{bmatrix}$$

Secondly, under the condition that the sponsor commissioned professional institutes to carry out events marketing, our country's golf tournament marketing effectiveness fuzzy comprehensive evaluation model is established based on the golf tournament marketing effectiveness evaluation system under the condition of sponsor commissioned professional institutes event marketing, adopting fuzzy comprehensive evaluation model to evaluate the golf tournament marketing effectiveness in our country under the condition of sponsor commissioned professional institutes, so as to establish a fuzzy comprehensive evaluation model of golf tournament marketing effectiveness of our country under the condition of sponsor commissioned professional institutes for the event marketing. The detailed steps are basically consistent with the fuzzy comprehensive evaluation model of golf tournament marketing effectiveness of our country under the condition of sponsor autonomous event marketing, but only different on the confirmation of indicator level set and indicator weight set.

4. Golf tournament marketing effectiveness trial evaluation

The evaluation of consumer behavior is mainly measured in two aspects, the proportion of new customers and customer loyalty.

According to Shanghai golf tournament spectator survey, in 2012 spectators who came to site to watch Shanghai golf tournament for the first time accounted for 55.2% of the total number of the respondents, which shows that new customers in Shanghai golf tournament accounted for 55.2% of the total number of spectators in the survey. The spectators who repeatedly come to the site to watch ATP1000 Tennis Masters Cup accounted for 45.8% of the total number of the respondents, which shows the attention of spectators to the golf tournament.

2012 Shanghai golf tournament advertising effectiveness status:. In the survey of the spectators on site, 89 7% of the respondents said they were aware of Shanghai golf tournament 2012 advertisement, 10 3% of the respondents said they never saw 2012 Shanghai golf tournament advertising. The awareness of respondents on site of the advertising awareness of the Masters Cup is still relatively high. The Master Cup's events products and services have loyal consumers accounting for 45.8% of the total number of people in the survey. The purpose is to facilitate the consumers to consume the product, and in the respondents, 58.9% of the respondents said Shanghai golf tournament event advertising messages had a direct influence on their buying behavior, 41.1% of the respondents said that Shanghai golf tournament event advertising information has no direct impact on their buying behavior. Therefore, the events advertising on consumer buying behavior has a certain degree of influence on the consumer buying behavior, but fails to influence the majority of consumers of the event.

1). Level 1 fuzzy comprehensive evaluation

Firstly establish level 1 fuzzy evaluation matrix, namely:

Indicator D11 ticket and licensed merchandise sales growth percentage Fuzzy Matrix

$$R11 = |0.167 \quad 0.667 \quad 0.167 \quad 0 \quad 0|$$

Indicator D121 Tickets and Merchandise Sales Revenue Ratio of Total Event Expenditure Evaluation

$$R12 = |0 \quad 0.167 \quad 0.333 \quad 0 \quad 0|$$

Indicator D21 Public Awareness Fuzzy Matrix

$$R21 = |0.8333 \quad 0.167 \quad 0 \quad 0 \quad 0|$$

Indicator D22 Consumption Satisfaction Fuzzy Matrix

$$R22 = \begin{vmatrix} 0.333 & 0.5 & 0.167 & 0 & 0 \\ 0.157 & 0.833 & 0 & 0 & 0 \\ 0 & 0.5 & 0.333 & 0.167 & 0 \end{vmatrix}$$

Indicator D23 Consumer Behavior Fuzzy Matrix

$$R23=\begin{vmatrix}0.167 & 0.333 & 0.5 & 0 & 0\\ 0 & 0.5 & 0.5 & 0 & 0\end{vmatrix}$$

Indicator D24 Market Competition Fuzzy Matrix

$$R24=\begin{vmatrix}0 & 0.167 & 0.167 & 0.667 & 0\end{vmatrix}$$

Indicator D25 Advertising Effect Fuzzy Matrix

$$R25=\begin{vmatrix}0.167 & 0.167 & 0667 & 0 & 0\\ 0.333 & 0.167 & 0.5 & 0 & 0\\ 0 & 0.667 & 0.333 & 0 & 0\end{vmatrix}$$

Make level I fuzzy transformation according to the formula, with the results as follows:

B11=[0.0841 0.3359 0.0841 0 0]
B12=[0 0.1120 0.0559 0 0]
B21=[0.0142 00028 0 0 0]
B22=[0.0052 0.0196 0.0054 0.0018 0]
B23=[0.007 0.0347 0.0416 0 0]
B24=[0 0.0085 0.0085 0.034 0]
B25=[0.0189 0.0378 0.0567 0 0]
B31=[0.0057 0.0314 0.0428 0.0057 0]

2). Level II fuzzy transformation

Matrix R formed from level I fuzzy evaluation results

$$R1=\begin{bmatrix}0.0841 & 0.3359 & 0.0841 & 0 & \\ 0 & 0.1120 & 0.0559 & 0 & \end{bmatrix}$$

W1=[0.5036 0.1679]
B1=V1*R1=[0.0424 0.1880 0.0517 0 0]

$$R25=\begin{bmatrix}0.0142 & 0.0028 & 0 & 0 & 0\\ 0.0052 & 0.0196 & 0.0054 & 0.0018 & 0\\ 0.007 & 0.0347 & 0.0416 & 0 & 0\\ 0 & 0.0085 & 0.0085 & 0.034 & 0\\ 0.0189 & 0.0378 & 0.0567 & 0 & 0\end{bmatrix}$$

W2=[0.0571 0.2801 0.1086 0.0292 0.0063 0]
B2=V2*R2=[0.0103 0.0594 0.0292 0.0063 0]
R3=[0.0057 0.0314 0.0428 0.0057 0]
V3=[1]
B3=V3*R3=[0.0057 0.0314 0.0428 0.0057 0]

3). Level III fuzzy transformation

Matrix R formed from level II fuzzy evaluation results

$$R=\begin{bmatrix}0.0424 & 0.1880 & 0.0517 & 0 & 0\\ 0.0103 & 0.0594 & 0.0292 & 0.0063 & 0\\ 0.0057 & 0.0314 & 0.0428 & 0.0057 & 0\end{bmatrix}$$

V=[0.6715 0.2969 0.0856]
B=V*R=[0.0321 0.1465 0.0471 0.0024 0]

According to the principle of maximum membership value, the maximum value of B is 0.1465, the corresponding evaluation set V = "good" in {very good, good, fair, poor, very poor}, therefore, we can determine that 2012 Shanghai golf tournament series event marketing effect is good. Meanwhile, according to the principle of maximum membership value, we can evaluate the effectiveness on each level in the evaluation model.

5. Conclusion

This paper establishes a fuzzy comprehensive evaluation model of the golf tournament marketing effectiveness in our country. Based on the evaluation indicator system of marketing effectiveness of golf tournament in our country, it adopts AHP and fuzzy comprehensive evaluation model to build the fuzzy comprehensive evaluation model of golf tournament marketing effectiveness of our country under the condition of sponsor autonomous marketing and entrusted professional institutes marketing.

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