The Development and Application of Valuation System on Competitive Sports Events

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Abstract: With some related researching materials and fixed the index factors of the valuation system on sport events, after comparing, analyzing and synthesizing,. I calculated the weight of each factor in valuation system and used AHP method to construct a judgment matrix according to the scored data. All the factors have been examined on conformance by calculating. The sport events have become an important part of people's daily life with the coming of information society and popularity of sports. The development and application of valuation system on sport events will contribute a lot to construct a comprehensive feedback system on sport events, promote sports development and improve the quality of people's life. The value of this study and the social appraisal framework based on it is used generally to testify some practical problems and is worthwhile to be popularized.

Keywords: Sport Events, Valuation System, Development and Application

1. Introduction

We will conduct the program and arrange related research on this task at the point of hosting the 16th collage games in our school. The university game in Hebei which is held every two years is the pageant for college students in Hebei. This is the 16th of it. It's not only an examination of reform in colleges and popularization of sport events but also a chance for those colleges to show their athletic level. There are 76 colleges, 322 teams and more than 4900 people in individual sport of track and field, basketball, volleyball, Orienteering, aerobics and table tennis in this game. 30 teams got cups; 492 gold, silver and bronze medals were created; 25 groups and 53 teams got the moral awards; 7 people and 3 teams broke 8 records of college games, 12 people met the standard of first grade national sportsman; 171 people met the second grade. This game was hosted by provincial education ministry in Hebei, collaborated by the college sport association in Heibei, organized by Heibei University of Technology. There are 3 levels in the games, students in team one are from regular universities. Students in team two are from regular junior colleges. The team three concludes special-enrolled senior athletes and students in PE major. The period is from May 5th to 10th , 2010.

2. Construction of Valuation System on Sport Events

I confirmed the index factors of valuation system on sport events after looking up related materials [1-6] and making comparison, analysis and synthesis. The calculation of weight of all factors in the system is to construct a judgment matrix by the scored number. The judgment matrix of level A is demonstrated in Table 2. Get the judgment matrix of sub-criteria level in analog, the process is omitted. The calculation of judging the feature vector and characteristic root of the matrix (the method of calculating root). Calculate the product of factors in each line of the matrix A

$M_i = \prod a_{ij}, i=1,2,\wedge, n$

Calculate the nth root of M_i

$$\overline{W_i} = \sqrt[n]{M_i}$$

Standardize W_i as

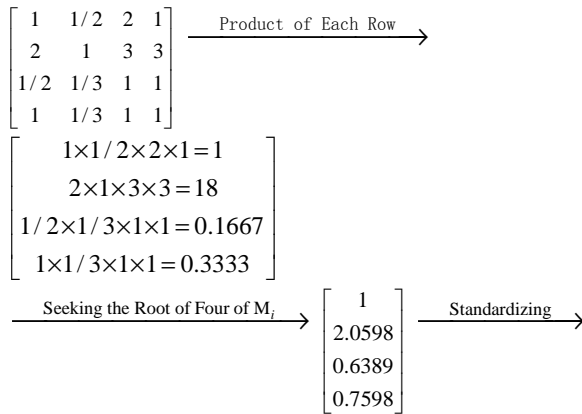$$W_i = \frac{\overline{W_i}}{\sum_{j=1}^{n} \overline{W_j}}$$

So W_i is the feature vector.
Calculate the biggest characteristic value.

$$\lambda_{max} \approx \sum_{i=1}^{n} \frac{(AW)_i}{nW_i}$$

Calculate the process of W by referencing the weight calculation of index level B1-B4 corresponding to the criteria level A.

$$\begin{bmatrix} 1 & 1/2 & 2 & 1 \\ 2 & 1 & 3 & 3 \\ 1/2 & 1/3 & 1 & 1 \\ 1 & 1/3 & 1 & 1 \end{bmatrix} \xrightarrow{\text{Product of Each Row}}$$

$$\begin{bmatrix} 1\times1/2\times2\times1=1 \\ 2\times1\times3\times3=18 \\ 1/2\times1/3\times1\times1=0.1667 \\ 1\times1/3\times1\times1=0.3333 \end{bmatrix}$$

$$\xrightarrow{\text{Seeking the Root of Four of } M_i} \begin{bmatrix} 1 \\ 2.0598 \\ 0.6389 \\ 0.7598 \end{bmatrix} \xrightarrow{\text{Standardizing}}$$

$$\begin{bmatrix} 0.2243 \\ 0.4620 \\ 0.1433 \\ 0.1704 \end{bmatrix}$$

$$W \approx \begin{bmatrix} 0.2243 \\ 0.4620 \\ 0.1433 \\ 0.1704 \end{bmatrix}$$

$$\lambda_{\max} = \sum_{i=1}^{n} \frac{(AW)_i}{nW_i} = \frac{0.9123}{4\times0.2243} + \frac{1.8517}{4\times0.4620} + \frac{0.5799}{4\times0.1433} + \frac{0.6920}{4\times0.1704} = 4.0457$$

Then solve the approximation of the largest characteristic value.

Calculate the sequencing weight vector and examine them in conformance.

The conformance index is to judge the inconformity of the matrix and the sign is CI, defined as:

$$CI = \frac{\lambda_{\max} - n}{n-1}$$

Obviously, the matrix judgment CI=0 $\Leftrightarrow$ $\lambda_{\max}$ =n $\Leftrightarrow$ is a matrix. The bigger CI is, the more unconformable the matrix is. How to use analytical hierarchy process to judge the unconformable range? Stochastic conformance index was introduced to solve that.

For a steady n, select a number as a ^{ij} from $\frac{1}{9} \wedge$,

$\frac{1}{2}, 1, 1, 2 \wedge$, 9 and constitute

$$\hat{A} = (a^{ij})_{n\times n} , \quad (i<j)$$

The $\hat{A}$ as above is the most unconformable, assume the biggest characteristic value of it is $\hat{\lambda}_{\max}$, then the definition is:

$$RI = \frac{\hat{\lambda}_{\max} - n}{n-1}$$

The stochastic conformance index, when the stochastic conformance

$$CR = \frac{CI}{RI} < 0.1,$$ the discordance of A could be acceptable.

Otherwise, the matrix judgment must be adjusted.

Besides, the data of conformance index RI to each matrix is given in Table 4 to make the examination easy. For the matrix of A,

$\lambda_{\max}$ =4.0457, CI=0.0152, RI=0.94, CR=0.0162 <0.1

Table 1. The Valuation Index System of Reproduction of Media Politics to Sport Events

The Destination Level A	Criteria Level B	Index Level C
The valuation on sport events	The influencing factors	The influencing index (measuring index)
	B 1The factors of game	The brands of games
		The athletic stars
		The promotion and service of games
		The strength and international influence of host country
	B2 The factors of media	The agenda setting
		The reported content
		The media service
		The assistant funds
		The quality of media workers
		The media classifying
		The influence of media
		The development of new medias
		The run system of media
	B3The factors of broadcasting	The guarantee system
		The participation of government
		The participation of NGO
		The participation of sport industry
		The participation of celebrities
		The broadcasting in schools
		The theme activities
		The manifestation of political content
		The options of broadcasting ways

		The educational background
	B4 The factors of audience	The knowledge about sport
		The social stratification and income
		The cognition of athletic stars

Table 2. The Judgment Matrix of Level A

A	B1	B2	B3	B4	W
B1	1	1/2	2	1	0.224288
B2	2	1	3	3	0.461982
B3	1/2	1/3	1	1	0.143308
B4	1	1/3	1	1	0.170422

So the checkout of conformance is passed, W could be the weight vector. The rest parts could pass the checkout by calculating, the process is omitted here.

3. Conclusion and Limitation

With the coming of information society and the rise of new media, the traditional medias are threatened and need to make strategic adjustment. It's forming a situation in which there is a fight between the traditional media with the new ones. It's been an inevitable trend for media classifying. Common medias include newspapers, journals, books, radios, TV, movies and new medias, the initial principle among them are different, we can fulfill the goal of politic broadcasting and promote the broadcasting of political content better only by studying every single type of media and build up a run system of classifying medias. The third factor is the athletic stars. That's reasonable. The current problem is how to attract stars in some individual sport in the global games to participate fully because it reflects the influence of the game itself and the position it has got in sport industry. It is also an evidence that the game is an international game even the top international game. The crew of the task plan to make the rate to more than 80% of global star athletes in individual sport. Some influential games like the four open games in tennis, stars make their options according to their athletic conditions and environmental factors. The participation rate of stars in some games will be low because of that. The dispersion of the stars will decrease the influence of these games.

Needless to say, the formation of news is attached to the economic form and polity. Every country's news media is rooted in their national conditions and features, so they make effort to stand up for their own social system, values and national interest. The theory of western sports media formulates and discloses the relationship between sports media and polity, as well as the build process and mechanism of the sports stars' media image. In the book Sport Star in Media, published in 2001, Carry Whannel narrated how the male athletes built their image through radio broadcast, newspaper, television and network media, and mentioned that how the media ideology influences and changes athletes' natural image to make them the spokesperson and the symbol of national ideology. This paper aims to analyze Liu's withdraw--the developing country's public cultural event, and shows clearly the realization process of sport stars' media image in developing country in the western media's view.

The news coverage of sport events should adhere to two logical principles, that is, the precise transmission of the facts and the choice of comments' standpoint. In the incident of LIU Xiang quitting, western media generally conveyed the information carefully, described events objectively or reprinted the Chinese comments in order to convey information precisely. However, each media has his own standpoint and comment features, and the journalists also have their own different standpoints, values and styles, because they have different culture backgrounds, basic concepts, living environment, knowledge levels and cognitive ability as well as media ideologies influencing and controlling them. According to the ideology reporters believed or bowed to which is related to their own interests closely, the standpoint and value construction they made finally will become the tool of building the ritualized national ideology and social ideology. The choice of standpoint and image-building in reporting the incident of LIU Xiang quitting by western media presents an ideologically disordered information network. In terms of theme and attitudes the comments could be divided into four levels of value judgment, that is, positive (humanistic care), neutral (objective report), negative (ridicule) and extremely negative (slander). On this basis, a preliminary frame of meaning classification (As table 1 shows) is established inflecting the chaos of the situation in which various ideologies grabbing the right to speak, such as Olympism, Pragmatism, Symbolism, Skepticism, Egoism, Multiculturalism.

Table 3. The Index of Stochastic Conformance

N	1	2	3	4	5	6
RI	0	0	0.58	0.94	1.12	1.24
N	7	8	9	10	11	
RI	1.32	1.41	1.45	1.49	1.51	

The existence of limitations and shortages in the research is unavoidable. It's reflected in a number of areas. One of the many reasons is that the researching object is a provincial sport events, it's very different from the global great games like modern Olympics, World Cup in the level no matter from the event level, media quality or the political factors, which confine the meaning of the research, the credibility and applicability of the index system. The second reason is that most of the respondents are leaders in schools and experts, few of them media workers, especially senior or experienced government circles and media workers. There is a deviation of school

awareness in the construction of the index system, factor of broadcasting in schools highlighted in examining factors of broadcasting process can prove that., but it won't affect the value of this study and the popularity of the construction framework of social appraisal based on it. It could be used to testify some practical problems and is worthwhile to be popularized.

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