

Sports Consumer Behavior Based on Integrated Data in the Context of Big Data

SONG Youkai ¹, LIANG Yezhang ²

¹ *Post-Doctoral Research Center of China Tourism Academy (Data Center of the Ministry of Culture and Tourism) & Guilin Tourism University, 2, Guilin Tourism University, Guilin, 541006, China.*

Abstract

With the acceleration of big data applications and the development of informatization, the demand for personalized information has become a trend. More and more people are receiving and searching information according to their personal needs. In the era of big data, the styles of online platforms and consumers' shopping habits are diverse, and consumer data collection and behavior analysis are gradually expanding to more data sources. In the context of big data, it is of great significance to study the consumer behavior of sports consumers based on network integrated data. This article collects demographic data, shopping behavior, consumption intentions and other information through traditional questionnaire surveys and focus group interviews. Used to study and analyze the behavior of sports consumers, the data shows that the influence of sports consumption awareness accounts for 28.5%. This article compares traditional consumer behavior research models and sports data processing methods based on network-integrated data in the context of big data, and attempts to provide references for sports consumption.

Key words: *C Big Data; Network Integration; Sports Consumption; Consumption Behavior*

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I. Introduction

With the development of the world economy, the advancement of science and technology, the rapid development of the Internet, and the popularization of various communication devices and mobile tools, consumers' consumption patterns have undergone tremendous changes (Abdolmaleki, 2018; Cheatham, Stull, Fantigrassi, & Montel, 2017). The number of registered users of various shopping websites continues to increase, and network technologies are also evolving. It makes the shopping and browsing data generated and saved by users easier than ever, so it is easier and more comprehensive to collect data through various methods (Manning, Bohl, Saltzman, Cotter, & Bach, 2017). The emergence of big data has caused tremendous changes in technology around the world, and people have a huge impact on lifestyle and the world's cognitive thinking (Meier, Konjer, & Stroth, 2018; Christoph Höchsmann, Knaier, Eymann, Hintermann, & Arno Schmidt-Trucksäss, 2018) The widespread application of big data makes the hidden behavior of big data gradually surface (Daniel, Hayne, Frydenberg, Chambers, & Newton, 2018). Big data analysis can subdivide consumer behavior and develop different marketing and services for each consumer group.

Consumer self-concept is an important factor to study consumer behavior, and build a sports consumer self-concept system model. A new market environment characterized by increased demand from Internet consumers is gradually taking shape (Daileya, & Ali 2018; Adebayo, 2018). This has a huge impact on consumer behavior. It enhances the return of personal consumption, improves people's consumption enthusiasm and the pursuit of shopping convenience, consumers directly participate in the production and commercial circulation cycle, and can reasonably choose and purchase in a larger range (Odani, Agaku, Graffunder, Tynan, & Armour, 2018). Consumers will have a positive attitude towards the brand, thus triggering consumers' strong willingness to buy products of the brand (Slater, & Stephanie, 2017; Micoogullari, Odek, & Beyaz, 2017)). If this willingness to purchase is strengthened to a certain extent, it will prompt consumers to conduct consumer behavior.

In the Internet era, data reflecting the trajectory of sports consumers has been accumulated on the Internet, through the quantitative indicators of the number of visits and other network data, to form a general and comprehensive description of the behavior of sports consumers. Entering today's big data era, the diversification of online platform styles and sports consumer shopping habits requires the expansion of sports consumer data collection and behavior analysis to more data sources. Combining shopping websites, other webpages to browse sports information, search engines and other platforms to attract sports consumers and conduct comprehensive evaluation and analysis.

II. Method

Sports consumption behavior: Sports consumption is an important part of residents' consumption. It refers to the process by which people consume sports goods and service products in different ways to meet various sports needs. The types of sports consumption can be divided into sports consumption and non-sports consumption according to different sports consumption materials purchased in the sports market. Sports consumption refers to the process of consumers seeking, buying and using sports products, services or services based on their own needs and conditions on the basis of understanding the value of sports functions. It is to transform sports consumption expenditure into activities such as purchase and use, and to complete the process of realizing the value of sports consumption expenditure through sports consumption behavior. It is both an economic activity and a social activity. It is a new type of consumption mode that emerges after sports have reached a certain level of socialization and popularization under the premise of satisfying people's material life.

Diversity of sports consumers' purchasing behavior: The purchasing behavior of sports consumers is both diverse and complex. Diversity shows that different sports consumers have different needs, preferences and ways of choosing sports products and services. The same sports consumer has different periods, different situations and different sports products and services. In terms of choice, their behavior is also very different. The complexity of sports consumers' purchasing behavior can be reflected on the one hand through diversity and variability, and on the other hand through multiple internal and external factors, many of which are difficult to identify and grasp. According to relevant research, the purchasing behavior of sports consumers is driven by motivation, but the motivation behind each behavior is often hidden and complicated. The same motivation can produce multiple behaviors, and the same motivation can also be driven by multiple motivations.

III. Experiments

This article mainly uses literature data method, questionnaire survey method and mathematical statistics method. A total of 400 sports consumers were surveyed. Study the basic conditions of sports consumers, such as age, income and other basic conditions. The questionnaire used in this article is divided into three parts. The first part is personal situation, age, income, etc. The second part is the self-edited "sports consumer self-concept scale". The third part is the self-edited "Questionnaire of Implicit Behavior of Sports Consumers". Questionnaire measurement and data collection. On the one hand, the questionnaires were distributed to selected sports consumers, and the questionnaires were collected and organized in a timely manner. According to the individual's score on the questionnaire, on the basis of reviewing the quality of the data, the data is analyzed by SPSS 24.0 statistical analysis. To study whether two or more control variables have a significant impact on the observed variables, not only the impact of multiple factors on the observed variables but also the interaction between the factors on the observed variables must be analyzed. The basic situation of investigators is shown in Table 1.

Table 1. Basic information of the investigator

Age	Under 18	18 ~ 25 years old	25 ~ 35 years old	Over 35 years old
Percentage	13.3%	34.6%	37.2%	14.9%

IV. Discussion

Influencing factors of consumer sports consumption behavior under big data: Consumers in the same category are motivated, type, location, payment method, one-time maximum expenditure and sporting goods. There are significant differences in the total annual expenditures of sports fitness and sports ornamental consumption. There are no significant differences between consumers. They also summarized the characteristics of sports consumption behaviors of consumers of different classes in Hebei Province. Affordable and practical price orientation of lower-class consumers in society. Practical and beautiful price + service orientation for middle-level consumers in society. The aesthetic and high-end service positioning of first-class consumers. The main influencing factors of consumer sports consumption behavior are shown in Figure 1.

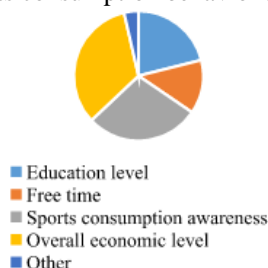


Figure 1. Main factors influencing consumer sports consumption behavior

Among them, the influence of sports consumption consciousness accounts for 28.5%. In the context of big data, many lower-level and middle-level social consumers do not have a correct understanding of the value and role of sports consumption and physical exercise, but upper-level social consumers have much higher awareness of sports consumption. Due to backward consumption concepts and unilateral understanding of sports, some middle- and lower-class consumers have unclear understanding of sports. Many of them think that sports are athletes and have little to do with themselves, let alone sports consumption. Most of them are passive consumption. The overall economic level accounts for 33.4%. From the perspective of big data analysis, it can be seen that the overall economic income is still very limited. The level of economic development of consumers has not yet achieved a substantial leap, the quality of life has not been fundamentally improved, and sports consumption that restricts necessary consumption cannot be regarded as personal freedom. Consumers in the upper classes of society spend more on sports, physical fitness and ornamental consumption.

Big data also has a negative impact on sports consumption. For example, the privacy issues of data mining and the quality issues of data filtering. The specific table 2 shows.

Table 2. Impact of big data sports consumers

		Proportion
positive influence	Big data technology innovation	43.4%
	The practical value of big data	54.3%
Negative impact	Big data privacy issues	39.5%
	Data filtering quality issues	48.4%

In the "big data" era, data privacy and data security are inevitable issues. At this stage, sports consumers have generated a large number of data records. Examples include web tracking, transaction records, and records left using digital tools. The data analyzes all aspects of sports consumers, so people's behavior cannot be hidden. Data holders can infer behavior trajectories and people's behavior thinking trajectories based on historical data. People tend to emphasize that data integration can achieve the effect of "1 + 1 > 2", but the effect of ignoring the expansion of privacy penetration is also greater than 2, and the lack of "data rights" reflects endless personal data leakage. In addition, over-reliance on foreign technology and big data analysis platforms makes it difficult to avoid the risk of information leakage. Faced with a large amount of data, it is difficult to ensure data integrity and objectivity without screening. Data analysis and integration will inevitably lose its value on a flawed basis. "Big data" on the website is mainly text, pictures, descriptions and dynamic descriptions in product descriptions. In this case, data tampering and manipulation, forgery and counterfeit goods, credit card swiping and other problems will occur. Cumbersome data and false information will not only cause changes in consumer sentiment, but also reflect consumer confidence in the website, thereby affecting online shopping intentions.

Application of Big Data in Sports Consumer Behavior Research: Unlike the traditional sociological research paradigm, sports consumer research is usually conducted by sampling, selecting respondents by random methods, obtaining data through qualitative and quantitative surveys, and obtaining marketing strategy decision support by analyzing data. In the era of big data, through the analysis and modeling of static data and streaming data, the paradigm of sports consumer research has gradually turned to clustering, mining and computing massive data stored on the network. Draw analysis conclusions, and make corresponding sports marketing strategy judgment accordingly. The analysis of sports consumption behavior is divided into "online consumption behavior" and "offline consumption behavior". Online sports consumer analysis is still based on web mining. To find consumers' media habits, content preferences and consumption trends, this is the current form of big data applications. The behavior of offline sports consumers is based on traditional shopping research.

Positioning and emotional analysis of sports consumption. "Positioning" here includes two concepts, one is the precise positioning of sports consumption behavior trajectory or search behavior. Through data analysis, classification and accurate conversion of users, for example, sports consumers tend to browse the information and product types on the Internet for accurate marketing. The second is precise location based on geographic location and uses intelligent mobile terminals to push sports information so that the information reaches users. Massive user data streams based on the continuous development of social media. Sentiment analysis provides a reference for the analysis and evaluation of various sports consumption behaviors. Businesses and brands can use sentiment analysis to measure consumers' real-time response to marketing communications and make quick adjustments accordingly. For example, Facebook's "like" function and Sina Weibo and Tencent WeChat's "like" function can achieve instant feedback of sports consumers' emotions. Because generally speaking, most sports consumers make their purchase decisions based on their peers' word-

of-mouth preference and evaluation, so sentiment analysis is crucial in the research process of sports consumers. Entering the era of big data, the breakdown of consumers is more detailed. When analyzing these online data, offline demographic characteristics, offline consumption records and traditional CRM can be combined. It allows companies to divide consumers more carefully.

V. Conclusion

From traditional sports consumer behavior research and data collection based on the early stage of the Internet, through the integrated mining and modeling of data sources of various sports consumer contact platforms, to the current big data background. The profound understanding of sports consumers' behavior and intentions has undergone historic changes. Through the analysis of big data, we can understand that there are many factors that affect the purchasing behavior of sports consumers, of which economic income is the most critical. Therefore, in the investigation activities related to sports consumers, it is usually necessary to understand and investigate the economic income of sports consumers. Because sports consumption has a certain inertia, and is also affected by factors such as expectations, in many cases, in addition to examining the economic income of sports consumers, it is necessary to consider the family property, consumption propensity, consumption personality and consumption of sports consumers Factors such as ability.

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Declaration of interest statement

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