Research on the Application of College Students' Consumption Behavior Mining Method under the Background of Smart Campus Construction

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Abstract
In China, colleges and universities have been playing an important role in personnel training, especially in the trend of accelerating the process of modernization, providing a large number of professional talents for the country and society. College students have become the main group of current social consumption. Strengthening the analysis of their consumption behavior can timely find the problems existing in their development, so as to timely adjust the ideas of college education and teaching. The era of smart campus construction is coming quietly. Using advanced technology to analyze students' consumption behavior can promote the improvement of work efficiency. This paper will analyze the problems of College Students' consumption behavior under the background of smart campus construction, and explore the positive guidance strategies of College Students' consumption behavior under the background of smart campus construction.

Keywords
Smart campus construction; Students' consumption behavior; Positive guidance; Consumption data.

1. Introduction
With the continuous advancement of the construction of smart campus in Colleges and universities, and the gradual launch of related business systems, the data accumulated in the campus information environment is also gradually expanding, which has formed a relatively complete campus smart campus construction environment. As an important part of the smart campus, the campus card system is one of the core business systems in Colleges and universities, recording the life of students on campus. Through the analysis of consumption data, we can understand the current students’ consumption level and school life, and provide data basis for improving school management and decision-making ability.

2. The Construction of Digital Campus in Colleges and Universities Is Facing New Challenges
2.1. Information Technology Challenges
In recent years, the rapid development, popularization and application of various information management technologies in Colleges and universities have brought great challenges and opportunities for the construction of Campus Informatization: the University cloud computing management mode of university data storage and on-demand computing is affected by the sharp increase of data storage and access, which seriously restricts the mutual access speed of traditional campus data center infrastructure and mobile intelligent terminals. This not only seriously affects the experience of the traditional campus information network infrastructure, but also completely violates the original intention of the construction of digital campus. The author thinks that the idea of using the single function and multi-function communication
system to replace the traditional campus network in the construction of campus network is to form a set of ideas. It is no longer a simple information exchange, but more popular, diversified and fast response, can quickly improve the efficiency of the campus operation as the main features of the overall system, such as: fast code scanning registration information, automatic printing terminal printing all kinds of certificates, independent borrowing and returning books, independent charge payment and other service functions.

2.2. Challenges of Business Integration
After years of digital campus construction, digital campus network has gradually integrated into a wider range of school teaching, research, management and student public service activities, from simple tools to multi-functional integration, integrating all teachers and students as well as the school's business, but at the same time, the demand for information technology literacy and service of managers is getting higher and higher. They are not only satisfied with simple school management and school information resources survey. Various innovative information education models and service management models based on it are also emerging, actively promoting all parties to try to go online and use the digital campus system to gradually transition the traditional services to the digital campus system for information services.

2.3. Challenges of Construction and Operation Mode
With the rapid development and application of digital campus system in Colleges and universities, the functions of digital campus information system in Colleges and universities become more and more complex, which brings severe management challenges to the construction of campus Builders: few system service companies can put forward mature digital campus solutions. Most of the existing overall solutions can not be implemented satisfactorily. Many colleges and universities are immersed in the embarrassing situation of information management. They all feel that there is a big resistance in the initial application of the system and the efficiency is not high. The professional allocation of university information management team is also relatively scarce, and the pressure risk of university management is increasing. What kind of digital campus system is a complete mode of safety science, sustainable operation, management and service? At this stage, the opinions of all parties are quite fierce, with big differences and lack of consensus, and even the differences begin to dominate the future development of information technology education industry, which brings uncertainty to all parties in the future construction of digital campus. The increasingly powerful function of digital campus system brings convenience to college students in study and life. While providing convenience for students, learning and life are gradually organically combined. The two concepts are no longer completely separated, which also promotes the change of College Students’ consumption behavior when using the digital campus system.

3. Analysis of College Students' Consumption Behavior under the Background of Smart Campus Construction

3.1. Data Sources of College Students' Consumption
In the process of informatization, colleges and universities build a data sharing platform to record the traces of students' activities in the school. On this platform, we can clearly see students' learning data such as library borrowing times, book borrowing types, examination scores, etc., as well as life data such as the use records of campus one-way card, network access records, etc., as well as other educational administration data. These data reflect the behavior track of students in the school in all aspects. Through this platform, we can accurately understand the characteristics of students. School managers can formulate student management norms according to these data, which provides a data basis for improving the
school management decision-making ability. According to the types, the campus behavior data can be divided into structured data and unstructured data. The difference mainly lies in the source of the data. In short, the data collected directly through the school’s internal system is structured data, such as campus card data, student performance or attendance data. The data collected through the third-party platform for reintegration is unstructured data, such as students’ network access records.

3.2. Data Analysis Technology
Application of data mining, smart campus construction analysis technology. Clustering analysis is a common method in data mining, that is to say, in the process of data mining, clustering analysis is one of the main tasks. Clustering is a method of classifying data into different classes or clusters, and then forming multiple clusters from different classes. It is a mining method of unsupervised learning, which is different from classification analysis. K-means clustering algorithm was proposed by MAC queen in 1967, also known as k-means or K-means clustering. It has been widely used in many fields, including text classification, astronomy, ocean, image processing and so on. At present, the analysis methods of students’ consumption behavior mainly include association analysis, feature analysis, classification prediction, anomaly analysis and topn analysis, which need to collect a large amount of data, and the application of cluster analysis for data processing is convenient and effective.

3.3. Analysis of College Students’ Consumption Behavior
In the survey, it is found that tmall and Taobao are the main platforms for students' online consumption, accounting for about 26% of the total number of people. The consumption of meituan, Dianping and Jingdong is also high, accounting for about 20%. In terms of transportation, Didi taxi has become the main way for students to travel. With the advent of the era of smart campus construction, the analysis of students’ consumption behavior is more convenient, and the imbalance and irrationality of their consumption are increasingly prominent. Social and entertainment have become the main consumption goals of college students, and the consumption related to learning is very low. In the offline consumption of college students, it mainly focuses on catering, followed by clothing, daily necessities and play, social consumption and so on.

4. Problems of College Students' Consumption Behavior under the Background of Smart Campus Construction

4.1. Low Learning Consumption
According to the relevant data and investigation, it is found that the consumption of college students for learning is very low, and the extremely low proportion of learning expenditure fully illustrates the problems existing in students’ consumption behavior. The core task of students should be learning, but they spend money on entertainment, clothing and social activities, which has a great impact on their normal learning. In college education, we should be fully aware of the changes in the characteristics of students’ consumption behavior, understand the overall trend of their consumption, and guide them positively, so as to form a good atmosphere inside the campus and make them devote themselves to learning.

4.2. Unreasonable Consumption Platform
At present, through statistical information, consumption of Taobao and Alipay is the main consumption platform of university students. Online consumption is more prone to impulse consumption under the relative line, and there are unreasonable and unbalanced problems in student consumption. In the era of smart campus construction and Internet, the consumption platform is becoming more and more diversified. A variety of websites can broaden students’
horizons, and should not be limited to the consumption of a few websites. In addition, students' consumption in microblog, wechat and online games has also increased significantly. They can satisfy their entertainment enjoyment through game recharge and video member recharge.

5. Positive Guiding Strategies of College Students’ Consumption Behavior under the Background of Smart Campus Construction

5.1. Combination of Online and Offline

Students should take learning as their main task. When guiding students’ consumption behavior positively, they should combine online and offline ways to promote their interest and motivation in learning and prevent them from losing themselves in the face of rich network information. In the context of smart campus construction, the use of network to carry out autonomous learning has become the main trend of the current development of education. When guiding students' consumption behavior online, we should make them understand a variety of learning related websites. Especially for the growing college students, they don't know enough about many websites and online shopping information. We should give them scientific guidance, strengthen the understanding of MOOCS, Dangdang, online education websites and micro classroom platforms, so that students can increase the proportion of learning consumption, and make them correctly and reasonably consume in the era of knowledge payment. To prevent students from indulging in shopping websites, make them aware of the disadvantages of impulse consumption and blind consumption, and avoid the impact of indulging in shopping on normal learning. In the guidance of offline consumption, students' consumption mainly focuses on clothing, snacks and social interaction, so their consumption of learning materials is low. Therefore, we should guide students to buy relevant books or extracurricular reading materials of their own specialty, and effectively guide their offline consumption behavior.

5.2. Standardizing Consumer Behavior

With the advent of the era of smart campus construction, the traditional consumption mode of students has been subverted, and online consumption has become the main way of consumption. In particular, the birth of a variety of shopping websites and mobile app makes students’ consumption behavior increasingly complex, and their consumption of clothing, food, housing and transportation can be realized through the network platform. Webcast has become a new form of communication and interaction. Many students are addicted to webcast and have the problem of impulsive consumption, which wastes a lot of time and money. In terms of travel, Didi taxi has become a common way for students, but with the continuous occurrence of taxi casualties, it has become an important potential factor threatening the safety of students’ lives. In the work of Ideological and political education in Colleges and universities, we should regulate students' various consumption behaviors, make them aware of the two sides of network consumption in the era of smart campus construction, so as to make a correct and reasonable consumption choice. When students consume in the canteen, the school can use the smart campus construction monitoring technology to obtain their basic consumption information, understand the students' actual consumption ability, level and habits, find out the problems of abnormal consumption, and formulate targeted solutions. Through the acquisition, integration and analysis of smart campus construction, we can understand the misunderstanding of students in consumption and the mistakes in eating habits, so as to achieve positive guidance and promote the healthy development of college students.

5.3. Guide Consumption Habits

College students in the consumption of blind consumption and irrational consumption problems, especially with the gradual popularity of the network, it is easy to be affected by
hedonism and money worship, leading to their consumption habits of extravagance and waste. Therefore, we should give positive guidance to them so that they can carry forward the spirit of hard work and plain living and carry forward the socialist core values in consumption. In a number of surveys found that many students through frugality to buy mobile phones, cosmetics or luxury goods. There is great randomness in consumption, and many students do not really understand their consumption needs because of vanity. Teachers should strengthen the communication with students so that they can understand their real consumption needs and correct unreasonable consumption behaviors. Carry out the class meeting with the theme of thrift in the class, and guide the students positively through a variety of cases. In the publicity and education work, we should explain the different marketing strategies of businesses to students, so that they can correctly understand the promotion activities and discount activities in the online shopping platform, and prevent them from losing themselves in the illusion of Carnival shopping.

5.4. Integrating Information Technology to Guide Correct Consumption Concept

Wechat and microblog have become the main network platforms for college students to carry out social activities. Due to the increasing amount of information in the era of smart campus construction, the existing bad information will interfere with students' consumption behavior. Therefore, we should change the traditional education concept, realize the effective use of information technology in work, promote the continuous innovation of education methods and means, and guide students to learn Students' correct consumption behavior. Using smart campus construction analysis technology to excavate students' consumption information, make clear the actual consumption situation of students, and help managers analyze students' ideological trends and campus public opinion. In addition, the application of smart campus construction analysis technology can play a good role in predicting the consumption trend of college students, and timely control the abnormal problems. Schools should give full play to the advantages of new media, based on the analysis of the characteristics of students' consumption behavior, push accurate information through wechat public platform or microblog, so that they can timely adjust their wrong consumption behavior under the guidance of correct consumption concept.

5.5. Make Good Use of Smart Campus System for Financial Management

College students are more or less free to consume in the open environment, and the temptation of college students will soon disappear. In the smart campus system, while pushing relevant education and teaching information, in order to prevent all kinds of risks, the system will also regularly send safety knowledge related to students, including financial and consumption safety knowledge. In this way, when the smart campus system sends relevant information and students use various services in the system, it imperceptibly promotes college students to do their own financial management, subconsciously emphasizes reasonable consumption, promotes the management of students' self consumption behavior, and more or less orderly manages their own financial behavior.

5.6. Using Smart Campus System to Learn How to Rationally Control Daily Life

As we all know, the use of smart campus system is not only in education, but also links the service and logistics system of colleges and universities. Smart campus system is everywhere. Learning, eating and shopping on campus need to use smart campus system to complete the relevant operations. Unlike the direct consumption in the society, when dealing with all kinds of campus affairs through this operating system, we will consider whether there is the need for consumption in the campus, which not only helps us gradually realize whether it is reasonable
for us to master the funds for consumption, but also greatly improves the ability of College Students to rationally control the consumption behavior in daily life.

5.7. **Strengthen the Use of the School’s Surrounding Economic Management System**

The application of smart campus system can also absorb the socialized service entities in and around the campus to join the system, so as to make up for the shortcomings of university service for college students and form a complete service system of society, school and students. Of course, through the standardized certification and management of the digital campus service system, we can optimize and screen the compliance legitimacy of the social service providers to the maximum extent, strengthen the management of the surrounding economy of the school, purify the surrounding economic environment of the school, promote students to develop reasonable consumption behavior, and avoid students falling into the misunderstanding of unreasonable consumption.

6. **Conclusion**

Digital campus system is no longer a single function of campus task manager, but a multi-functional service system of education, teaching and student service. After more than ten years of development, digital campus system plays a huge role in the basic education and teaching management, and also provides all aspects of meticulous and thoughtful services for college students. Convenience, efficiency and standardization are the most important Three core characteristics of digital campus system. At the same time, these contents are also imperceptibly influencing and standardizing the consumption behavior of college students. It can be said that the application of digital campus system has highlighted and played most of its functions, providing fast and convenient for society, schools and students.

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**References**


