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Research on the Construction of Evaluation Index System for Satisfaction of College Students with University Services

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Abstract: With the popularization of higher education in China, the quality of higher education is increasingly receiving widespread attention from students, parents, and society. As the main body of universities, college students are the most direct recipients of higher education services, the group most concerned about the quality of higher education, and the most trustworthy evaluators and evaluators of the quality of higher education. The theory of customer satisfaction is the foundation of higher education evaluation. It is of great theoretical value and practical significance to compare and study the theory of customer satisfaction at home and abroad with the evaluation index system of college student satisfaction, and to construct a suitable and realistic evaluation model and index system for college student satisfaction in China. Building a "student centered" evaluation index system for college students' satisfaction with university services based on customer satisfaction theory can provide new methods for higher education evaluation, improve the higher education evaluation system, and promote innovation in the higher education monitoring system.

Keywords: College Students; University Services; Satisfaction; Evaluation Index System.

1. Introduction

Based on the theory of customer satisfaction and guided by the basic concept of student-centered approach, constructing an evaluation index system for the satisfaction of college students with university services in China can provide new methods for higher education evaluation, improve the higher education evaluation system, and promote innovation in the higher education supervision and control system.

2. Applicability Analysis of Customer Satisfaction Theory in the Evaluation of Service Satisfaction in Universities

2.1. Characteristics of Higher Education Services

Most scholars unanimously believe that service is a process composed of a series of activities, which has synchronization between production and consumption, and the production and consumption processes are closely linked. Generally speaking, services have invisibility, heterogeneity, perishability, and concurrency. Higher education, as a service, also has these characteristics, and higher education services themselves have some characteristics that are different from other services. Higher education services have service characteristics, making it possible to use customer satisfaction theory in the evaluation of service satisfaction in universities.

2.2. Analysis of the "Customer" Role of College Students in School

Students are an important force in higher education and universities. Under the trend of democracy and marketization, students are important stakeholders and have been unanimously recognized by all universities. With the increase in the proportion of college tuition fees in higher education funding, the relationship between students and universities is changing. College students invest money, time, and energy to become customers of higher education. Under the concept of customer first, Students have become core stakeholders in higher education.

Parents of students pay money, and students themselves invest time and energy to receive higher education. Students and parents must have the right to understand whether their costs have been rewarded accordingly. School managers or higher-level government management personnel pay attention to the quality of the school's education and assume certain responsibilities. Society pays attention to whether the quality of the school's education is high enough to meet the needs of enterprises, this is the relationship between various stakeholders in the university and the university. Therefore, it can be said that the university should be a collection of stakeholders, and college students should become the objects of university service and indispensable core stakeholders in evaluating the university. The stakeholder understanding of customer satisfaction theory can serve as a reference for the evaluation of university student satisfaction.

2.3. The Importance of Applying Customer Satisfaction

Without customers, there is no reason for a company to exist. People have realized that only by meeting the needs of customers can a company enhance its competitiveness and increase its market share. Only when customers achieve customer loyalty can a company have a solid foundation for survival. Similarly, for a university, if a school cannot recruit high-quality students or students, it cannot enhance the image of the university, Promoting the development of higher education. Therefore, it is necessary to apply customer satisfaction theory in universities, which is of great significance to both the university itself and students, parents,

society, and higher education managers.

3. Construction of a Satisfaction Model for College Students Towards University Services

3.1. Analysis of Customer Satisfaction Theory Model

Academically, there are different perspectives on customer satisfaction from different perspectives. From a process perspective, scholars believe that customer satisfaction is a feeling that customers have about the process of consumption behavior afterwards; From a psychological perspective, scholars believe that customer satisfaction is the post purchase feeling of customers.

Since customer satisfaction is a perception and a series of psychological processes with causal relationships, the customer satisfaction model is a Causal Model, which is an abstract simulation of causal relationships.

3.1.1. Inconsistent Model

The Inconsistent Model is the abbreviation of the Expectation Disconfirmation model, which divides the purchase of goods or services into two stages: the stage before the purchase action or service acceptance, and the stage after the purchase or service acceptance. Therefore, the model includes three variables: expectation, disappointment, and satisfaction, this model measures the feelings of customers after receiving service compared to their expectations, and makes judgments based on these two feelings.

3.1.2. Performance Model

Customers purchase products or services to meet their own needs, and the total utility of the products or services to consumers is the main reason for satisfaction. If the performance is relatively low, it will make consumers dissatisfied, and vice versa, the more satisfied they are. Performance models are widely used in measuring overall satisfaction levels, and they are also the theoretical basis for various industries to establish their own indicator systems.

3.1.3. Fairness Model

With the in-depth development of research on customer satisfaction theory models, many scholars have introduced fairness into the models. They believe that customer satisfaction with products or services not only depends on the gap between expectations and reality, but also on the performance of the products or services provided, and whether customers believe that the transactions of the products or services are fair and reasonable. If consumers believe that all their inputs and utility are reasonable, Consumers will feel fair, and the higher they feel fair, the more satisfied they will be. This model focuses more on consumer input, closely linking consumer satisfaction with 'value'.

3.2. Practice of Customer Satisfaction Models in Various Countries

3.2.1. The Customer Satisfaction Model in Europe

The European Customer Satisfaction Model (ECSI) was developed in collaboration with the European Quality Organization, the European Commission, the European Quality Management Foundation, and eight universities. The model retains the basic framework of the Swedish and American customer satisfaction models and also adopts the same core concepts, such as customer expectations, perceived quality, and customer loyalty, It can be said that it is a model built on the basis of existing research and based on the actual situation in Europe. The European model removed the implicit variable of customer complaints and increased the relationship between corporate image and customer loyalty, satisfaction, and expectations. The European customer satisfaction model divides perceived quality into two types, one is the perception of hardware quality, mainly the perception of product or service attribute quality, and the other is the perception of software quality, mainly the perception of various supporting service environments in the process of product or service provision. The European model has established two different measurement systems, one for countries to understand macroeconomic conditions, and the other for enterprises to understand the operation of micro individuals, which is very worth learning from in China.

3.2.2. China Customer Satisfaction Model (CCSI)

The application and significant achievements of customer satisfaction theory in national economic life in Western countries have sparked reflection among Chinese managers and scholars. In 1995, Tsinghua University introduced the customer satisfaction evaluation index system into China and conducted research on relevant theoretical models, which has also achieved certain results. In 2005, Tsinghua University and the China Institute of Standardization jointly launched the China Customer Satisfaction Index (CCSI) model. This model combines the advantages of the Swedish customer satisfaction model, the American customer satisfaction model, and the European customer satisfaction model, and has been modified according to the national conditions of China. It is a customer satisfaction model with Chinese characteristics, and the CCSI model is highly scientific, the relevant achievements have been extensively applied to the decision-making of Chinese enterprises and governments. This model includes five implicit variables, excluding customer complaints. Moreover, the Chinese Customer Satisfaction Index model believes that brand image can directly affect perceived quality, which also has a direct impact on customer satisfaction, which does not exist in satisfaction models in Western countries.

3.3. Constructing the Satisfaction Model of College Students Towards University Services in this Article

The customer satisfaction model is a summary of the relationships between various variables in customer satisfaction theory, and is a visual representation of the mutual influence between various variables. The application of customer satisfaction theory to the study of college students' satisfaction with university services requires a model of college students' satisfaction with university services. With such a model, it can clearly express how various implicit variables of customer satisfaction affect each other's satisfaction with university students. So far, there is no unified university service satisfaction index model in China, and there is no student-centered higher education consumption satisfaction model based on customer satisfaction theory. This article draws on some advantages of existing customer satisfaction models and university student satisfaction models studied by Chinese scholars, and adopts some reasonable variables within them. Based on the current reality, Designed a satisfaction model for college students towards university services in this article.

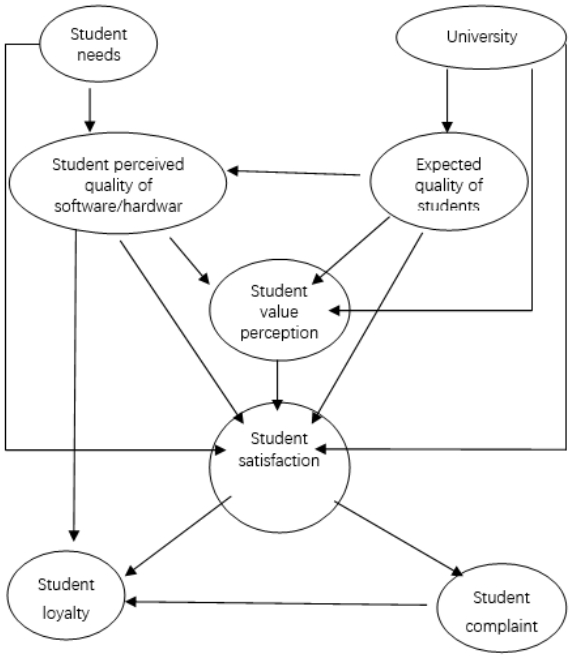


Figure 1. The customer satisfaction model of college students built in this paper

Student needs: Refers to the various aspects of college students' subjective expectations of their own needs before entering the campus. In 2006, Ms. Li Chen proposed a college student satisfaction evaluation model based on the characteristics of higher education and the theoretical viewpoints of inconsistent models and performance models, proposing that the variable 'student needs' will affect perceived quality. In ACSI and ECSI, student needs are merged into customer expectations, while in CCSI and SCSB, customer needs and expectations are not mentioned. Due to the fact that college students may not have a comprehensive understanding of the various service needs in their university life before receiving higher education, the expected quality of students cannot fully represent all their needs. Simply comparing the actual perception of students with the expected quality of students to obtain satisfaction is not comprehensive. Different students have different requirements for university services, and students within the same major may also have different focuses on university service needs. The needs of students have a direct impact on their perceived quality of software/hardware and student satisfaction. Therefore, this article believes that according to the characteristics of college students, it is meaningful and necessary to add the implicit variable "student needs" to the satisfaction model of college students towards university services.

University image: refers to the process of a school being recognized and positioned by people in society. University image refers to the evaluation criteria of the school's positioning, reputation, and brand image. The implicit variable of corporate image has been established in both ECSI and CCSI. Professor Tao Meizhong, a renowned student satisfaction researcher in China, and his graduate students have established a university image in the satisfaction model, and believe that if the university image is good, students will have a positive impact on expected quality, perceived value, and student satisfaction. In CCSI, brand image has a direct impact on the perceived quality of software/hardware. Considering the evaluation of college students' satisfaction with university services, this article believes that the reputation and popularity of a university in society will not have a direct and significant impact on students' perception of software/hardware, and students' perception of software/hardware will not be affected by their prior knowledge before entering the university. Therefore, this article does not establish a direct impact relationship between the two. This article considers that some schools with good image in China have a certain impact on student satisfaction. Therefore, the model constructed in this article establishes the implicit variable of university image, and also believes that university image will have a direct impact on students' expected quality, perceived value, and satisfaction.

Student expected quality: refers to the expected expectations of college students in various aspects such as education and life services provided by the university before entering the campus. According to the gap theory in psychology, the level of student satisfaction is a psychological reaction of students after receiving higher education. Therefore, there will be a gap between the perception of receiving services and the expectations before experiencing them, and its size and direction will have a significant impact on customer satisfaction. Therefore, this article has an implicit variable called the quality of student expectations. In ACSI and ECSI, the expected quality is expressed as the same concept of customer expectations. Both CCSI and ECSI believe that expected quality is influenced by corporate image, and both have a direct impact on perceived value, perceived quality, and satisfaction.

Students' perception of hardware/software quality: refers to the intuitive feeling of students after receiving various services provided by colleges and universities. The services provided by schools involve various aspects of students, and can be divided into teaching services, campus culture, library services, student support and management services, and logistics and life services according to the different service contents. College students' perception of the quality of these services will have an impact on their satisfaction. Customer perceived quality was a variable that existed as early as the establishment of the SCSB model. Almost all customer satisfaction model studies have customer perceived quality, but in the Chinese Customer Satisfaction Model (CCSI), customer perceived quality is expressed as a more specific software/hardware perceived quality. According to the specific characteristics of the school, the school has hardware teaching equipment and auxiliary facilities. The services provided by the university to students are intangible higher education services, and the school provides both hardware and software services. Therefore, this study uses the more specific software/hardware perceived quality in the Chinese customer satisfaction index model to replace the perceived quality in the Western customer satisfaction model, Established an implicit variable for students' perceived quality of software/hardware. ACSI and CCSI believe that customers' perception of quality does not directly affect their loyalty. This article believes that customers' perception of quality greatly affects perceived value, but it also has a certain impact on customer loyalty. A very good perception of quality may directly demonstrate customer loyalty. Therefore, this article adopts the ECSI perspective and believes that students' software/hardware perception of quality can directly affect customer loyalty.

Student value perception: refers to the value experience obtained by college students after experiencing various services provided by universities firsthand and comparing

them with their expected quality. American management expert Zeithmal believes that students' perceived value is an evaluation of service effectiveness, obtained by balancing the benefits and costs obtained by college students. College students invest money, time, and energy in receiving higher education, not only hoping to acquire knowledge and skills, but also to improve their self-development, interpersonal communication, and other aspects. Therefore, students will think about the services provided by the school from the perspective of value. There is a positive correlation between students' perception of the value of university services and their satisfaction. The European Customer Satisfaction Model (ECSI) is the first to add an implicit variable of perceived value on the basis of the American customer satisfaction model. Chinese customer satisfaction models and most scholars' satisfaction models have also learned from the European customer satisfaction model and established the term of perceived value. The European customer satisfaction model believes that corporate image does not affect perceived value. This article believes that in the special environment of universities, the image of universities will have a certain impact on students' perception of value. If the school's social image is good, it can have a positive impact on students' perception of value, and students will feel that the cost paid is relatively worthwhile. Therefore, this article constructs a direct impact relationship between university image and perceived value.

Student satisfaction: The degree to which college students are satisfied with all aspects of university services. Student satisfaction is a result variable that is influenced by multiple factors. This article believes that student satisfaction is comprehensively influenced by student needs, university image, student expected quality, student perceived quality of software/hardware, and student perceived value. Student satisfaction can have two outcomes: one is student loyalty, and the other is student complaint.

Student complaints: signals of dissatisfaction from college students regarding the deficiencies or deficiencies in various services provided by universities. There is no provision for customer complaints in ECSI or CCSI, and customer complaints are established in SCSB and ACSI. However, the Swedish customer satisfaction model believes that customer complaints will not affect customer loyalty, while the American customer satisfaction model believes that customer complaints will have an impact on customer loyalty, and under certain conditions, customer complaints will be transformed into customer loyalty. Considering the current situation in China, some students in China have complaints about the services provided by universities. However, schools have not established a systematic and complete channel for student complaints, and the problems raised by students are not handled in a timely manner, which can affect students' satisfaction with universities. Therefore, this article draws inspiration from the customer complaints in the American customer satisfaction model, establishes an implicit variable for student complaints, and believes that if schools can listen to students' opinions and respond to complaints in a timely manner, student complaints can be transformed into student loyalty.

Student loyalty refers to the state in which college students show satisfaction with various services provided by universities, including recommending their alma mater to others and supporting them. Customer loyalty is the most desired goal for enterprises. With customer loyalty, it is possible to bring more consumers to the enterprise. Therefore, all customer satisfaction models have customer loyalty as an outcome variable. ECSI believes that customer loyalty is directly influenced by the corporate image. ACSI, CCSI, and Chinese scholars such as Yang Qing all believe that customer loyalty is largely unaffected by the corporate image. This article argues that the image of a school in a university does not directly generate student loyalty, and students do not have real experiences. They only rely on hearing that it does not generate pride in the school, support its construction, and continue their studies at this school, among other loyalty performances, Therefore, the satisfaction model of college students towards university services constructed in this article does not directly affect the image of universities on student loyalty.

4. Construction of an Evaluation Index System for College Students' Satisfaction with University Services

In the model of college students' satisfaction with university services constructed in this article, all 8 structural variables cannot be directly measured and need to be expanded until a series of specific indicators can be measured. The evaluation indicators of college students' satisfaction with university services are the link between the satisfaction model and the survey questionnaire. The theory of customer satisfaction is instilled through the construction of the evaluation indicator system. According to the evaluation indicator system, the survey questionnaire can be designed accordingly. Therefore, the evaluation indicators of college students' satisfaction with university services are a bridge that establishes the connection between the two.

4.1. Comparative Study on Measurement Indicators of College Student Satisfaction between China and the United States

The research on college students' satisfaction in China started late, and it was not until the end of the 1990s that we began to study the measurement problem of college students' satisfaction. Wang Guoqiang and Sha Jiaxiang proposed the framework system of the measurement indicators of college students' satisfaction in China, which divided the indicators into two levels and carried out layer by layer. In the indicators, the use of libraries, sports facilities and venues, and psychological counseling are very worthy of reference and affirmation, such indicators are related to the interests of students and represent a significant improvement compared to previous evaluation indicators. It is not appropriate for survey items such as teacher abilities and the status of academic echelons to appear in college student satisfaction surveys. These indicators are not highly operational and comprehensive, and many indicators are too general. This evaluation indicator system does not break away from the school-based ideology and does not design specific indicators from the perspective of students with a service concept.

There are many differences between China and the United States in measuring college student satisfaction, mainly due to the differences in measurement subjects and methods between the two countries. Introducing the American customer satisfaction model into the setting of the American student satisfaction indicator system, with students as customers and paying attention to listening to their opinions, the content set in the indicator system is also very extensive,

emphasizing the evaluation of students' psychology. The evaluation indicators in the United States are oriented towards society, which is beneficial for schools to adjust their training plans in a timely manner according to the needs of society, so that universities have a place to survive in fierce competition. In order to attract students, schools attach importance to academic reputation and school reputation. The satisfaction index system in China has strong objectivity, and teaching evaluation is the main content of student satisfaction evaluation in China. However, there is not much emphasis on general and abstract indicators such as school image in satisfaction evaluation in China.

4.2. The Evaluation Index System for College Students' Satisfaction with University Services Constructed in this Article

This article is based on the constructed satisfaction model of college students towards university services, drawing on existing domestic and foreign satisfaction evaluation index systems for college students, and constructing a suitable evaluation index system for the current form of satisfaction of college students towards university services in China. Based on the relationship analysis of various variables in the model, it is not difficult to find that the level of student satisfaction is mainly determined by the perceived quality of students. The perceived quality of students is obtained by comparing and balancing the expected quality of students with the perceived quality of students' software/hardware. The expected quality of students cannot be changed and is not affected by the quality of higher education. Therefore, the most direct and significant impact on student satisfaction is the perceived quality of students' software/hardware, to improve the service satisfaction of universities, it is necessary to improve the perceived quality of students' software/hardware. The construction of the evaluation index system for college students' service satisfaction in universities is ultimately the construction of the evaluation index system for students' software/hardware perceived quality. Therefore, the indicator system in Table 9 is mainly designed around the perceived quality of software/hardware, combined with the influence of other seven variables.

Table 1. The evaluation index system of college students' satisfaction with college services constructed in this paper

Level I indicators	Secondary indicators	Third level indicators
College students' satisfaction with college services	University image	School popularity, school public image, school development orientation, school publicity
	Teaching services	Rationality of major setting, curriculum setting, teaching facilities, academic activities, teaching practice and practical activities, teaching investment, teachers' professional ethics, teachers' academic level and teaching content, teacher-student interaction and communication, reasonable evaluation of teachers, and teaching management personnel
	campus culture	Sports facilities and entertainment places, sports culture and entertainment activities, school hard environment, cultural atmosphere, pursuit of teachers and students, school interpersonal communication
	Student support and management services	School reward and punishment system School loan system, mental health education and consulting services, community organization and management, help for students with difficulties, care for special groups, employment counseling and guidance, administrative staff efficiency, administrative staff service attitude
	library services	Book quality, reading environment, library hardware equipment, opening hours, convenience of borrowing and returning books, service attitude of library staff
	Logistics and living services	Public security, campus traffic, campus network, canteen food quality, canteen service staff attitude, dormitory management regulations, accommodation conditions, school hospital services, supporting living facilities and equipment
	Student perceived value	Perception of the overall service of the school compared with the cost paid
	Student complaints	Whether there are complaints, whether the school has complaint channels, and the reply to the students' complaints
	Student loyalty	The possibility of continuing to study in the university, the possibility of recommending the university to others, the possibility of feeling proud and belonging to the university, and the possibility of supporting the alma mater after graduation

The evaluation index system for satisfaction of college students with university services in this article is divided into three levels. The first level is the satisfaction of college students with university services, which is the overall target level. The second level includes university image, teaching services, campus culture, student support and management services, library services, logistics and life services, student perceived value, and student loyalty. The second level is used as the target level for the survey, The third level is the specific expansion of the second level, which can be adjusted according to different types of schools and different situations. By applying the three-level indicators to the survey questionnaire, we can obtain the evaluation index system for the satisfaction of Chinese college students with university services. When setting up the third level indicators, efforts should be made to reflect the true needs of college students from the perspective of college students as customers. Through a questionnaire survey, the satisfaction level of college students can be determined, and an empirical analysis of this indicator system will be conducted in the next chapter.

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