THE INFLUENCING FACTORS OF INTERNATIONAL STUDENT

SATISFACTION WITH MANAGEMENT IN HIGHER

VOCATIONAL COLLEGES IN SHANDONG PROVINCE

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AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF BUSINESS ADMINISTRATION
GRADUATE SCHOOL OF BUSINESS
SIAM UNIVERSITY
2024

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This Independent Study has been Approved as a Partial Fulfillment of the
Requirements for the Degree of Master of Business Administration

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Title:	The Influencing Factors of International Student Satisfaction with Management in Higher Vocational Colleges in Shandong Province
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ABSTRACT

Higher vocational education in China is developing at a fast pace based on its strong cultural background and growing economic strength. With the cross-regional mobility of international talents, more and more international students make China their first choice for study and further education. In recent years, as the number of international students in China has increased, the management of international students has become a fundamental part of international student training in higher vocational colleges and universities. Relying on the promotion of the "Belt and Road" initiative, Shandong Province has seen a substantial increase in the number of international students and countries in recent years, and the management of international student has become a task that higher vocational colleges in Shandong Province must face and pay attention to in their daily work.

This study was conducted on international students of Shandong Vocational College. The quantitative research method was used in this study. The objectives of the study were to explore the factors that affect international students' satisfaction, and to discover how instructional management, administration, logistics service and scholarship system affect international student satisfaction, and to make suggestions for improving the international competitiveness of higher vocational education in Shandong Province. Data collection was carried out by distributing 403 questionnaires. The results showed that instructional management, administration, logistics service have a significant positive effect on international student satisfaction. Scholarship system does not have a significant effect on international student satisfaction. For countermeasures, Shandong Vocational College should focus on the following aspects: 1) Enhancing instructional management; 2) Upgrading administration; 3) Optimizing logistics service; 4) Improving scholarship

system.

Keywords: international students, student management, student satisfaction

ACKNOWLEDGEMENT

On the occasion of the completion of my master's independent study, I would like to extend my high respect and deep thanks to my teachers who have guided me, the leaders who care for me, those who care about me, and all the people who have helped me in the process of studying for my master's degree.

This independent study is completed under the careful guidance and kind care of the supervisor. Teacher's profound knowledge contains rigorous scholarly research attitude, seeking truth from facts of scientific research style, confident work enthusiasm, the combination of theory and practice of scientific research thought and explore the innovative spirit, will deeply affect my future work, study, and life, make me lifelong benefit, in this respect teacher sincere thanks!
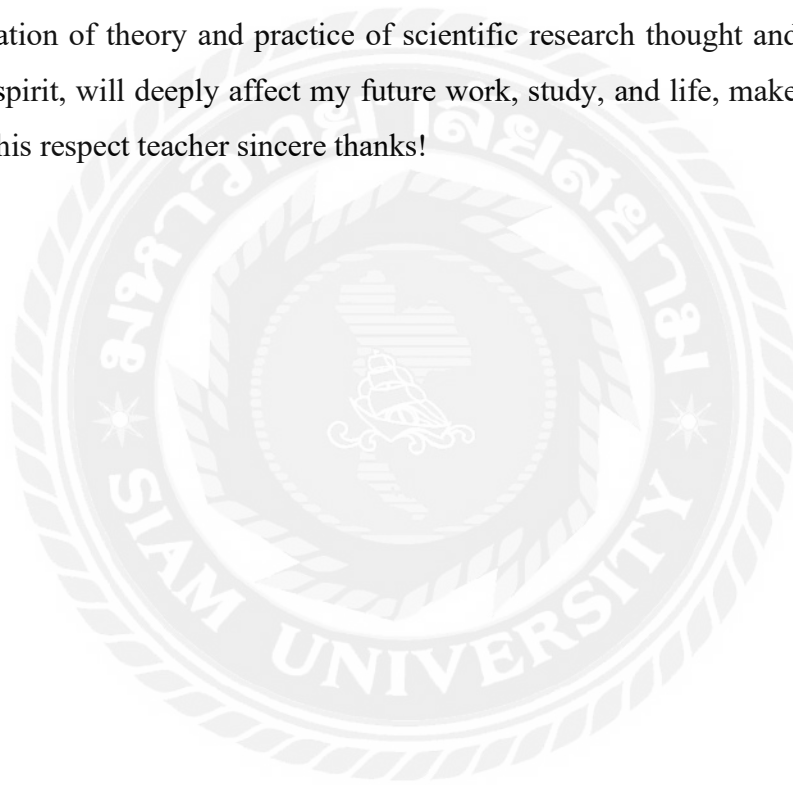
DECLARATION

I, Han Yewen, hereby certify that the work embodied in this independent study entitled "The Influencing Factors of International Student Satisfaction with Management in Higher Vocational Colleges in Shandong Province" is a result of original research and has not been submitted for a higher degree to any other university or institution.

Han Yewen
Jule1，2024

CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1 Introduction

1.1 Background of the Study

With the global mobility of capital in countries all over the world, educational resources are also being exchanged and shared all over the world. The rapid development of internationalization of higher education is a reflection of China's economic development and comprehensive strength, and the education of international students has developed from the single goal of cultivation to the multiple goals of promoting the culture, politics, and economy of the country. Since 2015, when Shandong Province launched the "Study in Shandong Program", the scale of international students in higher vocational colleges in Shandong Province has been expanding. There has been a steady increase in the number of international students studying abroad, especially from Asian countries and regions (Wang & Zhao, 2020). The number of countries receiving international students in Shandong Province is also increasing, and the complex cultural backgrounds and diverse living habits of these international students make the actual management of international students more and more complicated, there are many imperfections in the management of the actual work. The healthy and orderly development of the internationalization of higher vocational education in Shandong Province cannot be achieved without scientific and efficient international student management. Improvement of international student management directly affects the international competitiveness of higher vocational education in Shandong Province (Ding, 2016). The internationalization of education should meet the needs of local political and economic development, and explore a reasonable path to expand its own development space.

Under the new situation, the high-speed development of the internationalization of education also puts forward new requirements and challenges to the management of higher vocational colleges. Higher education institutions in Shandong Province that have recruited international students are paying more and more attention to the management of international students. Because it is not only related to the reputation of Shandong vocational colleges in international education, but also an inevitable requirement to promote the internationalization of Chinese vocational colleges' education (Xiang & Shen, 2009). This study analyzes the current situation of international student management in vocational colleges in Shandong Province, and explores many problems in the management of international students in terms of system construction, enrollment scale, financial support, teaching and training, employment guidance, management services, etc., and then puts forward the countermeasures and

suggestions to improve the management and service of international students in vocational colleges in Shandong Province, taking into account the relevant research and practical experience (Wen et al., 2018). Therefore, it is of great significance to study the influencing factors of international student management and service level in vocational colleges in Shandong Province for the development of vocational education in Shandong Province.

1.2 Questions of the Study

In recent years, with the rapid economic development of Shandong Province, the Chinese government's support for vocational colleges has gradually strengthened, and vocational colleges in Shandong Province have received and trained more and more international students. After the development in recent years, the education and management of international students in vocational colleges in Shandong Province has made great progress. At the same time, there are practical problems that must be faced and solved in the process of student management in vocational colleges. The enrollment method is more traditional, the use of network enrollment, paper media publicity, and the lack of targeted enrollment plan are common. The development of relevant laws and regulations for the training of international students is lagging behind. The guarantee and mandatory force of the policy documents are not enough. Inadequate scholarship system is not attractive to international students.

1. What are the influencing factors of international student satisfaction?

2. Do instructional management, administration, logistics service and scholarship system affect international student satisfaction?

3. How to improve the international competitiveness of higher vocational education in Shandong Province?

1.3 Objectives of the Study

International students are usually defined as non-national students studying in the country, and historically it has been customary to refer to international students collectively as international students. International student management refers to the process of training and educating international students by mobilizing the school's resources in all areas. For example, recruitment, teaching, logistics and other conditions are organized to accomplish the process of cultivating their educational goals. This

study analyzes the influencing factors of international student satisfaction in Shandong Vocational College to enhance the international competitiveness of higher vocational education in Shandong Province.

1. To explore the factors that affect international student satisfaction.

2. To examine the effect of instructional management, administration, logistics service and scholarship system on international student satisfaction?

3. To propose suggestions for improving the international competitiveness of higher vocational education in Shandong Province.

1.4 Scope of the Study

In this study, international students in higher vocational colleges in Shandong Province were selected as the research analysis to explore the influencing factors of international student management status and satisfaction. According to the Department of Education of Shandong Province, the number of international students in Shandong Vocational College was 7,140 in 2022. The research subjects must meet the requirement of studying in Shandong vocational colleges for at least one year. There are 30 vocational colleges in Shandong Province that can accept international students. The data were collected from June 1, 2023 to September 1, 2023. The research scope mainly included the overall satisfaction of international students with school management and the main factors affecting students' satisfaction with student management. Through questionnaire survey, this study systematically analyzed the learning experience, participation, school service and evaluation of teaching management of international students. Finally, combining the research results and the present situation of education in Shandong Province, suggestions are put forward for improving the educational management of overseas students.

1.5 Significance of the Study

Studying the factors influencing the satisfaction of international students in vocational colleges in Shandong Province is of great practical and academic significance, and it has a positive impact on and promotes the development of international students, vocational colleges, and vocational education in Shandong

Province.

International student management is an important tool to do a good job in international student education, and it is an important part of promoting the internationalization of vocational education in Shandong Province. The experience of vocational education and management of international students in Shandong Province is still shallow, and the management is not perfect, which requires comprehensive and in-depth research. This study analyzes the current situation of international student management in vocational colleges and universities in Shandong Province through the study of existing related literature and the investigation of the current situation of international student management in vocational colleges and universities in Shandong Province. It summarizes the problems in the management of international students in vocational colleges in Shandong Province. Combined with the characteristics of the internationalized development of vocational education, the management mechanism of international students is sorted out, to provide a reference for vocational colleges in Shandong Province in the actual management of international students.

Vocational colleges and universities play an important role in the process of education internationalization. The development of internationalization of higher vocational education cannot be separated from the improvement of the management level of colleges and universities themselves. International student education in colleges and universities plays an increasingly important role in improving the management system construction of higher vocational education in Shandong Province and enhancing the international competitiveness of higher vocational education in Shandong Province. The research results can enrich the theory of cultural adaptability, expand the field of academic research, and provide a reference for further research in related fields. Understanding the influencing factors of international student satisfaction in vocational colleges can provide a decision-making basis for the government and vocational colleges in Shandong Province.

1.6 Definition of Key Terms

Instructional management: refers to a series of management activities such as planning, organizing, coordinating and controlling teaching activities by educational institutions or organizations in order to achieve educational goals. Specific operational definition includes curriculum design and arrangement, allocation of teaching resources, teacher evaluation and training, student learning progress tracking and teaching quality monitoring.

Administration: refers to the management and operation of non-teaching affairs in an educational institution. Specific operational definition includes the formulation and enforcement of rules and regulations, human resource management, financial management, facilities maintenance, communication and coordination, and information management.

Logistics service is support services provided by educational institutions to ensure that the basic living and working needs of teachers and students are met. Specific operational definition includes campus environment maintenance, dormitory management, food service, safety and security, medical and health care, equipment maintenance and school bus service.

Scholarship system refers to the financial assistance programs set up by educational institutions to encourage students to excel or to help students with financial difficulties to complete their studies. Specific operational definition includes setting scholarship application criteria and selection procedures, publicizing and notifying scholarship information, reviewing application materials, disbursing scholarship funds, and following up and evaluating.

International student satisfaction refers to the degree to which international students studying at the university are satisfied with the services and experiences provided by the educational institution. Specific operational definition includes designing and administering satisfaction questionnaires, collecting and analyzing feedback data, identifying international students' needs and problems, developing and implementing improvement measures, and regularly evaluating the effectiveness of improvements.

1.7 Limitations of the Study

There are various limitations in studying the influencing factors of international student satisfaction with management in higher vocational colleges in Shandong Province. First, the sample may not be representative enough, the limited sample size may not fully represent the opinions of all international students in higher vocational colleges and universities, and the backgrounds of international students in different colleges and universities vary greatly in terms of their country of origin, specialty, age, etc., which results in the generalizability of the results being affected. Secondly, the objectivity and reliability of data collection is also problematic. The questionnaire survey may be influenced by the subjective factors of international students, and the

truthfulness and accuracy of the responses are difficult to guarantee. In addition, the limitation of the study time makes it difficult to capture the long-term impact of management policy changes on satisfaction. Further, the scope of the study is limited to higher vocational institutions in Shandong Province, and the findings may not be applicable to other regions or types of educational institutions. Finally, there may also be limitations in the choice of research methodology, with quantitative research making it difficult to gain insights into the complex factors influencing management satisfaction, and qualitative research having a limited sample size, making it difficult to generalize widely.

Chapter 2 Literature Review

2.1 Literature Review

2.1.1 Instructional Management

Instructional management includes the quality of teaching, teaching resources and academic support. International students are usually more satisfied if they receive a high quality education with appropriate academic support and resources (Xiang & Shen, 2009). Good teaching and learning administration improves academic achievement and increases students' self-confidence and satisfaction. High-quality instructional management means that adequate attention is paid to teacher quality, curriculum design and educational resources (Wen et al., 2018). International students are more likely to be satisfied with their academic experience when they experience the depth and breadth of their education.

Instructional management refers to the activities of planning, organizing, directing, coordinating and controlling in the education system to achieve teaching goals. Its core task is to improve the quality and efficiency of teaching and promote the overall development of students (Hallinger & Murphy, 2022). This process not only includes the arrangement of teaching content and the guidance of teachers, but also involves the allocation of resources, the optimization of the teaching environment, and the establishment of teaching evaluation and feedback mechanisms. The theory of instructional management originates from the intersection of multiple disciplines such as educational management and behavioral science (Murphy et al., 2015). Educational management theories provide the basic framework for instructional management, including theories of decision-making, organization and leadership. Behavioral science theories, on the other hand, focus on the behavioral patterns of teachers and students in teaching and learning activities and the factors that influence them, emphasizing that human behavior is influenced by a variety of psychological, social and environmental factors. There are various modes of instructional management, and the common ones are traditional instructional management mode and modern instructional management mode. The traditional mode is teacher-centered, emphasizing the teaching of content and student acceptance (Sass et al., 2016). The modern instructional management mode pays more attention to students' independent learning and personality development, and emphasizes interactive, exploratory and cooperative learning.

Modern instructional management is developing towards informationization,

personalization and internationalization (Hallinger, 2010). The wide application of information technology makes instructional management more efficient and convenient, such as online learning platform, intelligent teaching system and big data analysis. Personalized education requires instructional management to pay more attention to students' individual differences and development needs, and provide customized teaching services. The trend of internationalization requires educational institutions to integrate a global perspective into their instructional management and cultivate talents with international competitiveness (Hallinger, 2010; Murphy et al., 2015; Sass et al., 2016). As a key link in the education system, the research and practice of instructional management is of great significance in improving the quality of education. By continuously improving the theoretical foundation, optimizing the management mode and innovating the management tools, we can better achieve the educational goals and promote the overall development of students and social progress (Hallinger & Murphy, 2022). Instructional management in the future will rely more on scientific and technological means and focus on personalization and internationalization in order to meet the various challenges in the field of education.

2.1.2 Administration

Administration involves registration, visa support, academic affairs management and student services. Efficient administration reduces student disputes and concerns and makes it easier for them to adjust to a new learning environment. Clear enrollment procedures and visa support also help reduce stress and increase satisfaction among international students (Santos et al.,2020). Effective academic affairs management ensures that students receive necessary course information and schedules, avoids scheduling conflicts and confusion, and contributes to student management satisfaction.

School administration is a complex and diverse area covering a wide range of areas including enrollment, visa support, academic administration, and student services. Registration management involves the entire process of student administration from enrollment application to school registration, and is a fundamental part of school administration, ensuring the accuracy and completeness of student information (Spillane & Kenney, 2012). Relevant literature emphasizes the important role of modern information technology in improving the efficiency of registration management, such as the use of electronic systems and database management to reduce errors and delays in manual operations. Academic management covers aspects such as course scheduling, allocation of teaching resources, and academic assessment, which are important to ensure the quality of teaching and learning (Weng & Tang, 2014). Common

themes in the literature include the application of instructional management systems, optimization of course scheduling, and how to improve the quality of teaching through data analysis. For example, studies have shown that the adoption of a learning management system (LMS) can significantly improve the efficiency of academic administration and provide students with a more personalized learning experience (Shah, 2014).

Student services are another important component of school administration, covering counseling, career planning, and extracurricular activity organization. The literature review shows that comprehensive student services not only improve students' learning experience and satisfaction, but also promote their overall development (Shah, 2014; Telem, 2001). Particularly in the area of mental health, studies have emphasized the establishment of a sound psychological counseling system and the provision of timely psychological support and intervention to help students cope with stress in academics and life. School administration has been extensively researched and practiced in the areas of registration, visa support, faculty management, and student services. With the development of technology and the changing needs of students, future research directions may focus on how to further utilize information technology to enhance administrative efficiency (Telem, 2001), how to improve the quality of teaching and services through data-driven decision-making, and how to better meet the needs of international students and diverse student populations. Through these studies, school administration will be able to serve students and teachers more efficiently and comprehensively, providing strong support for the development of education.

2.1.3 Logistics Service

Logistical service includes accommodation, transportation, campus security and other basic living needs. International students are usually more satisfied when schools provide good accommodation, a safe campus environment and convenient transportation options. Providing convenient transportation options, such as public transportation or on-campus transportation services, can reduce transportation issues for students and increase satisfaction (Wen et al., 2018). Campus safety and emergency response programs are a major concern for international students. Good campus safety measures can increase their sense of security. These factors directly affect the quality of life and play a key role in satisfaction. Logistics services play an important role in ensuring the basic needs of students, including the management of accommodation, transportation, campus security and other basic living needs. Studies have shown that good accommodation, a safe campus environment and convenient transportation

options are important factors in increasing the satisfaction of international students. In terms of accommodation, the literature generally emphasizes the impact of the facilities and management of student residences on the quality of student life. Studies have pointed out that modern accommodation facilities, good management services and a suitable social environment can help improve students' living experience. For international students in particular, it is particularly important to provide culturally adapted accommodation arrangements as well as multilingual services. This not only helps them adapt to their new environment faster, but also reduces isolation and culture shock.

Logistics service is one of the most important factors affecting students' daily lives. Literature review shows that convenient transportation around and within the school has a significant impact on students' learning and living efficiency. Providing efficient and reliable school bus services and good public transportation connections can make it easier for students to travel to and from their campuses, residences and urban areas (Folinas et al., 2018). There is also a growing interest in promoting environmentally friendly modes of transportation, such as bicycle sharing and electric buses, which not only help to reduce traffic pressure but also cultivate students' awareness of environmental protection. Campus safety is another important area of concern for students. Studies have shown that good campus security management involves not only physical security measures, such as surveillance systems, night patrols and emergency alarm systems, but also the building of a sense of psychological security (Jumadi & Zailani, 2010). By creating a safe and friendly campus atmosphere, schools can effectively reduce the incidence of crime and increase students' trust in the campus environment. International students, in particular, are often easier targets for security incidents, so safety education and special protection measures for them are also critical. In addition, the fulfillment of other basic living needs is an important part of logistics services, including food, medical, and recreational facilities. Literature points out that diversified meal choices and healthy eating habits are important factors in safeguarding students' health (Fung & Wong, 1998). Schools should provide nutritionally balanced meals that take into account the eating habits and religious taboos of international students. In terms of healthcare services, the study emphasized that schools should establish a sound on-campus healthcare system to provide timely medical services and psychological counseling to cope with students' health problems. Leisure facilities such as gyms, libraries and cultural activity centers help enrich students' after-school life and promote their physical and mental health (Philipp & Militaru, 2011).

Logistics service plays an integral role in the overall learning and living experience

of students. Good accommodation, a safe campus environment and convenient transportation options significantly increase international students' satisfaction. Future research may focus more on how to improve the efficiency and quality of logistics services through technological means, such as smart dormitory management systems, AI monitoring of campus security, and green transportation options. The study will also explore how to meet the diverse needs of students and enhance their quality of life and well-being through an integrated service system.

2.1.4 Scholarship System

Scholarship system also has an impact on international student satisfaction. Providing scholarships or financial support can ease the burden of tuition and living costs and increase student satisfaction. Scholarship system encourages academic excellence among international students, motivates them to achieve better results in their academic fields (Xiang & Shen, 2009), and improves students' self-esteem and satisfaction Scholarship system can also encourage students who excel academically and increase their satisfaction. Scholarship system play an important role in education and are significant in promoting academic achievement and supporting economically disadvantaged students. A review of the literature indicates that scholarship system is not only an important means of attracting talented students, but also has a profound impact on students' academic performance and career development. Studies have shown that scholarships have a significant role in increasing student enrollment and graduation rates. By providing financial support, scholarships help many students who would otherwise be unable to continue their studies due to financial difficulties to complete their studies, alleviating their financial pressure and enabling them to focus more on their studies. In addition, scholarship system incentivizes students to pursue higher academic achievement. Many scholarship programs set stringent academic requirements, which motivate students to work hard academically in order to meet the conditions for scholarship renewal.

Scholarship system is particularly important in the international student community. Relevant literature points out that scholarships are an important tool for attracting talented international students. By establishing various scholarship programs, different countries and schools not only attract a large number of outstanding international students, but also enhance the international reputation and academic influence of the school (Milkoreit et al., 2018). For international students, scholarships not only provide financial support, but also help them better integrate into their new environments and reduce the anxiety and distress caused by financial pressure

(Drahmann et al., 2019). Diversification of scholarship system has also been a focus of research. It is mentioned in the literature that different types of scholarship programs, such as scholarships based on academic performance, scholarships based on specific fields of study, and grants for economically disadvantaged students, are able to meet the needs of different student groups (Augustine & Krop, 2008). This diversified scholarship setup not only improves the coverage of scholarship system, but also enhances educational fairness and enables more potential students to gain access to educational opportunities. However, some challenges and problems of scholarship system have also been mentioned in the literature. For example, the issue of equity in the distribution of scholarships. Some studies point out that the distribution of scholarships may be unfair in some cases, such as favoring specific groups or neglecting the needs of some marginalized students. In addition, the continuity and stability of scholarships is also an important issue (Matsumoto et al., 2016). Certain scholarship programs may be at risk of being canceled at any time due to unstable funding sources, which can be devastating for students who rely on scholarships. Scholarship system is of great significance in supporting students in completing their studies, enhancing their academic achievements and promoting educational equity. By continuously optimizing and improving scholarship system, its role in the education system can be better utilized to provide more students with opportunities to realize their dreams.

Instructional management, administration, logistics service, scholarship system are all important factors that can directly affect international students' satisfaction with student management. Universities should pay attention to these aspects by providing high quality education, administrative support, living conditions and financial support to meet the needs of international students and increase their satisfaction, thus enhancing campus diversity and internationalization. By combing through the literature on international student management, it is not difficult to find that there are big differences in the research on international student management among scholars from different countries. Most scholars study international students from the perspective of their adaptability to new environments and their psychological changes. Meanwhile, a few scholars pay more attention to management theory setting. At present, although the research on international student management in Chinese vocational colleges and universities has many years of management experience, it lacks a systematic management mechanism. Both theoretical research and practical depth need to be further explored.

2.2 Research Relevant

Farahmandian (2013) explored the relationship between service quality and international student satisfaction, institutional image, and loyalty in public universities,

and found that all five dimensions of higher education service quality (non-academic, academic, reputation, informational, and access) affect student satisfaction, which in turn affects the image of the institution, as well as student loyalty. De Jager & Gbadamosi, (2013) investigated student satisfaction with the quality of higher education in terms of motivation, praise, rewards, social inclusion, usefulness, and the value of student behavior, used CIT to collect and analyze data to measure student satisfaction, and finally gave policy recommendations for frontline teaching staff in higher education in terms of teaching and learning practices and policy documents. recommendations. Ali et al. (2016) conducted a satisfaction study of international students at the University of South Carolina regarding the academic environment, the social environment, and the services provided by the university's Office of International Cooperation to determine the level of satisfaction of international students and investigate what issues presented difficulties for international students. The University of Texas conducted an international student satisfaction survey of its schools in 2007 and 2008. The questionnaire mainly included the overall satisfaction with the administration, the attitude of the administration staff, whether the administration staff provided perfect service whether there was any negligence, and the efficiency of the administration staff.

In the theory of culture shock proposed by Oberg (1960), an attempt is made to illustrate the various discomforts that people show after entering a new environment from their psychological or physiological dilemmas (Oberg, 1960), especially in the process of integrating into the culture of another country by the impact of the conversion of the previous customs and habits, people are prone to other psychological discomforts such as anxiety. Zineldin et al. (2011) believe that when entering a new country, people are faced with the problem of role change, at this time the attitude of the people in the new country towards themselves and their ability to quickly integrate into the society determines the degree of acceptance of the new environment for the new entrants. Razinkina & Pankova (2018) found through a survey that there are generally more psychological problems among Indian students entering the United Kingdom to study. Teeroovengadum et al. (2019) found that international students still have a comfort zone in their cultural interactions even though they are in other countries, and most of the people they interact with in their lives and studies are still mainly their classmates, and they are not interested in interacting with students from other countries or with international students from other countries. Santos et al. (2020) found that the gains made by students through travel and short-term residence are also important means of cross-border cultural exchanges and that such means can achieve better results.

2.3 Conceptual Framework

Based on the literature review, a model of the factors influencing international student satisfaction was constructed and the independent and dependent variables in the study were identified. By constructing the model, the interrelationship between the variables was determined. The model framework is shown in Figure 2.2.
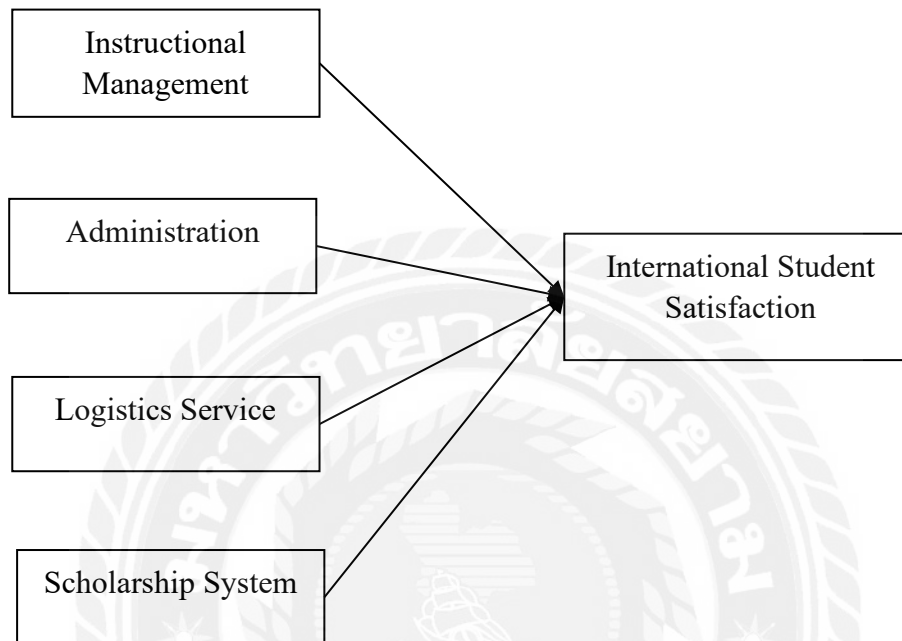

Figure 2.2 Conceptual Framework

Chapter 3 Research Methodology

3.1 Introduction

The study examined the factors that influence the satisfaction of international students with management in higher vocational colleges in Shandong Province. The variables proposed in the study include instructional management, administration, logistics service, scholarship system, and international student satisfaction.

3.2 Research Design

This study adopted the quantitative research, using a questionnaire survey. A questionnaire was designed to collect data on the variables. There are 6 measurement items for instructional management, 3 measurement items for administration, 5 measurement items for logistics service, 3 measurement items for scholarship system, and 3 measurement items for international student satisfaction. A five-point Likert scale is used, with scores ranging from 1-5, representing strongly disagree, disagree, average, agree, and strongly agree, with higher scores representing greater agreement with the item. As shown in Table 3.1.

Table 3.1 Measurement Items

Variable	Measurement item	NO.
Instructional management	1. Your schedule for school classes	Q1
	2. Your opinion of the class schedule	Q2
	3. Your opinion of the teaching methods of the teachers	Q3
	4. Your opinion on the classroom organization of the teachers.	Q4
	5. Your opinion of teachers' bilingual teaching ability	Q5
	6. Your opinion about the second class activities organized by the school for international students.	Q6
Administration	7. How would you rate the teachers who work with international students at your school?	Q7
	8. How would you rate the efficiency of the staff working with international students in your school?	Q8
	9. Do you think the school's systems for managing international students are reasonable?	Q9
Logistics service	10. Are you satisfied with the accommodation arranged by the university?	Q10
	11. Your expectation of the school's work and rest	Q11

	time?	
	12. Are you satisfied with the food in the school cafeteria?	Q12
	13. How do you feel about the attitude of the school's logistics staff towards international students?	Q13
	14. Does the school provide international students with life services and guidance to help them integrate into campus life?	Q14
Scholarship system	15. Since you came to China to study, are you satisfied with the scholarships and other financial assistance you have received?	Q15
	16. How do you feel about the selection of scholarships?	Q16
	17. How are you satisfied with the way the scholarships are awarded?	Q17
International student satisfaction	18. Your overall satisfaction with the management of the school	Q18
	19. How satisfied are you with the overall services of the school?	Q19
	20. Would you recommend this school to your relatives and friends?	Q20

3.3 Hypothesis

The independent variables in this study are instructional management, administration, logistics service, and scholarship system. The dependent variable is international student satisfaction, and the model is constructed based on the analysis and the relationship between the variables. The relationship between variables is set through hypotheses as follows:

H1: Instructional management has a positive effect on international student satisfaction.

H2: Administration has a positive effect on international student satisfaction.

H3: Logistics service has a positive effect on international student satisfaction.

H4: Scholarship system has a positive effect on international student satisfaction.

The hypothetical model of the influencing factors of international student satisfaction, and the interrelationships among the variables are determined as shown in Figure 3.1.
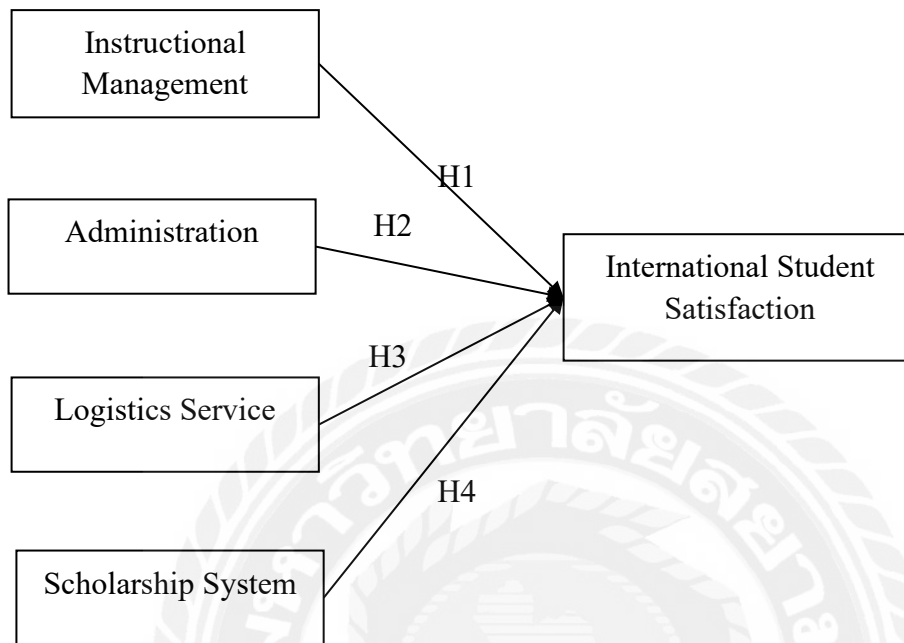
Figure 3.1 Hypotheses

3.4 Population and Sampling

This study took international students of Shandong Vocational College as the research subjects. According to the Department of Education of Shandong Province, the number of international students in Shandong Vocational College was 7,140 in 2022. The research subjects must meet the requirement of studying in Shandong vocational colleges for at least one year. There are 30 vocational colleges in Shandong Province that can accept international students.

3.5 Data Collection

A total of 450 questionnaires were distributed during the survey, 411 questionnaires were recovered, and 403 questionnaires were valid, with a validity rate of 89.56%. The questionnaire survey was conducted from June 1, 2023 to September 1, 2023.

3.6 Data Analysis

3.6.1 Reliability of the Questionnaire

The questionnaire in this study is an adaptation of a mature questionnaire, which was partially adapted and integrated into this study, and the questionnaire itself was tested for reliability and validity. Reliability was tested using SPSS reliability analysis, which mainly examined Cronbach's Alpha reliability coefficient. If the distance between Cronbach's Alpha reliability coefficient and 1 is small, it means that the reliability within the data is high, and vice versa, the lower the reliability. The result of the test in this study is shown in Table 3.2. The reliability test is an important test to examine the reliability, stability, and consistency of the variables tested in the questionnaire. The reliability test of the scale, Cronbach's α is 0.908, which is greater than 0.8, indicating that the scale has high stability and consistency. This shows that this questionnaire is reliable for testing the factors affecting the satisfaction of international students.

The Cronbach's Alpha coefficient for instructional management is 0.887, the Cronbach's Alpha coefficient for administration is 0.877, the Cronbach's Alpha coefficient for logistics service is 0.892, the Cronbach's Alpha coefficient for scholarship system is 0.880, and the Cronbach's Alpha coefficient for international student satisfaction is 0.891. The reliability coefficients of Cronbach's Alpha of the questionnaire are all greater than 0.8, which indicates that the questionnaire reaches a high level of reliability, as shown in Table 3.2.

Table 3.2 Variate Reliability Test

Variate	Cronbach's Alpha	N of Items
Instructional Management	0.887	6
Administration	0.877	3
Logistics service	0.892	5
Scholarship System	0.880	3
International Student Satisfaction	0.891	3
Total	0.908	20

3.6.2 Validity of the Questionnaire

The questionnaire validity test was done by KMO and Bartlett's Test of Sphericity. According to the test standard of KMO value, if the value of KMO is less than 0.5, it

means that the validity of the questionnaire is not good. When the value of KMO is closer to 1, it means that there are more common factors between the items of the questionnaire, and it is more conducive to analyzing and testing each factor. The results of the validity of this questionnaire are shown in Table 3.3, KMO test and Bartlett's Sphericity test were used to measure the validity of the questionnaire data. The KMO value was 0.917 and the significance was 0.000, which is less than 0.05 and reached the level of significance. It shows that there is a correlation between the variables and factor analysis is effective.

The factors with value of characteristic greater than 1 were then extracted and the factors were rotated using the maximum variance method. The results showed that17 observed items loaded on 4 factors explained 68.562% of the total variance, and the factor loading values were all greater than 0.5, which indicated that the questionnaire had good structural validity. The calculation results by Rotated Component Matrix show that the question-item differentiation validity of each factor is good, see Table 3.5.

Table 3.3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.917
Bartlett's Test of Sphericity	Approx. Chi-Square	4685.315
	df	190
	Sig.	0.000

Table 3.4 Total Variance Explained

Compo nent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulati ve %	% of Varianc e	Cumulativ e %		% of Varianc e	Cumulati ve %	
1	7.176	47.841	47.841	47.841	47.841		23.381	23.381	
2	1.570	10.467	58.307	10.467	58.307		22.269	45.651	
3	1.413	9.422	67.729	9.422	68.526		22.079	68.526	
4	0.600	3.998	71.727						
5	0.570	3.801	75.529						
6	0.503	3.351	78.879						
7	0.476	3.175	82.054						
8	0.443	2.956	85.010						
9	0.392	2.611	87.622						
10	0.383	2.550	90.172						
11	0.339	2.260	92.432						
12	0.321	2.141	94.574						
13	0.320	2.121	94.589						

14	0.315	2.100	95.230			
15	0.316	2.091	95.441			
16	0.311	2.086	96.660			
17	0.309	1.698	97.358			
18	0.289	2.086	98.660			
19	0.255	1.698	99.358			
20	0.246	1.642	100.000			

The results of the study showed that the rotated principal component matrix revealed that the first factor ranged from Q 1 to Q6; the second factor ranged from Q7 to Q9; the third factor ranged from Q10 to Q14; the fourth factor ranged from Q15 to Q17, the fifth factor ranged from Q18 to Q20. The five influential factors were named instructional management, administration, logistic service, scholarship system, international student satisfaction. Through the results of Table 3.5, it can be learned that a total of three factors were extracted, and each variable has a large loading on only one common factor, while the loadings on the other common factors are small, indicating that each variable has a better but differentiated validity.

Table 3.5 Rotated Component Matrix

	Component				
	1	2	3	4	5
Q1		0.813			
Q2		0.749			
Q3		0.817			
Q4		0.759			
Q5		0.758			
Q6		0.781			
Q7			0.718		
Q8			0.771		
Q9			0.750		
Q10				0.757	
Q11				0.844	
Q12				0.739	
Q13				0.690	
Q14				0.748	
Q15					0.776
Q16					0.812
Q17					0.822
Q18	0.789				
Q19	0.777				
Q20	0.769				

Chapter 4 Findings

4.1 Introduction

The survey was conducted by distributing 450 questionnaires, 411 questionnaires were returned, 403 questionnaires were valid, and the validity rate was 89.56%. The collected data were analyzed by using descriptive statistics, and the data conformed to normal distribution. Correlation was tested based on the hypothesized relationship between the variables. Pearson correlation analysis was used to determine the correlation and significance between each variable.

4.2 Demographic Characteristics of Respondents

Table 4.1 Distribution of Demographics of Samples (N = 403)

Item	Options	Frequency	Percent%
Gender	Male	212	52.3
	Female	191	47.2
Age	Under 18	46	11.4
	18-22	95	23.5
	23-27	59	14.6
	28-32	42	10.4
	33-35	32	7.9
	Over 35	129	31.9
Country and region	Asian	170	42.0
	Europe	77	19.0
	America	114	28.1
	Oceania	25	6.2
	Other regions	17	4.2
Total		403	100.0

A total of 450 questionnaires were distributed, and 403valid questionnaires were recovered, with an effective recovery rate of 89.56%. The sample distribution of the questionnaires is as follows. The results show that there are 212 males, accounting for 52.3% of the total number of samples, and 191 females, accounting for 47.2% of the total number of samples. The proportion of males and females is almost equal. In terms of age of the sample, 46 (11.4%) were under 18 years old, 95(23.5%) were between 18 and 22 years old, 59 (14.6%) were between 23 and 27 years old, 42 (10.4%) were between 28 and 32 years old, 32 (7.9%) were between 33 and 35 years old, and 129

(31.9%) were 35 years old or above. As shown in Table 4.1, the sample as a whole met the statistical requirements.

Table 4.2 Descriptive Statistics of Variables

Various	N	Minimum	Maximum	Mean	Std. Deviation
Q1	403	1	5	4.31	0.997
Q2	403	1	5	4.20	0.987
Q3	403	1	5	4.26	1.016
Q4	403	1	5	4.32	0.959
Q5	403	1	5	4.25	1.026
Q6	403	1	5	4.27	1.004
Q7	403	1	5	4.30	0.938
Q8	403	1	5	4.25	0.983
Q9	403	1	5	4.25	0.988
Q10	403	1	5	4.32	0.906
Q11	403	1	5	4.36	0.882
Q12	403	1	5	4.33	0.919
Q13	403	1	5	4.26	0.822
Q14	403	1	5	4.50	0.616
Q15	403	1	5	4.15	0.787
Q16	403	2	5	4.39	0.65
Q17	403	1	5	4.06	0.825
Q18	403	1	5	4.40	0.851
Q19	403	1	5	4.39	0.852
Q20	403	1	5	4.37	0.831

From Table 4.2, it can be seen that the means of all the key variables are at a high level (Mean = 4.06 - 4.40). This indicates that the respondents' perceptions of all the key factors in this study are at a high level. The variables of instructional management, administration, logistics service, scholarship system, international student satisfaction were at a high level. Next, the data were tested for normality before conducting the correlation analysis. The data showed that skewness and kurtosis were analyzed for each measurement item, and according to the requirement of normal distribution, the data conformed to normal distribution when the absolute value of the skewness coefficient of the data is within 3 and the absolute value of the kurtosis coefficient is within 8. The results of the study yielded that the absolute values of skewness and kurtosis of the data for each dimension met the criteria.

4.3 Results of the Study

Correlation analysis is the process of examining two or more correlated elements of a variable to determine how tight the correlation is between the two elements. Correlation analysis requires a link or probability between the associated elements. To investigate the relationship between various groupings. Correlation analysis has unquestionably become the greatest approach to statistical analysis. Pearson correlation coefficient: It works best for two groups of continuous variables that have an approximately normal distribution and are linearly connected. The value of Pearson's correlation coefficient is a statistical measure that indicates the degree of linear association between two variables. The value of the correlation coefficient is denoted by r, where n is the sample size and n represents the observed and mean values of both variables. r denotes the degree of linear correlation across the two values; the greater the absolute value of r, the more powerful the correlation. The results of the above analysis show that the variables have a 99% significant association. And since the correlation coefficient is greater than zero, they are positively associated.

Table 4.3 Correlation Between Variables (Pearson Correlation Matrix)

Correlations					
	Instructional Management	Administration	Logistics service	Scholarship System	International Student Satisfaction
Instructional Management	1				
Administration	.700**	1			
Logistics service	.642**	.606**	1		
Scholarship System	.666**	.786**	.731**	1	
International Student Satisfaction	.691**	.598**	.659**	.672**	1

NOTE：*. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation coefficient between instructional management and international student satisfaction is 0.691, and P<0.01, indicating that there is a correlation between instructional management and international student satisfaction, and it is a general correlation.

The Pearson correlation coefficient between administration and international

student satisfaction is 0.598, and P<0.01, indicating that there is a correlation between administration and international student satisfaction, and it is a general correlation.

The Pearson correlation coefficient between logistics service and international student satisfaction is 0.659, and P<0.01, indicating that there is a correlation between logistics service and international student satisfaction, and it is a general correlation.

The Pearson correlation coefficient between scholarship system and international student satisfaction is 0.672, and P<0.01, indicating that there is a correlation between scholarship system and international student satisfaction, and it is a general correlation.

To better explain the relationship between the independent variables and the dependent variables, the multiple regression model is constructed. Instructional management, administration, logistics service, and scholarship system are the independent variables of the study, and international student satisfaction is the dependent variable. The regression equation was significant, F=130.13, p<0.001. The Durbin-Watson test value was 1.889, between 1.8 and 2.2. The data were independent and compound linear regression was required. In the covariance diagnostic results, VIF is less than 10, which meets the requirements, indicating that there is no covariance in the data.

According to the results of the model analysis, instructional management (β=0.177, P<0.05), administration (β=0.107, P<0.05), and logistics services (β=0.283, P<0.05) significantly and positively affect international student satisfaction. Scholarship system (β=0.478, P<0.05) has a significant effect on international student satisfaction and the hypothesis is valid. The variables jointly explain the proportion of international student satisfaction in vocational colleges in Shandong Province is 56.7%, which meets the requirements.

Table 4.4 Multiple Regression Analysis

Item	Unstd. B	Std. Beta	t	Sig.	VIF	F	Durbin-Watson
C	2.072	-	2.613	0.009			
EM	0.177	0.379	7.490	0.000	2.350	130.13 ***	1.889
AD	0.107	0.127	2.634	0.009	2.142		
LS	0.283	0.342	7.569	0.000	1.874		
SS	0.478	0.452	5.784	0.001	1.026		
R Square	0.567						
Adjusted R Square	0.562						

NOTE: EM is educational management.AD is administration.LS is Logistics services. SS is a Scholarship system.

According to the analysis results, we can get the multiple regression formula of the factors influencing the international student satisfaction with management in vocational colleges in Shandong Province:

$$SAT=2.072+0.177\ EM+0.107AD+0.283\ LS+0.478\ SS$$

NOTE: SAT is satisfied with the management of international students.

Therefore, in the study of international student satisfaction with management of higher vocational colleges in Shandong Province, instructional management has a significant positive effect on the satisfaction of international students, and H1 is established. Administration has a significant positive effect on the satisfaction of international students and H2 holds. Logistics service has a significant positive effect on international student satisfaction, and H3 holds. Scholarship system has a significant effect on international student satisfaction, and H4 holds.

The results of the study show that Instructional management, administration, logistics service, and scholarship system positively affect international student satisfaction. Measures should be taken for the international competitiveness of higher vocational education in Shandong Province. From the perspective of higher vocational colleges and universities, international student management is an important task in the internationalization of vocational colleges and universities. International student management requires the collaborative management of multiple departments. From the analysis, it can be seen that the concept of nurturing and service consciousness in the management of international student satisfaction to be strengthened. Majors or directions with internationalization needs should be set up from the perspective of broad disciplines and specialties. The richness and internationalization of curriculum design should be emphasized by enhancing the construction of high-level faculty for international student education and optimizing the quality of logistics services for international students. At the same time, higher vocational colleges and universities should emphasize the building of cross-cultural communication and learning opportunities in the daily management of international students.

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

This chapter focuses on analyzing the influencing factors of international student satisfaction with management in higher vocational colleges in Shandong Province. Firstly, the factors affecting the satisfaction of international student were categorized theoretically, and instructional management, administration, logistics service, scholarship system are regarded as important factors affecting the international student satisfaction. Then through the relevant analysis, the influence of the above factors on the international student satisfaction with management in higher vocational colleges was analyzed. The results show that each influencing factor has a significant impact on the international student satisfaction with management in higher vocational colleges in Shandong Province

5.1.1 Instructional Management Has a Positive Effect on International Student Satisfaction

According to the results of the model analysis, instructional management has a significant positive effect on international students' satisfaction and this effect is statistically significant ($\beta=0.177$, $p<0.05$). This indicates that when the level of instructional management increases, the satisfaction of international students increases accordingly. Good instructional management can ensure the orderly conduct of teaching activities, make the course arrangement more reasonable, effectively utilize teaching resources, and promote good interaction between teachers and students. All these factors can enhance the learning experience of international students, make them feel that the school pays attention to their studies and life, and thus increase their overall satisfaction. Therefore, improving instructional management is one of the important ways to enhance the satisfaction of international students.

5.1.2 Administration Has a Positive Effect on International Student Satisfaction

According to the results of the model analysis, administration has a significant positive effect on international students' satisfaction and this effect is statistically significant ($\beta=0.107$, $p<0.05$). This indicates that when the level of administrative management increases, the satisfaction of international students increases accordingly.

Administration involves a series of management activities of the university in non-teaching affairs, including international student services, visa and residence procedures, campus facilities management, and living arrangements. Effective administration can provide good support services to ensure a smoother and more comfortable life for international students in a foreign country. Therefore, improving administration is an important factor to enhance the satisfaction of international students.

5.1.3 Logistics Service Has a Positive Effect on International Student Satisfaction

According to the results of the model analysis, logistics services have a significant positive effect on international students' satisfaction and this effect is statistically significant ($\beta=0.283$, $p<0.05$). This indicates that when the level of logistics services increases, the satisfaction of international students increases significantly. Logistics services include accommodation arrangements, catering services, campus security, medical services and other amenities. Good logistics services can provide a comfortable, safe and convenient living environment for international students so that they can focus on their studies. Comfortable dormitory conditions, abundant and delicious dining options, sound security and timely medical services can significantly enhance the quality of life for international students. International students living in such an environment will not only minimize the troubles and inconveniences of life, but also feel the care and support of the university, which will greatly enhance their satisfaction with the university. Therefore, improving the level of logistics services is one of the key factors to increase the satisfaction of international students.

5.1.4 Scholarship System Has a Positive Effect on International Student Satisfaction

According to the results of the model analysis, scholarship system has a significant effect on the satisfaction of international students and this effect is statistically significant ($\beta=0.478$, $p<0.05$). This indicates that when scholarship system is improved, the satisfaction of international students increases significantly. Scholarship system directly affects the financial burden and psychological pressure of international students. For many international students, scholarships are not only an important financial support, but also a recognition and incentive for their academic efforts and achievements. A reasonable scholarship system can reduce the financial pressure on international students, allowing them to focus more on their studies and research activities without worrying too much about living expenses. In addition, the

scholarships can also enhance the self-confidence and sense of belonging of international students, and make them feel that the university recognizes and encourages their academic efforts. Therefore, improving and optimizing scholarship system will not only help attract more outstanding international students, but also promote their positive performance in academic and personal development.

Table 5.1 Hypothesis Test Results

NO.	Hypothesis	Result
H1	Instructional management has a positive effect on international student satisfaction.	Established
H2	Administration has a positive effect on international student satisfaction.	Established
H3	Logistics service has a positive effect on international student satisfaction.	Established
H4	Scholarship system has a positive effect on international student satisfaction.	Established

5.2 Recommendation

5.2.1 Enhancing Instructional management

According to the findings of the study, a series of comprehensive measures can be taken in order to improve the level of instructional management. First, it is very important to optimize the design and arrangement of courses to ensure that course time is reasonably allocated to avoid conflicts, and to increase the number of elective and specialized courses that suit the needs of international students. Secondly, it is important to upgrade the teaching level of teachers, improve teaching methods through regular teacher training, and enhance cross-cultural communication skills so that teachers can better adapt to and meet the learning needs of international students. In addition, the provision of teaching resources is strengthened, such as enriching library resources and providing more online learning platforms and tools to ensure that international students can conveniently access the learning materials they need. Their satisfaction can be further enhanced by establishing an effective feedback mechanism to promptly understand and solve the problems encountered by international students in the learning process. Taken together, these measures will help to significantly improve the level of instructional management and thus enhance the overall satisfaction of international students.

5.2.2 Upgrading Administration

Firstly, simplify and optimize the procedures related to student registration ensure that these procedures are fast and efficient, and reduce the trouble of international students in administrative affairs. Second, provide multilingual services to ensure that administrative office staff can communicate in the native or common language of international students to enhance their communication efficiency and experience. In addition, a specialized international student service office is set up to provide one-stop services and centralize the handling of various problems and needs encountered by international students in their life and study. Regular symposiums or feedback meetings with international students are organized to understand their specific needs and difficulties, and timely adjust and improve administrative measures based on the feedback. Finally, through the campus informatization construction, provide online channels for administrative affairs, so that international students can carry out various procedures and information inquiry more conveniently. These measures will help to improve the efficiency of administrative management and service quality, thus significantly increasing the satisfaction of international students.

5.2.3 Optimizing Logistics service

Firstly, the dormitory management department can improve the accommodation conditions of students to ensure that the dormitory is well-equipped and clean, and provide a variety of room choices to meet different needs. At the same time, the dormitory is regularly maintained and cleaned to ensure a comfortable and safe living environment. Secondly, improve the quality of catering services, increase the variety of dishes in the dining halls, take into account the eating habits of different countries and cultures, and provide diversified and healthy eating choices. Strengthen campus security management, increase patrols and monitoring to ensure a safe and secure living and learning environment for international students. Provide convenient medical services, set up on-campus clinics or cooperate with local hospitals to ensure that international students can seek medical treatment in time when they feel unwell. Finally, establish an effective feedback mechanism to regularly collect international students' opinions and suggestions on logistics services and make improvements based on the feedback. These measures will help to significantly improve the quality of logistics services and thus enhance the satisfaction of international students.

5.2.4 Improving Scholarship system

Firstly, schools can increase the variety and number of scholarships to ensure that

more international students have access to financial aid. Different types of scholarships, such as academic scholarships, athletic scholarships, and community service scholarships, can meet the needs of students from different backgrounds and majors. Secondly, simplify the scholarship application process by providing clear application guidelines and timely application information to reduce students' confusion and stress during the application process. At the same time, ensure the fairness and transparency of the assessment process and establish an impartial assessment mechanism so that students can feel confident in the results. Increase the amount of scholarships to better cover the tuition fees and living expenses of international students and reduce their financial burden. Regularly evaluate and improve the scholarship policy, and make adjustments according to the feedback and actual needs of international students to ensure that scholarship system can function continuously and effectively. Through these measures, the attractiveness and fairness of scholarship system can be significantly enhanced, thereby increasing the satisfaction of international students.
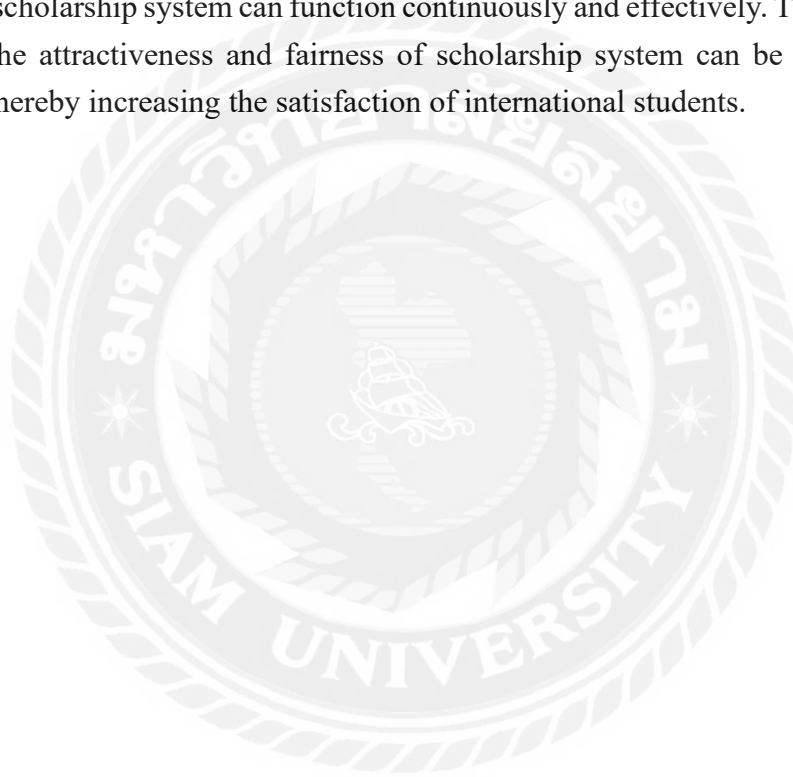
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Appendix

Dear Sir/Madam,

Thank you for your participation in this questionnaire survey. The survey will be conducted anonymously, and your relevant information will be kept confidential. Thank you again for your cooperation.

Part Ⅰ:

1. Gender   ☐Male   ☐ Female

2. Age
A Under 18
B 18-22
C 23-27
D 28-32
E 33-35
F Over 35
3. Country and region
A Asian
B Europe
C America
D Oceania
E Other regions

Part Ⅱ: Please judge to what extent you agree with the following statement, please choose the most appropriate option, and mark the corresponding number "√". The questionnaire used Likert scale, ranging from 1 to 5 in which 1 indicates strongly disagree (or strongly disagree), 2 indicates relatively disagree (or relatively disagree), 3 indicates neutral, 4 indicates relatively agree (or relatively agree), and 5 indicates strongly agree (or strongly agree)

Measuring item	Strongly disagree	Disagree	General	Agree	Strongly agree
Instructional management					
1.Your schedule for school					

classes					
2.Your opinion of the class schedule					
3.Your opinion of the teaching methods of the teachers					
4.Your opinion on the classroom organization of the teachers.					
5.Your opinion of teachers' bilingual teaching ability					
6.Your opinion about the second class activities organized by the school for international students.					
Administration					
7. How would you rate the teachers who work with international students at your school?					
8. How would you rate the efficiency of the staff working with international students in your school?					
9. Do you think the school's systems for managing international students are reasonable?					
Logistics service					
10. Are you satisfied with the accommodation arranged by the university?					
11. Your expectation of the school's work and rest time?					
12. Are you satisfied with the food in the school cafeteria?					
13. How do you feel about the attitude of the school's logistics staff towards international students?					
14. Does the school provide international students with life services and guidance to help them integrate into campus life?					
Scholarship system					
15. Since you came to China to					

study, are you satisfied with the scholarships and other financial assistance you have received?					
16. How do you feel about the selection of scholarships?					
17. How are you satisfied with the way the scholarships are awarded?					
International student satisfaction					
18. Your overall satisfaction with the management of the school					
19. How satisfied are you with the overall services of the school?					
20. Would you recommend this school to your relatives and friends?					