

Research on the Informationization Construction of College Admission Management

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Abstract

In 2014, the State Council issued the "Implementation Opinions of the State Council on Deepening the Reform of the Examinations and Admission System" (National Development [2014] No. 35), which made the most administrative framework for the reform of the examination and admission system on "promoting a fair and scientific selection of the talented". The selection mode will be transformed from a single college entrance examination score to a multi-evaluation mechanism based on the college entrance examination, high school grades, and reference from comprehensive quality evaluation. The essence of multi-evaluation is mainly through qualitative or quantitative evaluation of students' values, learning ability, innovative ability, critical thinking, and other aspects. The traditional college admission system simply cannot meet the requirements of reform. It is urgent to establish a comprehensive evaluation system including enrollment planning, propaganda, admission, and personnel training. This process requires massive-information-processing, and we must establish a suitable college admissions management information system with strong data analysis ability in order to provide technical support and decision support for college admission management.

Key words: College; Admission management; Comprehensive evaluation; Decision support

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INTRODUCTION

Admission management is a complex system. It will be a complicated and inefficient process if we only rely on manpower to complete the work related to enrollment management. Applying informatization to admission management can better integrate the resources from multiple parties, improve efficiency, reduce costs, save manpower and material resources, ensure the accuracy and consistency of data in the process of admission management, and reduce the occurrence of data errors caused by manual neglect, and enhance the effectiveness of scientific management and service. At the same time, the university can perform statistical analysis of resources and data effectively, and provide decision support for managers. For example, when constructing the admission plan, statistical analysis can be conducted on the number of applications and admission of different provinces from previous years, and the most popular majors in different regions can be obtained, which provides a reference for the plan. During the applying period, using the comparative analysis of the number of admissions and the admission scores in each region in previous years, the enrollment team can provide candidates with more accurate estimation scores and more accurate consultation services for candidates.

1. THE CURRENT STATUS AND EXISTING PROBLEMS OF CONSTRUCTION OF COLLEGE ADMISSION MANAGEMENT INFORMATIZATION

1.1 Current Status

Computer remote online admission is escorting the college entrance examination. In the past, admissions were mainly done through transferring of paper documentation of candidates. Since 2000, all provinces and cities in China have gradually implemented computer remote online admission. After the implementation of remote online admission, the electronic file circulation network has been greatly improved the work efficiency. At this stage, the provincial and municipal examination institutes and college admissions offices use the online admission system of the national colleges and universities developed by Tsinghua University as the main tool. The system integrates different batches of documents, admissions, professional assignments, and admissions together, and it ensures the accuracy and consistency of the candidates' data, which largely guarantees the impartiality and fairness of the college entrance examination.

Construction of college admissions Informatization helps its propaganda. The traditional form of admission and propaganda is mainly sending teachers-oriented admission groups to all provinces and secondary schools for publicity, and to distribute paper propaganda by mail. The propaganda coverage is small, the effect is poor, and the limitations are large, making it impossible for many regions and middle schools to know the admission policy of colleges and universities in time, which cause the candidates' to miss the best time to apply. With the rapid development of internet and information technology, colleges and universities publish information such as admissions policies, enrollment plans, and admission information for the candidates mainly through the public platform in WeChat, admission information website, and well-known media platforms, so that candidates and parents can easily obtain the first-hand admission information of colleges and universities. This has broadened the channels for admission and publicity of the schools and has narrowed the distance between the schools and the candidates. For colleges and universities, the comprehensive application of information technology makes the admissions promotion work more efficient, accurate, and interactive.

The university develops an information management system independently in order to achieve information integration. In addition to the national college online admissions system, some colleges and universities have developed a series of admission information management systems independently. In the process of applying

informationization admission, college admissions staff constantly accumulates experience and use technology to make software as useful tools for admission, such as admissions publicity management system, special types of admission registration and examination system, college entrance examination admission management system, and new registration system. It makes the college admission more standardized and unified.

1.2 Existing Problem

1.2.1 Insufficient Feedback and Guidance

In addition to the online admission system for colleges and universities in the country, most of the other admissions management systems developed by universities independently have only simple functions of data processing and extraction, focusing on their short-term practicality. However, the use and analysis of the collected data are neglected, and its feedback and guidance on the construction of the talent selection system is neglected.

1.2.2 Lack of Unified Organization and Coordination

Currently, many construction of admission management informatization in colleges and universities were not organized universally or coordinated effectively, resulting in overlapping development problems between subsystems and waste of resources. At the same time, some subsystems did not consider the compatibility with other related systems during development. After completion, they were incompatible with other systems, which lowered the efficiency of information management systems.

1.2.3 Hidden Dangers in Information Security

The integration of modern information is very high, involving all kinds of privacy information of each candidate, and such data has high economic value for the criminal today. At present, the admission information system is often operated in an open network environment and is vulnerable to attacks. Therefore, whether the system can be steadily, correctly, and safely operated while protecting the information security of candidates and admission data is also a key consideration for informatization construction.

2. CONSTRUCTION OF COLLEGE ADMISSION MANAGEMENT INFORMATION PLATFORM

In order to solve the problems existing in the current construction of college admission informatization, the admission management information platform of Northwestern Polytechnical University provides the solution over the whole process from admission planning to talent cultivation. It induces a virtuous cycle of positive ascension for the platform to analyze the internal rules and trends of admission, training, and career development,

to mine and analyze the data of each stage of admission, training, and career development, and to push forward the

admission through the talent cultivation process and the future development of students (see Figure 1).

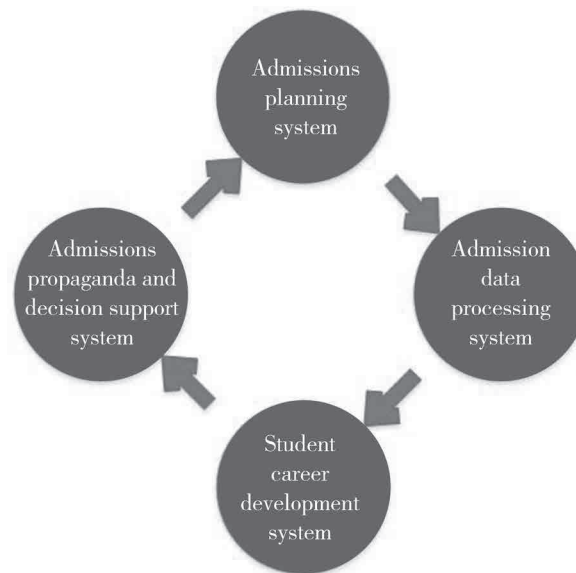


Figure 1
Northwestern Polytechnical University Admission Management Information Platform.

2.1 Admissions Propaganda and Decision Support System

Propaganda is one of the important links between students and colleges and universities in the admission work. The high-quality students cause fierce competitions among universities. Therefore, the establishment of an informatization, three-dimensional admissions propaganda and decision support system in all aspects is an effective way to improve the quality of candidates and attract high-quality students. With the advent of the “internet +” era, more and more candidates learn about admission information of institutions through the internet. They not only use the computer to look at websites, but also learn about the institutions through new media technologies such as WeChat and Weibo.

2.1.1 PC

The admissions propaganda and decision support system is mainly based on the undergraduate admission information network. It provides the candidates and parents with information of the characteristics, education, and research programs of the institutions by including the basic information of the university, information on schools and colleges, information on majors, admission policy, information on previous admission, highlight events, and frequently asked questions.

Admissions team members can access the admission plan, admission regulations, admission guide, application guide, admission scores from previous years, admission newsletter and other information at any time and any place through the PC platform of the admissions propaganda and decision support system, and conduct analysis on the

admissions within their regions according to the admission data of previous years.

2.1.2 Mobile

The mobile side of the admissions propaganda and decision support system mainly displays and gives feedbacks related to the admissions propaganda by accessing the webpages through wireless technology. For example, the Admissions Office of Northwestern Polytechnical University has developed the “Homepage of Northwestern Polytechnical University” independently on the WeChat public website platform. The coverage of content is more extensive. On the one hand, it is an information output, including the basic information of the institution, the admission scores of previous years, information on admission planning, information on schools, information on admission, check admission status, and reward and loan assistance policy; on the other hand, it is also an information input, including candidate registration and visit reservation system. During the stage of applying, the admission team members can input the information of the candidates who apply for our school, and the information flows into the data analysis platform. The platform combines the admission information of the previous year with the sample data to estimate the admission scores and probability of the candidates of a particular major.

2.2 Admission Data Processing System

The source of the admission data processing system comes mainly from the online admission system of the national colleges and universities of the Ministry of Education. The system mainly includes six functions:

admission planning, data storage, admission management, enrollment management, data export and import, and statistical reports. The admission data processing system is connected with the new student registration system, and

the data is sent to the reporting system in real time, which facilitates the candidates' enquiries, course selection, and dormitory allocation before the school starts.

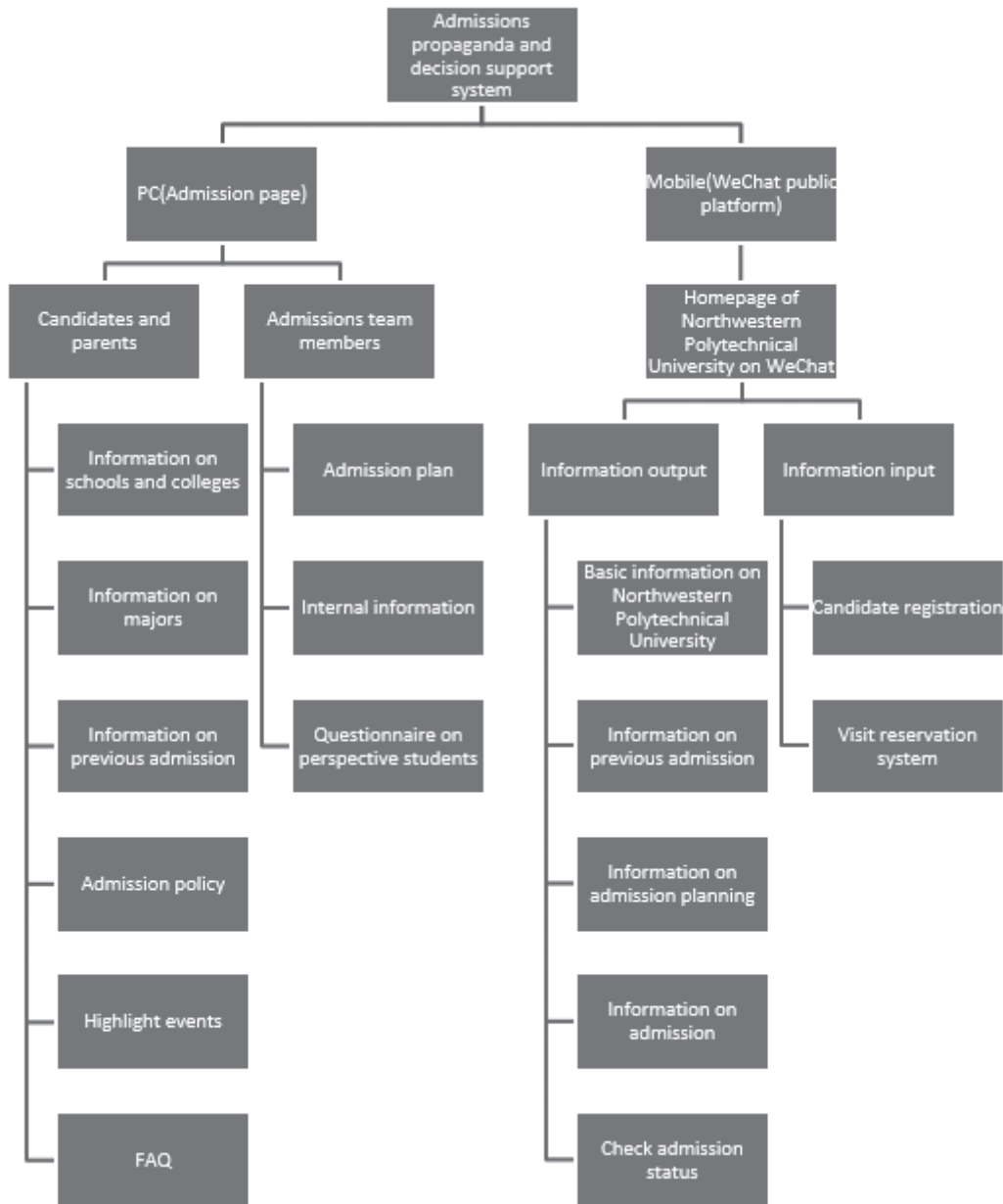


Figure 2
Schematic Diagram of the of the Admissions Propaganda and Decision Support System

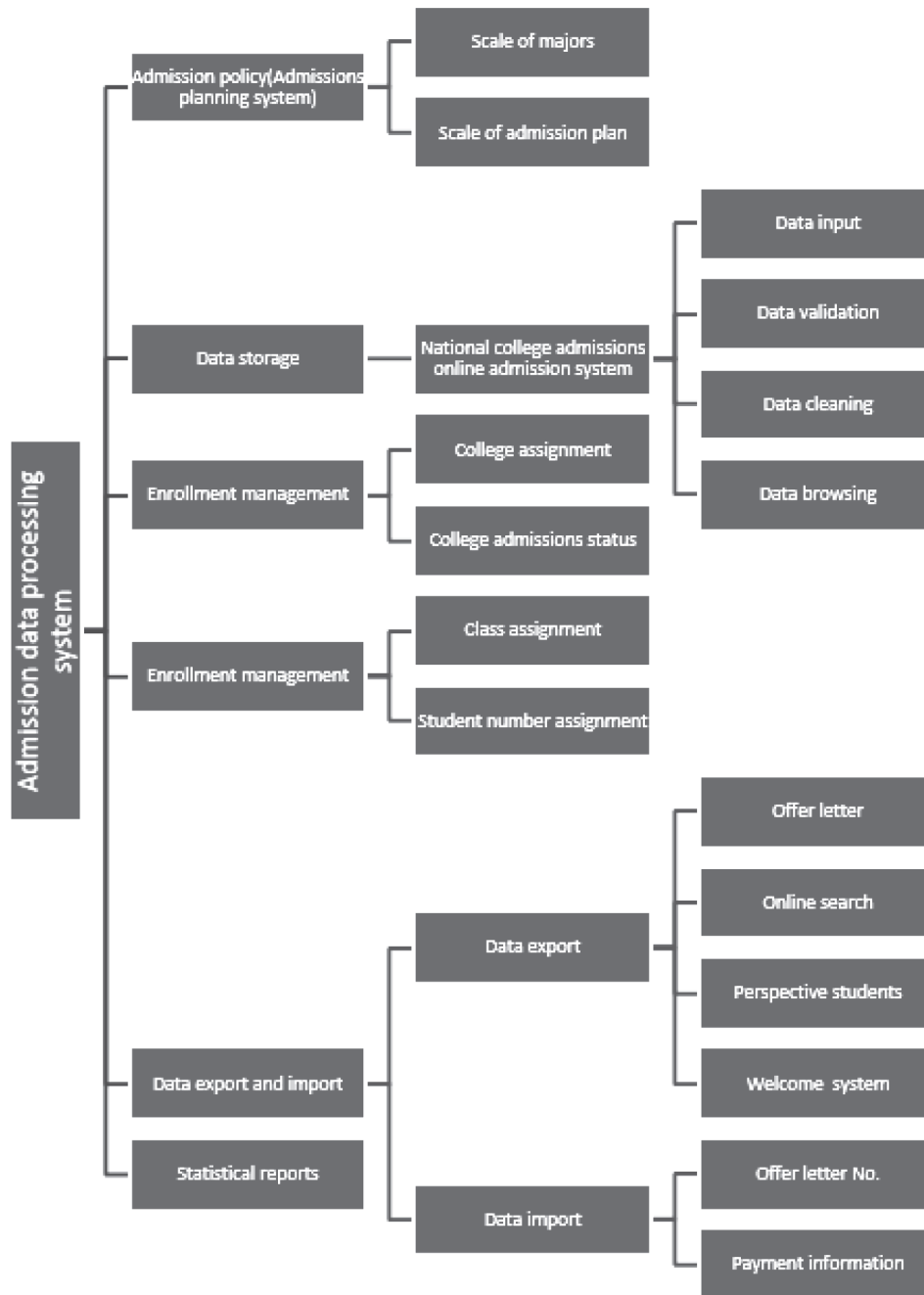


Figure 3
Schematic Diagram of the of the Admission Data Processing System

2.2.1 Admission Planning

The admission planning includes the plan of majors and admission set up by the colleges. The data comes from the admission planning system. It can set the number of classes in each major and the number of students in each class and the relevant information of teachers in different colleges.

2.2.2 Data Storage

The data storage covers the functions of importing, validating, cleaning, and browsing. For the data from the online admission system of colleges and universities

nationwide, the module can automatically analyze the information of provinces of candidates, orders of admission and others, and it can validate the imported information. The candidate information in the storage can be browsed through the search function.

2.2.3 Admission Management

The admission management includes functions such as college assignment and sub-college browsing. The candidates can be assigned to the college manually. The information of the candidates after the admission can be browsed and checked by the college.

2.2.4 Enrollment Management

The enrollment management includes two functions, class assignment and student number assignment, which can assign classes and student numbers to candidates after admission.

2.2.5 Data Export and Import

Data export is an important module of the admission data processing system. It includes functions such as sending offer letters, online search, information for perspective students, and welcome system. Then, the customized offer letters number is matched with the candidate information and imported into the system. It enables candidates to access all information via the Internet. After the end of the admission, one can filter the different fields and export the information on the newly admitted students, and connect the data with the welcome system to update the information in real time, creating conditions for the digital welcome.

2.2.6 Statistical Report

The statistical report can reflect the admission information in real time on the large screen of the admission, and it can display information such as the admission status, the

special class status, the ratio between male and female students, the admission status of each college, and the admission status in each province.

2.3 Student Career Development System

Providing a scientific decision-making basis for talent selection and talent cultivation is one of the important tasks of college admission informationization. Combining the employment situation of students and graduates in recent years, it analyzes and forecasts the talent needs of each region, adjusts the structure of majors and regions of the annual enrollment, improves the nature of the admission plan, the coverage of admission, and efficiency of admission management scientifically. Through in-depth exploration of the data of student career development, the shared characteristics of outstanding students have provided a reliable basis for the construction of comprehensive quality evaluation index system.

The main body of the student career development system is the student source comprehensive information system and the student quality analysis system (see Figure 4).

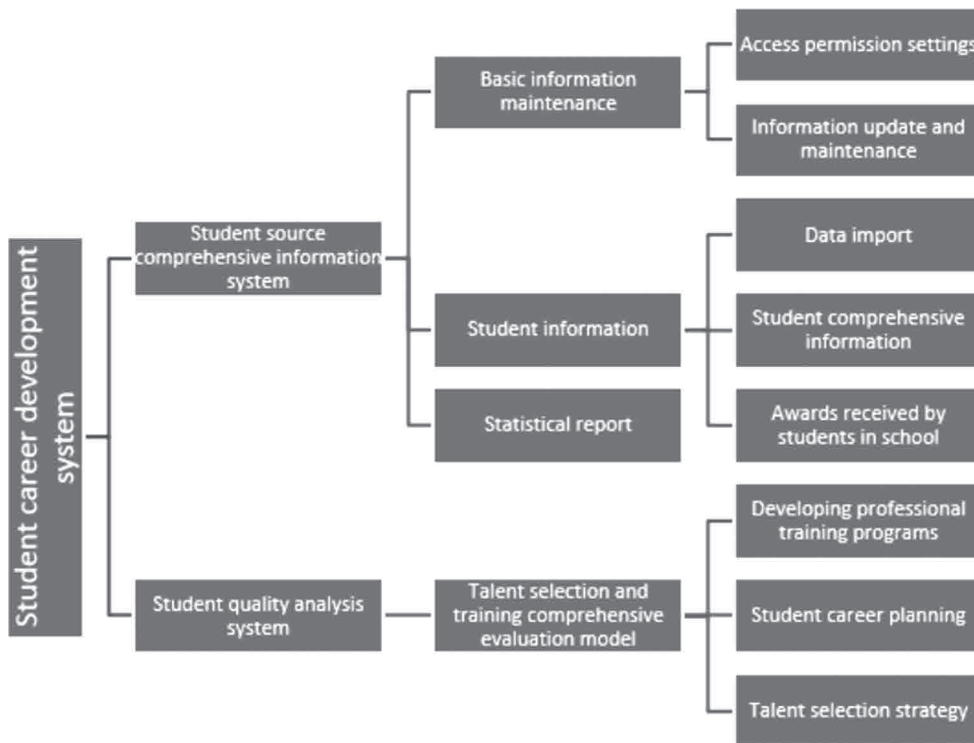


Figure 4
Schematic Diagram of Student Career Development System

2.3.1 Student Source Comprehensive Information System

The system mainly includes three functions: basic information maintenance, student information, and statistical report. The student information module includes functions such as data import, student comprehensive

information, and awards received by students in school. The students' comprehensive information includes information such as the year of enrollment, college, major, GPA, province, college entrance examination score, career plan after graduation, and so on. The admissions staff can filter each field and generate reports.

2.3.2 Student Quality Analysis System

The system can link the whole process from “input” to “export” of university personnel training, establish a research mechanism for talent selection during the training period, and scientifically analyze the growth of the talented before, during and after training. The talent selection and training comprehensive evaluation model provides necessary reference information and basis for the formulation of the professional training programs of schools, student career planning, and talent selection strategies.

CONCLUSION

The construction of college admission management informationization needs to fully integrate talent selection, training, and student career development together. From “input” to “output”, the growth of the students before, during and after the training is scientific analyzed. The analysis uses the talent cultivation process and the students’ future career development to support the talent selection work, providing powerful decision support for college admissions work.

REFERENCES

Gao, F. C. (2011). Reflections on the construction of college admission management informationization. *Master*, (4), 199-200.

- Hu, Z. H. (2015). Postgraduate Admission Under the Informationization Environment. *China Education Network*, (Z1), 76-77.
- Huang, B. C. (2015). Analysis and research on undergraduate admission informationization and definition of admission processes in colleges and universities. *China Management Informationization*, (15), 237-238.
- Li, H. B. (2016). Discussion on the construction of college admission management informationization. *China CIO News*, (8), 60.
- Nian, Q. F., Deng, H., & Shi, S. L. (2010). Design and implementation of college admission management informationization platform. *Forum on Contemporary Education*, (19), 81-82.
- Ruan, K., Wang, M., & Zeng, L. (2014). Construction and practice of information platform for admission in colleges and universities. *Research and Exploration in Laboratory*, (7), 273-276, 296.
- Shi, M. (2005). Reform and practice of admission informationization management. *Beijing Education: Higher Education*, (5), 42-43.
- Wang, L. P., Yang, D., & Zhang, W. (2003). Research on college admission informatization. *Journal of Zhuzhou Institute of Technology*, (3), 115-116.
- Wang, R. M., & Huang, J. (2013). Reflections on the Admission informationization of graduate students in the new era. *Heilongjiang: Higher Education Research and Evaluation*, (4), 68-70.