



Design of Evaluation and Apply System for International Catering Personnel Training

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Abstract. With the improvement of people's living standards, the catering industry has also been developing rapidly. The catering industry accounts for an increasing proportion in the national economy, and China has also put forward a new round of reform and transformation requirements for the catering industry. Therefore, in order to cultivate suitable and competent catering talents, it is necessary to design talent training Apply system and evaluation system. This paper mainly uses the method of analytic hierarchy process and experimental comparison to study the catering personnel training and Apply system design. The experimental results show that the system designed in this paper can achieve more than 90% reliability and has social value.

Keywords: International Catering · Talent Training · Apply System · Evaluation System

1 Introduction

People pay more and more attention to the catering culture and service concept, and have higher requirements for the environment, food safety and other issues. This makes us have to establish a complete and effective Apply system. The catering industry is a service industry, one of the industries with large consumption demand and high consumption level, so it requires high quality of employees. At present, most restaurants adopt a unified teaching mode to train and manage employees.

There are many theoretical achievements related to the design of international catering talent training evaluation and Apply system. For example, some experts have designed and developed a catering Apply system by combining UML, SQLSERVER and java language [1, 2]. Other experts suggested making full use of the opportunities provided by China's foreign cooperation in school implementation to comprehensively study and implement international information Apply and information system training [3, 4]. In addition, some scholars also analyzed in detail the working process of unified Apply of the canteen of the university logistics Apply center [5, 6]. Therefore, based on the theory of catering talent training, this paper proposes the design of an international talent training and Apply system, which has a logical basis.

This paper first studies the current situation of talent training in catering industry, and puts forward corresponding solutions to the problems of catering talents. Secondly, it analyzes the evaluation of talent training and improves the training evaluation mechanism.

Then the overall design of the catering Apply system. Finally, the relevant conclusions are drawn through systematic experiments.

2 Evaluation and Apply of International Catering Talent Training

2.1 Status Quo of Talent Training in Catering Industry

The employees in the catering industry come from two aspects: the first is the drill by technical secondary school or vocational education professionals, and the second is the internal exercise by catering enterprises. The cooking vocational and technical school is a typical talent training institution for cooking professionals. This school is part of a public vocational school that trains culinary professionals. After graduation, most students choose to work in star hotels. The suitability and stability of employment in vocational schools is very important. The catering industry provides accommodation for solving the most problems, which is the main reason for attracting immigrants. Food industry is a typical labor-intensive industry, with low entry threshold and strong penetrability, which requires a large number of talents. Vocational training also began when inexperienced migrant workers worked in the catering sector. Through continuous training and self-improvement, some migrant workers have become an important part of the catering labor force [7, 8]. Current situation of catering talent training is as follows:

Catering industry lacks professionals. As an important field of food, social restaurant has a large scale and fierce competition. However, due to the restriction of human resources, the imbalance of staffing level in the social catering industry has hindered the development of the social catering industry to a certain extent, leading to a sharp rise in the labor costs of social catering operators. Professional education level is low and basic quality is poor. It is undeniable that higher education trains a wide range of social talents, but vocational training pays more attention to technical requirements. Only with a good foundation in teaching can we better realize the importance of combining theory with practice in vocational education and training [9, 10].

2.2 Talent Training Evaluation

The cultivation of international catering talents refers to the joint participation of schools, off campus and enterprises. The training of international catering talents is based on the development needs of the enterprise. Through various channels, students with high professional quality and practical ability will be trained in the restaurant in a planned way to carry out actions in line with international standards. At the same time, we should also pay attention to the quality requirements of the in-service personnel in terms of ability of foreign language communication and service skills. At present, many colleges and universities in China have set up relevant professional courses. The talent development evaluation of higher vocational colleges aims to strengthen the connotation structure of higher vocational colleges, deepen the cooperation between schools and enterprises, and promote the combination of production, teaching and research. The training mode promotes the education administration department to strengthen the macro Apply of higher vocational schools and promote sustainable development in the implementation

process. Pay attention to evaluation and equal communication between both parties, jointly discover and analyze problems, jointly study solutions to problems, pay attention to actual results, and guide the connotation structure of the school. Comprehensively understand the actual situation of the school, analyze and evaluate the main aspects of talent cultivation [11, 12].

There are many variables and factors in the evaluation process of diversified talent training quality. At present, many schools have their own evaluation systems. When evaluating the training quality of diversified talents, we need to sort out some evaluation. Through the analysis and statistics of sorting information, the final scoring index is obtained.

In order to evaluate the quality of talent training fairly and objectively and promote the proper implementation of the talent training plan, we need to establish a comprehensive talent training quality evaluation rule and a diversified talent training quality evaluation index system to better understand the dynamics of talent training. This is a convenient way to understand and correct possible situations in talent training at any time and ensure the quality of diversified talent training. The evaluation algorithm is designed by combining the weighted average method with the analytic hierarchy process (AHP) [13].

The evaluation system adopts the weighted average method. The Apply department manager determines the evaluation indicators at all levels and the weight of each indicator according to subjective judgment. The final score is obtained after evaluation. If the weight of m a_1, a_2, \dots, a_v is b_1, b_2, \dots, b_v , then the weighted average is expressed as:

$$Q = \frac{a_1 b_1 + a_2 b_2 + \dots + a_v b_v}{M} \quad (1)$$

Analytic Hierarchy Process (AHP) decomposes complex evaluation problems layer by layer, which makes the evaluation process more structured and greatly simplifies the problem solving process. The analytic hierarchy process takes into account the deviation of consistency and obtains the inspection coefficient CR:

$$CR = \frac{CI}{RI} \quad (2)$$

Judge whether the matrix passes the consistency test according to the comparison between CR and 0.1. Fuzzy comprehensive evaluation method is a multi index comprehensive evaluation method based on fuzzy mathematics. The neural network evaluation method is an empirical model simulating the natural neural system of the brain. The idea of principal component analysis is to reduce the dimension of variables. By reducing the dimension of variables, data redundancy and data overlap can be eliminated.

2.3 Overall Design of Catering Apply System

In order to adapt to the development of technology, it is necessary to design a reasonable catering Apply system for the experimental operation of talent training. The main work of this system is to provide an information platform for enterprise employees, so that students can learn the latest catering industry dynamics and restaurant Apply system

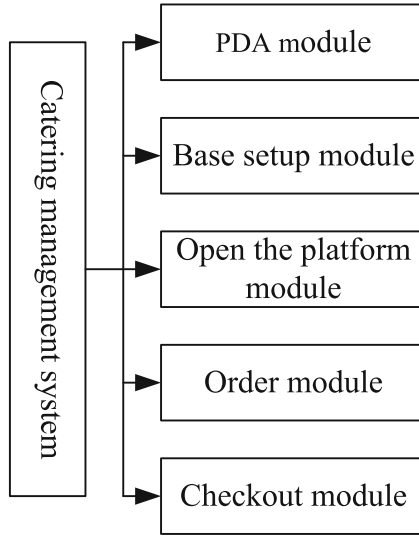


Fig. 1. Catering Apply System Design

system through the network. The catering Apply system is divided into five parts: basic setting module, opening module, ordering module, checkout module, PDA module. See Fig. 1 for details:

The main users of the open module are hotel attendants and hotel employees. The receptionist can use the “Open” module to complete the customer’s booking and opening. The main users of the control module are receptionists and deliverers. After the platform is successfully opened, the receptionist can help customers order food on the PC. The administrator can add, delete, modify and query objects.

The main purpose of the database used to store the data in the catering Apply system is to store the catering data generated by the restaurant for Apply purposes. When we analyze the data volume of the Apply system, we can see that it has data. Commodity information, consumption information, account list and other categories occupy a large space. Therefore, before developing the food and beverage Apply system, we first choose Microsoft SQL Server 2008 to store this information. Due to the wide variety of goods, it is necessary to classify them for classified storage. To manage the system differently, you must configure administrative users for the system.

The data table corresponding to the login module database in the whole system is the user of this table. Customers can perform “Open/Cancel Open”, “Order/Add Food”, “Ask Consumer”, “Invoicing and Closing” and other operations on any desktop. Right click these actions and select the appropriate function from the selection bar that appears. In the process of use, it is easy to cause losses and troubles to users if they are not careful or operate incorrectly. Therefore, employees’ awareness of information security must be improved.

3 Design and Implementation of Catering Information Apply System

3.1 Development and Operation Environment

The development of this system adopts the object-oriented software engineering idea. It models the data in the database, and then uses JSP technology and MySQL to complete the entire system. The system is developed by Costumier Visual Studio 2008. The basic data types of Visual Studio have more extensive data types than C or Java. These types all have a fixed size. SQL Server 2008 is selected as the system database, mainly because of its enhanced security. These features of SQL Server 2008 lay a solid foundation for future system upgrades.

CPU: I3 4.8 GHz or above.

Memory: 4 GB.

Hard disk capacity: 2 TB.

Optical drive: 48X-DVD-ROM.

Video card: SVAG.

Operating system: Windows 2008 Server and above.

Communication protocol: TCP/IP.

Network server: Tomcat 6. X and above.

Background database: SQL.

Browser: Internet Explorer 9.0 and above.

3.2 Purpose of System Test

System testing is an important part of the development cycle of food and beverage information Apply system. A large part of software development cost comes from system testing, in which a large number of human and material resources are invested. Data shows that the time spent in testing large systems accounts for about half of the total time spent in software design and development. Especially for some particularly important large-scale systems, the testing workload of the information Apply system has increased, and the testing difficulty has doubled.

3.3 Test Method of Information Apply System

After the establishment of the information Apply system, it is very necessary to assess each unit. Individual unit testing is the most commonly used testing method in small system coding. Only when they are isolated from each other can separate unit tests be performed.

After the system is established, relevant tests, relevant testing institutions and equipment are required. From the perspective of system identification operator, information system inspection can be divided into machine inspection and manual inspection.

4 Analysis of System Test Results

4.1 Analysis of System Function Results

In order to ensure the effective expression of various functions in the optimized and upgraded catering Apply system and the effective circulation of the business process, it is necessary to test the system functions according to the test steps and methods of the system. It mainly tests such functions as online meal reporting, reading data by swiping card, supplementary entry by canteen administrator and monthly statistics. The specific test results are shown in Table 1:

As shown in Fig. 2, we can see that the expected and actual results of the system are divided into four grades (excellent, good, pass and poor). Among them, the score of excellent grade reaches 80~100. The system test results show that both the expected effect and the actual effect meet the basic requirements, and the actual results exceed the expected effect.

Table 1. System Function Results Analysis

	Expected Result	Actual Result	Error
Online meal	93	95	2
Read the data by swiping the card	91	92	1
Canteen administrator makes up the record	90	92	2
Monthly statistics	95	96	1

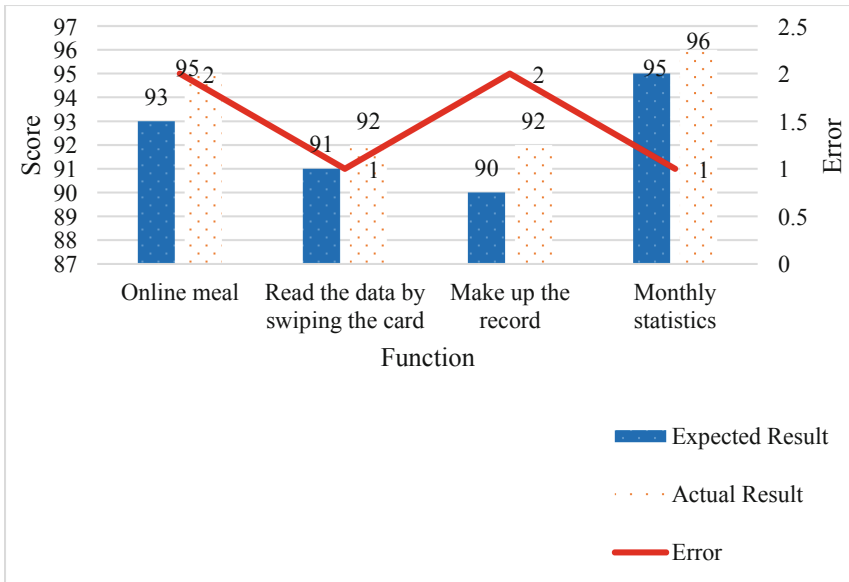


Fig. 2. System Function Results Analysis

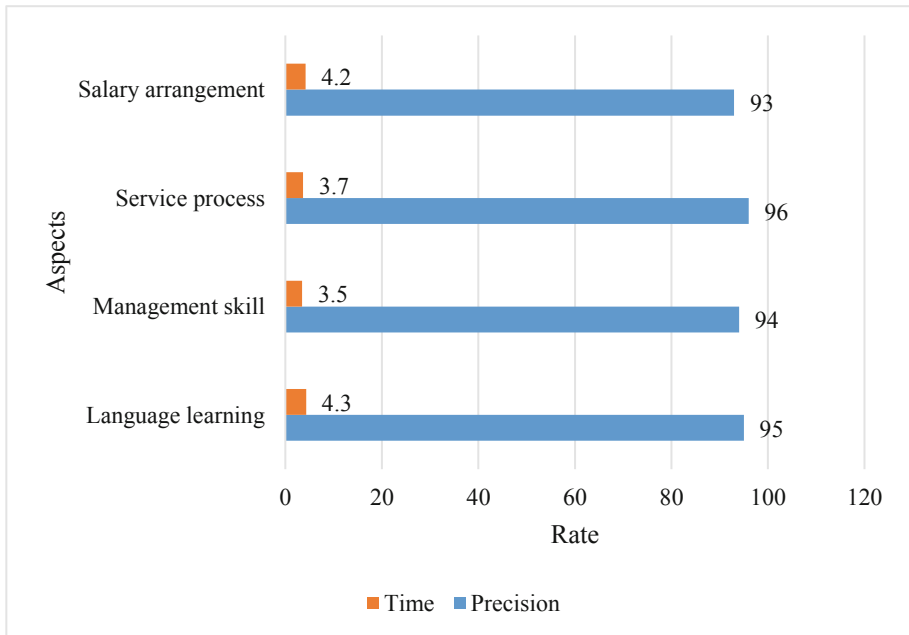


Fig. 3. Performance Analysis of the Catering Talent Training Management System

4.2 Performance Analysis of the Catering Talent Training Management System

As shown in Fig. 3, we can find from the figure that the performance of the four aspects of the international catering talent training management system is good, but it takes time and not enough to meet the needs of the system. The accuracy of salary arrangements was 93%, service processing capacity 96%, 94% management skills and 9 language learning 95%.

5 Conclusion

With the rapid development of China's economy, people's living standards are constantly improving, and the consumption concept has also undergone great changes. As a traditional industry, catering industry can no longer meet the growing demand of consumers. This paper studies the current situation of catering personnel training at home and abroad. And for the lack of professional personnel, low level of education, personnel mobility and other problems put forward some solutions. This paper designs a set of restaurant Apply information system that conforms to the national conditions and has certain feasibility. In order to meet the market demand and consumers' requirements for service quality, this paper conducts research from several aspects, such as talent training evaluation, student quality evaluation, teaching plan, etc.

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References

1. Ranadeb Chaudhuri, Zoran Ivkovic, Joshua Pollet, Charles Trzcinka: A Tangled Tale of Training and Talent: PhDs in Institutional Asset Management. *Manag. Sci.* 66(12): 5623-5647 (2020).
2. Nikolai Vyacheslavovich Shilov, Svetlana Olegovna Shilova: Particular Sides with Working with Talented Students in Professional Training of a Teacher. *Russ. Digit. Libr. J.* 22(5): 474-479 (2019).
3. Ana Cristina Santos Amaro, João Paulo da Silva Domingos, José Marinho de Carvalho: Waste Control in a Catering Company: Data Analysis and Decision Interfaces. *Int. J. Inf. Syst. Serv. Sect.* 13(2): 29-50 (2021).
4. Fatin Hamadah Rahman, S. H. Shah Newaz, Thien-Wan Au, Wida Susanty Suhaili, Gyu Myoung Lee: Off-Street Vehicular Fog for Catering Applications in 5G/B5G: A Trust-Based Task Mapping Solution and Open Research Issues. *IEEE Access* 8: 117218-117235 (2020).
5. Christoph Walter, Julian-Benedikt Scholle, Norbert Elkmann: Catering to Real-Time Requirements of Cloud-Connected Mobile Manipulators. *Künstliche Intell.* 33(2): 143-150 (2019).
6. Per Wikman-Svahn, Lars Lindblom: Toward a Responsibility-Catering Prioritarian Ethical Theory of Risk. *Sci. Eng. Ethics* 25(3): 655-670 (2019).
7. Russell Tatenda Munodawafa, Satirenjit Kaur Johl: Design and Development of an Eco-Innovation Apply Information System to Accelerate Firms' Digital Transformation Strategy. *IEEE Access* 10: 37796-37810 (2022).
8. Pravin Pawar, Neeraj Parolia, Sameer Shinde, Thierry Oscar Edoh, Madhusudan Singh: eHealthChain-a Blockchain-Based Personal Health Information ApplySystem. *Ann. des Télécommunications* 77(1-2): 33-45 (2022).
9. Xavier Takam Tiamgne, Felix Kanungwe Kalaba, Vincent Nyirenda, Darius Phiri: Modelling areas for sustainable forest Apply in a mining and human dominated landscape: A Geographical Information System (GIS)- Multi-Criteria Decision Analysis (MCDA) approach. *Ann. GIS* 28(3): 343-357 (2022).
10. Kamolov Sergei, Kriebitz Alexander, Eliseeva Polina, Aleksandrov Nikita: Factoring Ethics in Apply Algorithms for Municipal Information-Analytical Systems. *AI Ethics* 2(1): 145-156 (2022).
11. Abdymanapov Sarsengali Abdygalievich, M. Muratbekov, Serik Altynbek, Alibek Barlybayev: Fuzzy Expert System of Information Security Risk Assessment on the Example of Analysis Learning Apply Systems. *IEEE Access* 9: 156556-156565 (2021).
12. Hosam Alhakami, Abdullah Baz, Wajdi Alhakami, Abhishek Kumar Pandey, Alka Agrawal, Raees Ahmad Khan: A Usability Apply Framework for Securing Healthcare Information System. *Comput. Syst. Sci. Eng.* 42(3): 1015-1030 (2022).
13. Sergiy Dotsenko, Oleg Illiashenko, Vyacheslav Kharchenko, Olga Morozova: Integrated Information Model of an Enterprise and Cybersecurity Apply System: From Data to Activity. *Int. J. Cyber Warf. Terror.* 12(2): 1-21 (2022).

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