Under the Background of "Internet +" Applied Undergraduate Research of Tourism Management Talents Training-- Take Hainan Higher Vocational and Undergraduate Joint Training 4+0 Pilot as an Example

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Abstract. With the continuous progress of economic level, China's tourism in recent years has made rapid development. However, with the rapid development of tourism, a series of problems have emerged, among which the most significant one is the imbalance between tourism management talents and tourism development. The current tourism management personnel simply cannot adapt to the needs of the rapid development of tourism. In particular, the rapid development of the Internet has given birth to the "Internet + tourism" model and promoted the reform of the tourism industry. The rapid change of tourism industry means that tourism industry has entered a new period of development, but it also puts forward higher requirements. Tourism management talents are related to the development quality of tourism industry. Under the background of "Internet +", it has become an urgent problem to study the cultivation of application-oriented undergraduate tourism management professionals. Based on this, this article - to hainan vocational college and undergraduate cultivation 4 + 0 pilot project as an example, the first "Internet +" and "4 + 0" model for the relevant interpretation, on the basis of the information data algorithm and combined with the related experiment, analyzes the current status of tourism management talents cultivation, and puts forward some strategies on the cultivation of the tourism management specialized talented person.

Keywords: Background of Internet +, Application-Oriented Talents, Tourism Management, 4+0 Mode

1. Introduction

Premier Keqiang Li first proposed the concept of "Internet plus" in his 2015 government work report. This concept was put forward in the new development of the economic situation and adapted to the development requirements of the global economy [1-2]. The concept of "Internet plus" emphasizes the deep integration of Internet and traditional industries, constantly creating economic development and promoting the transformation and upgrading of economic industries. At present, the "Internet plus" concept has been gradually applied to various industries [3]. In recent years, the rapid economic
development and the continuous improvement of people's living standards have promoted the rapid rise of the tourism industry. The current "Internet +" concept has been gradually applied to the tourism industry, forming the "Internet + tourism" model [4-5]. Under the background of "Internet plus", the development of tourism is facing new challenges, among which the most serious challenge is the challenge of tourism management talents. It is difficult for traditional tourism management talents to adapt to the development needs of tourism industry. Therefore, it is an urgent problem to explore a new training mode for tourism management professionals and make them adapt to the new situation of tourism industry [6-7].

At present, there have been many scholars on the development of tourism industry related issues have been more in-depth research. Before the concept of "Internet plus" was formally put forward, many scholars tried to integrate tourism with the Internet, and the most representative theoretical achievement was the proposal of smart tourism. On the basis of the concept of smart tourism, professional talents meeting its requirements were trained [8-9]. In addition, with the rapid progress of the Internet, many researchers use the Internet to build online tourism service platforms. The current tourism platforms such as ctrip and qunar are the result of the integration of the Internet and tourism [10]. However, based on the above overview, we find that scholars' studies on tourism under the background of "Internet plus" mainly focus on the economic development of tourism itself, and seldom pay attention to the factors of managers in tourism [11]. Hainan province, as a tourist city, pays more attention to tourism management talents, and its "4+0" training mode is concerned about tourism talents. Therefore, there is still a certain theoretical gap in this aspect of research [12-13].

To make up for the "Internet +" under the background of blank about tourism management talents training theory, this article - to hainan vocational college and undergraduate cultivation 4 + 0 pilot project as an example, first to "Internet +" and "4 + 0" model for the relevant interpretation, on the basis of the information data algorithm and combined with the related experiment, analyzes the current status of tourism management talents cultivation, and puts forward some strategies on the cultivation of the tourism management specialized talented person [14-15]. On the one hand, it is beneficial to the sustainable development of tourism, and on the other hand, it has certain reference significance for the related research in the future.

2. Method

2.1 Overview of "Internet +" and "4+0" Modes

"Internet plus" is a new concept to promote industrial development in the context of the continuous development of information network and globalization. The so-called "Internet plus" means the integration of the Internet and traditional industries, that is, the cross-border integration of industries can be realized with the help of information network technology and relevant network platforms, so as to promote the development and upgrading of industries. This "Internet plus" concept reflects an innovation-driven development core, a new trend of the Internet driven by innovation 2.0. In essence, it represents a great change in the relations of production. Under the background of "Internet plus", the tourism industry has made great efforts to integrate with the Internet, forming the new development of "Internet plus tourism". This new development not only reduces the cost of tourism communication to a large extent, but also promotes the efficient operation of the tourism industry. However, at the same time, it also puts forward new requirements for tourism management, especially for tourism management talents. For example, the requirement to master a variety of knowledge, the requirement to quickly accept and absorb new things, and the requirement to provide personalized and differentiated services. Based on this, it is necessary to reform the existing training mode of tourism management professionals and cultivate application-oriented tourism management talents.

Under the background of "Internet plus", in order to meet the needs of development, many schools have proposed a new mode of training tourism management talents, the most famous of which is the "4+0" mode first proposed by hainan province. "4+0" means that higher vocational colleges and
universities jointly carry out talent training mode. Under the support of local education departments, with the aid of undergraduate colleges and universities to recruit students, students are admitted to undergraduate colleges and universities, study in vocational colleges for 4 years, and then to meet the graduation standards of students issued bachelor's degree certificate. Since these students have not entered the gate of undergraduate education since the beginning of the report and their study time in undergraduate education is 0, this model is called 4+0 model. This 4+0 mode connects with enterprises, and gives consideration to the study of theory and practice. It combines the advantages of undergraduate colleges and higher vocational colleges in talent training and realizes the complementary advantages.

2.2 Information Data Algorithm

Let the number of features extracted from the training data of application-oriented tourism management talents under the background of "Internet +" be n, which together constitute an initial feature set, namely \( F = \{f_1, f_2, ..., f_n\} \), n is the number of original features, due to some characteristics on the analysis of the impact of the results is very small, so can be ignored, assuming a certain feature is selected, then its value is equal to 1, otherwise its value is equal to zero, so the selected characteristics after the collection can use binary analysis in the form of expression, namely \( S = \{s_1, s_2, ..., s_n\} \), si value is 1 or 0. The specific mathematical model for the cultivation characteristics of tourism management talents under the background of "Internet +" is as follows:

\[
S = \{s_i, s_2, ..., s_n\}, s_i \in \{0,1\}, i = 1,2, ..., n \quad (1)
\]

In this paper, support vector machine is selected as the training algorithm of tourism management talents under the background of "Internet +". The training formula of tourism management talents under the background of "Internet +" is as follows:

\[
f(x) = \sum_{i=1}^{n} \alpha_i y_i k(x_i, x) + b \quad (2)
\]

In this formula, threshold b will have a direct impact on the training effect of tourism management talents under the background of "Internet +", so they need to be optimized. It can be seen from the above two expressions that there is a certain degree of correlation between the features and the parameters of support vector machine.

3. Experiment

The first step is data collection and recording. By means of questionnaire survey, data on the cultivation of application-oriented undergraduate tourism management talents are collected, which mainly involves the cultivation contents, methods, means and effects. Especially in the context of the Internet tourism management personnel training data. In the collection of talent training data must be comprehensive, and extract from the background of "Internet +" tourism management talent training characteristics.

The second step is group experiment. Three groups of experimental samples were selected, namely the traditional teaching mode group, the "4+0" mode group and the "Internet +" mode group. Experiments were carried out on these three groups of samples, including theoretical learning, practical learning, comprehensive learning effect and the fit degree with the talent demand in the Internet era. Through comparative experiments, the differences of different modes in talent training are obtained.

The third step is to determine the threshold b of support vector machine and the value range. The particle swarm optimization (pso) algorithm in the information data algorithm was used to search for the optimal threshold b, to obtain the cultivation characteristics of tourism management talents under the background of "Internet +", and to determine the relevant data.
The fourth step is to use the optimal characteristics to process the characteristic data of tourism management professionals under the background of "Internet +". Support vector machine (SVM) adopts the optimal threshold b and training samples for learning, analyzes and sorts the data obtained, and summarizes the deficiencies in the cultivation of tourism management professionals under the background of "Internet plus".

4. Discuss

4.1 Experimental Results and Analysis

Through the analysis of the experimental data obtained from the above experiments, we can draw the conclusion that there are a series of problems in the cultivation of application-oriented undergraduate tourism management talents under the background of "Internet +", which cannot meet the requirements for tourism management talents under the background of "Internet +". The specific experimental data are shown in figure 1 and table 1 below. The data in the chart is the result of the author's experimental arrangement.

Table 1. Data comparison of different teaching modes

| Training Mode     | Theory of Learning | Practice Learning | Comprehensive Effect | Fit with the Internet |
|-------------------|--------------------|-------------------|----------------------|-----------------------|
| Traditional Model | 91.25%             | 62.17%            | 73.29%               | 41.65%                |
| 4+0 Model         | 89.97%             | 86.51%            | 87.42%               | 73.29%                |
| Internet + Model  | 93.54%             | 92.17%            | 91.34%               | 95.34%                |

*Data came from the in-depth analysis of financial data in the experiment

Figure 1. Survey results on talent cultivation of tourism management professionals under the background of "Internet +"

As can be seen from table 1, among the three modes of training tourism management professionals, the traditional teaching mode has the worst educational effect and the lowest fit with the Internet era.
Although the 4+0 model has been improved and both theory and practice have been paid equal attention to, the teaching effect still needs to be improved due to its poor fit with the Internet. The teaching effect of the "Internet +" teaching mode is obviously higher than that of the other two modes, which indicates that the mode conforms to the requirements of the current era. By figure 1. We can see that under the background of the current "Internet +" there are a series of problems of talents cultivation, the main problems in course system, teachers platform, information network, application as well as the practical application of these four aspects, the following is from the four aspects of applied undergraduate tourism management talents training strategy.

4.2 Cultivation Strategies for Application-Oriented Undergraduate Tourism Management Professionals

(1) Constructing the curriculum system in the era of "Internet plus"

The construction of curriculum system is related to the final result of tourism management personnel training. At present, with the deep integration of tourism and Internet, solid tourism knowledge is no longer the first consideration in the tourism industry. The learning and use of new media technology has become an important criterion to measure tourism management talents. Therefore, in the training of application-oriented undergraduate tourism management professionals, it is necessary to increase the proportion of new media technology courses and build a new course system in the era of "Internet +" with the help of information network resources. Therefore, proportion of tourism such as increase in teaching informationization courses of tourism enterprise network information management, tourism scenic sand table simulation technology and related courses such as tourism enterprise network platform construction, improving tourism line professionals the ability to use the network information, and with the help of the Internet technology continues to develop the students' ability to think Internet, improve innovation ability.

(2) Build a platform for teachers in the "Internet plus" era

Teachers are the direct actors of students' ideas and behaviors. Only teachers with Internet thinking can cultivate tourism management talents needed under the background of "Internet +". Under the background of "Internet +", teachers majoring in tourism management must realize their own continuous learning, strive to change the traditional teaching concept, and embody the open and progressive thinking in tourism management teaching. The development of the Internet promotes the continuous progress of teachers and provides a good way for the communication of teaching and the sharing of teaching resources. Therefore, relevant colleges and universities can make use of the Internet platform to build the "Internet +" tourism management teacher platform, break through the current uneven distribution of teachers, realize the cross-regional exchange of tourism management education information, and further promote the cultivation of application-oriented undergraduate tourism management professionals under the background of "Internet +".

(3) To form a practical model in the "Internet plus" era

As can be seen from table 1, the current talent training of tourism management major has put more emphasis on theory than practice, which is not conducive to the development of its application ability. In order to make tourism students adapt to work as soon as possible in the future, we should not only strengthen practical training, but also try to change the practice mode. The progress of Internet provides a new practice mode for students majoring in tourism, which has the characteristics of informatization. The traditional practice for students majoring in tourism management is to conduct field training in various tourism departments. Under the background of information technology, students can expand their practical activities with the help of network resources. For example, through the network data analysis of consumer preferences and needs of tourism, with the help of sand table simulation technology to achieve tourism simulation operation, with the help of network technology to carry out the propaganda design of tourism enterprises, and so on, through these ways can promote the continuous development of information practice. It not only makes students get more real practical experience, but also improves students' application ability of information network.
5. Conclusion
To sum up, China has entered the era of "Internet + tourism" and gradually formed a new trend of tourism development in the context of the Internet, which puts forward new requirements for all aspects of tourism, especially the cultivation of tourism management talents. Tourism industry in order to adapt to the demand for tourism talents under the new situation, related colleges and universities in the speciality of tourism management talents training must recognize that "Internet +" under the background of the new requirements, changing the talent training mode, realize the informatization of tourism management talents and diverse, highlight the innovation and application of tourism management talents, to adapt to the situation.

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References
[1] Chen, Xiaqing. A phenomenological explication of guanxi in rural tourism management: A case study of a village in China[J]. Tourism Management, 2017, 63(3):383-394.(in Chinese)
[2] Abdelmohsen A. Nassani, Abdullah Mohammed Aldakhil, Muhammad Moinuddin Qazi Abro. Effective International Tourism Management: A Strategic Approach[J]. Social Indicators Research,2018, 137(6):1-24.
[3] NI Shanshan. Tourism Management Applied Personnel Training Model in Wisdom Tourism Background[J]. Guide of Science & Education, 2017,32(12):134-137.(in Chinese)
[4] Qian CHEN, Qigang ZHOU, Dan CHEN. Optimization of Training Program for Land Resource Management Major under the Background of Urban and Rural Integration[J]. Asian Agricultural Research,2017,33(8):93-96.(in Chinese)
[5] Richter, Linda K, Richter, William L. Ethics Challenges: Health, Safety and Accessibility in International Travel and Tourism[J]. Public Personnel Management, 2018,28(4):595-615.
[6] Akin Aksu, A. Defining training needs of five-star hotel personnel: an application in the Antalya Region of Turkey[J]. Managerial Auditing Journal,2017,20(9):945-953.(in Chinese)
[7] Butnaru, Gina Ionela, Miller, Amanda. Conceptual Approaches on Quality and Theory of Tourism Services[J]. Procedia Economics & Finance,2017,3(5):375-380.
[8] LI Qing-lei. Tourism Intellectual Service Industry: A New Special Operational Types of Tourism[J]. Journal of Hunan Finance & Economics University, 2017,22(16):138-144.(in Chinese)
[9] Jianhong ZHANG. The Issues Facing the Sustainable Development of Rural Tourism and the Path Selection[J]. Asian Agricultural Research, 2017, 5(9):5-7.(in Chinese)
[10] Larry Dwyer. ‘Tourism’. A strategic industry in Asia and Pacific: defining problems and creating solutions[J]. International Journal of Tourism Research, 2017,3(4):333-335.
[11] Jianhong ZHANG. The Issues Facing the Sustainable Development of Rural Tourism and the Path Selection[J]. Asian Agricultural Research,2017,13(9):9-11.(in Chinese)
[12] Qian CHEN, Qigang ZHOU, Dan CHEN. Optimization of Training Program for Land Resource Management Major under the Background of Urban and Rural Integration[J]. Asian Agricultural Research,2017,12(8):93-96.(in Chinese)
[13] Song Wei. Practice and Consideration on Open Teaching Model in Tourism Management Major of Higher Vocational Colleges[J].Journal of Guangdong Industry Technical College, 2017,31(18):225-228.(in Chinese)
[14] BAI Kai, NI Ru-cheng, BAI Dan. Discipline Identity in the Major of Tourism Management: Scale Development and Dimensional Measurement[J]. Tourism Tribune, 2018, 27(5):41-48.(in Chinese)
[15] Hu, Jun, Zhang, Mu. Research on the Construction of Liberal Arts Graduate Student Learning
Situation—A Case Study of the Tourism Management Major in Guangdong Province[J]. Higher Education Studies, 2017,5(2):321-326.(in Chinese)