Design and Implementation of Vocational Education Cross Border E-Commerce Comprehensive Training System Based On Big Data Analysis

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Abstract. In recent years, the rapid development of e-commerce logistics puts forward new requirements for personnel training. With the rapid development of e-commerce, there is a serious shortage of e-commerce talents, which poses a great challenge to e-commerce education and teaching. As the main position of cultivating skilled talents, vocational education has unique advantages in cultivating e-commerce talents. On the basis of the survey, this paper analyzes the demand level and knowledge skills of e-commerce talents. The results show that the highest proportion of mixed M & A of digital marketing communication is 44%, and the lowest proportion of horizontal communication is 21%.

Keywords: Vocational Education, E-commerce, Digital Marketing, Training System

1. Introduction
With the continuous progress of information technology, computer technology has become an indispensable part of our life. In recent years, skill competition indicator, leading the direction of...
module and simulation platform. This paper discusses the theoretical basis of the application of virtual reality technology in higher vocational practice teaching. Taking e-commerce as an example, this paper analyzes the advantages and disadvantages of representative e-commerce laboratory software. Finally, through the analysis to find out the common problems in the current practice teaching software, and put forward the corresponding countermeasures or improvement strategies. This paper analyzes the post classification of logistics enterprises under the new e-commerce mode, the demand status of each post and the professional ability of higher vocational graduates, analyzes the problems existing in the process of higher vocational logistics the corresponding to optimize the logistics personnel training under the new e-commerce mode [1]. Based on the system theory, some experts have studied the performance evaluation of the school enterprise cooperation mode of e-commerce major in secondary vocational schools, and systematically studied and applied the "2 + 1" training mode of e-commerce. In view of the contradiction between online shopping and logistics distribution in the development of e-commerce in China, this paper proposes to build e-commerce cloud distribution logistics and x-party logistics theory. Using the Internet of things technology, this paper puts forward the intelligent distribution strategy, establishes the urban public logistics information platform, and formulates the corresponding industry standards. Starting from the, combined with the current situation of e-commerce talents training in Higher Vocational Colleges and the latest situation of e-commerce development in China -- commerce [2]. In addition, some experts also studied the construction of vocational education e-commerce students' vocational ability evaluation index system under the background of new retail, explored the new mechanism of vocational education students' e-commerce vocational ability evaluation to adapt to the new retail, and constructed the vocational education e-commerce students' vocational ability evaluation system under the background of new retail. This paper analyzes the current situation of vocational education e-commerce professional students' vocational ability, and puts forward the corresponding countermeasures, and puts forward the optimization suggestions of vocational education e-commerce professional students' vocational ability training. According to the connotation of e-commerce, this paper puts forward corresponding suggestions and views on the training mode and positioning of e-commerce talents in Higher Vocational Education. According to the characteristics of, this paper analyzes the teaching disadvantages of the two independent courses of computer science and e-commerce, on how to effectively integrate the two courses, make them complement each other, and improve the teaching quality. Combined with the background of the rapid industry, this paper analyzes the current situation and difficulties of e-commerce practice teaching under the requirements of work study combination, and introduces the corresponding solutions. This paper analyzes and discusses the impact of school enterprise cooperation on Vocational College Students' career growth. This paper analyzes the methods and main problems of online payment, and according to the current situation of e-commerce in China, puts forward the development trend of e-commerce online payment in China [3]. Although the research on e-commerce of vocational education has achieved a lot, there are still some deficiencies in the design and implementation of cross-border e-commerce comprehensive training system of vocational education.

In order to study the design and implementation of cross-border e-commerce comprehensive training system for vocational education, this paper studies the comprehensive practice of vocational education, e-commerce and digital marketing, and finds logistic regression. The results show that digital marketing is conducive to the comprehensive cultivation of cross-border e-commerce in vocational education.

2. Method

2.1. Overview of Research Related Theories

2.1.1. Vocational education. The essence of vocational education is the education of high school students, including the related vocational training [4]. Its main purpose is to cultivate high-quality and
high skilled talents. In the process of training students' professional skills and professional theoretical knowledge according to the requirements of post skills, vocational schools also carry out basic cultural education at the level of ordinary high school. Compared with compulsory education or higher education, vocational training schools are market-oriented and change with the change of employers' demand. Whether the practitioners are competent for their own work. It is an important part of vocational school education [5]. The cultivation of students' professional ability cannot lack the link of evaluation, otherwise, teachers' teaching and students' learning will lose certain goals and become very confused, which is not conducive to the healthy development of Vocational Education in China. Vocational education is not only an important part of national education, but also an important type of education. It mainly cultivates high-quality workers and skilled talents [6].

2.1.2. E-commerce. E-commerce is the development and extension of traditional business activities. Traditional commerce and trade generally have fixed trading places [7]. The two sides of the transaction need to communicate face to face to determine the specific details of the transaction object, transaction amount and transaction mode [8]. Traditional business has more restrictions on the transaction content, transaction location and transaction time, so the transaction generally occurs in a small range [9]. With the help of Internet technology, modern financial services and modern logistics system, e-commerce enables both parties to conduct business transactions even thousands of miles apart, which is a breakthrough in traditional business. In the past decade, the scope of e-commerce has expanded from undergraduate to junior college, and the number of e-commerce majors has continued to rise [10]. Due to the greater freedom of vocational education, e-commerce major almost covers the whole field of vocational education [11].

2.1.3. Digital marketing. Digital marketing can not only gain insight through the analysis of front-end data, but also deploy enterprise operation mode and business model through cloud computing, forming a symbiotic, coordinated and orderly new business model supported by digital. In this way, enterprises can better perceive the changes of competitive environment and make timely response behavior, so that enterprises can move to the mixed form of entity and digital, or even completely realize the integration The direction of digital development. Therefore, it is particularly important for enterprises to use digital technology, observe consumption trends, and integrate digital genes into their own business, operation and profit models. In the digital age, the enterprise ecology has changed. Enterprises should have all the digital marketing communication resources needed to cope with ecological changes, talent reserves and industrial adjustment, as well as the ability to mobilize the above resources in the Internet ecological environment. Therefore, in the new digital market environment and business model, the scope and value core of marketing communication resources should also change.

2.2. Logistic Regression

In the traditional linear regression model \( TZ = Wx + B \), the final result is a continuous value, so it is necessary to discreet Z value: 0 (counter example) and 1 (positive example), and introduce piece wise function (step function), as shown in equation (1):

\[
y = \begin{cases} 
0, & z < 0, \\
0.5, & z = 0, \\
1, & z > 0, 
\end{cases}
\]

Since the piece wise function is discontinuous, we hope to find an alternative function to replace it, and we also hope that it is monotone differentiate. Here, the logarithmic probability function is introduced, as shown in equation (2):
\[ y = \frac{1}{1 + e^{-z}} \]  

(2)

The logarithmic probability function can convert the predicted value to a \( y \) value close to 0 or 1, and the change is very steep near the predicted value of 0. Substitute the \( Z \) value as shown in equation (3):

\[ y = \frac{1}{1 + e^{-\left(w^Tx+b\right)}} \]  

(3)

If \( y \) is defined as the probability when sample \( x \) is a positive example, then \( 1 - y \) is the probability when sample \( x \) is a negative example, and the ratio of the two is, as shown in equation (4):

\[ \ln\frac{y}{1-y} = w^Tx + b \]  

(4)

3. Experience

3.1. Experimental Object Extraction

In order to obtain the survey data that can truly reflect the e-commerce school enterprise cooperation of vocational schools, this paper selects three representative vocational education schools in the region, school a, School B and school C, as the survey sample, and sends three schools to carry out e-commerce school enterprise cooperation, but there are gaps in school running level, school running level, comprehensive strength and so on. Among them, A1 company, B1 company and C1 mall carry out school enterprise cooperation. On this basis, questionnaire survey and interview survey were conducted. A total of 150 questionnaires were distributed, including 48 for enterprises, 50 for secondary vocational schools and 49 for graduates.

3.2. Experimental Analysis

The design of the questionnaire the performance evaluation mode of e-commerce major in vocational schools. The design of the questionnaire includes two functions: one is to clearly convey the questions to be investigated to the respondents; the other is to get the support of the other party as far as possible to provide us with real and reliable answer data. To this end, we refer to the relevant literature, listen to the opinions and suggestions of relevant experts and peers, after repeated revision, designed three kinds of questionnaires for schools, enterprises and students. The enterprise questionnaire mainly focuses on the investigation of the attitude of enterprises to: investigation of the expectation of enterprises to school enterprise cooperation. The school questionnaire mainly includes the survey of secondary willingness to school enterprise cooperation, the survey of teachers' recognition of the growth of, the survey of teachers' attention to their own teacher construction, and the evaluation and evaluation of teachers' influence on school enterprise cooperation. The questionnaire is mainly about the attitude of school enterprise cooperation, satisfaction with the growth, as well as the project, condition, management and recognition of school enterprise cooperation.

4. Discussion

4.1. Changes in the Requirements for Professional Qualifications

The development of high-speed information and cloud consumption chain is also reflected in the form of market consumption. The scale of cross-border e-commerce transactions continued to grow. Although the annual growth rate has declined slightly due to the downturn of macro economy, it is still the most potential component of e-commerce industry. The scale of cross-border e-commerce transactions is shown in Table 1.
Table 1. Cross border e-commerce transaction scale and annual growth rate (unit: trillion yuan)

| particular year | 2016   | 2017   | 2018   | 2019   | 2020   |
|-----------------|--------|--------|--------|--------|--------|
| Increase (unit: trillion yuan) | 8.36   | 8.03   | 9.78   | 7.93   | 8.83   |

It can be seen from the above that the growth rate of cross-border e-commerce transaction scale in 2016 is 8.36 trillion yuan, that in 2017 is 8.03 trillion yuan, that in 2018 is 9.78 trillion yuan, that in 2019 is 7.93 trillion yuan, and that in 2020 is 8.83 trillion yuan. The results are shown in Figure 1.

Figure 1. Cross border e-commerce transaction scale and annual growth rate (unit: trillion yuan)

It can be seen from the above that the highest growth rate of cross-border e-commerce transaction scale in 2018 is 9.78 trillion yuan, the lowest growth rate of cross-border e-commerce transaction scale in 2019 is 7.93 trillion yuan, the growth rate of cross-border e-commerce transaction scale in 2020 is 8.83 trillion yuan, and the growth rate of in 2016 is 0.33 trillion yuan higher than that in 2017.

4.2. Diversification of M & A Subjects in Digital Marketing
The inflow of a large number of non-industry capital has become the biggest feature of the M & A wave. According to the industry relationship between M & A parties and digital marketing communication, the M & A subjects in the field of digital marketing communication are divided into three categories: Horizontal M & A of traditional advertising listed companies, vertical M & A of digital marketing communication listed companies, horizontal M & A of digital marketing communication listed companies, vertical M & A of digital marketing communication listed companies, and mixed M & A of non-industry listed companies Purchase, as shown in Table 2.

Table 2. Type distribution of M & A subjects of digital marketing communication

| Type distribution                     | Proportion |
|---------------------------------------|------------|
| Horizontal merger and acquisition     | 21%        |
| Vertical merger and acquisition       | 35%        |
| Mixed M & A                           | 44%        |

It can be seen from the above that the proportion of horizontal communication of digital marketing communication in China is 21%, the proportion of vertical communication of digital marketing communication in China is 35%, and the proportion of mixed M & A of digital marketing communication in China is 44%. The results are shown in Figure 2.
It can be seen from the above that the highest proportion of mixed M & A of digital marketing communication in China is 44%, and the lowest proportion of horizontal communication of digital marketing communication in China is 21%.

5. Conclusion
At present, there is a big gap between the demand for e-commerce talents and the teaching in Colleges and universities. Based on the analysis of the current situation of e-commerce industry and E-commerce Teaching in China, some cultivating e-commerce talents. Higher vocational colleges should actively adapt to the market demand and strengthen the cultivation of cross-border e-commerce talents. Vocational e-commerce education aims at cultivating applied talents and pays attention to cultivating students’ practical ability. There are some problems in the computer network teaching of e-commerce major, such as backward teaching methods, too much emphasis on theory and so on, which lead to poor teaching effect. This paper discusses the change of technology, organization and skill and its influence on vocational education training and continuing vocational training. The concepts explained in this regard include e-commerce, e-commerce, e-procurement and e-marketing. The author also describes the new job requirements, especially in the field of business work, and considers the impact of these changes on educational methods and vocational education organizations. This paper analyzes the demand of higher vocational education for e-commerce talents and the problems existing in the existing training system, and probes into the training scheme of Higher Vocational e-commerce talents.

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