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Demand Analysis and Training Mode Research of E-commerce Talents in Guangxi Cross Border E-commerce Comprehensive Experimental Zone†

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Abstract

In the context of the global epidemic, the rapid development of cross-border e-commerce has not only changed the operation mode of traditional e-commerce enterprises, established an ecosystem of coordinated development of e-commerce and international trade, and promoted the rapid development of cross-border e-commerce. However, the supply of talents for corresponding posts is far less than the demand. The cultivation of e-commerce professionals in higher vocational colleges faces new challenges. Starting from the research and analysis of the demand and training status of e-commerce talents in Guangxi cross-border e-commerce comprehensive pilot zone, the research objective of this paper is to study the relationship between post ability and professional skills, and the relationship between post ability and professional quality. The research method is to distribute network questionnaires to government departments, institutions and enterprises in Nanning city and Chongzuo City, Guangxi cross-border e-commerce comprehensive pilot zone, and collect 391 effective questionnaires; take professional skills and professional quality as independent variables and post capacity as dependent variables, and use statistical methods such as linear analysis to analyze the data to understand the demand of enterprises in Nanning cross-border e-commerce Comprehensive Experimental Zone and Chongzuo cross-border e-commerce comprehensive experimental zone for cross-border e-commerce talents. Based on this, analyze and summarize the talent types and typical job tasks required by enterprises, Then, the paper studies the training path of e-commerce professionals in Guangxi cross-border e-commerce comprehensive experimental zone. Through data analysis, the research result is that professional skills, professional quality and cross-border e-commerce post capacity are positively correlated. On this basis, this paper puts forward future research suggestions to improve the training mode of e-commerce talents in Guangxi cross-border e-commerce comprehensive experimental zone, and provides reference for the training of cross-border e-commerce talents and mode reform in Guangxi Higher Vocational Colleges.

Keywords: Cross border e-commerce, Comprehensive pilot zone, Talent demand, Training mode

Introduction

In recent years, economic globalization and the popularity of the internet have promoted the rapid development of e-commerce. According to the 2021 China's cross-border e-commerce market data report, the scale of China's cross-border e-commerce market in 2021 was 14.2 trillion yuan, a year-on-year increase of 13.6 % compared with 12.5 trillion yuan in 2020, and the growth rate decreased by 5.44 percentage points compared with the previous year. From 2017 to 2020, the market size (growth rate) was 8.06 trillion yuan (20.29 %), 9 trillion yuan (11.66 %), 10.5 trillion yuan (16.66 %), and 12.5 trillion yuan (19.04 %). In 2021, cross-border e-commerce still maintained a rapid growth rate. Domestic consumption upgrading has a large demand for overseas shopping goods, and the export e-commerce market is even larger. The huge market development space has supported the rapid development of the industry (Fan, 2019).

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In recent years, the scale of cross-border e-commerce transactions in Guangxi has expanded year by year, with a rapid growth rate. According to the data reported by Guangxi daily and other news media, the total amount of cross-border e-commerce transactions in Guangxi in 2016 was 33 billion yuan, which increased to 57 billion yuan in 2018, an increase of more than 70 % in 2 years. The statistical data of 2019 cannot be found so far, but it is conservatively estimated that it should exceed 75 billion yuan. Cross border e-commerce transactions in Guangxi account for more than 10 % of the total foreign trade of the region, accounting for roughly 10 - 16 %, with an average annual growth rate of about 31.8 %. The proportion of cross-border e-commerce transactions in Guangxi in the total cross-border e-commerce transactions nationwide has increased year by year, from 0.5 % in 2016 to 0.7 % in 2019, but the proportion is low. Compared with developed provinces and cities in eastern China, Guangxi cross-border e-commerce shows the characteristics of relatively small transaction volume and rapid growth.

According to the statistics of Chongzuo Municipal Administration of Commerce and Ports, from January to December 2021, the cumulative total weight of cross-border e-commerce export goods in China (Pingxiang) cross-border e-commerce comprehensive pilot zone was 12014.33 tons. The total value of goods is 2377114300 RMB. Among them, 9610 (Cross-border trade e-commerce enterprise to individual export mode) exports 36.1855 million tickets, with a weight of 10027.11 tons and a value of 203183150 RMB; 9710 (Cross-border e-commerce enterprise to enterprise direct export mode) exports 33615 large packages, with a weight of 807.66 tons and a value of 120444800 RMB; 9810 (Cross-border e-commerce enterprise to enterprise export overseas warehouse mode) exports 64442 large packages, with a weight of 1179.56 tons and a value of 225438000 RMB. 237.8 % of the annual tasks were completed, an increase of 10 times over 2020. The total amount of cross-border e-commerce trade and the value of 9810 exports ranked among the top of the fifth batch of cross-border e-commerce comprehensive pilot zones in China.

At present, Guangxi is rapidly promoting the construction of cross-border e-commerce comprehensive pilot park, including the construction of China (Nanning) cross-border e-commerce comprehensive pilot zone and China (Pingxiang) cross-border e-commerce comprehensive pilot zone. The cross-border e-commerce industry chain, the cross-border e-commerce headquarters base based on ASEAN and facing the world, and cross-border e-commerce enterprises are all part of the construction. The positions involve cross-border e-commerce transactions, cold chain, logistics, warehousing, testing, customs affairs, finance, business and leisure tourism. At present, the supply of medium and high-end cross-border e-commerce talents is insufficient, and few colleges and universities in Guangxi have opened cross-border e-commerce majors so far, Generally, cross-border e-commerce basic courses are offered to students majoring in e-commerce, international trade and business English to teach the basic theories and skills of cross-border e-commerce, which cannot fully cover the theories and businesses of cross-border e-commerce. In addition, the number and ability of cross-border e-commerce talents trained by social training institutions each year are limited, which cannot meet the economic and social demand for medium and high-end cross-border e-commerce talents. Cross border e-commerce talents have become the “bottleneck” for the development of Guangxi cross-border e-commerce comprehensive pilot zone.

Literature review

Research on the implementation of e-commerce talent training

In the specific implementation of higher vocational personnel training, researchers mainly focus on curriculum, teachers and teaching.

In terms of curriculum construction, Li et al. (2015) elaborated the development path of e-commerce industry education integration curriculum system, analyzed and refined the post work tasks based on the curriculum development theory of “systematization of work process”, and transformed them into courses in the learning field to build a stepped curriculum system. Liang et al. (2020) through practical research and exploration, the curriculum system is constructed with the concept of ability advancement. Around the 3 stages of professional ability growth of “novice”, “proficient” and “master”, the curriculum is divided into 3 types of advanced courses: Training, service and research and innovation, and a “tower type advanced” curriculum system is formed step by step based on the training standard advanced tower, the situation advanced tower and the training mode advanced tower. Yu and Xu (2020) proposed that with the

determination of the status of vocational education type, schools should carry out 4 aspects of reform around the "basic orientation". First, develop cultural literacy and place public basic courses in the same important position. The second is to connect vocational ability and integrate secondary vocational and higher vocational courses. Third, consolidate the knowledge base and integrate public basic courses and professional courses. Fourth, we should attach importance to the developmental evaluation method and cultivate students' sustainable development ability. Zhou and Fan (2022) put forward that it is imperative to study the application status of e-commerce in manufacturing industry, the post demand of Higher Vocational e-commerce talents facing manufacturing industry, the analysis of talent knowledge and skill structure, and the optimization of talent training mode. In particular, it is necessary to study and solve the problem of how to cultivate "high vocational e-commerce professional skilled talents facing equipment manufacturing industry in the 'Internet +' era" This question.

In terms of teachers, the researchers mainly focus on the current situation, problems and reform strategies of the construction of vocational education teachers. In view of the construction of vocational education teachers in the new era, Zhang and Zhu (2020) proposed that the construction path from "single" to "multiple" should be followed, and the mixed vocational teachers should be formed by means of "internal training and external introduction", "connection and combination" and "adapting to teachers' conditions", so as to form an integrated teacher training system and build a hierarchical teacher management system, so as to improve the construction level of teachers. Wang et al. (2020) aimed at the current problems of low professional teachers' practical ability, insufficient self-development motivation, imperfect training system and poor training effect, guided by the theory of teachers' professional development stage and action oriented theory, established a hierarchical training system for teachers' professional skills coordinated by management, training and evaluation. Through the formulation of unified training and evaluation standards, the training quality and process can be controlled and supervised, and the training performance level can be improved. The construction of double qualified teachers is the key to improve the quality of vocational education. In view of the differences in understanding the connotation of "double qualified" teachers, scholars mainly focus on the construction of systems and standards. Li and Xing (2019) believed that China has not established a scientific and reasonable "double qualified" teacher qualification certification standard system at present, and propose to build a "4 in 1" Secondary Vocational "double qualified" teacher qualification certification standard system composed of concepts, systems, behaviors and evaluations to strengthen the identity of "double qualified" teachers. Jiao et al. (2020) proposed to standardize and optimize the access mechanism of "double qualified" teachers by formulating special legal systems, establish a standard system around qualification recognition, evaluation, personnel recruitment, etc., and establish a list of powers to improve the supervision mechanism, so that each party can clarify their legal responsibilities, so as to achieve optimal management.

In terms of teaching reform, Ye (2017) combined with the practical experience of the school's "school enterprise cooperation and work study combination" mode, innovated the "3-stage" practical teaching process, and carried out teaching activities such as "starting education", "modular practice" and "enterprise on-site practice" for students in stages. On the basis of summarizing the practical teaching experience of e-commerce, Fan (2019) proposed a practical teaching mode based on the deep integration of schools and enterprises. Through the cooperation between schools and enterprises, we can introduce productive practice bases or undertake productive projects of enterprises, realize the "integration of production and education" practical teaching, enable students to truly participate in the practice of "enterprise posts, enterprise projects and enterprise requirements", and improve the practical teaching effect. Ge and Zhu (2019) based on the mode of integration of production and education, reform the online store operation courses of e-commerce specialty. By selecting the teaching content of "commodity title optimization", analyzing the job tasks and requirements, the effective docking of the teaching process, teaching content with the production process and industry standards is realized, and the e-commerce classroom teaching mode is innovated with the help of information technology. Li et al. (2021) put forward the "3 sources drive and 4 stages progressive" cross-border e-commerce innovation and Entrepreneurship Talent Training Mode Based on the innovative initiatives in the cross disciplinary perspective of talent training program, advanced course teaching, and promoting learning through competition.

Research on the policy of Guangxi cross border e-commerce comprehensive pilot zone

The notice of the people's Government of Guangxi Zhuang Autonomous Region on printing and distributing the implementation plan of China (Chongzuo) cross border e-commerce comprehensive pilot zone and the implementation plan of China (Chongzuo) cross border e-commerce comprehensive pilot zone issued by the people's Government of Guangxi Zhuang Autonomous Region put forward that the main construction tasks of Chongzuo cross border e-commerce comprehensive pilot zone include building a talent incubation platform, carrying out cooperation between the government, schools, associations and enterprises, build a number of cross-border e-commerce practical talent training bases. We will improve the public service system for cross-border e-commerce talents, introduce a number of well-known intermediary service institutions, and form a professional and international talent service market. Establish a cross-border e-commerce talent development alliance to promote the seamless connection between talents and enterprises, projects and capital. (Guangxi Zhuang Autonomous Region People's Government, 2020) the people's government of Guangxi pointed out that it is necessary to build a platform from the government, schools, associations and enterprises to promote cooperative training for e-commerce personnel training in Guangxi cross border e-commerce comprehensive pilot zone.

The development plan of China (Nanning) cross border e-commerce comprehensive pilot zone (2021 - 2025) proposes that the talent training mechanism is not perfect and the professional talents are seriously insufficient. The development of cross-border e-commerce requires a large number of compound talents who understand both the Internet and foreign trade. They need not only professional English level, rich international trade experience, but also skilled e-commerce application ability. There is a huge gap between the supply of cross-border e-commerce talents and the market demand in Guangxi. There are fewer practical and excellent cross-border e-commerce talents, and Guangxi lacks relevant talent training mechanism. The talent problem restricts the rapid development of cross-border e-commerce industry. (Guangxi Nanning municipal government, 2021)

Research on training mode of higher vocational talents

German "dual system" talent training mode

The "dual system" talent training mode is an educational model of German vocational and technical personnel, which is based on the division of labor and cooperation between enterprises and schools, the combination of theory and practice, and the practice. Students receive the dual education of schools and enterprises alternately. On the one hand, they receive the education of cultural foundation and professional theoretical knowledge in schools, and on the other hand, they receive vocational skills training in enterprises. More than half of the time in a week is spent in vocational practice learning in enterprises. Wieland (2015) proposed that under the dual system of Germany, only enterprises recognized by national standards can carry out vocational education, and enterprises and schools are subject to the constraints and control of the law and complete the task of talent training according to the law. This teaching mode takes enterprises as the main body and employment as the guidance, which broadens the channels for schools, effectively solves the shortage of school running funds, and promotes the benign development of vocational education. The German "dual system" talent training mode adopts the German action oriented teaching method. The action oriented teaching process is a kind of teaching process based on practical work. It is a teaching activity aimed at the German dual system education system and promoting the development of professional action ability. The so-called action orientation is practice through action. That is to say, in a special background environment with learning as the goal, with the specific tasks faced by the organization as the carrier, the dual system vocational education mode, the characteristics and advantages of the dual system, students can find problems, find answers, solve problems, complete tasks, acquire knowledge and skills through their own efforts and cooperation with others.

However, this model relies too much on enterprises and emphasizes the equal responsibility and partnership between schools and enterprises, which is not satisfactory in practice. Gessler and Michael (2017) found through empirical investigation that most enterprises have no or little communication, coordination and cooperation with their vocational schools, and less than 30 % of the German dual system can really play the role of school enterprise cooperation in actual operation. Hummelsheim and Baur (2014)

believe that the "dual system" implemented by Germany in other countries cannot be simply copied and must adapt to its unique social, cultural and economic conditions. The implementation of Germany's "dual system" needs to rely on the country's perfect vocational education legal system and management system, and its development is easily restricted by economic and enterprise development.

The "penetrating" talent training mode in the United States

The vocational education in the United States is based on the principle of combining labor with teaching and alternating work and study, with the aim of training qualified workers. Cooperative education is carried out between schools, industrial and commercial enterprises, service departments and other off campus institutions. In this mode, professional ability and interest are the primary training objectives. Generally, work study rotation system, part-time work study system, labor practice system, national labor and after-work class system are adopted.

British "sandwich" talent training mode

The "sandwich" mode in Britain is the "work study alternation" mode. The specific implementation mode is that the internship time in vocational schools and factories is half. It is divided into 3 stages: After graduating from middle school, students will work in enterprises for 1 year, then complete 2 or 3 years of courses in schools, and then work in enterprises for 1 year The so-called "1 + 2 + 1" and "1 + 3 + 1" education programs.

Australia's "TAFE" talent training mode

TAFE in Australia, that is, technology and continuing education, is a government led vocational education mode of school enterprise cooperation. Rice (2005) proposed that the education, training and evaluation standards under TAFE mode should be unified and jointly formulated by all parties involved, focusing on the training of professional and post abilities. The school should adjust the talent training plan according to the needs of enterprises and market changes. Seddon (2000) believe that TAFE mode promotes education and social equity. There is no age limit on school enrollment, and it is a lifelong education mode. In the process of running a school, the industry and enterprises cooperate closely and participate deeply. The teachers must be professional personnel with practical experience.

To sum up, Germany, the United States, the United Kingdom and Australia have their own vocational education training models, but they all emphasize the importance of school enterprise cooperation to varying degrees, and pay attention to the combination of theoretical learning and practical operation. However, due to the influence of economic, political and cultural factors in different countries, the form of "cooperation" and specific implementation methods are different. Countries should also adapt measures to local conditions when learning from each other. For example, the action oriented teaching process in Germany is worth learning. When preparing the online questionnaire, this study listed the corresponding abilities according to the needs of the work process. See question 12 of the questionnaire; in addition, guided by the real operation process of the enterprise, the course "cross border e-commerce practice" was taken as an example to reconstruct the teaching content of the course.

Methodology

Secondary data source

1) Research and understand the relevant data of Guangxi cross-border e-commerce comprehensive pilot zone from government websites such as Guangxi Department of Commerce, Guangxi Bureau of statistics, Guangxi Chongzuo Municipal People's government network, Chongzuo Municipal Bureau of Commerce and ports, and consult the literature and policies on cross-border e-commerce comprehensive pilot zone and talent training;

2) Find relevant literature from websites such as CNKI and Wanfang Data to understand the relevant theoretical basis, find out the current situation of cross-border e-commerce talents, and summarize the training methods.

Primary data source

By conducting an electronic questionnaire survey on enterprises in Guangxi cross-border e-commerce comprehensive test zone, we study the demand factors for post capacity, professional skills and professional quality of cross-border e-commerce enterprises, and understand the demand of enterprises in Nanning cross-border e-commerce comprehensive test zone and Chongzuo cross-border e-commerce comprehensive test zone for cross-border e-commerce talents, Summarize the types of talents required by enterprises and the requirements of typical job tasks, and then study the training path for e-commerce professionals in Guangxi cross-border e-commerce comprehensive experimental zone.

Investigation method

According to the required data sources, the researchers searched the literature to find the appropriate data collection methods. In order to facilitate the respondents to answer at a convenient time, the data is easy to manage and not limited by geographical location, the researchers chose to issue electronic questionnaires to investigate the demand of enterprises in Guangxi cross-border e-commerce comprehensive pilot zone for e-commerce talents, and study key data such as post capacity, professional skills and professional quality.

Network questionnaire survey

It is used for the survey of e-commerce talent demand in Guangxi cross-border e-commerce comprehensive pilot zone, including the survey of 3 main variables: Post capacity, professional skills and professional quality.

Sample selection

According to statistics, in the first half of 2021, nearly 17,000 enterprises settled in Guangxi pilot free trade zone.

(At the confidence level of 95 %, 0.05 population variable)

$n = N/(1+Ne^2)$

when n: Size of sample group

N: Scale of enterprises settled in Guangxi pilot Free Trade Zone

e: Inexactness from sampling at confidence level at 95 %

$n = N/(1+Ne^2) = 17000/(1+17000\times0.05^2) = 390.80$

Thus the sample size was 391.

The 391 online questionnaires were distributed to enterprises in Guangxi cross-border e-commerce comprehensive pilot zone.

Data collection

Electronic questionnaires were distributed to enterprises in Nanning cross-border e-commerce comprehensive pilot zone through the Internet, and 391 questionnaires were distributed to enterprises in Chongzuo cross-border e-commerce comprehensive pilot zone through Chongzuo Municipal Bureau of Commerce and port, including 30 government departments, 44 public institutions, 97 state-owned enterprises, 113 private enterprises, 81 wholly foreign-owned enterprises, 18 Sino foreign joint ventures, and 8 Hong Kong, Macao and Taiwan invested enterprises. After the collection, verify the validity of the questionnaire information.

Data analysis

According to the data characteristics and variables, correlation analysis, linear regression analysis and other statistical methods are used to process the data. By analyzing the post capacity, professional skills and professional quality factors of e-commerce talents in Guangxi cross-border e-commerce comprehensive

pilot zone, the relationship between professional skills and post capacity of cross-border E-commerce talents and the relationship between professional quality and post capacity of cross-border e-commerce talents are analyzed.

1) Correlation analysis: Correlation analysis refers to the process of describing and analyzing the nature and degree of correlation between 2 or more variables. This paper studies whether there is a positive correlation between post competence and professional skills and professional quality.

2) Linear regression analysis: In the study, we take professional skills and professional quality as independent variables and post capacity as dependent variables for SPSS linear regression analysis, find out the corresponding linear regression model, and analyze whether there is a significant positive impact between variables.

Research hypothesis

H1: Professional skills are positively correlated with the post capacity of cross-border e-commerce talents;

H2: The professional quality is positively correlated with the post capacity of cross-border e-commerce talents.

Based on the needs of e-commerce enterprises in Guangxi cross-border e-commerce comprehensive pilot zone and the problems existing in the training of e-commerce talents in higher vocational colleges, the author integrates the multi-party cooperation mode of "government + industry + higher vocational colleges + enterprises + e-commerce platform" into the research of cross-border e-commerce professional talents training. According to the combination of theory and practice, the learning process is consistent with the working process, the learning field is consistent with the working field Based on the principle that the learning task is consistent with the work task, the cross-border e-commerce talent training mode of "3 links and 8 integrations" is constructed, that is, the cross-border e-commerce talent training is divided into 3 links, with practice as the core, and theoretical teaching, practical teaching and post practice are connected, with a view to refining the e-commerce talent training mode of Guangxi cross-border e-commerce comprehensive experimental zone for reference by relevant majors and colleges.

Analysis and results

Reliability analysis

Reliability analysis, also known as reliability analysis, is the test of the stability, consistency and reliability of the measurement results. In order to ensure the accuracy of the measurement results, it is necessary to analyze the reliability of the valid data in the questionnaire before analysis. At present, cronbach's is usually used in social science research α Generally speaking, if the reliability coefficient is above 0.9, the reliability is very good. If it is between 0.8 and 0.9, it indicates that it is very good. It is better if it is between 0.7 and 0.8; 0.6~0.7, indicating acceptable; below 0.6, it indicates that it needs to be revised.

It can be seen from the table that the reliability coefficient of the scale is high, so the survey data is relatively reliable.

Table 1 Reliability statistics.

Scale	Cronbach's alpha	Cronbach's alpha based on standardized items
Post capacity	0.903	0.903
Professional skills	0.841	0.844
Professional quality	0.926	0.926

Exploratory factor analysis

Validity refers to the degree to which the required psychological and behavioral characteristics can be accurately measured through tests or scale tools, that is, the accuracy and reliability of test results. Generally speaking, the smaller the significance level of Bartlett sphericity test ($p < 0.05$), the more likely there is a meaningful relationship between the original variables. The KMO value is used to compare the simple correlation and partial correlation coefficients between items, and the value is between 0 and 1. Now the validity is tested by KMO and Bartlett sphericity test. In the job ability scale, KMO = 0.917, significance $p = 0.000$, less than 0.05, and the validity is good.

In the professional skills scale, KMO = 0.877, significance $p = 0.000$, less than 0.05, with good validity.

In the occupational quality scale, KMO = 0.932, significance $p = 0.000$, less than 0.05, with good validity.

Table 2 KMO and Bartlett test.

Gauge	KMO sampling suitability quantity	Approximate chi square	Freedom	Significance
Post capacity	0.917	3256.796	120	0.000
Professional skills	0.877	2594.895	66	0.000
Professional quality	0.932	2257.807	36	0.0

Frequency analysis

In order to make the sample data authentic and distinguishable, anonymous questionnaires are used for investigation, and the characteristics of effective samples are analyzed to obtain the number and percentage of sample cases. The option of high proportion indicates that the population tends to be high. From the above table, we can see that from the nature of the company, "private enterprises and state-owned enterprises" are more. The proportion of "traditional e-commerce sales enterprises" is 36.57 %. The proportion of "agricultural products" is 37.08 %. Judging from the type of cross-border e-commerce platforms, more than 40 % of the samples are "B2C platforms". The proportion of B2B platform samples is 41.18 %. From the distribution of willing to carry out school enterprise cooperation with higher vocational colleges, most samples are "willing", with a proportion of 51.66 %. Another 48.34 % of the samples were unwilling.

Table 3 Frequency analysis results.

Name	Option	Frequency	Percentage (%)
Nature of the company	Government sector	30	7.67
	Government-affiliated institutions	44	11.25
	State-owned enterprise	97	24.81
	Private enterprise	113	28.90
	Wholly foreign-owned enterprise	81	20.72
	Sino foreign joint venture	18	4.60
	Hong Kong, Macao and Taiwan investment enterprises	8	2.05
Business type of the company	E-commerce platform	1	0.26
	Cross-border e-commerce	54	13.81
	Traditional international trade + Cross-border e-commerce	67	17.14
	Enterprises selling traditional e-commerce	143	36.57
	Traditional international trade	118	30.18
	Other	8	2.05
Industry of the company's main business	Agriculture products	145	37.08
	Electronics	97	24.81
	Hardware	88	22.51
	Textile clothing	33	8.44
	Mechanics	8	2.05
	Chemical industry	9	2.30
	Other	11	2.81
Types of cross-border e-commerce platforms	B2B platform	161	41.18
	B2C platform	177	45.27
	Other types of platforms	53	13.56
Willing to carry out school enterprise cooperation with higher vocational colleges	Unwilling	189	48.34
	Willing	202	51.66
Total		391	100.0

Correlation analysis

Correlation analysis refers to the process of describing and analyzing the nature and degree of correlation between 2 or more variables. Mark the upper right corner of the correlation coefficient with a * sign, which indicates that there is a relationship at this time; Otherwise, it doesn't matter. When the correlation coefficient is greater than 0, it indicates that there is a positive correlation between the 2 variables, and less than 0 indicates that there is a negative correlation between the 2 variables.

The correlation coefficient between post ability and professional skills is 0.721, and shows a significant level of 0.01, which shows that there is a significant positive correlation between post ability and professional skills. The correlation coefficient between post ability and professional quality is 0.537, and shows a significant level of 0.01, which shows that there is a significant positive correlation between post ability and professional quality.

Table 4 Relevance.

	Average value	Standard deviation	Post Capacity	Professional skills	Professional quality
Post capacity	3.861	0.832	1		
Professional skills	3.614	0.556	0.721***	1	
Professional quality	3.792	0.524	0.537***	0.476***	1

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Regression analysis

From the above table, we can see that taking professional skills and professional quality as independent variables and post capacity as dependent variables for linear regression analysis. From the above table, we can see that the model formula is: Post Capacity = −0.899 + 0.900 * professional skills + 0.398 * professional quality, and the model R value is 0.569, which means that professional skills and professional quality can explain 56.9 % of the change of post capacity. During the F-test of the model, it is found that the model passes the F-test (F = 255.784, $p = 0.000 < 0.05$), which means that at least one of the professional skills and professional qualities will have an impact on the post ability. In addition, the multi collinearity test of the model shows that the VIF value in the model is less than 5, which means that there is no collinearity problem; the D-W value is near the number 2, so it shows that there is no autocorrelation in the model, and there is no correlation between the sample data, so the model is good. The final specific analysis shows that:

The regression coefficient of professional skills is 0.900 (t = 15.875, $p = 0.000 < 0.01$), which means that professional skills will have a significant positive impact on post ability.

The regression coefficient of professional quality is 0.398 (t = 6.613, $p = 0.000 < 0.01$), which means that professional quality will have a significant positive impact on post ability.

According to the summary and analysis, professional skills and professional quality will have a significant positive impact on post ability.

Table 5 Linear regression analysis results.

	Coefficient of non standardization		Standardization coefficient	t	*p*	VIF	R^2	Adjustment R^2	F
	B	Standard error	Beta						
Constant	−0.899	0.224	-	−4.009	0.000***	-			
Professional skills	0.9	0.057	0.602	15.875	0.000***	1.293	0.569	0.566	255.784***
Professional quality	0.398	0.06	0.251	6.613	0.000***	1.293			

Dependent variable: Post capacity

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Limitations of the study and suggestions for future research

1) The purpose of this study is to investigate the current situation of e-commerce enterprises in Guangxi cross border e-commerce comprehensive pilot zone, so as to obtain key data such as relevant posts, professional quality and skill requirements. The accuracy of the data is crucial to the later research and analysis results; The limitation of the study is that there are 2 urban areas of Nanning and Chongzuo in

Guangxi cross-border e-commerce comprehensive pilot zone, and these 2 cross-border e-commerce comprehensive pilot zones have been approved in recent years, and there are few relevant documents. However, Chongzuo cross-border e-commerce comprehensive pilot zone was approved in May 2020, and there are few relevant enterprises, so it is difficult to collect mature research samples. In the future, there will be more and more e-commerce enterprises settling in, the posts will be more and more clear, and the division of labor will be more and more detailed. In the future, we can go deep into the face-to-face investigation of enterprises and conduct in-depth research.

2) Guangxi cross-border e-commerce comprehensive pilot zone is more trade oriented to ASEAN countries, which is different from other domestic cross-border e-commerce comprehensive pilot zones in terms of trade direction, such as politics, economy, law, trade subject, language, etc. of ASEAN countries, and the talent structure required by enterprises is also different. Therefore, the scope of this study is limited to the Guangxi cross-border e-commerce comprehensive pilot zone.

3) In China, e-commerce majors have 3 levels of education: Secondary vocational education, higher vocational education and undergraduate education. Among them, secondary vocational education is a basic education, and the number of secondary vocational graduates directly employed is getting smaller and smaller; undergraduate education is higher education, and more of it is oriented to management posts. The unit where the author works is higher vocational education. From the convenience of research, more of it studies the training mode of e-commerce professionals from the higher vocational level. In the future, it can be extended to the research of undergraduate e-commerce professionals.

4) In the process of research, we found that the action oriented teaching method of the German "dual system" talent training mode can be used for reference in the training of e-commerce professionals. The future research can be guided by the work process of cross-border e-commerce posts, reconstruct more professional courses and teaching contents, integrate professional skills into the work process, give students more professional action ability, cultivate their ability of self-planning, implementation and control in future work, so that students can continuously learn new knowledge and skills in their future career, and even change careers will become possible.

Due to the limited personal knowledge and the influence of objective factors, this study still has some shortcomings and needs to be improved in future research.

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