Research on the Congregation of Cross-border E-commerce Talents Based on Structural Equation Model

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Abstract. The competition in modern industries is the competition for talents. The booming development of cross-border e-commerce has brought new challenges to talent gathering. Based on a questionnaire survey of 241 Zhengzhou cross-border e-commerce practitioners, based on the three dimensions of regional factors, organizational factors, and personal factors, a structural equation model was used to analyze its impact path on the cross-border e-commerce talent gathering. The results of empirical research show that: organizational factors are the main factors affecting the gathering of cross-border e-commerce talents, personal factors are the important factors affecting the gathering of talents, and regional factors are the effective factors affecting the gathering of talents. Finally, corresponding suggestions are put forward.

1. Introduction

The factors affecting the development of a region's economy are numerous and complex, but having higher human capital is increasingly recognized as the most important of many factors. In recent years, China's cross-border e-commerce trade has increased year by year, becoming a new economic growth point in China. At the same time, however, the overall supply of cross-border e-commerce merchants is in short supply. How to constantly attract foreign cross-border e-commerce merchants to maintain the promotion of existing talents and ultimately achieve the concentration of talents is related to the development prospects and future of cross-border e-commerce.

At present, many scholars have studied the content of talent gathering from different perspectives. Based on the perspective of regional talent retention, Qingxiong Weng and others verified the impact of regional environment on the willingness to cultivate talents from the aspects of humanities and talent policy environment¹; Jun Liu and others verified that the level of regional economic development and medical conditions are talents from a macro perspective. Factors of mobility²;
Quangang Wang and Yongle Zhao integrated previous research and divided the factors affecting the trend of high-end talent mobility into talent policies, social comprehensive environment, etc\[3\]. It can be seen that although previous scholars have mentioned the impact of certain factors on the concentration of talents, they are more general and are not separated at a certain level, and the macro, meso, and micro factors are not comprehensively included. There is less research on business talent. Based on this, based on the three dimensions of regional factors, organizational factors, and personal factors, this paper uses a structural equation model to verify and analyze the factors affecting talent concentration, hoping to provide a theoretical and practical basis for talent concentration in the cross-border e-commerce industry.

2. Theoretical analysis and research hypotheses

2.1. Theoretical analysis

The push-pull theory proposed by Bogue in the 1950s believes that the flow of talents is determined by the pull in and out of a certain region. The willingness of talents to gather in a certain place depends on the region, organization, etc. The comprehensive effect of positive and negative push-pull forces\[4\], Lee supplemented the push-pull theory and believed that an individual's judgment on push-pull forces would also affect his immigration behavior\[5\]. Based on the above theory, this article will comprehensively explore its influence on the cross-border e-commerce talent gathering from regional factors, organizational factors, and personal factors.

2.2. Research hypothesis

2.2.1. The Relationship between Regional Factors and Talent Gathering. The concentration and flow of talents is carried out in the economic and policy environment. Regional factors include policy environment, economic factors, social environment and hardware facilities.

In terms of policies, greater talent support, a reasonable household registration management system, and good innovation incentives can not only retain local talents, but also continue to attract foreign talents to achieve talent concentration; in economics, studies by Jackson D and others show there are many factors that influence the flow of talents, including in order to achieve higher income or get more economic opportunities\[6\]. The higher the economic level of a place, the more career platforms will be provided, and the more employment opportunities will be provided. In terms of social environment and hardware facilities, Shapiro J research shows that the most important reason to attract talent inflow is quality of life. Improve\[7\]. Soete L confirmed that the better the natural environment of a place, the stronger the ability to attract talents\[8\]. Good traffic conditions, convenient education for children, advanced medical and health conditions, and a good public security environment have improved the quality of people's lives. Therefore, we assume:

H1: There is a positive correlation between regional factors and the concentration of cross-border e-commerce talents.

2.2.2. The relationship between organizational factors and talent gathering. According to the theory of social exchange, employees and organizations are always in a mutually beneficial relationship, and both parties try to maintain a balance of effort and contribution. We therefore propose hypotheses:

H2: There is a positive correlation between organizational factors and the concentration of cross-
border e-commerce talents.

2.2.3. The relationship between personal factors and talent gathering. When a person has a sense of accomplishment at work and loves his work, he will increase his loyalty to the work. They are more willing to stay in jobs that are interesting and challenging for them. If employees have higher professional achievements in their work and can grow well, they can better fulfill their employee responsibilities, and their sense of accomplishment will increase their willingness to stay. Based on this, we can assume:

H3: There is a positive correlation between personal factors and the concentration of cross-border e-commerce talents.

3. Empirical research design

3.1. Data source and sample description

The research object of this article is mainly the staff of cross-border e-commerce enterprises in Henan Province. A total of 300 questionnaires were distributed in this survey, 280 questionnaires were returned, and 241 valid questionnaires, with an effective recovery rate of 86%.

3.2. Variable measurement

Except for the basic information of the sample in the questionnaire, the other items are all on the five-level Likert scale, ranging from "completely disagree" to "completely agree", corresponding to 1 to 5 points. In order to make the scales have good reliability and validity, the scales used in this research have been verified by data from domestic and foreign scholars, and have been gradually modified and improved.

4. Empirical analysis

The data analysis in this paper mainly uses SPSS21.0 and AMOS20.0 software. First, the reliability and validity of the scale was tested to ensure that the design of the questionnaire had high credibility and good internal consistency. Then verify the second-order model of regional factors to ensure that the second-order model can replace the first-order model.

4.1. Reliability and validity analysis

In order to ensure the credibility of the conclusions obtained in subsequent studies, we first conducted a test of reliability and validity to confirm the rationality of the scale. As shown in Table1, the α coefficients of regional factors, organizational factors, personal factors, and willingness to gather are all above 0.8, indicating that the questionnaire design has higher credibility and better internal consistency. The standard factor load of each observed variable is basically greater than or close to 0.7, and the average factor load is greater than 0.5, indicating that the scale has good convergence validity.
### Table 1. Analysis table of reliability and convergence validity.

| Variable       | Item              | Cronbach’s α | Factor load | AVE |
|----------------|-------------------|--------------|-------------|-----|
| Region         | POL, ECO, SOE, HAE | 0.836        | 0.714, 0.850, 0.721, 0.733 | 0.572 |
| Organization   | ORG1, ORG2, ORG3, ORG4, ORG5 | 0.871        | 0.782, 0.679, 0.849, 0.829, 0.657 | 0.582 |
| Personal       | PER1, PER2, PER3, PER4 | 0.840        | 0.676, 0.747, 0.836, 0.747 | 0.568 |
| Talent Gathering | WIS1, WIS2, WIS3, WIS4 | 0.806        | 0.701, 0.677, 0.783, 0.699 | 0.513 |

The discriminant validity is shown in Table 2. The AVE root value of each variable is greater than the normalized correlation coefficient outside the diagonal, indicating that different constructs can be better distinguished.

### Table 2. Differential validity analysis table.

| Convergence validity | Pearson correlation and discriminant validity |
|----------------------|-----------------------------------------------|
|                       | AVE   | WIS   | PER   | REG   | ORG   |
| WIS                   | 0.513 | **0.716** |
| PER                   | 0.568 | 0.586 | **0.754** |
| REG                   | 0.572 | 0.509 | 0.578 | **0.756** |
| ORG                   | 0.582 | 0.602 | 0.741 | 0.576 | **0.763** |

Based on the above analysis, the scale has good reliability and ideal validity.

#### 4.2. Second-order verification

Because regional factors are composed of policy factors, economic factors, social environment, and hardware facilities, and contain many variables, it is considered to simplify regional factors with a second-order model. First, the reliability and validity analysis of each factor scale is performed. As shown in Table 4, the Cronbach's α coefficients are all greater than 0.7, the standard factor load is greater than 0.6, and the average factor load is also greater than or close to 0.5. Good reliability.

### Table 3. Reliability and validity analysis of the second-order items of regional factors.

| Variable  | Item              | Cronbach’s α | Factor load | AVE |
|-----------|-------------------|--------------|-------------|-----|
| Policy    | POL1, POL2, POL3, POL4 | 0.895        | 0.816, 0.803, 0.886, 0.800 | 0.684 |
| Economic  | ECO1, ECO2, ECO3  | 0.716        | 0.662, 0.604, 0.783 | 0.472 |
| Social    | SOE1, SOE2, SOE3, SOE4 | 0.773        | 0.737, 0.726, 0.646, 0.605 | 0.463 |
| Hardware  | HAE1, HAE2, HAE3  | 0.799        | 0.649, 0.941, 0.688 | 0.593 |
Analyze the model adaptation indicators for the second-order verification of regional factors. As shown in Table 4, the target coefficient is 0.853, which is closer to 1, indicating that the second-order model is more representative.

### Table 4. Moderation indicators for the second-order verification of regional factors.

| Second-order verification | $\chi^2$ | $\chi^2$/df | GFI | AGFI | CFI | TLI | RMSEA |
|--------------------------|---------|-------------|-----|------|-----|-----|-------|
| Level one                | 158.530 | 2.233       | 0.917 | 0.877 | 0.947 | 0.932 | 0.072 |
| Second-order             | 185.867 | 2.546       | 0.907 | 0.866 | 0.932 | 0.915 | 0.080 |

From the above analysis, it can be known that policy factors, economic factors, social environment and hardware facilities conditions can generate a second-order variable. The second-order model accords well, and the measurement results of the scale reflect the connotation of regional factors.

### 4.3. Model fitting

In the model fitting index, $\chi^2$/df<2, which meets the criterion of less than 3. GFI = 0.844, AGFI=0.813 is close to the ideal standard value of 0.9, and RMSEA=0.062 <0.8, which is in line with the ideal standard value, so the absolute fitness index tends to be ideal and is within the acceptable range. CFI=0.914>0.90, TLI=0.904>0.90, indicating that the value-added fitting index is very ideal. Overall, the overall fit of the model is good.

The path coefficients and significance levels between the variables are shown in Table 5. It can be seen that the P values are less than 0.05, indicating that the hypothesis passes the test.

### Table 5. Path coefficients and significance levels.

| Path relationship  | Non-standardized | S.E. | CR | P   | Standardization |
|--------------------|------------------|------|----|-----|-----------------|
| WIS<---ORG (H1)    | 0.246            | 0.104| 2.371 | 0.018 | 0.308           |
| WIS<---REG (H2)    | 0.198            | 0.088| 2.250 | 0.024 | 0.198           |
| WIS<---PER (H3)    | 0.229            | 0.107| 2.130 | 0.033 | 0.246           |

### 5. Research conclusions and implications

#### 5.1. Analysis conclusion

Based on the above analysis, the research hypotheses H1, H2, and H3 have been verified, indicating that regional factors, organizational factors, and personal factors have a significant effect on the gathering of cross-border e-commerce talents, and organizational factors have the greatest impact on talent gathering. The second factor is personal, and finally the regional factor.

#### 5.2. Research inspiration

Based on the above research, in order to better promote the gathering of cross-border e-commerce merchants and enhance the competitiveness of the cross-border e-commerce industry, the following suggestions are proposed.
Organizational factors are the most important factors affecting talent gathering. Organization is an accelerator to maintain and promote talents and achieve qualitative change of talents, and it is also a direct factor that determines talents to stay. Therefore, cross-border e-commerce companies must first establish a fair selection and promotion system, give e-commerce merchants a fair space for improvement, and establish a compatible internal incentive mechanism. Second, they must improve the company's compensation system, according to work, and eliminate employees the negative emotions generated by the sense of fairness. Finally, we must formulate a reasonable training system and develop a good talent growth path for employees.

Personal factors are the spiritual orientation that affects talent gathering. The personal factor is that the cross-border e-commerce talent determines the flow direction through the psychological expectations of his own development. This requires the joint efforts of the organization and the cross-border e-commerce talent. Organizations should provide them with challenging work as much as possible, make them gain pride and enhance job satisfaction. As a result, they will have good psychological expectations for their own development, which will also increase the possibility of talent gathering.

Regional factors are the key factors affecting talent gathering. The regional environment plays an important role in attracting foreign cross-border e-commerce talents. Therefore, the local government should optimize the “hard” and “soft” environment for e-commerce development, fully gather local resources, and develop local economy, so as to promote the upgrading and transformation of cross-border e-commerce industrial structure, and improve regional strength. In addition, the government must increase the popularity of regional talent policies to enhance the ability to attract talent.

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