

# Research on the Coupled and Coordinated Development of Rural E-Commerce and Agricultural Entrepreneurship from the Perspective of Common Prosperity

## -- Based on the Empirical Investigation in Rural Areas in Anhui Province

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### Abstract

With the continuous advancement of common prosperity policy, the development of agricultural entrepreneurship has become an important force to promote rural revitalization and common prosperity, the improvement of its entrepreneurial ability is important to realize agricultural and rural development, promote agricultural supply side structural reform, and the rapid development of rural e-commerce, both brings huge market potential, but also enriched the social resources of agricultural entrepreneurs, how to effectively use e-commerce advantages to promote the stable development of agricultural entrepreneurship. However, few studies have discussed the coupling relationship between rural e-commerce and agricultural entrepreneurship. This project will conduct an empirical investigation of the rural areas in Anhui Province, adopt the coupling degree model, qualitative and quantitatively analyze the coordination degree of rural e-commerce and agricultural entrepreneurship development, and propose the coordinated development countermeasures of the two.

### Keywords

Common Prosperity; Rural E-Commerce; Rural Entrepreneurship; Coupling and Coordination.

## 1. Research Background

At the 10th meeting of the Financial and Economic Commission of the CPC Central Committee, General Secretary Xi Jinping delivered an important speech and stressed that common prosperity is an essential requirement of socialism and an important feature of Chinese-style modernization. "Common prosperity is the essential requirement of socialism and the common expectation of the people.". Therefore, "To promote economic and social development, in the final analysis, it is necessary to achieve common prosperity for all the people." Achieving common prosperity is the essential requirement of the socialist stage and the goal of the unremitting efforts of the Party and the government. The Fifth Plenary Session of the 19th CPC Central Committee made it clear that by 2035, more substantial progress will be made in achieving common prosperity for all the people. For rural areas, industrial development is the foundation and key for farmers to achieve common prosperity, and rural economic revitalization is the top priority of rural development, and rural entrepreneurship and

innovation and rural industrial development are closely related. Rural economy is the "ballast stone" of the national economy, and rural development is the "fixed star" of social stability. At present, China has completed the targets and tasks of poverty alleviation in the new era as scheduled, and is in a critical period of riding the momentum to start a new journey of all-round rural revitalization.

However, achieving common prosperity is a long-term and complex project, among which the most arduous and onerous task is to achieve the common prosperity of more than 500 million farmers. Although since the founding of the Party, China has built a moderately prosperous society in an all-round way and achieved the goal of comprehensive poverty alleviation of the rural population, the large gap between rural development and cities in industry, talents, infrastructure, public services and other aspects restricts the realization of the goal of common prosperity for farmers to a certain extent. Implementing the rural vitalization strategy is not only the key to solving the problems of unbalanced urban and rural development and inadequate rural development, but also the only way to comprehensively consolidate the achievements of poverty alleviation and achieve common prosperity among farmers. For rural areas, industrial development is the foundation and key for farmers to achieve common prosperity, and the top priority to support industrial development is talent revitalization, and rural entrepreneurship and innovation and rural industrial development are closely related. On the one hand, rural industrial development attracts a large number of returning groups to start and innovate in the rural market; on the other hand, rural entrepreneurship and innovation can boost the development and growth of rural industry. Based on this, exploring and solving the difficulties facing rural entrepreneurship and innovation under the rural revitalization strategy can inject new impetus into rural revitalization, and it is of great strategic significance to achieve common prosperity.

Rural economy is the "ballast stone" of the national economy, and rural development is the "fixed star" of social stability. At present, China has completed the targets and tasks of poverty alleviation in the new era as scheduled, and is in a critical period of riding the momentum to start a new journey of all-round rural revitalization. But at the same time, rural development is still faced with practical problems such as weak foundation, low level of industrial development, and large regional development gap. Agricultural and rural issues are still one of the most important challenges in the process of reaching the second centenary Goal.

## **2. Relevant Analysis of the Coupling and Coordination of Rural E-Commerce and Agricultural Entrepreneurship**

With the support of the "Internet +" policy, rural e-commerce is booming in various regions. Emerging technologies have promoted the improvement of the entrepreneurial environment in various regions, thus enhancing farmers' willingness to start businesses. First, with the continuous development of rural e-commerce in China, logistics, transportation and other infrastructure is constantly improved, creating a good hard environment for farmers in e-commerce entrepreneurship; Second, relying on e-commerce technology, the market supply and demand information is more transparent, breaking the limitation of time and space in the traditional sales methods, reduce the effective allocation of agricultural resources, creating a good soft environment for farmers in e-commerce entrepreneurship.

## **2.1. Theoretical Elaboration of the Coordinated Development of Rural E-Commerce and Rural Entrepreneurship**

### **2.1.1. Total Contribution to Rural E-Commerce Entrepreneurship and Employment Positions**

Rural e-commerce itself is an industry with strong employment capacity, which can provide a large number of entrepreneurship and employment positions, which is the most direct contribution to employment. In addition, the rural electricity has a strong industrial relevance, can change the traditional qi space layout, promote the transformation and upgrading of traditional industries, promote local agriculture, agricultural processing, agricultural products, agricultural tourism and other related employment development, form the local characteristic industry driven by e-commerce new ecology, indirectly bring a lot of business opportunities. Therefore, this paper uses the traditional number of personnel index to reflect the total contribution of rural e-commerce employment, including the number of rural e-commerce direct employment, the number of rural indirect employment, the number of rural e-commerce employment / the total number of employment in the region. The larger the value of each index is, the better the performance of rural e-commerce to promote rural entrepreneurship and employment is.

### **2.1.2. Contribution to the Entrepreneurship and Employment of Vulnerable Groups**

The employment of vulnerable groups has become one of the important risk factors affecting social stability and development, and it is a big problem facing China. The vulnerable groups in this article mainly refers to women, a large number of rural surplus labor, laid-off workers or landless farmers, the development of rural electricity to help these groups, such as due to the development of rural electricity and drive the express logistics, catering accommodation, packaging advertising, home stay facility travel and other related industries, effectively solve the problem of rural surplus labor transfer, also attracted a large number of migrant workers return home employment or entrepreneurship. Therefore, this paper selects the number of female employment, the number of rural labor transfers and the proportion of new employment to reflect the contribution of employment and entrepreneurship of vulnerable groups. The larger the above three values are, the better the performance of rural e-commerce to promote rural entrepreneurship and employment.

### **2.1.3. Employment Cost and Benefit of Rural E-Commerce Entrepreneurship**

The number of direct or indirect entrepreneurship and employment driven by rural e-commerce only means the scale of employment, which does not reflect the efficiency of resource allocation of the economic system. Therefore, it is also necessary to examine its cost and efficiency. The cost of entrepreneurship and employment can be measured by the degree of labor intensity. With the development of rural e-commerce, the rapid development of labor-intensive industries such as express delivery and packaging processing industry, opening up new employment opportunities for farmers. Therefore, the cost of entrepreneurship and employment can be reflected in the number of rural e-commerce employment driven by ten thousand yuan of rural e-commerce capital investment. Employment benefits are mainly reflected in the average income brought by rural e-commerce employment. Therefore, this paper selects two indicators: the number of rural e-commerce direct entrepreneurs / rural e-commerce capital investment, the total sales of rural e-commerce / the number of rural e-commerce direct entrepreneurship and employment. The larger the value of the above two indicators, the better the performance of rural e-commerce to promote rural entrepreneurship and employment.

### **2.1.4. The Internal Connection between E-Commerce Economy and Entrepreneurship and Employment**

The strong absorption ability of the rural e-commerce to the labor force reflects the internal connection between the e-commerce economy and the rural entrepreneurship and employment. This paper uses the employment absorption elasticity of the rural e-commerce to reflect the absorption effect of the e-commerce economy on the rural labor force. Employment elasticity refers to the percentage change in the number of jobs per change-percentage point in economic growth. The elasticity of rural e-commerce employment absorption is calculated by the ratio of the employment growth rate of rural e-commerce entrepreneurship and the total sales rate of rural e-commerce. Generally speaking, the greater the value is, the stronger the absorption effect of rural e-commerce on rural labor force is.

## **2.2. Current Situation of the Coordinated Development Mode of Domestic Rural E-Commerce and Rural Entrepreneurship**

"Agriculture, rural areas, and farmers" issues have always been the focus of China's modernization development process. The emergence of rural e-commerce provides a new way to solve the problems of "agriculture, rural areas and farmers". The development of rural e-commerce is promoted by the central government from top to bottom, and is passed through the release of policy documents to the provincial level through the layers of scientific departments. Provincial policy makers will produce the policy documents for the policy documents of the central government, and then form the policy documents for the development of rural e-commerce in the region. The following will analyze the development status of domestic rural e-commerce and rural entrepreneurship model from several successful cases:

### **2.2.1. Zhejiang Suichang: The Pioneer of E-Commerce Ecological Reconstruction + Rural E-Commerce**

In 2012, the county's e-commerce transactions reached 150 million yuan. In January 2013, Taobao Suichang Pavilion was launched. In 2014, the street rush project was launched, fully activating rural e-commerce. Suichang has initially formed the "Suichang phenomenon" of county e-commerce featuring special agricultural special products, multi-category coordinated development and urban-rural interaction. After the early "suichang", suichang the pace of suichang exploration did not stop, gradually promoted to "suichang mode", namely localized e-commerce integrated service as a drive, drive county e-commerce ecological development, promote local traditional industry, especially agricultural processing industry, "e-commerce integrated service + electronic retailing + traditional industry" interaction, form the information economic development path of the county age.

Following it, the launch of Suichang "Driving the Street" project opened the prelude to the breaking of rural e-commerce. The significance of driving the street is to open up the last kilometer of information in rural areas, allowing rural people to enjoy the same convenience and quality of life of online shopping as urban cities, so that urban people can eat rural agricultural products, and realize the integration of urban and rural areas.

From which we can analyze: multi-product collaborative online, to the association through the industrial link, the government policy support in place, with the strategic cooperation with Alibaba, relying on the effective interaction between service providers and platforms, online business, traditional industries, the government, to build a new e-commerce ecology, can help the county e-commerce to take off.

### **2.2.2. Lin'an, Zhejiang Province: Online and Offline, One Area and One Pavilion**

Zhejiang Lin'an based on its own advantage products nuts fried goods, backed by the location advantages of one of the advantages of Hangzhou, vigorously promote the development of county e-commerce. In 2013, the output of all kinds of high-quality ecological agricultural

products in Lin'an was 10,000 tons, with a total output value of 5.15 billion yuan, and the e-commerce sales of agricultural products exceeded 1 billion yuan. Lin'an actively carries out the linkage between urban and rural enterprises, including 7 agricultural products e-commerce demonstration villages, 38 e-commerce enterprises with more than 5 million total sales reached 565 million yuan; forming "two circles", Lin'an e-commerce Industrial Park, Longgang nut Fried Food Park, and many agricultural products bases.

From this we can analyze: online and offline cooperation go hand in hand, "one area + micro Lin'an", Alibaba Lin'an nut frying industry belt has become the first online wholesale platform in China, "Taobao. Characteristic China- -Lin'an Pavilion" is a set of tourism, media, entertainment, life, service in one of the local feelings of Lin'an WeChat platform-micro Lin'an.

### **2.2.3. Qinghe, Hebei Province: Abandon the Tradition + Follow the Trend**

In Qinghe, Hebei province, "e-commerce" has become the most distinctive commercial group in Qinghe County, and Qinghe has also become the largest online sales base of cashmere products in China. There are more than 20,000 stores on Taobao and Tmall in the county, with an annual sales of 1.5 billion yuan. The sales of cashmere yarn account for more than 70% of Taobao, becoming a veritable Taobao County.

And in the era of the traditional industry before, Hebei qinghe cashmere industry almost failed in the competition, began in 2007 in taobao selling cashmere unexpectedly successful, immediately result, in terms of infrastructure construction, the county constantly intensify, the current e-commerce industrial park, logistics industry clusters and warehousing center, such as a large number of e-commerce industry gathering service platform is under construction, qinghe is realized by the "taobao village" to "taobao county" transformation.

From which we can analyze: first is association + supervision + testing, maintain normal market order; second is incubation center + e-commerce park, training improvement, transformation and upgrading, on the whole line, build cashmere trading center, attract nearly 200 domestic enterprises to cashmere electronic trading; third is to establish B2C model of "Qinghe cashmere network", O2O mode of "velvet network", more than 100 merchants set up online shop above; fourth is to implement brand strategy, 12 brands won Chinese clothing growth brand, 8 brands won Hebei province famous trademark, 24 cashmere enterprises among "China cashmere industry".

## **3. Empirical Research on the Coordinated Development of Rural E-Commerce and Agricultural Entrepreneurship**

### **3.1. Sampling Method**

Considering the limitations of the survey, the scope of this sample survey was reduced to college students. Preliminary sample screening was conducted. Since the research object was rural e-commerce development, the local sample of rural hukou was retained, and then randomly sampled in the retained sample.

### **3.2. Letter, Validity Analysis**

In order to test the reliability and validity of the questionnaire, we distributed the online electronic questionnaire to the residents of Anhui Province before the formal questionnaire survey began. A pre-survey was conducted on 70 residents. In view of the problems existing in the pre-survey questionnaire, such as the masses completely do not understand the situation, we will directly jump to take the initiative to understand the degree of willingness in the future, and then end the questionnaire to answer, to save the research time. At the same time, we summarized the problems existing in the survey process and the questions raised by the respondents, and adjusted and improved the questionnaire again to improve the reliability and effectiveness of the questionnaire.

### 3.2.1. Reliability Analysis

According to the analysis of attitudes, suggestions and other class scales in the questionnaire, the pre-survey took the Cronbach's Alpha internal consistency coefficient as the basis to measure the validity of the questionnaire. The results showed that the overall reliability of the pre-survey questionnaire was 0.871, greater than 0.7, indicating that the data had considerable reliability and the questionnaire had internal consistency. Our analysis and test of the multidimensional Cronbach coefficients calculated from the scale in the questionnaire

**Table 1.** The Cronbach's Alpha coefficient table for each variable

variable	Cronbach's Alpha
Cognitive status quo	0.848
The influence of education	0.827
social influence	0.758
Media factors	0.836
Motivation of interest	0.854
Enterprise impact	0.826
economic factors	0.793

Therefore, we can know that the reliability of each variable is greater than 0.70, indicating that the data is quite reliable and the questionnaire has internal consistency, which can be conducted in the next analysis.

### 3.2.2. Validity Analysis

The factor load is greater than 0.6, which indicates that the pre-survey variables are of reasonable design and the collected data have good quality.

**Table 2.** Prediction check validity analysis table

factor	factor loading
Cognitive status quo	0.812
The influence of education	0.807
social influence	0.678
Media factors	0.816
Motivation of interest	0.854
Enterprise impact	0.728
economic factors	0.836

## 3.3. Investigation and Research

### 3.3.1. Construction of the Index System

E-commerce usually refers to a new business model, based on the application between customers / services, buyers and sellers, online shopping, online electronic payment between merchants and various business activities, transaction activities, financial activities and related comprehensive service activities are not affected by time and space.

Rural entrepreneurship is a dynamic concept with some changes in connotation in different times and in different development backgrounds. China's rural entrepreneurship is bound to have distinctive characteristics in China. The analysis of the basic connotation and concept definition of rural entrepreneurship urgently needs to be based on the rural development trend under the current rural revitalization strategy. According to the current Chinese rural resources structure, human endowment and strategic significance, rural entrepreneurship can be defined as: entrepreneurs using rural local resources (knowledge, skills, manpower, etc.), embedded in

the rural space situation or interact with the rural space situation under the premise of enterprises, in rural or remote enterprises and carry out business activities.

Due to the rural logistics system condition is relatively weak and backward conditions, the rural commodity circulation is generally "difficult to buy" and "difficult to sell" problems. On the one hand, it is inconvenient for farmers to buy the means of life and production; on the other hand, it is difficult for farmers to sell them and realize them. E-commerce, with the advantages of high efficiency and convenience, e-commerce can drive the development of rural economy, e-commerce with its unique transaction characteristics undoubtedly plays an important role in rural entrepreneurship, the development of rural economy. Therefore, the next paper will explore the degree of coupling between e-commerce and rural entrepreneurship.

Therefore, this paper first to the development basis, development scale, development potential three dimensions, build indicators to measure e-commerce, development level, and then to material resources, information construction, policy support three dimensions to build index of rural entrepreneurship development level, measure, finally the talent introduction as an intermediary variable, try to promote the specific path of rural entrepreneurship.

### 3.3.2. Data Source

The data of this paper are derived from China Statistical Yearbook and other public data. The indicators of this article are selected as follows:

**Table 3.** The Comprehensive Evaluation System of E-commerce and Rural Entrepreneurship Development

Level 1 indicators	Secondary indicators	Level 3 indicators
Electronic Commerce	Development foundation	The proportion of rural broadband users
		The density of rural express delivery outlets
		Online shopping, net business users account for the proportion
	Development scale	E-commerce transaction volume (year)
		Express delivery transaction volume (year)
		Number of express packages per capita (month)
	development potential	Rural e-commerce market share
The share share of e-commerce economy		
Rural entrepreneurship	material condition	Geographical resources
		natural resources
		ecological condition
	Information construction	Agricultural equipment renewal rate
		Introduction rate of highly educated talents
	policy support	Rural poverty alleviation rate
		The incidence rate of rural poverty
		Rural Engel coefficient

### 3.3.3. Methods and Model

The entropy method is used to comprehensively evaluate the development of e-commerce and rural entrepreneurship in each city, and then the coupling coordination model is used to measure the coupling coordination of the two systems and analyze their dynamic evolution process. The linear regression of e-commerce and rural entrepreneurship development, so as to measure the promotion degree of e-commerce on rural entrepreneurship development on the whole, and finally analyze the specific path of e-commerce technology to promote the development of rural entrepreneurship with the intermediary effect model.

#### 1. Entropy value method

(1) Standardize the original index data to eliminate the impact of different index units.

$$z_{ij} = \frac{x_{ij} - \min\{x_{1j}, x_{2j}, \dots, x_{nj}\}}{\max\{x_{1j}, x_{2j}, \dots, x_{nj}\} - \min\{x_{1j}, x_{2j}, \dots, x_{nj}\}} \quad (1)$$

Calculate the weight of each index. The normalized values were used as follows.

Calculate the proportion of each index;

$$p_{ij} = \frac{z_{ij}}{\sum_{i=1}^n z_{ij}} \quad (2)$$

In which, (2), Z is in the middleijRepresents the standardized each index data

According to the definition of information entropy in information theory, the information entropy of a set of data;

$$e_j = -\frac{1}{\ln n} \sum_{i=1}^n p_{ij} \ln p_{ij} \quad (3)$$

In which, (3), the PThe ij isThe proportion of each index

The weight of each index is calculated by the information entropy:

$$w_j = \frac{1 - e_j}{n - \sum_{j=1}^m e_j} \quad (4)$$

Where (4) in ejIt represents the information entropy of each index obtained

(3) Calculate the comprehensive score

$$s_{ij} = \sum_{j=1}^m w_j p_{ij} \quad (5)$$

Where (5) in WijRepresents the weight of each indicator

## 2. Coupling and coordination model

The coupling coordination model is used to measure the dependence relationship between e-commerce and rural entrepreneurship development.U1, U2The comprehensive evaluation score of e-commerce and rural entrepreneurship development is calculated respectively, and the coupling degree of e-commerce and rural entrepreneurship two systems is calculated through type (6): C:

$$C = \frac{2\sqrt{U_1 \times U_2}}{U_1 + U_2} \quad (6)$$

Calculate the coupling and coordination degree of e-commerce and rural entrepreneurship system D:

$$\sqrt{C \times T} D =, T = \alpha U_1 + \beta U_2 \quad (7)$$

(7) In the equation, T represents the comprehensive evaluation index of the two systems and the evaluation weight coefficient of the two systems, where the value is 0.α, β, 0.5

## 3. Benchmark regression

Each index of e-commerce is used to regression rural entrepreneurship, observe the impact of each indicator separately, and then conduct linear regression to the two systems of e-commerce and rural entrepreneurship, so as to measure the promotion degree of e-commerce on the development of rural entrepreneurship on the whole. In order to eliminate the possible heteroscedasticity and autocorrelation in the model, the mathematical model of e-commerce and rural entrepreneurship development is established as follows:

$$\ln Y = \alpha + \beta \ln X + \varepsilon$$



Among them, the natural logarithm is the comprehensive score of the e-commerce index system, the natural logarithm is the comprehensive score of the rural entrepreneurship development index system, and the  $\epsilon$  represents the random error term.

### 3.4. Empirical Analysis

#### 3.4.1. Coupling and Coordination Analysis

Based on the evaluation index system of e-commerce and rural entrepreneurship, the entropy method is adopted to measure the weight of each index, and the results are as follows

**Table 4.** Weight measures

metric	weight
The proportion of rural broadband users	0.1187
The density of rural express delivery outlets	0.1260
Online shopping, net business users account for the proportion	0.1598
E-commerce transaction volume (year)	0.1312
Express delivery transaction volume (year)	0.1439
Number of express packages per capita (month)	0.1070
Rural e-commerce market share	0.1596
The share share of e-commerce economy	0.1641
Geographical resources	0.1342
natural resources	.10257
ecological condition	0.1189
Agricultural equipment renewal rate	0.1148
Introduction rate of highly educated talents	0.1177
Rural poverty alleviation rate	0.1305
The incidence rate of rural poverty	0.1280
Rural Engel coefficient	0.1181

All the calculation results retain four decimal places.

From Table 2, the shows that transaction users account for a high proportion shows that e-commerce users play an important role in e-commerce, and the development potential plays an important role in the development of e-commerce.

The coupling dynamic evolution of e-commerce and rural entrepreneurship and development systems is shown in the following table (figure):

**Table 5.** Coupling degree evolution

a particular year	degree of coupling
In 2015,	0.8796
In 2016,	0.9772
In 2017,	0.9997
In 2018,	0.9962
In 2019,	0.9889
In 2020,	0.9971
In 2021,	0.9959

All the calculation results retain four decimal places.

From Table 3, the coupling between the two systems has been at a high level, with basically reached coordinated coupling since 2015.

**Table 6.** Coupled coordination degree evolution

a particular year	Coupling coordination degree
In 2015,	0.3819
In 2016,	0.4741
In 2017,	0.5895
In 2018,	0.6701
In 2019,	0.7468
In 2020,	0.8536
In 2021,	0.9173

All the calculation results retain four decimal places

3819.9173From Table 4 to see, in 2015 e-commerce and rural entrepreneurship development coupling coordination is only 0, after a few years, the two systems coupling coordination rising, by 2021, the two systems coupling coordination has reached 0, experienced the moderate disorder, basic coordination, moderate coordination until high coordination, that in 2015, the two systems in moderate imbalance stage, e-commerce and rural entrepreneurship development at a low level of mutual inhibition, by 2021, e-commerce and rural entrepreneurship development to achieve mutual promotion at a high level.

**3.4.2. Regression Analysis**

This paper tested whether the unit root using Eviews software, and the results are as follows:

**Table 7.** Variable ADF unit root test results

variable	A DF test values	P price	bear fruit
lnY	-14.5539	0.0001	steady
lnX	-3.8385	0.003	steady

The test results showed that the sequence was stable after taking the logarithm, allowing for a regression analysis. Using Eviews software, OLS method is used to estimate the equation of e-commerce in rural entrepreneurship as follows:

$$lnY = 0.4694lnX - 0.4173$$

R2=0.8673F=32.6892DW=0.8729

At the 1% significance level, the estimated equation can pass a significance test. The Engle-Granger two-part test, the residual sequence passed the unit root test. As can be seen from the estimation equation, e-commerce plays a significant role in promoting the growth of rural entrepreneurship. When other conditions remain unchanged, for every 1% increase of e-commerce, the level of rural entrepreneurship will increase by 0%..4694

**3.4.3. Analysis of Mediation Effects**

When studying the effect of X on Y, whether it will be achieved by M, if this relationship, there is a mediation effect, and vice versa.

The commonly used intermediary effect test has the gradual regression method, but because its test efficiency is too low, sometimes the intermediary effect itself cannot be tested. However, the test premise of the product coefficient method is that the intermediary effect () meets the

normal distribution, and the conditions are relatively harsh. Therefore, this paper introduces the intermediary variable of rural entrepreneurial talents, and uses the self-help method to test whether there is an intermediary effect. The results are as follows: $a \times b$

**Table 8.** Mediation effect test results

		constant	Electronic Commerce	Talent introduction	R2	adjust R2	F price
human being ability draw advance	B	-0.081	1.091*		0.726	0.671	13.229
	standard error	0.172	0.300				
	t	-0.473	3.637				
	p	0.656	0.015				
	$\beta$	-	0.852				
Rural entrepreneurship and development	B	0.147*	0.626**		0.943	0.931	82.347
	standard error	0.039	0.069				
	t	3.720	9.075				
	p	0.04	0.00				
	$\beta$	-	0.971				
Rural entrepreneurship and development	B	0.160**	0.454*	0.158	0.970	0.955	64.055
	standard error	0.033	0.107	0.084			
	t	4.866	4.237	1.887			
	p	0.008	0.013	0.132			
	$\beta$	-	0.314	0.314			

According to the above table, the correlation coefficient between rural entrepreneurship and talent introduction is 1.091, and through the significance test, which shows that e-commerce is conducive to the development of rural entrepreneurship, mainly because rural entrepreneurship provides more space for talent introduction. After the addition of talent introduction to the original model, the coefficient of e-commerce and rural entrepreneurship decreased from 0.626 to 0.454, which shows that e-commerce can be applied on the development of rural entrepreneurship through talent introduction, and the innovation mechanism of e-commerce can be tested.

Intermediation effect is as follows:

**Table 9.** Ratio of intermediary effect:

	Effect	Boot SE	B ootLLCI	B ootULCI	z	p
mesomeric effect	0.172	0.086	-0.527	-0.241	1.995	0.046

According to the inspection rules of self-service method, the intermediary effect path of e-commerce to rural entrepreneurship development exists, and the intermediary effect is tested, and 17.2% of the promotion effect of e-commerce on rural development of entrepreneurship is realized through talent introduction.

The products and services derived from e-commerce play a significant role in promoting the development of rural entrepreneurship, and the intermediary role of talent introduction shows that e-commerce on rural entrepreneurship development is partly realized through talent introduction, which is the difference between e-commerce industry and other traditional

industries. Through the application of the Internet and big data, e-commerce significantly reduces transaction costs and further improves the efficiency of resource allocation.

### **3.5. Conclusion and Suggestions**

#### **3.5.1. Conclusion**

This paper explores the combination degree of the e-commerce and the rural entrepreneurship system, and puts forward the e-commerce-based rural entrepreneurship system for the key problems existing in the existing rural entrepreneurship. The research results show that the influence of rural e-commerce gradually develops new channels of rural e-commerce operation, which not only brings new momentum for rural poverty alleviation work, but also effectively solves the problems in agricultural production and sales. In view of this advantage, the government and enterprises need to strengthen the support for rural e-commerce, on the basis of the traditional marketing model, establish a perfect logistics, service, marketing platform, give full play to the advantages of e-commerce, and promote the large-scale sales of agricultural products.

#### **3.5.2. Recommendation**

(1) Under the background of rural revitalization strategy, promote the innovative development of rural e-commerce poverty alleviation work, and actively build a perfect rural e-commerce logistics infrastructure by strengthening financial and material resources investment, and promote the stable development of rural e-commerce by relying on modern network communication engineering equipment and transportation conditions.

(2) This paper explores through the talent introduction to e-commerce for the development of rural entrepreneurship, therefore, under the background of rural revitalization strategy rural electricity poverty alleviation work innovation, need to strengthen the cultivation of rural leading talents, and the introduction of excellent electricity talents, through talent successful practice to stimulate more farmers to participate in enthusiasm, for the majority of poor farmers to provide more direct, rich and scientific electricity sales experience.

## **4. Results Analysis and Enlightenment of the Coupling and Coordinated Development of Rural E-Commerce and Rural Entrepreneurship**

### **4.1. Results Analysis**

#### **4.1.1. The Government Policy is Relatively Single, and the Township Support Strength is Not Enough**

Many farmers and college students choose to take the road of rural e-commerce entrepreneurship, and the biggest problem encountered is that the support mode of government policies is too single to play a strong leading role. Not only does there be no corresponding technical guidance plan, but also it is difficult to provide good help in terms of capital and resources, making it difficult to realize their own value in rural e-commerce entrepreneurship and break through the original scale. Township governments have no unified guidelines in agricultural products planting, resulting in rural e-commerce entrepreneurship college students who are busy learning technology and experience, unable to give full play to their own innovative advantages, which slows down the development speed of the rural revitalization strategy.

#### **4.1.2. Rural E-Commerce Entrepreneurship Lacks the Necessary Hardware and Software Facilities**

For entrepreneurs, the imperfect hardware and software facilities also cause serious problems for them. In terms of hardware facilities, there is a large gap between rural mobile communication, agricultural products logistics and transportation and towns. Especially for

logistics and transportation, due to the imperfect basic road construction in some poor rural areas, the logistics operation cost has become a large expenditure part of the agricultural products industry chain. In terms of software facilities, the rural Internet has not achieved comprehensive coverage, and there is still much room for improvement in network signals and Internet popularization. At the same time, rural water, electricity and other conditions are also facing severe challenges, hindering the development of rural revitalization strategy and the formation of agricultural products industry chain.

#### **4.1.3. Weak Awareness of Rural Entrepreneurship, Weak Talent Force is Weak**

At present, many people's rural entrepreneurship awareness is still relatively weak, and even say that very do not agree with it. For college graduates, they will choose to stay in relatively prosperous big cities even if they start their own businesses. They believe that cities have more opportunities, while rural areas are remote areas, with fewer opportunities in cities, and have little space and potential for development, so there is a great prejudice against going to rural businesses. Therefore, the rural labor force is more aging, and the rural talent is scarce.

### **4.2. Revelation**

#### **4.2.1. Strengthen E-commerce Training, and Vigorously Cultivate Professional E-Commerce Talents**

Rural revitalization depends on human resources. First of all, the e-commerce "poor households" publicity, to make them realize the significance of getting rich. Secondly, to cultivate network technicians, the government can mobilize the strength of all walks of life, organize professional network technology training courses, let them better understand e-commerce, familiar with the operation of network operation, and learn the basic operation skills of network marketing; establish university and government cooperation plan, let college students to the countryside, as enterprise technicians to guide farmers network operation. In this way, it can not only improve the practical operation skills of college students, but also provide certain training for the e-commerce professionals in China. In addition, according to the practical needs of China's e-commerce development, corresponding supporting policies should be formulated, hire high-level e-commerce talents, and formulate specific development strategies for them.

#### **4.2.2. Improve the Infrastructure in the Region and Reduce the Transportation Costs**

Compared with urban areas, the level of infrastructure construction is low, transportation cost is high, and transportation timeliness is poor. First of all, to ensure that the transport vehicles can reach each village in time. Secondly, we should strengthen the rural logistics infrastructure, and establish a sound modern rural logistics system; set up an e-commerce service station in the countryside, the delivery of goods, express delivery to the special personnel, not only to meet the needs of "run to a kilometer", but also to give full play to the rural idle manpower, promote local employment. Finally, the government can negotiate with logistics companies to provide some discounts for e-commerce companies with large transport capacity every year to minimize the transport costs.

#### **4.2.3. Use Famous Brands to Enhance the Added Value of Products**

We should give full play to the local characteristics, combine the local characteristics and the products, and improve the market competitiveness of the products. For example, a town has the unique location advantage of the first peach township in China, and with the "Arsenal" as the center, it has developed the tourism resources of the whole county, and promoted the production of peach trees in the whole county. At the same time, give full play to the favorable conditions of local industry development, and develop high-value commodities. Continue to transform the products sold to improve the price of sales. This can not only expand the sales varieties, but also form a long-term supply chain, so that farmers' income can be further

increased. Finally, the realization of "one town one industry, one village one product". "One household and one type" has the characteristics of towns, village area and farmers, which increases the added value of agricultural products and promotes the development of towns and townships.

#### **4.2.4. Establish an E-commerce Ecological Park, and Launch a New Model of Rural E-Commerce Development**

For the relatively remote rural areas and lack of transportation conditions, their development scale is small and their professional level is poor, and the relevant departments can set up an "e-commerce park". The e-commerce enterprises in rural areas are concentrated in one area and "operated" on behalf of them, so as to achieve the purpose of intensification. This way can not only effectively improve the operating efficiency of farmers, but also promote the development of local network enterprises. Explore new e-commerce development model, online product marketing and "agriculture and tourism integration" network marketing, using consumers to experience online, parent-child activities and on-site picking promotional activities to enhance consumer feelings and fun; online, to actively promote the "company + cooperatives + farmers" operation, farmers only planting, leading companies to do sales, clear division of labor, capital, technology, production and marketing, promote farmers benefit sharing, enhance the ability to resist risks. Develop digital products, develop products, and create brand-name products. Continuous development and innovation can not only create products with distinctive characteristics, but also promote the needs of consumers, and can make full use of the advantages of their products, develop local tourism resources, promote local sales, so as to promote the development of the primary, secondary and tertiary industries, make farmers increase their income and become rich, and realize rural revitalization.

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