Research on Promoting Entrepreneurship among Returning Migrant Workers

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Abstract: To encourage migrant workers to return to their hometowns for entrepreneurship, the Guangxi government has formulated a series of supportive policies under the guidance of national policies. Understanding the direction for policy improvement requires exploring what migrant workers truly want and what concerns they have. This paper first establishes an index system based on eight dimensions including subjective attitudes, physiological motivations, and social motivations through the construction of a Random Forest model, analyzing the importance of various factors affecting the willingness of migrant workers to return home for entrepreneurship. The study found that the factor "influence from peer groups or media reports" has a significant impact on their willingness. Secondly, using the AMIRA model to predict the per capita disposable income of rural residents in Guangxi for the next seven years, it was found that their income is on an upward trend, which is conducive to enhancing the willingness of migrant workers to return home for entrepreneurship. Lastly, based on the research, countermeasures and suggestions are proposed from the perspectives of the government, market, and society to promote entrepreneurship among returning migrant workers.

Keywords: Returning Home for Entrepreneurship, Random Forest Model, AMIRA Model

1.   Introduction

The policies aimed at encouraging returning migrant workers to start businesses in Guangxi have undergone several changes. These modifications are closely linked to China's economic development and policy adjustments, reflecting the challenges and opportunities Guangxi faces as a region in the west in balancing urban and rural development.

Since the reform and opening up, China's rapid economic growth has attracted a large number of migrant workers to cities. They have contributed significantly to urban construction and prosperity by engaging in various fields within urban areas. However, influenced by the financial crisis, and in recent years, with the acceleration of urbanization and the deepening of the rural revitalization strategy [1], an increasing number of migrant workers are choosing to return to their hometowns to start their own businesses. This phenomenon is growing nationwide, positively impacting rural economic and social development. Against this backdrop, policies supporting the entrepreneurship of returning migrant workers have gradually gained attention nationwide. To encourage this trend, the state has formulated a series of supportive policies aimed at lowering the barriers to entrepreneurship,

reducing tax burdens, and strengthening financial services for returning entrepreneurs, thereby igniting their passion for starting businesses and increasing their enthusiasm and success rates [2].

As an important province in China's western region and a major labor-exporting area, Guangxi has a large number of migrant workers [3]. To encourage these workers to return and start businesses, the Guangxi government has developed a series of locally tailored support policies under the guidance of national policies and based on the region's actual conditions [4]. Since 2009, it has issued documents such as the "Implementation Opinions on the Entrepreneurship and Employment Fund for Returning Migrant Workers in Guangxi for 2009" (Gui Zheng Fa [2009] No. 5) and "Implementation Opinions on Further Improving Migrant Worker Training Work" (Gui Zheng Ban Fa [2011] No. 218), among others. These policies cover the content of national policies and are further refined and innovated according to the actual situation in Guangxi, supporting and encouraging returning migrant workers to start businesses and find employment through financial, entrepreneurial training, fiscal, and tax policies [5]. These efforts not only promote urban and rural development in Guangxi but also provide more opportunities and platforms for the development of migrant workers themselves. According to the latest statistics, since 2009, many migrant workers in the Guangxi region have successfully returned to start businesses and re-employ themselves, making significant contributions to local economic development.

Through these changing policies, we can see the efforts of the Guangxi government to encourage returning migrant workers to start businesses. However, the implementation and effectiveness of these policies need continuous verification and adjustment in practice. This study analyzes the willingness of Guangxi's migrant workers to return and the factors influencing their decisions following the introduction of relevant support policies, hoping to help relevant departments formulate more effective policies to promote economic development and social progress in Guangxi.

2. Analysis of Factors Influencing the Entrepreneurial Intentions of Returning Migrant Workers Based on the Random Forest Model

Using the intensity of returning migrant workers' entrepreneurial intentions as the dependent variable and based on theories of intentional behavior such as the Theory of Reasoned Action, Theory of Planned Behavior, and Contingency Management Theory, this study proposes eight variable dimensions: subjective attitudes, physiological motivations, social motivations, achievement motivations, human capital, economic capital, social capital, and rural revitalization policies [6]. It constructs 21 secondary indicators, including confidence level, work attitude, life attitude, and risk preference, as independent variables for questionnaire design.

Table 1: Observed Variables Affecting the Entrepreneurial Intentions of Returning Migrant Workers [6]

Dimension	Observed variable
Subject attitude	Confidence level
	Working attitude
	Attitude towards life
	Risk preference
Physiological motivation	Meeting survival needs
	Obtaining Development Enjoyment Information
Social motivation	Influenced by surrounding groups or media reports
	Pursuing broader network resources
	Creating social value

Table 1: (continued)

Achievement motivation	Improve one's social status
	Realizing self-worth and comprehensive development
Human capital	Participate in vocational skills and entrepreneurship training
	Self learning situation
	Self learning ability
Economic capital	Compared to other families in this village, your family's income level
	Monthly salary for migrant workers
Social capital	Obtain useful information from family, friends, fellow villagers, and colleagues
	Frequently contacted relatives, friends, fellow villagers, and colleagues
Rural revitalization policy	Awareness of policies related to returning home for entrepreneurship and related training
	Awareness of entrepreneurial technology services
	Satisfaction with the support for rural revitalization policies

The questionnaire was distributed through a combination of online and offline methods, collecting 449 valid responses. After obtaining the related data, the sample characteristics were normalized, and the sample data were divided into a training set and a test set, each accounting for 70% and 30% of the total sample size, respectively. Then, the determined parameter values were input into the model, resulting in the following ranking of feature importance regarding the intensity of returning migrant workers' entrepreneurial intentions:
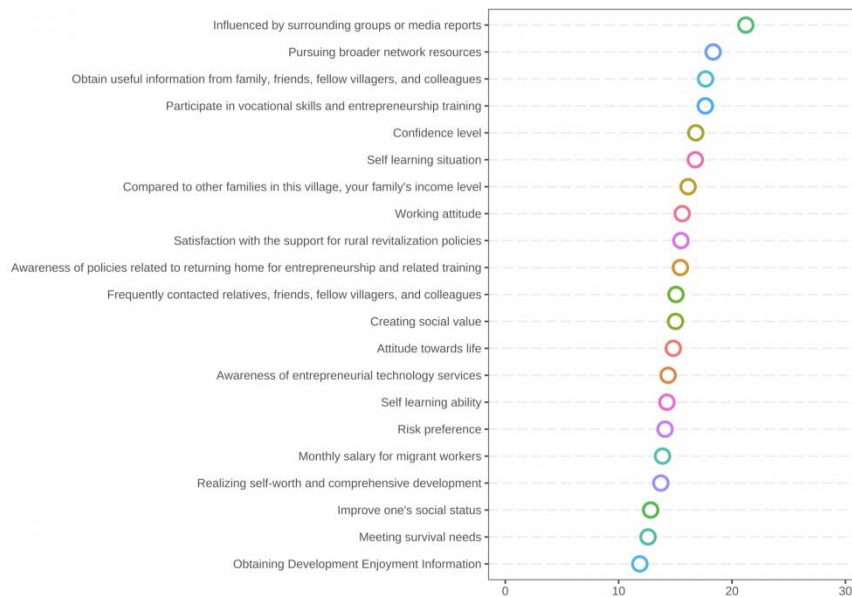

Figure 1: Ranking of the Importance of Features Affecting the Entrepreneurial Intentions of Returning Migrant Workers

The results show that the variable "influence from peer groups or media reports" holds the highest importance, followed by "seeking broader social networks" and "obtaining useful information from friends, relatives, fellow villagers, and workmates." These findings indicate that these features are

highly related to the intensity of migrant workers' entrepreneurial intentions and have a significant impact on the respondents' willingness to return home to start businesses.

3. Prediction of Per Capita Disposable Income of Rural Residents in Guangxi Based on the AMIRA Model

The broader environment for migrant workers returning to start businesses is in the countryside, which necessitates consideration of the local economic environment and market competition. By studying rural economic trends, returning migrant workers can better understand the development potential of the rural economy and the consumption capacity of local residents, thus creating more viable business plans and reducing the likelihood of entrepreneurial failure.

One important indicator reflecting the rural economy is the per capita disposable income of rural residents. The following table shows the per capita disposable income of rural residents in Guangxi from 2005 to 2022, as reported by the Guangxi Bureau of Statistics.

Table 1: Per Capita Disposable Income of Rural Residents in Guangxi, 2005-2022

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013
Per Capita Disposable Income(yuan)	2495	2771	3224	3690	3980	4543	5231	6008	6791
Year	2014	2015	2016	2017	2018	2019	2020	2021	2022
Per Capita Disposable Income(yuan)	8683	9467	10359	11325	12435	13676	14815	16363	17433

Given the time series nature of the data above, the ARIMA (Autoregressive Integrated Moving Average) model is chosen to predict the per capita disposable income of rural residents in the coming years based on historical data. First, the ARIMA model requires the series to be stationary, which necessitates conducting an ADF test on the data. The results of the test are shown in the following table.

Table 2: ADF Test Results

Variable	Differential order	t	P	AIC	Threshold		
					1%	5%	10%
Per Capita Disposable Income(yuan)	0	3.620	1.000	148.267	-3.889	-3.054	-2.667
	1	-2.560	0.102	147.697	-3.924	-3.068	-2.674
	2	-6.573	0.000***	140.157	-3.964	-3.085	-2.682

Note: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively

The test results indicate that at the 0th and 1st difference levels, the significance-reflected P-values are greater than 0.05, meaning the series is non-stationary. At the 2nd difference level, the P-value is less than 0.05, indicating the series has become stationary.

Next, the ARIMA model requires that the residuals of the model do not exhibit autocorrelation, i.e., the model residuals are white noise. The model test results are shown in the table below.

Table 3: ARIMA Model (0,2,1) Test Results

Item	Symbol	Value
Q-Statistics	Q6(P-value)	0.548(0.459)
	Q12(P-value)	1.851(0.933)
Information guidelines	AIC	235.264
	BIC	237.582
Goodness of fit	R²	0.996

Note: ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively

Based on the AIC criterion for finding optimal parameters, the model results for the ARIMA model (0,2,1) indicate that the P-value of the Q statistic is greater than 0.1, suggesting that the model residuals are a white noise sequence. Additionally, the model's goodness of fit is 0.996, indicating excellent model performance. The forecast results for the per capita disposable income of rural residents in Guangxi from 2023 to 2029 are shown in the table below.

Table 4: Forecast Results for Per Capita Disposable Income of Rural Residents in Guangxi, 2023-2029

Year	Forecast results(yuan)
2023	18870
2024	20367
2025	21926
2026	23545
2027	25226
2028	26968
2029	28770

The forecast results reveal an upward trend in the per capita disposable income of rural residents in Guangxi from 2023 to 2029, indicating continuous development of the rural economy. Simultaneously, as the income of rural residents increases, their demand for consumption and consumption capacity are also expected to grow.

4.   Conclusion

4.1.   Social Environment and Group Influence Are Important Factors Affecting the Entrepreneurial Intentions of Returning Migrant Workers

Based on the Random Forest model, the ranking of feature importance affecting the intensity of migrant workers' intentions to return home and start businesses was obtained. The results show that the variable "influence from peer groups or media reports" is of the highest importance. This means that when migrant workers consider returning home to start businesses, the influence of their surrounding group or media reports is very significant. For instance, migrant workers might be inspired to start a business after learning about successful returnee entrepreneurship cases through people around them or media reports. Following this, "seeking broader social connections" and "obtaining useful information from friends, relatives, and colleagues" indicate that migrant workers place importance on establishing connections and acquiring useful information. Rather than sifting through potentially unreliable information online, they rely more on people around them for information. In summary, when considering returning home to start a business, the social environment and group influences around migrant workers are very important. Positive influences from groups and media, expanding social networks, and acquiring useful information all positively impact the willingness of migrant workers to return home and start businesses.

4.2.   The Per Capita Disposable Income of Rural Residents in Guangxi Shows an Upward Trend

Based on the data from the Guangxi Bureau of Statistics on the per capita disposable income of rural residents from 2005 to 2022, and using the ARIMA model to predict the income for the next seven years, it was found that the per capita disposable income of rural residents in Guangxi is on an upward trend. This indicates that as the rural economy thrives, the environment for migrant workers returning to start businesses is increasingly optimized. The steady growth in the income of rural residents

enhances their consumption demand and capability, providing a huge market potential for entrepreneurial migrant workers. By keenly capturing market demands and offering competitive products or services, entrepreneurial migrant workers can significantly increase the chances of business success.

5. Countermeasures and Suggestions

The rural economy holds a certain weight within China's economic system, and the increasing number of migrant workers returning home to start businesses can, to some extent, promote rural economic development. Having acquired skills and experience while working in other places, returning migrant workers can introduce new economic activities, increase rural economic income, and narrow the urban-rural gap. Moreover, with the acceleration of urbanization, cities face issues such as overpopulation and resource constraints. Promoting policies for migrant workers to return home and start businesses can help reduce urban population pressure. Encouraging migrant workers to return home and start businesses can also address social issues such as left-behind children and elderly, promoting family reunions and social stability. To further increase the number of migrant workers returning home to start businesses, considerations from government, market, and societal perspectives are needed.

5.1. From the Government's Perspective

Government departments can establish consultation channels for returning migrant workers to inquire about preferential policies for starting businesses, aiding them in their entrepreneurial endeavors; often, returning migrant workers lack the necessary technical experience, leading to low competitiveness, so the government can set up training institutions to enhance their entrepreneurial skills; the government can also leverage local unique advantages to guide migrant workers into relevant industrial manufacturing.

5.2. From the Market's Perspective

Migrant workers often lack sales methods and channels when starting businesses back home, so sales platforms can be established in the market to find buyers; market activities can include motivational support for migrant worker entrepreneurship, helping them build networks, and by strengthening investment attraction and publicity, more investors can be encouraged to join the industry of returning migrant workers starting businesses; in the current era of unprecedented internet development, migrant workers can use the internet and e-commerce for online sales to expand their marketing channels.

5.3. From the Societal Perspective

By promoting policies for migrant workers returning home to start businesses through various channels, the awareness and coverage of these policies can be improved; encourage cooperation and exchange among returning entrepreneurial migrant workers to share experiences and resources, forming a positive entrepreneurial ecosystem; migrant workers themselves can take initiative in learning how to start a business, such as attending training courses and self-studying relevant knowledge, to continuously enhance their capabilities; migrant workers can build good social connections, maintaining contact with friends, relatives, and colleagues to obtain market information, opportunities, and experience about returning home to start businesses, providing support for their entrepreneurial decisions.

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