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Article

Study on the Expansion of Flower and Seedling Industrial Cluster in Taobao Village Driven by Multi-Factors—Cases of the Shuyang County in China

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Abstract: China's rural e-commerce has been developing rapidly. Taobao Villages are combination of e-commerce and rural industries. When rural e-commerce coverage evolves from Taobao village to Taobao town, the scale of industrial clusters has been expanding synchronously. This paper investigates flower and seedling industrial cluster in Xinhe Town, Yanji Town and Miaotou Town of Shuyang County, China, and conducts the econometric analysis of the expansive determinants of flower and seedling industrial cluster of Taobao Villages. An effective sample of 263 was obtained through a face-to-face survey of e-merchants of flower and seedling in the Shuyang County of Jiangsu Province. Bases on the structural equation modeling, series of test results show that the data can be used to calculate the path regression. The outcomes shows that creation of e-merchants of flower and seedling, integration of e-commerce platform, supply chain friendliness, involvement of e-commerce service providers, and governmental policy guidance are driving expansion of flower and seedling industrial cluster together, moreover, the five forces interact with each other. This implies that expansion of flower and seedling industrial cluster is a systematic process, each stakeholder needs to pay attention to the role of other forces, and five forces achieve a balanced situation in the cluster.

Keywords: industrial cluster; Taobao Village; expansion mechanism

1. Introduction

Taobao Village is exclusive phenomenon in China. It has been formally proposed since 2009. Their numbers increased from only 3 at first to 7023 in 2021 according to the "Research Report on Taobao Village in China". Taobao Village clusters also amounted to 151 in 2021. The growth of Taobao Village clusters and rapid area coverage have increased every year. The traditional industries take several decades to more than 100 years to develop, while Taobao Village accelerate their development by a few years [1]. If reviewing the villages' development history in China, it shows that small agriculture is at a disadvantage of inadequate modern management capacity, limited marketing channels, and narrow market scope, i.e. When internet integrates with the rural industries, new industrial form named Taobao Village appears by the standards from AliResearch. The Taobao Villages in the northern Jiangsu Province present special characteristics. The flower and seedling industry (FSI) is a local original industry with a long planting history, but it is not strong and unknown in the national market before the penetration of e-commerce in the Xinhe Town, Yanji town and Miaotou town in Shuyang county of Jiangsu Province. Though there is fierce competition between Taobao Villages, increasingly, Taobao Villages continue to emerge in the same town. When every rural village in the town became Taobao Village, these towns are named the appropriate Taobao Town by AliResearch. The new investors and large farmers continue to involve the FSI. The new businesses appear along the FSI chain. The related support businesses, such as web page design and

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maintenance, photography, video and image processing, financial services, logistics service, brand and management consulting and legal services arise in the same villages. Due to local limited agricultural land and huge market demands, online merchants or farmers expands their planting base to the whole country, such as Yunnan Province and Shandong Province. Even these online merchants buy the flower and seedling products in the whole nation, and then sell them to the world on the e-commerce platform, Taobao.com, e.g. With the expansion of flower and seedling industrial cluster (FSIC), different industrial pattern gradually achieves the initial targets which is "one product in a Taobao Village", such as bonsai in Zhouquan village e.g., to relieve inner competitive pressure. Given the many benefits brought by Taobao villages, researchers and policy makers are attracted to understand what factors contribute to the expansion mechanism of the FSIC in Taobao Villages. To date, there have been few case studies on this topic. Therefore, it is necessary to investigate the factors from the multi-agents concerned. The rest of the paper is organized as follows. The next section reviews the literature on mechanism of Taobao Village in China. Section 3 discusses the expansion mechanism of flower and industrial cluster. Section 4 builds an empirical research model and analyze the results. Section 5 gives conclusions.

2. Literature Review

The results of industrial clusters in Taobao Villages are a bit different from silicon Valley's industrial clusters in the United States. Taobao Village is the association of agriculture or processing industry with e-commerce in the rural area, and a special industrial cluster phenomenon [2]. The clustering of online business activities may be the appropriate developmental model for China's rural e-commerce. The cluster of Taobao Village integrates the related local industry, e-commerce (mobile e-commerce), wholesale markets, and express services, e.g. The transformation of semi-industrial rural areas into mass production clusters in Taobao Villages is described as a typical pattern of distribution-driven [3]. The studies pay attention on the formation mechanism of agricultural e-commerce clusters and Taobao Villages [4-9]. Taobao Village was born out of e-commerce Taobao platform. The cluster of Taobao Village needs some specific prerequisite factors. The market of e-commerce is occupied by less than 3 large and comprehensive e-commerce platforms in China. E-commerce platforms change the transaction costs of consumers purchasing in central city and rural commodities asymmetrically, and expand the demand for rural commodities, which is an exogenous driving condition for the formation of Taobao Village agglomeration [5]. The geographical location, such as land cost, transportation e.g., resources endowments and infrastructure play an important role in rural e-commerce growth and diffusion. The regional cultural tradition, demonstration effect of entrepreneurial leaders, logistics facilities, and rural elite staff, e.g., are the key driving factors and support conditions for development and transformation of the Taobao Village [10,11]. The standardized industrial products can be easily sold by e-commerce. The e-commerce of forest products needs more time and supports to reach the large-scale production for the limited capacity of standardized forest products [12]. E-commerce of fresh flowers is once constrained by storage facilities and logistics costs, and its development lags [13]. When Taobao village thrives, more logistics providers are attracted to set up their business in Taobao village. The e-commerce shackles of flower and products are broken. The diversified participation of government, farmers and social forces and effective cooperation are the key to the success of Taobao village [14].

Local government encourage the development of Taobao Village cluster which combines traditional entrepreneurial cluster with the rural e-commerce [15]. The orthodox location factors such as land cost, transportation, agglomeration, industrial foundation, and labor are involved into the spatial expansion and growth of FSIC in Taobao Village. Xinhe Town, Yanji Town and Miaotou Town have a long history of planting flower. A good agricultural industrial foundation is the advantage and potential for the development of e-commerce, and the development of Taobao Village in turn can further promote the

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integration of flower and industrial cluster resources [16]. The e-commerce associated with flower and industry breaks through the regional market scope constraints [17] to help farmers access low-risk markets by platform and realizes Schumpeter Growth of flower and industry [18]. The expansion of e-commerce industrial clusters changes the original ecosystem of Taobao Village, and trigger combinations of e-businessman, e-commerce platform, supply provider, online service provider and government to achieve the new resource allocation. With the emergence of Taobao Village clusters, there are few studies on the expansion mechanism of agricultural and forestry products. There is a lack of theoretical and empirical research to understand the expansion of FSIC in Taobao Villages. This study attempts to fill the gap as the example of Xinhe Town, Yanji Town and Miaotou Town in Shuyang County of China.

3. Materials and Methods

3.1. E-commerce expansion mechanism of FSIC

The theory of industrial cluster has been widely analyzed in many fields after it was put forward. E-commerce industrial cluster is a group companies in a specialized field that use the internet as a platform associated with business activities [19]. E-commerce service industry cluster is a group of geographically similar institutions or individuals who integrate their own advantages, share and complement each other's services, jointly to meet the customers' needs [20]. As a new type of industrial cluster, Taobao Village is developing rapidly. But industrial cluster theory is involved into the electronic commerce for a short time. Most Taobao Villages are spontaneously formed. When the scale becomes larger and stronger, Taobao Villages gradually develop into industrial cluster form. FSIC in Xinhe Town, Yanji Town and Miaotou Town show certain uniqueness. Before "touching the internet", local flower and seedling industry presented a certain agglomeration scale. Because of the challenges of peer competition, low enthusiasm for new product research and development, space transportation distance and fares, and convenience, et al., the offline flower and seedling industrial cluster encounters shackles in a narrow market. At early stage, entrepreneurs were booming in e-commerce of the non-agricultural industries. The successful entrepreneurs affect on many industries. Some traditional dealers of flower and seedling tried to sell their products on the e-commerce platform. Fortunately, they succeeded due to low initial cost and high flows on the e-commerce platform, Taobao.com. The village folks copy the successful experience and mode to help themselves for making fortune. The different organizational forms emerge, such as family-run shops, brother-run shops, and companies, et al. The imitative behaviors promote mass entrepreneurship and mass innovation in the villages along rural neighbor relationship networks. The rural social networks and imitation behaviors promote technology diffusion via e-commerce platform [4]. Expansion of industrial agglomeration shows that rural economies refresh again based on transformation of labor divisions and activation of geographic agglomeration effect. Thus, the e-merchant organization of flower and seedling is an immanent driving force to form the industrial cluster. However, the Taobao Village bases on Alibaba Group's Taobao platform and 1688 website. The e-commerce platform is the main marketing channel of flowers and seedling.

From free shop opening training to value-added payment projects, the e-commerce platform provides multi-directional services for online merchants. If the e-merchant violate the national laws and regulations，and the rules of platform, they will be punished, such as goods disappearing from the e-shop, or evidence being provided for police, et al. On the contrary, the e-merchant with good reputation will be rewarded with the return of sectional service fees for excellent compliance with the rules. In a word, the platform encourages online businesses in good faith. The e-commerce platform does change the inter-dependent relationship between clustering firms and local limited market by diversifying marketing channels and more easily targeting and accessing to national individual customers [21]. E-commerce platform keeps innovating services. Online services, based on virtual reality technique, short video, and live streaming, et al. do not only raise

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consumer experience, but also improve the ease of use and efficiency of online marketing. The integration of e-commerce platform and e-merchant of flower and seedling is a core position in FSIC.

The suppliers of production materials preferentially provide for e-merchant of flowers and seedling with seeds, fertilizers, pesticides, film, greenhouse steel frame and other basic production materials in proximity. Express companies provide the close services for e-merchant with door-to-door services or fixed stores to receive the flowers and seedlings. This supply chain services can better meet the demands of the planting base by low processing costs, small batches, multi-varieties, and quick reorders. The marketing for flower and seedling needs the services from photo designer, management operator, network anchor, and accounting consultant et al. The electronic payment service provider and e-bank are grouped into the businesses of clusters, too. Individuals from non-Agro-Taobao villages are 26% more likely to migrate than their counterparts from Agro-Taobao villages, after controlling for various factors [22]. With people migrating, capital, planting technology, network technology, marketing channels and so on, emerge into Taobao Village to strengthen the power of Taobao village and expand the scale of cluster.

The role of the government still cannot be neglected. Where market mechanism fails, government need to carry out some measures. The joint effort of entrepreneur and local government can weaken the institutional constraints of industrial cluster development [23]. The policy tools are used for establishing environment, creating demand, and creating supplying ability. But policy tools cannot directly intervene the cluster market [24]. In the context of polices named "streamline the government, delegate power, and improve government service", government releases and reduces the market intervention，and in turn market mechanism works to deal with the contradiction between market business and administrative affairs. The cooperation of "invisible hand" from market mechanism with "visible hand" from government work together to maintains the orderly market competition, such as "Campaign of Spring Thunder" in Shuyang County to govern the illegal behavior in the flower and seedling market to maintain the reputation of Taobao Village and product image. The governmental service efficiency is promoted by optimized service procedures and its content. Governmental duty reflects on optimizing hardware environment, designing rules, and implementing them. Thus, the government plays an indispensable role in the expansion process of Taobao Village and acts as promoter to supervisor. The stakeholders benefit from governmental guide. There appears interesting phenomenon, "poor government, rich farmers" in the above three Taobao Towns. This implies that market and government play their respective roles.

The expansion of FSIC shows that the rural economic organization of Taobao Village is gradually changing from looseness and homogeneousness to the strong multi-agent combination [25]. The planting bases in the Xinhe Town, Yanji Town and Miaotou Town, are expanding from local rural area to provincial region such as Yunnan province. The original physical agglomeration of flower and seedling industry appears transregional characteristics. But cluster community structure become stronger, division quality is optimized, and the operation performance and efficiency of FSIC is improved. This expansion trend is not only conducive to the homogeneity of flower and seedling products sales shops to obtain heterogeneous resources [26], but also to promote the economic development of poor areas. As a result, successful experience of Taobao Village model can be replicated and transferred again to help more regions to realize common prosperity.

3.2. Theoretical model

The e-merchants of flower and seedling（EM）are the main operator of the FSIC, which decide the nature and direction of Taobao Village. The e-commerce platform（EP）ensures the marketing operation of flower and seedling. Supply chain suppliers (SC) ensure the supply of the material basis of flower and seedling. The e-commerce service providers (ES) undertake business from other roles in the cluster. Policy maker (PM) provides necessary bottom frame for development and innovation of FSIC. These five roles

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do not only directly affect the FSIC, but also interact with each other. Combined forces promote the expansion of FSIC. Thus, with the guidance of the industrial cluster theory and investigation conclusions from Taobao Village, it designs five potential variables to depict function of corresponding roles.

Creation of EM(CEM) describes the influence of EM's subjective factors on the expansion of FSIC. Integration of EP(IEP) describe the strategic dependence of EM on EP. EM benefits from the expansion of FSIC in Taobao Villages. So, the closer the integration, the greater the benefits. Supply chain friendliness (SCF) depicts the guaranteed degree of EM's needs. Involvement of ES(IES) can explain the cover extent to which all kinds of e-commerce service providers undertake non-core flower and seedling businesses. Governmental policy guidance (GPG) mainly describes the effectiveness and efficiency of governmental policies to provide the services and the ability to maintain industrial prosperity. The expansion of FSIC (EFS) is mainly characterized by the re-growth and expansion of FSIC driven by five factors. As independent variables CEM, IEP, SCF, IES and GPG directly affect on the dependent variable EFS. CEM, IEP, SCF, IES and GPG interact with each other. Thus, theoretical model is built as shown in Figure 1, which includes 15 hypotheses as followed.

H1:Creation of e-merchants of flower and seedling has positive statistical significance on EFS.

H2:Supply chain friendliness has positive statistical significance on EFS.

H3:Involvement of e-commerce service providers has positive statistical significance on EFS.

H4:Integration of e-commerce platform has positive statistical significance on EFS.

H5:Governmental policy guidance has positive statistical significance on EFS.

H6:There is significant interaction between CEM and SCF.

H7:There is significant interaction between CEM and IES.

H8:There is significant interaction between CEM and IEP.

H9:There is significant interaction between CEM and GPG.

H10:There is significant interaction between SCF and IES.

H11:There is significant interaction between SCF and IEP.

H12:There is significant interaction between SCF and GPG.

H13:There is significant interaction between IES and IEP.

H14:There is significant interaction between IES and GPG.

H15:There is significant interaction between IEP and GPG.

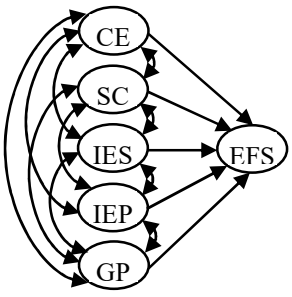

Figure 1. Theoretical framework for the expansion of FSI in Taobao Villages.

3.3. Study case

Three administrative areas, Xinhe Town, Yanji Town and Miaotou Town locates the Shuyang County. Shuyang County, which is between 33°53 to 34°25 North latitude and 118°30 to 119°10 East longitude, locates in the Suqian City of Jiangsu Provice. Xinhe Town is famous for its four bases of seedlings, bonsai, fresh flowers, and dried flowers. Yanji Town was awarded the first batch of "Hometown of Chinese Flowers and Trees" by China Flower Association and State Forestry Administration in 2000. Miaotou Town has been awarded the "National Ecological Town", the national "one Village one product" town,

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and "China Taobao Town". Shuyang County has become one of the five Taobao Villages clusters in China.

3.4. Investigation process

The e-merchants are the core of flower and seedling industrial cluster. Their judgement and experience may reflect the influencing factors on development and expansion process. Only e-merchants of flower and seedling in Yanji Town, Xinhe Town and Miaotou Town were invited to fill the formal questionnaire after exploratory questionnaire survey (Table 1). Every latent variable concludes three questions. All indicators of questionnaire used the five-point Likert scale (ranging from,1=strong disagreement to 5=strong agreement). Consideration of availability, this study used paper questionnaires to survey in summer of 2021 by past research social networks with e-merchants. In the end, 263 valid questionnaires were obtained, involving 26 Taobao Villages. The sample number of Taobao Villages surveyed accounted for 68.42% of the total number of Taobao Villages in Yanji Town, Xinhe Town and Miaotou Town, with an average of about 10 questionnaires per village.

Table 1. Item of questionnaires.

Construct	Items	Reference
CEM	I try to imitate the successful entrepreneurial behavior on the e-commerce platform. I am eager to set up online shops to earn money. Plentiful traditional experience of flower and seedling can benefit me for starting new online business**.**	[15]
IEP	E-commerce platform is easy to use for me(simplicity). E-commerce platform can help me look for the customers. Due to trust, the relation between e-commerce platform and e-merchants is gradually closer than before.	[27-29]
SCF	I think products deliver on time. I think order deliveries are accurate. I think quality of products are guaranteed.	[30]
IES	All kinds of services can be found in the village. I think services are easily met in the Taobao Village. I think services are efficient.	[31]
GPG	I think government is improving local infrastructure. I think government helps us get financial support. I think efficiency of governmental services improves markedly.	[32]
EFS	I think our products have strong competitiveness. I make incremental gains in industrial clusters. I benefit a lot from cluster sharing.	[33],[34]

4. Results

4.1. Sample description

SPSS ver.25 software and AMOS ver.22 software were used to calculate the data. The results show that the ratio of male and female is 57.03% and 42.97%. The proportion of age under 30 years was 25.86%, the age between 31 and 40 years was 40.30%, the age between 41 and 50 years was 19.39%, and the age over 40 years was 14.45%. The young and middle-aged group were overwhelming in the e-merchants of flower and seedling. In terms of education, the percentage of junior middle school was 6.46%, senior high school accounted for 36.12%, college degree amounted to 39.16%, bachelor's degree accounted for 15.97%, and postgraduate percentage was 2.29%. The educational degree of e-merchants of flower and seedling stayed in the middle level. 6.08% of e-merchants have

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operated online shops for 1-3 years, 17.11% for 4-6 years, 24.71% for 7-9 years, 39.54% for 10-12 years, and 12.56% for 13 years or more. The sample group of e-merchants of flower and seedling has a long experience of flower and seedling. There are 39.5% gold sellers of e-merchants rewarded by Alibaba.com. The statistical results shows that samples can represent the characteristics of e-merchants of flower and seedling in the three Taobao Towns.

4.2. Reliability and validity test of questionnaire

Table 2 lists the results after SPSS software calculated the data. KMO (Kaiser-Meyer-Olkin' Test) and Bartlett's Test were executed on 18 measurement items in the questionnaire. The test results showed that the whole items' KMO was 0.888 (greater than 0.7), the approximate Chi-square value of Bartlett's Test was 3342.277, and Bartlett sphere test ($p<0.01$) reached a significant level. Moreover, the latent variables' KMO was greater than 0.7, exception for EFS which was close to 0.7. All significance level of Bartlett sphere test was 0.000. So, it indicates that the questionnaire has good structural validity[35]. The Cronbach's alpha coefficient of scale was 0.925, and each Cronbach's alpha coefficient of latent variable was greater than 0.7, too. Moreover, the composite durability (CR) of constructs was more than 0.8, which showed a favorable condition by surpassing the prescribed 0.70 limit. It shows that the reliability effect of the outer model is ideal[36].The minimum factor load of the measurement items was 0.659. All factor loads were greater than the threshold 0.6, which met the standard [37]. It presents that these measurement items have good explanatory ability. The minimum AVE (Average Variance Extracted) of variables was 0.630, which satisfied the threshold value 0.5 [37]. So, it shows that convergence validity is ideal, too. Any value on the diagonal in Table 3 (the square root of AVE of the corresponding variable) was greater than the number below it in the same column (the correlation coefficient between this variable and other variables)[35]. It indicates that the correlation within the variable is greater than the correlation coefficient between variables, so the discriminant validity also passes the test. Thus, the measurement model for this study is confirmed to be valid and fitness. It can be further analyzed in the structural equation model.

Table 2. Factor analysis.

Latent variables	Measure items	KMO	Cronbach's alpha	Factor load	CR	AVE
IEP	IEP1	0.720	0.863	0.856	0.867	0.686
	IEP2			0.735		
	IEP3			0.885		
SCF	SCF1	0.716	0.843	0.885	0.853	0.659
	SCF2			0.778		
	SCF3			0.769		
IES	IES1	0.702	0.845	0.735	0.855	0.664
	IES2			0.900		
	IES3			0.801		
CEM	CEM1	0.717	0.879	0.848	0.884	0.719
	CEM2			0.784		
	CEM3			0.907		
GPG	GPG1	0.762	0.938	0.933	0.940	0.839
	GPG2			0.935		
	GPG3			0.879		
EFS	EFS1	0.695	0.832	0.829	0.834	0.630
	EFS2			0.659		
	EFS3			0.877		

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Table 3. Discriminant validity (HTMT Ratio).

	IEP	SCF	IES	CEM	GPG	EFS
IEP	0.828					
SCF	0.384	0.812				
IES	0.468	0.331	0.815			
CEM	0.447	0.399	0.540	0.848		
GPG	0.514	0.398	0.439	0.552	0.916	
EFS	0.776	0.526	0.621	0.727	0.735	0.794

Notes: diagonal represents square roots of the AVE, and the of-diagonal numbers report the correlation coefcients between constructs.

4.3. Fitness Assessment

To evaluate the fitting effect of the original data and the established SEM, Amos.22 was used to calculate the fitting index. The indicators as shown in Table 4 meet the optimal adaptation standard [34]. Thus, the results of these indicators shows that the theoretical model of established SEM and the original data have a good fitting effect [38]. Next, the path regression is applicable.

Table 4. fitting index.

Fitting index	Absolute fit index		Pared-down fit index				Value added fit index				
	RMSEA	GFI	PGFI	PNFI	PCFI	χ^2/df	NFI	RFI	IFI	TLI	CFI
Model index	0.064	0.904	0.635	0.727	0.753	2.086	0.927	0.907	0.961	0.949	0.960
Ideal standard	<0.08	>0.9	>0.5	>0.5	>0.5	χ^2/df<3	>0.9	>0.9	>0.9	>0.9	>0.9

4.4. Results of assumptions

The regression coefficients of the empirical structural model are shown in Table 5. Exception the exception for hypothesis 2 (Sig=0.026<0.05) and hypothesis 3(Sig=0.022<0.05), whose significant levels are less than 5%, all significance levels of hypothesis are less than 1%. So, at 5% significance level, all assumptions are confirmed.

5. Discussion

The regression relationship between CEM and EFS is the closest among the hypotheses because the regression weights of hypothesis 1 between CEM and EFS is 0.412 (P <0.01). It indicates that e-merchants who have plentiful experience of flower and seedling, are eager to imitate stars entrepreneurs for pursuing wealth, and willing to cooperate with peers to meet the sales needs of flowers and seedling. The farmers do not only expand the scale of planting, but also to open new planting base outside of local village. With the support of e-commerce platform innovative services, network anchors can stay in planting base and make live streaming to sell the flowers by mobile phone without inventory and purchasing in advance(Figure 2). Both can increase sales. Everyone can do it with enough aspiration, talent, skill, and integrity. A new business model of "farmers + live anchors+ e-commerce platform" is created, which has a low-cost competitive advantage. As a result, FSIC is intangibly expanded. In hypothesis 2, regression coefficient of SCF and EFS is 0.105 (P <0.05). The e-merchants and farmers need means of production and marketing accessories of flower and seedling. The suppliers guarantee the requirement of sellers and farmers on time with accurate deliveries and high quality. The results are that the e-merchants and farmers decrease occupied funds, as well as reduce expansion risk. In hypothesis 3, regression coefficient of IES and EFS is 0.119 (P <0.05). Because individual online business ability is limited, many businesses are given to the service providers. The internet merchants specialize what they are good at. Value chains theory invisibly and implicitly influences their behaviors selection and business. New services are gradually springing up. For example, brokers of flower and seedling use horn on the top of their house to post purchasing messages, and then sellers will freely delivery flower and

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seedling to brokers' door. The brokers put the low added-value, multi-varieties and small batches flower and seedling into a truckload for shipment. So, the services providers give a full range of services to solve e-merchants' worries. They are important roles in the FSIC. In hypothesis 4, regression weights between IEP and EFS is 0.287 (P <0.01). E-commerce platform increasingly creates and provides with new network services. They can satisfy consumers' demand with three-dimensional online experience to stimulate purchase desire. As a result, new customers can be found, and regular customers retains. Of course, e-commerce platforms benefit from different customers flows. As cluster becomes the strong become stronger, the businesses of flower and seedling are divided into different subgroups. Taobao Villages more easily attract capital and resources et al., to invest or replace local inferior business. The consequence shows that IEP can promotes the expansion of FSIC. In hypothesis 5, regression coefficient of GPG and EFS is 0.270 (P <0.01). It indicates that local government relieves administrative affairs about market mechanism, pays attention to the infrastructure and tidy living environment, and provides basic services for land supply, finance, and market supervision. Virtually, clean government, in turn, tend to promote the role of the market in resource allocation.

(a)

(b)

Figure 2. live streaming of flower and seedling industry in Taobao Village.

There are significant interactions among CEM, SCF, IES, IEP and GPG, and significant levels are less than 1%. In hypothesis 15, correlation weight between GPG and IEP amounts to 0.552 (P <0.01). The local government strives to seek concessions and benefits on behalf of Taobao Village. The cooperation between government and e-commerce platform maintains the reputation of Taobao Villages and promotes the brand of Taobao Villages to benefit the businessmen from the brand premium. So, Interaction of GPG and IEP is significant.

The correlation weight between GPG and CEM is 0.514 (P <0.01) in hypothesis 9. The correlation coefficient between GPG and SCF is 0.398 (P <0.01) in hypothesis 12. The coefficient between GPG and IES is 0.439 (P <0.01) in hypothesis 14. The e-merchants are at the heart of industrial cluster. The supply chain providers and services providers undertake the businesses from e-merchants. The above three roles gear up the expansion of industrial cluster. With the national polices to support the development of agriculture, rural areas and farmers, the favorable policies are issued by local government to promote the business enthusiasm of flower and seedling, adjust the industrial distribution, and keep free and fair market to attract more outside resources. When governmental policy is on its own duty, e-merchants of flower and seedling are concentrated on their business. When market failure appears, such as logistics companies compete fiercely and fake goods flood, government shall immediately intervene to stop it. So, interaction of GPG with CEM, SCF and IES is positively and significant.

The correlation weight between CEM and IEP reaches to 0.447 (P <0.01) in hypothesis 8. Taobao village is the integration of flower and seedling farmer and e-commerce. The e-merchants find new online market is larger than traditional scale. The e-commerce platform also found the rural markets. Urban flower market has been unable to meet the demands of urban residents to improve the quality of life and to resolve difference from urban-rural price competitiveness. The niche market after subdivision is occupied by Taobao village. So, Interaction of CEM and IEP is significant.

The correlation weight between CEM and IES is 0.468 (P <0.01) in hypothesis 7. The correlation weight between CEM and SCF is 0.384 (P <0.01) in hypothesis 6. Most e-

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merchants are small and beautiful organizations in Taobao Village. They focus their limited resources and all of vigor on the core business. The extra businesses of organization transmit to services providers and supply chain providers. However, services providers and supply chain providers are good at the transferred the businesses. The industry chain and relation of service are built among them. So, interaction effect of CEM with IES and SCF is significant.

The correlation between SCF and IES is 0.331(P <0.01) in hypothesis 10. The sequential business processes are different. Material suppliers, manufacturers, picture designers and advertisers, et al. work together as a community of interests to compare their peers. So, interaction of SCF and IES is significant, but the degree of interaction is the lowest among factors.

The correlation weight between IEP and IES is 0.540 (P <0.01) in hypothesis 13. The correlation weight between IEP and SCF is 0.399 (P <0.01) in hypothesis 11. E-commerce platform includes mass businesses. Mass businesses rely on the e-commerce platform. When the e-commerce platform provides new services, service providers and supply chain providers will be affected on the business process and contents, et al. Permitted delivery time from e-commerce platform, such as delivery in 24 hours and 48 hours, usually affects on the business process of supply chain providers. The supply chain providers will rely on e-commerce platform to reform businesses and purchase goods and services what they need. As a result, they insensibly extend the industry chain of Taobao Villages. When e-commerce platform puts up with new services, for example, photo and short-video et al.to depict the goods, service providers shall provide counterparts contents for e-merchants. Sometimes, service providers will be trained to use and understand the new services products in the Taobao University. Thus, interaction of IEP with IES and SCF is significant. In general, all of hypotheses are established, and their significance levels are less than 5%. The coefficients show different importance among the factors.

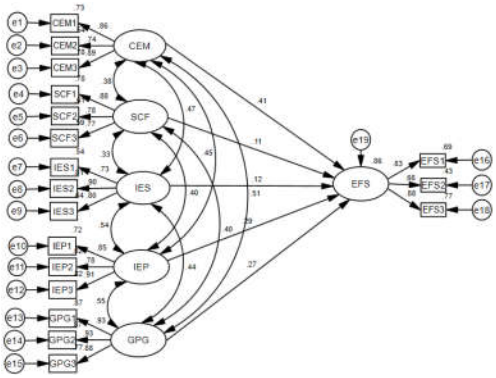

Figure 3. Results of path regression.

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Table 5. Inspection results of each path.

Path	Estimate	S.E.	C.R.	P
EFS<---IES	0.119	0.061	2.299	0.022
EFS<---CEM	0.412	0.045	7.371	***
EFS<---GPG	0.270	0.037	5.156	***
EFS<---IEP	0.287	0.046	5.114	***
EFS<---SCF	0.105	0.046	2.229	0.026
SCF<-->IES	0.331	0.056	4.276	***
IEP<-->GPG	0.552	0.112	6.989	***
IES<-->IEP	0.540	0.074	6.309	***
IES<-->GPG	0.439	0.078	5.593	***
CEM<-->IES	0.468	0.071	5.685	***
CEM<-->GPG	0.514	0.111	6.603	***
CEM<-->IEP	0.447	0.098	5.697	***
CEM<-->SCF	0.384	0.080	5.034	***
SCF<-->GPG	0.398	0.089	5.387	***
SCF<-->IEP	0.399	0.081	5.172	***

Note: *** represents significant at the 1% level.

6. Conclusion

In the Shuyang County of China, the planting and sales problem of flowers and seedlings affected by the environment plagued family farms and other agricultural business entities though local traditional flowers and seedlings industry have a long history. The businessmen in Taobao Villages usually have inability to develop technology which involved in new species, planting, sales, and information systems. But the scale of FSIC is expanding indeed from Taobao Village to the Taobao Town.

Through the analysis of the survey data of FSIC, the finding shows that the significant levels of hypothesis 2 and hypothesis 3 are less than 5%, others are less than 1%. Hence, all hypotheses are supported. CEM, SCF, IES, IEP and GPG have a directly positive significant effect on EFS. Moreover, there are positive significant correlations each other among CEM, SCF, IES, IEP and GPG. It indicates that the five factors (CEM, SCF, IES, IEP and GPG) do not only directly affect expansion of FSIC in Taobao Villages, but also affect each other to form a community of interests. From the perspective of systems theory, five factors are the interests of the whole to promote expansion of FSIC. So, all five factors need to be considered simultaneously.

This paper makes exploratory research on the factors driving the expansion of FSIC. Owing to the relatively few existing studies on FSIC in Taobao Village, and the author's limited grasp of relevant theories, there are some problems to be resolved, such as relatively small number of samples and insufficient sample coverage, et al. Due to the new phenomenon, it should further research on the theory of industrial cluster about Taobao Village. Certainly, influencing factor model should be improved.

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