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Government's role in cluster development: the case of textile industry in Gaomi, china

Master's Thesis

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I hereby declare that I am the sole author
of this master's thesis and it has not been
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Abstract

Based on the theory of industrial clusters and the theory of government function in Economics and Public Administration, the thesis analyzes the development of Gaomi Textile Industrial Cluster and the various roles played by the local government. The thesis introduces the present state of cluster's development, its characteristics and the development phases of Gaomi textile industrial cluster, and explores what role the Gaomi government plays in the development of Gaomi Textile Industrial Cluster. The thesis also identifies some bottlenecks for the further development of Gaomi Textile Industrial Cluster and therefore, given an active local government, suggests that the local government and other public sector agencies need to further consider how to provide effective public services to promote upgrading of the local textile industry. The thesis represents a qualitative exploratory case study. The interviewing is combined with the analysis of archival documents to collect the data and information about Gaomi textile industrial cluster and the government's participation and activities. The document analysis is based not only on legal documents and reports publicly available but also internal archives, survey reports, memos, and the local work reports. The thesis concludes with policy recommendations.

Keywords: industrial cluster, textile industrial cluster, local government, strategic alliance, China

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1 Introduction

From the perspective of global economic development, local industry develops as a cluster, which can become competitive and strong. Porter (1990) pointed out: in economically developed areas, industrial clusters are an important factor in accelerating economic progress. The textile industry belongs to modern light industry. At the initial stage of development, it relies on low-cost operation and low-tech. Over time, the textile industry gradually transforms itself from a family workshop to a small and medium enterprise. Intensive enterprise layout makes enterprises cooperate with each other, specialize, share information, effectively enhance the competitiveness of companies. Therefore, whether from the perspective of regional economics or policy analysis, textile enterprises should also seek the long-term development under the mode of industrial cluster (Qian 2003). It has been widely accepted that innovation is the engine for economic development (Schumpeter 1934), and has become the most important source of competitive advantage in advanced economies and building innovative capacity has a strong relationship to a nation's competitiveness and level of prosperity (Porter, Stern 1998). In the textile industry, the study by INNOVA (Montalvo *et al*. 2011) has concluded that the policy-oriented regulation can be an important driver of innovation for the average firms in the economy, including those in the textile and clothing industry. But regulatory uncertainty is highly and positively correlated to innovation in products and management systems. In contrast, various forms of regulation, such as environment and intellectual property rights regulations, exhibit only a moderate association to different types of innovation. This implies that the innovation policy should focus on creating framework conditions rather than concrete policy intervention in one particular sector (Montalvo *et al.* 2011).

Unlike the industry of biotechnology, information, automation, energy, advanced materials or transportation, the textiles industry is often regarded as a 'low tech' sector. But another study by INNOVA (Daches *et al.* 2011) pointed out the misunderstanding of the 'low tech' sector of the textile and clothing industry. Firstly, some segments (not considerably fewer firms) of textiles and clothing industry, such as the producers of technical textiles, depend very much on new technologies and invested heavily in R&D, and therefore the overall innovation level was underestimated. Secondly, low technology, often associated with lack of innovation, was misleading because some inputs and activities of non-technological innovation were missed out or ignored in the textile and clothing industry. The investments in non-technological innovation, such as design protected by trademarks and marketing innovation which mean the positive changes in product design or packaging, placement, promotion or pricing, are not usually included in official statistics and are undercounted instead (*Ibld*., 21). In addition, the non-technological innovation plays an important role in delivering not only the tangible functionality (covering and protecting the body) but also the emotional and symbolic values (personality and identity) of the textiles and clothing goods (Ravasi, Lojacono 2005; Di Maria, Finotto 2008). All of these characteristics can help the company to get more economic returns by satisfying the customers' demands better (Daches *et al.* 2011).

Furthermore, there is an increasing importance of new technologies in the sector because the main future innovation trends in the textile sector, including multifunctional materials， resource efficiency, renewable fibers, virtual prototyping and design, organization and distribution models, from volume to customized production, advanced machinery, etc., demand high-tech innovation and further need collaboration and cooperation with the supplier or customer sectors, and therefore especially require policy attention and the support from the governments (Zahradnik,

et al. 2010).

In the context of China's developing economy, textiles are considered a 'typical' case of an industry relying on low-cost labor and which is dominated by small enterprises but nevertheless the textile industry has developed and made great contributions to the economic development of China (Chan, Daim 2012; Zhang *et al* 2014). The relationship between the textile industry and the government institutions or policy has already been studied. The evidence of one study shows that the government institutional support via opening-up policy encourages firms to enter global market, and subsequently the initiatives from the accession motivate firms to upgrade technological capacity, although the innovation capabilities of the firms are still confined to production technology with little participation of firms using their own designs and brands and remain low in terms of R&D intensity. In a word, institutional support by opening-up policy has helped industrial upgrading and integration into global production networks (Zhang *et al* 2014). Another recent study of Chinese textile industry concludes that government policies are the most important source of competitiveness, in addition to domestic demand (Chan, Daim 2012). But now, as China's enterprises are gradually losing the advantage of low-cost labor (Zhang *et al* 2014), the improvement of cluster chain and transition upgrading have become the key tasks of current cluster development. In recent years, industrial clusters have attracted the attention of local governments, enterprises and theorists, but unfortunately, the related research on the role of government in industrial clusters is relatively scarce in China (Zhang *et al* 2004).

In Gaomi City, the mainstay industry is the textile industry mainly distributed in Chaoyang Street, Jiangzhuang Town. It was initially formed following the cluster-style development pattern. However, with the expansion of the scale of the

textile industry, because the industrial chain is not complete, brand strength is not sufficient, R&D capacity is not strong, and the industrial development process is going to be slow and difficult. Therefore, how to facilitate the development of a high-density textile industrial cluster through a long-term development strategy is not only a theoretical issue of industrial cluster development, but also a real policy problem to be solved.

Based on the above mentioned, this thesis intends to take Gaomi textile industrial cluster as a case study in order to make an inquiry into the development of textile industrial cluster and the local government's activities and roles. The thesis analyzes the evolution, development and the bottlenecks or difficulties faced now, and puts forward policy recommendations to promote the development of Gaomi textile industrial cluster, in addition to several previous studies (Sonobe *et al* 2002; He, Rayman-Bacchus 2010; Zeng 2010; Barbieri et al 2012).

This thesis aims to find answers to the following research questions:

- What is the current stage of development of Gaomi textile industrial cluster?
- What is the Gaomi local government's role in the development of Gaomi textile cluster?

Since this thesis seeks to explore what the current stage of Gaomi textile industrial cluster is now and what kind of role the local government has played, a qualitative exploratory research was conducted. Qualitative research, which is primarily concerned about "...insight, discovery and interpretation rather than hypothesis testing": (Merriam, 1988), is in line with the intention of the research. According to Yin (2003), research questions are categorized as: "explanatory, descriptive and exploratory". Research questions on **what** questions are exploratory, **who** and **where**

questions are likely to favor descriptive case study, whereas **how** and **why** questions are most suited for explanatory case study, history or experiments (Dobrovoda, 2017). The research questions in this thesis are **what** questions, so the exploratory research method is used here. Case study, the basic form of the qualitative research, is combined in the exploratory research here. The thesis chooses Gaomi Textile Industry Cluster as the case to make an inquiry into the activities and roles of local government. The interviewing is combined with the analysis of archival documents in the case study to collect the data and information about Gaomi textile industrial cluster and the government's participation and activities. In the interviewing, the interviewees included three related leaders of the administrative divisions of the local government and six managers of the enterprises in the cluster. Among the three officials, one is an experienced secretary of the director of The Economic and Information Bureau, and the other two are affiliated to The Textile Industry Cluster and The Consulting and Instructing Committee of Industrial Cluster in Gaomi City respectively. Meanwhile, the six managers from six representatives of the enterprises, among which two are large (SUNVIM Group and Silver Eagle Chemical Fiber Company), small and medium-sized enterprises respective, were interviewed to provide some complementary information. Document analysis, which can generate rich descriptions of a phenomena, event, organization or a program, is applicable to qualitative case studies and is used here as a secondary method of data collection to get the information about the history, evolution, the statistics and the size of the aggregate level of both the textile industry cluster and the activities of the local government. The document analysis is based not only on the legal documents and reports publicly available, but also on the internal archives, survey reports, memos and the work reports from Gaomi Government Office, Gaomi Economic and Information Bureau, and The Consulting and Instructing Committee of Gaomi Textile and Garment Industry Cluster.

This thesis consists of five chapters:

- The first chapter elaborates the research background, the research content and the research questions;
- The second part describes the relevant theoretical framework;
- The third part analyzes what is the current stage of Gaomi textiles industrial cluster and discusses the role played by government during the stages;
- The fourth part lists policy recommendations;
- The fifth part concludes.

2 Theoretical Framework

2.1 The Nature and Classification of Industrial Clusters

2.1.1 Concept of Industrial Clusters

In early stage, Marshall (1891) firstly proposed the concept of an industrial cluster, which is defined as a lot of similar small enterprises concentrated in specific areas. After that, many Chinese and foreign scholars elaborate on the industrial cluster from different perspectives, because of the different stages of development, disciplines and geographical diversity, the concept of industrial clusters also appeared diverse and it is difficult to get a unified conclusion.

Existing literature provides the following definitions of an industrial cluster:

- Porter (1990): A group of companies connected via vertical relationship (buyer, supplier) or horizontal or other affiliated relationship (common technology, channel, customer). He (1998) further explained it as a group of associates and companies geographically close, these institutions and enterprises are linked together because of their complementarity or commonality. They are in the same particular industry, the cluster usually includes the provision of education, training, research and technical support, information agencies, downstream industry complementary products manufacturers and the suppliers.

- Schmitz (1999): A wide range of labor division of the business group in the geographical and sectoral concentration of industrial clusters, which must have the professional innovation to participate in the local market competition.

- Nassimbeni (1998): A network of relationships among the companies that link

technology and production in a given region, within this network, enterprises, governments, and other industries interact and coordinate frequently.

- Jin Xiangrong (2002): In a specific geographical area, similar manufacturing enterprises are highly concentrated as its main features, between enterprises to form a highly specialized division of labor, the scale is generally small with strong corporate homogeneity, and there is a strong and brutal survival competition.

Based on the above literature, the following four major characteristics of an industrial cluster can be identified:

- The regional orientation of a cluster. Industrial cluster is an agglomeration of interconnected enterprises in a certain geographic area.
- The connection among industries. Cluster is formed by enterprises or institutions related to the industry connected either horizontally and/or vertically.
- The cluster network features. The industrial cluster forms a network structure layout based on the division of labor and specialization, in which enterprises communicate and interact through product, information, service and labor via either formal or informal contact.
- The economies of scale. The external economy effect of industrial clusters is an important guarantee of a regional competitive advantage.

2.1.2 Organizational Nature of Industrial Cluster

A cluster can be a subset of an industry, formed by only some constituents of the industry characterized by a persistent relationship over a period of time (Maskell,

Malmberg 1999). Typical cluster constituents include suppliers, producers, customers, labor markets and training institutions, financial intermediaries, professional and industry associations, university departments and schools, regulatory institutions and bodies of law and government (Dayasindhu 2002).

R.H. Coase (1937) mentioned in his work *The Nature of The Firm* that when constructing theories, economists have to investigate the basis to rely on, which will not only avoid misunderstanding and unnecessary arguments for lack of the cognition of the premise assumption of relevant theories but also help economists make correct judgment. Industrial cluster includes service agencies and economic organizations like homogeneous enterprises, upstream and downstream manufacturers, scientific research institutions and schools, all of which are connected by the formal or informal network forms, depending on each other and having wide and close relations. The industrial cluster in this thesis is defined as an intermediate network organization possessed of features of industrial concentration, industrial association, cluster network and economies of scale.

2.1.3 Evolution of Industrial Cluster

Ziman (2000) believes that technological innovation and management mode upgrading appear as the reciprocating development law of practice and learning, and to be exact, it is spiral escalation. Porter (1999) points out that once cluster starts to take shape, it will form a kind of self-reinforcement to promote the cluster to move forward. Granovetter (1973, 1985) particularly emphasized the non-trade interdependence between enterprises and thought that enterprises would build a communication and cooperation system by local gathering through rooting and netting for enhancing the technological innovation and competitiveness. According to existing body of research, scholars mostly choose staged methods to analyze the

evolutionary process of a cluster, and according to the development level and evolution law, it is usually divided into the stage of horizontal concentration, the stage of vertical concentration and the stage of collaborative innovation, which are also called the initial/formative, growth and maturity stages respectively (Markusen 1996, ; Fang 2005), see Figures 2.1, 2.2 and 2.3.

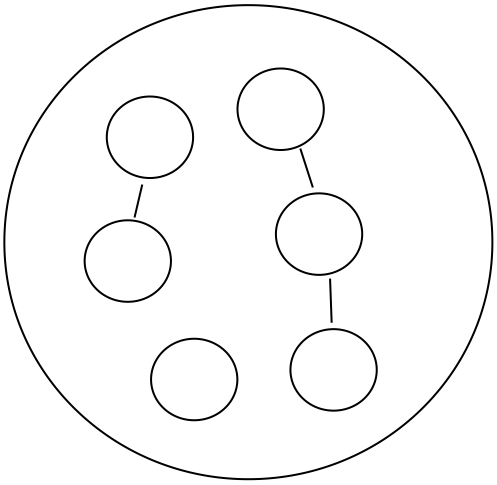


Fig.2.1 Model of Horizontal Stage

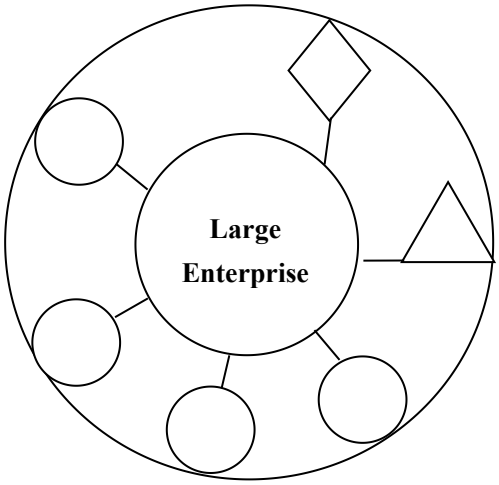


Fig.2.2 Model of Vertical Stage

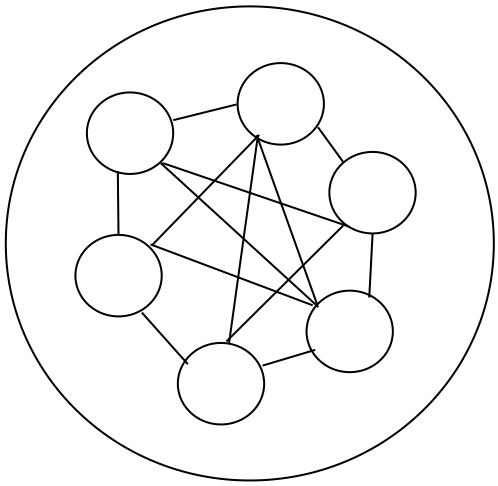


Fig.2.3 Model of Collaborative Innovation

Source: compiled by the author based on Fang (2005)

Figure 2.1 shows, the stage of **horizontal** concentration, which is the initial stage of industrial cluster evolution. In this period of concentration, the absolute scale of the enterprise is relatively small, and all are small and medium-sized enterprises (SMEs), or there is no monopoly enterprise. It mainly concentrates on the production or sales of a certain product, and enterprises are mainly in an equal cooperative relationship, tending to equal trade (Markusen 1996). With the aggravation of market competition and the overflow of learning effects, the enterprise scale expands continuously, which promotes industrial cluster to transfer to a **vertical** stage (see Fig.2.2). This concentration stage is also called an axle-type industrial cluster with one or a few large dominating enterprises (LE), and a great many small and medium-sized enterprises providing supporting service and realizing specialized product processing service according to the requirements of large enterprises (Markusen 1996). When industrial cluster continuously tends to maturity, cluster will enter the stage of **collaborative** innovation (see Fig.2.3), when large enterprises assign production to small enterprises around, and pursue the transfer from production-type enterprises to financial holding and brand management. Besides, many service-type enterprises and intermediary organizations and agencies emerge in cluster, which provides professional knowledge and technical support for enterprises (Alex 1997). The introductions of the three stages are shown in Table2-1

Table 2-1 The Comparisons of the Three Stages of an Industrial Cluster

Stages	Horizontal Stage	Vertical Stage	Collaborative Innovation Stage
Characteristics	All SMEs, the manufacturer or distributor of a certain product equal trading relationships	One monopolistic enterprise or a few large enterprises dominating the industry cluster, the upstream-downstream relationships with the large enterprise(s) directly	Many large and small enterprises, including financial intermediaries, research institutes, consulting and other service providers, etc, the loose network
The driving forces	resource endowment, geographical conditions, technology accumulation and market demands	economy of scale, professional or competitive advantage	Collaborative, innovative, development

Source: compiled by the author.

2.1.4 Types of Industrial Clusters in China

Since 1990s, a 'world factory' in China for various products has emerged, and China has built a competitive advantage during short three decades. Low labor cost is one of the reasons; another critical factor is the formation of industrial clusters, which has played a very important role in China's economic development.

Wang and Yue (2010) studied the evolution of China's cluster development and pointed out three phases from different periods: formation, consolidation, and upgrading or transfer. Different mechanisms occur in each of these phases. And based on different formation dynamics, China's clusters can be divided into two main categories: **endogenous** and **exogenous**. The **endogenous** type is driven by local factors, including natural resources, industrial history, scale of enterprises, institutions, markets, and local policy environment (Knorringa, Meyer 1998). Such clusters can be

found in light industries such as textiles, garments, shoes, food and beverages, and so on. These clusters can be found in many regions and are anchored to a network of small and medium towns somewhere between large cities and an interior countryside. The **exogenous** clusters are mainly driven by overseas Chinese firms and foreign investments (Markusen 1996), which are concentrated on the Eastern border of China. Those clusters developed because of the preferential development policy of coastal regions in effect since the 1980s. Among these clusters, there are well-known foreign ICT companies such as Zhong Guancun in Beijing, IBM, Dell and domestic companies such as Legend – they all established plants in these areas.

2.1.5 Main Features of China's Industrial Cluster Development

Before 2007, China's clusters were located mainly in the Southeast coastal region, especially in Jiangsu, Shandong, and Guangdong, where manufacturing clusters occupied 54.4% of the national total. The distribution ratio of industrial clusters in Eastern, Western and Central China was approximately 79:9:12 in 2007 (Liu 2008). Clusters in Central and Western China are mostly in the process of formation. While those in Eastern China are mostly advanced in terms of export ratio and innovation. Those in Central region have higher profits and development potential.

The development of all clusters is promoted by both central and local governments. Policies have played an important role in China's industrial clusters' development.

2.2 Features of Textile Industrial Cluster

Textiles is a traditional industry and remains an important industry in many developed countries (including the United States, Italy, France) as well as a pillar industry in developing countries such as Mexico, China, India, and Pakistan (Dickerson 1998). In the long-term development process, textile industry has formed a few distinct features

as compared to other industries:

1. Textile industry belongs to labor-intensive industry, whose labor-intensive degree and foreign-trade dependence are both at a high level. Though the degree of mechanical automation is becoming increasingly high, the production still can't be separated from large quantities of labor force.

2. The industry is characterized by a long industrial chain, high industrial dependence and many links involved. In the link of production, the process of the industrial chain is generally as follows: spinning-weaving-printing-clothing and home textiles. There are many intermediate links involved in the production, the terminal market is relatively small and the product life cycle is short.

3. The entry threshold of textile industry is relatively low. Textile industry belongs to light industry, whose technical requirements are not high. And compared with heavy industry, the scale is relatively small, and most enterprises start business from family workshops and gradually grow up. In this industry, enterprises are mainly small and medium-sized, such as Zhejiang Zhuji Sock Enterprise, Shaoxing Weaving and Shangyu Umbrella.

4. The technology innovation or upgrading will be unavoidable. Although the textile and clothing industry is often criticized for its underperformance based on R&D, yield of new products and workers' technical ability at the aggregate level, and it appears that globalization reveals higher requires in R&D, high-level technologies, and unique organizational concepts (Daches *et al.* 2011). In addition, intelligent materials will be widely used, and new techniques will make the textile industry use less and less low-skilled manual labor, energy and raw materials, and meanwhile, let the

production process more flexible and efficient (*Ibld*., 3). New products and production methods coexist with innovative marketing instruments, which may further create some new business models (*Ibld*., 3). On the other hand, more and more consumers would like to choose the more individualized products or those made of the materials providing the health or costing less, which will pose the pressures for the enterprises and the whole industry to innovate (*Ibld*., 3).

2.3 The Role of Government in the Development of Industrial Clusters

More active role of government was advocated by Keynes (1936) as the economy should be helped by the government rather than guided only by 'the invisible hand'. Mazzucato (2013) pointed out that the state should be as an entrepreneur that has ambition to make investment in such areas where uncertainties and risks are high. This is one of necessary responsibilities of the Entrepreneurial State. The government should also support innovation area and make investments in research and development, labor skills and provide direct and indirect support for technologies. Another key role of the government is about actively creating the market for new technologies, which means that Entrepreneurial State requires government to be an active driver in making long-term investments in innovative technologies. Besides, it requires the government to perform a leading role in building a highly innovative economy model and making a sustainable development, and the responsibility of government is not only about fixing market failures, but also creating new markets (Mazzucato 2013; Burlamaqui 2015). With regards to the intervening patterns, degree or policy instruments, some researchers discussed a lot, especially in the development of the industry cluster, which will be reviewed then.

2.3.1 The Market Regulator

Chinese government has been an important provider of the institutional context for the cluster. The influence of local government on the individual firm includes policies and regulation (e.g. tax benefits, operating licenses, support policies like finance, technological, and marketing services). When the larger social fields like a cluster in which relevant organizations are embedded become more complex, organizations' innovation behavior will benefit from their institutional environments through different organizational mechanism to get necessary resources (Zuckerman, D' Aunno 1990).

Qiu and Xu (2004) pointed out that during the transition to a market economy in China, the role of government evolved from 'local state corporatism', whereby local government participated directly in setting up enterprises to gain profit, and assumed the characteristics of a 'corporation', while its officials played the role of entrepreneurs. The government supported intermediary organizations and enabled them to replace part of local government's functions. Meanwhile, the Economic and Technological Development Zones (ETDZs) are approved by the central government and can adopt beneficial fiscal policies for their development areas, such as national and local tax reductions or tax holidays for foreign investment (Barbieri et al 2012).

In regards to the textile industry, Shaxi cluster has grown to be the largest garment cluster, and its evolution is typical of China's manufacturing clusters. With the support of the local Zhongshan government, eight out of ten famous national brands in this industry now come from the Shaxi garment cluster (He, Rayman-Bacchus 2010).

2.3.2 Provider of the needed Infrastructure

Porter (1998) pointed out that the local government should be responsible for the provision of infrastructure. Therefore, it is necessary for the local government to actively guide the standard development of the industry, improve the construction of infrastructure and service system, as well as strengthen construction of talent service system, information service system and financing service system so as to drive system reform and institutional norms, accelerate the marketing process of local economy, reduce government review and approval process and lower various charging standards.

At the same time, Sonobe and Otsuka (2010) pointed out that the local governments in Wenzhou not only allowed free economic activities, but also facilitated them by constructing several local marketplaces.

2.3.3 The Guider of the Industry Development

Further, Kang and Wang (2012) pointed out that in formulating cluster policies, local government has to fully consider regional characteristics and create atmosphere in favor of local entrepreneurs and innovative culture development.

It is one of the government functions to well complete overall planning of social and economic development as well as macro management so it is necessary for local government to recognize the important role a developing industrial cluster plays for a local economy. Besides, by clearly understanding the advantages and features of local industrial development, the government should put forward characteristic development plans of industrial cluster and design the future development blueprint

strategies of industrial cluster. Besides, the government can also help promote the market formation of intermediate goods, support key professional skills, guide enterprises to do specialized division and thus promote formation and development of industrial cluster.

2.3.4 The Agent

Government can work as a medium organization to promote enterprises to establish cooperation network within the cluster so as to provide public information platform for them. Tu (2009) believed that the government has to transform from direct intervention to indirect intervention, introduce intermediary service agencies and promote cooperation between enterprises and organizations. The intermediary organ plays an important role in communication between the parties. In addition, government can help enterprises within the cluster to establish industry associations and formulate codes of practice, and provide services to guide the communication among enterprises. At the same time, it is necessary to construct a multi-layered public information platform, accelerate construction of information consulting service, and establish labor educational training institutions accordant with development features of local industrial cluster; organize business incubation centers to provide incubation function for enterprises within the cluster, which further promotes the development and improvement of self-organizing system and socialized service system, strengthens the coordination and distribution of responsibilities among enterprises and reduce unavailability of information collection.

In summary, scholars suggest that government should only provide correct regulatory framework and needed infrastructure to fix the market failure, but empirical studies on industrial clusters in China show an active role of Chinese government beyond

these. So an exploratory research is needed to make a more description about the role of the government in the development of the textile industrial cluster.

3 The Case of Gaomi Textiles Industrial Cluster

3.1 The General Introduction of Gaomi Textiles Industrial Cluster

Gaomi City is a county-level city, one of the 12 administrative areas of Weifang city, Shandong Province in the east of China. It is located near the eastern coastal line, the population is about 893,252, and the economic development is among the medium-level cities (Gaomi Government Annual Report 2017).

Five industrial clusters, including textile, machinery equipment, security and defense necessities, food processing and biological medicine, have formed in Gaomi City by now, and their output value is about 80% of the total GDP of Gaomi City. Among them, the output value of the textile industrial cluster is about 40% of the total GDP of Gaomi City, a half of those five clusters. In other words, Gaomi City has become an important textile manufacturing base (The Industry Cluster Office 2017).

The textile industry has been the backbone and advantageous industry and by now has formed an industrial cluster covering home textile, cloth, dyeing, and clothing products. At present, there are more than 1,200 textile and garment enterprises in Gaomi Textile Industrial Cluster geographically concentrated mainly in the High-Tech Development Zone and Jiangzhuang Town in the northeast of the Gaomi City. In 2016, the number of the enterprises above designated size (above RMB ￥20,000,000 of business revenue) was 216, which have produced the total industrial output value of RMB¥ over 73,210,000,000, 74,220,000,000 sale revenues, 6,990,000,000 EBIT and 4,660,000,000 in taxes, rising by 10.5%、9.2%、8.1% and 10.4% from previous year (2015) respectively (The Industry Cluster Office, 2017).

The cluster now owns about 2,600,000 spindles, produces 400,000 tons of spinning, and 3,000,000,000 meters of cloth per year, and the exports keep ahead among the same level clusters in Shandong Province for years. As one of the top 10 industrial clusters in Shandong Province, the Gaomi cluster is well known for country-class two best brands and two well-known trademarks. In other words, the cluster plays an important role in local economic development (The Industry Cluster Office 2017).

3.2 The Empirical Research

In order to explore the status of Gaomi Textile Industrial Cluster and the activities of the local government, semi-structured interviews, which lasted about 30-60 minutes per interview were conducted in June and July, 2017, were based on the questionnaire by Feng (2013) and covered such questions as "What do you think of the textile industry cluster", "what are the advantages and/or challenges of the enterprises and the cluster ?", "what is the interactive relationship among the enterprises within the cluster", " what has the government done and to what extent does the government participate in the development of the cluster ", etc. During the interviews, in addition to the current situation of the cluster, the history of its development was also investigated. Not only the answers to the questions but also the secondary sources, including some internal work report, surveys or statistical data were provided by the interviewees, especially the three officials.

3.2.1 The Development of Gaomi Textile Industrial Cluster

1. The Small and Medium-sized Enterprises predominate in the cluster.

During the recent five years, the average number of the textile enterprises in Gaomi City is about a little more than 1,200, among which the enterprises above designated

size(above RMB￥20,000,000 of business revenue) is about 239 (20%). During the five years from 2012 to 2016, the numbers of the enterprises above designated size are 231, 277, 248, 223, 216 respectively. The majority, about 80% of the enterprises are small and medium-sized ones, whose total production scale is small (The Consulting and Instructing Committee of Textile Industry Cluster in Gaomi 2017）. In respect of the output values, three officials and four managers out of nine interviewees agreed that about 90% of the textile industry has been produced by the top ten largest enterprises in the cluster, including SUNVIM Group, Silver Eagle Chemical Fiber Company, and Dachang Textile Company. Just as A2 interviewee pointed out,

About 90% of the outputs of the industry belongs to the top ten largest companies, including SUNVIM Group, Silver Eagle Chemical Fiber Company, and Dachang Textile Company.

In the case of the largest enterprise of SUNVIM, here is the brief introduction. Established in 1987, SUNVIM Group Co., Ltd rapidly develops a comprehensive enterprise group, which focuses on home textiles including towels, bedding and decorative textiles, such as Home Textile Co. Ltd with largest global production scale and highest technical equipment level currently. Its export sales have always been the highest for national home textile industry since 1999. It has been listed on Shenzhen stock exchange since 2006, thereby becoming the first listed company in the national home textile industry.

2. The industrial chain is complete but unbalanced

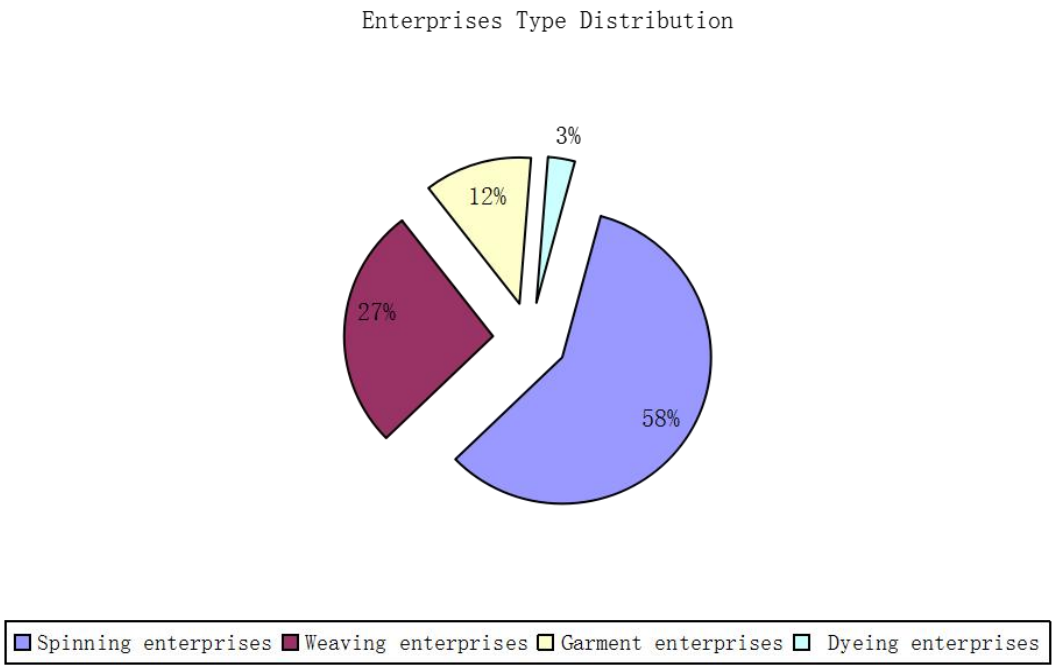
Although the textile industry of Gaomi has formed a relatively complete chain ‘spinning-weaving-printing-clothing and home textiles’, the development of the industry chain is unbalanced, and enterprises mainly focus on spinning and weaving.

The nine interviewees all expressed the same idea as the related statistical information. In 2012 there were 277 textile enterprises above designated size in Gaomi, and there were 140 spinning enterprises， 64 weaving enterprises, 28 garment enterprises and only 7 dyeing enterprises (Feng 2013), see Fig 3.1. In the following years, the number of enterprises above designated size changed more or less, but the proportion kept the similar status. As to the total enterprises in the textile industrial cluster, about more than 90% of them focus on spinning and weaving. On the other hand, in the downstream industry chain of the printing and dyeing, only less and less small enterprises still continue the operation. The six interviewees out of nine explained that,

The business of printing and dyeing operates on razor-thin profit margin, and has been discarded or transferred far away from the Gaomi City to Shaoxing City, Zhejiang Province because of either the technology scarcity of the manufacturers or high costs of water and electricity here, etc.

It is even worse in the end product manufacture. There are only less than 20% garment enterprises of the total 1200 textile enterprises, and more than a half are original equipment manufacturers, which can't utilize the upstream semi-finished products fully, and help to promote the development of them.

Fig 3.1 Distribution of Gaomi textiles enterprises' Type



Source：Feng (2013, 255)

3.A Great Majority of the Manufacturing Equipment Needs Upgrading

In the cluster, only a few large enterprises like SUNVIM Group and Silver Eagle Chemical Fiber Company have the advanced machinery. In SUNVIM Group, for example, the nine interviewees all agreed, the decorative textile plant has the world-class technical equipment including German Dornier high-speed rapier loom and Taiwan Dongwu overflow dyeing machine, mainly manufacturing decorative fabric such as decorative cloth, functional fabric, tablecloth and napkin, widely used in hotel, restaurant, automobile and household decoration, with annual output of 15 million meters. The products are sold to Europe and America and Taiwan and are well received by customers at home and abroad.

Most enterprises are faced with technical bottlenecks. On one hand, aging equipment leads to the inefficiency of the textile machinery, which has been used widely for a long time. The 75-inch shuttle loom, for example, is the primary manufacturing equipment in Gaomi Textile Industrial Cluster, which stands in contrast to some developed area such as Zhejiang Province and Guangdong Province, where the shuttle

looms have largely been replaced with the new modern jet looms. Apparently, this largely results from the lack of the funds to invest in new equipment for the enterprises, because it is well known that for small and medium-sized enterprises it is difficult to raise enough money from the banks and other financial intermediaries in China. On the other hand, some technical difficulties can't be overcome by the enterprises themselves owing to the lack of professional talents or research and development professionals. For example, according to what the interviewee of B3 said,

.....***the mixture in this company has been used more in unit product and the cost can't be lowered effectively. On the contrary, as regards to the dyeing, three times of profit per meter cloth more than our Company has been available through the application of the yarn-dyed weaving and computerized color measure and matching system in some enterprises in the south of China including Shaoxing City.***

4.The Enterprises Present Few of Their Own Or Well-Known Brand Products.

Most enterprises in Gaomi Textile industrial cluster focus on processing, which production scale is small and degree of mechanization is low. What's worse, the enterprises have no ability and even are not willing to improve technology or innovate the products, so they have no choice but to manufacture low-grade products. The proportion of enterprises possessing good brands is significantly low, and most enterprises haven't established their own brands, which mainly focus on original equipment manufacturer and accept customers' materials for processing. The four interviewees of B3, B4, B5 and B6 all expressed such an idea,

We are busy either raising enough money or finding the customers for order to let the business survive, let alone to innovate or build our own brand.

On the other extreme, it is SUNVIM Group, whose series of products have been awarded as honorary titles like ‘China Famous Brand’, ‘China Top Brand’ and ‘Chinese Export Famous Brand’, and the market share takes the leading position at home. These achievements originate from its strong and competitive technology development ability. Now, SUNVIM Group has National Technology Center, Laboratory and Post-Doctoral Research Center and is matched with most complete test base and testing laboratory of national home textile industry, forming powerful ability of technology research and development. Company’s three leading products of towel textile, bedding article and furnishing fabric have achieved international certifications such as quality, environment, safety and health. Up to now, it has taken part in formulating tens of national industry standards and more than forty core technologies have obtained national patents and more than one thousand varieties of products have been developed, which fully meet various needs of different customer groups. After more than thirty years of development, the company has formed the leading industry’s technology and equipment advantage and possessed a variety of production equipment such as weaving and textile printing and after finishing with world first-class level. Supported with affiliate enterprises like thermal power and running water, it has formed an integrative complete industrial chain gathering R&D design, cotton spinning processing, home textile manufacturing and domestic and overseas sales together, and its production capacity of towel series is the first of global textile industry. By virtue of high-quality products and well-deserved reputation, the company forms a long-term, all-dimensional and multi-layered close cooperation with the main international home textile brands. The products are exported to Asia, Europe, America, Australia as well as to many countries and regions like Middle East and South Africa, and has established well-deserved reputation in world home textile market (The Industry Cluster Office 2016).

5. The Less Comprehensive Degree of Association Exists Among the Enterprises in the Cluster.

The core of the industrial cluster is made of high geographical concentration of many enterprises in one industry, which can lower business costs, including production, transportation and exchange costs. The combined effect of the cluster helps to raise the efficiency of the economy of scale and make full use of the synergy among the enterprises, just as the case of Gaomi Textile Industrial Cluster. But unfortunately, the less comprehensive degree of association exists between the enterprises in the cluster now, according to what the interviewees suggested. Firstly, the competition and cooperation coexist in the horizontal association between the identical product manufacturers, but the competitive intensity is greater than the cooperative intensity. Secondly, vertical association can't cover all the enterprises who are the upstream-downstream enterprises. The processes of home textile, spinning, weaving, dyeing and garment manufacture lack matching cooperation and sound business exchange. As the largest end product manufacturer in the industry cluster, SUNVIM Group just places orders from Silver Eagle Chemical Fiber Company, Dachang Textile Company, and other twenty-one textile enterprises. Therefore the disharmony occurs: many small enterprises have to develop their own customers or market segment and sell their products outside of the cluster, and even in the whole country and abroad. On the other hand, some end product manufacturers often go out to seek the vendors. Thirdly, sharing the resources, information, innovation, technology and talent is also the most attractive advantage of an industry cluster. Because of scarce incentive mechanisms and policies, few enterprises would like to share anything valuable with others. Thus the government effective intervention is needed.

3.2.2 The Practical Activities of the Local Government

Before 1980s, according to related archival sources (Gaomi Government Office 2009)

and what A1 interviewee recalled, there were less than ten state-owned enterprises, including Gaomi County Cotton Mill and its subsidiaries which were called Cotton Manufacturing Plants located in about fifteen towns at that time, and Gaomi Chemical Fiber Enterprise.

Under the planned economy system, the output and prices were determined by the government. But since 1978 when China's reform and opening-up began, the textile industry in Gaomi City has developed a lot, which can be divided into the following three phases (Feng 2013; Zhang, Kong, Ramu 2014).

3.2.2.1 The Phase of the Reform and Opening-up (1978-2000)

After the opening and reform policy was carried out in China in 1978, the government of Gaomi City allowed many private enterprises to establish. In 1985, for example, about one collective-owned and twelve private cotton and/or linen manufacturing plants existed in Gaomi City, and more and more textile enterprises, especially private-owned enterprises occurred afterward year by year. There were total 423 textile enterprises in Gaomi City in 2000 (Gaomi Economic and Information Bureau 2015). During more than 20 years of reform and opening-up, the government of Gaomi City mainly did two things: one was to formulate the policies and regulations to encourage and help establish private and collective-owned textile enterprises, which totally broke the monopoly of the state-owned enterprises for a long time; the other was to change the ownership structure and the operational mechanism of the state-owned enterprises which withdrew the *Property right* of the state-owned enterprises and provided the efficient market mechanism, also known as the *Reform of the State-owned Enterprises in* 1990s as a response to the calls from state and Shandong Province.

3.2.2.2 The Phase of the Rapidly Growing of the Textile Enterprises and the Formation of the Textile Industrial Cluster (2001-2007)

As the branch of the government of Gaomi City, Gaomi Invest Promotion Bureau was established to specialize in drawing, promoting, coordinating of the foreign capital investment, and providing the integrative and comprehensive service. Meanwhile, the preferential policies were carried out to ensure that the land leasing, value-added tax and business tax, water and electricity charges were deducted partially or wholly. In 2004, for example, twenty one textile enterprises including those from other cities and provinces were built in the North and the Northeast of Gaomi City where the cotton-planting bases of Jiangzhuang Town and Xianjia Town are located. Also considering the convenient traffic and the proximity to the Eastern coastal line to export besides the cotton-planting base, the government decided to build the Textile Industrial Park Area there and encouraged the existing enterprises to move in too. In the following years, more and more enterprises moved into the park area, and in 2006 the number of the textile enterprises reached 246, that is 41% of the total textile enterprises in Gaomi City. In 2007, China's Famous Home Textile City title was awarded to Gaomi City by the Association of China's Textile Industry. Both of these show the formation of Gaomi Textile Industrial Cluster (Gaomi Economic and Information Bureau 2015).

3.2.2.3 The Phase of Growth of the Textile Industry Cluster (2008-2016)

Influenced by the financial crisis in America and Southeast Asian nations in 2008, the export sales and the outputs of the textile products in Gaomi City decreased apparently. Under such cases, the government built Qilu Textile Center which mainly provides the space to hold trade fairs, exhibitions and to display textile products, and to attract enterprises concentrating there to specialize in seeking customers, developing market segments, marketing, and selling textile products to promote trade

and cooperation. From 2010, the textile outputs and sales began to take a turn for the better with the economic situation improving, and developed continually. Just from then, the combined effect of the cluster began to appear, such as the local venders can deliver the cotton or semi-finished products with less freight costs and packing expenses etc., sharing the information of exporting demand and price fluctuations, and to attract more downstream manufacturers including those in other cities and provinces to place orders by one stop, which helps to increase the sales and raise a higher visibility and reputation, to mention the most. During this period, the government of Gaomi City has intervened heavily and done more activities directly according to the interviews and the government work reports.

In details, Gaomi Government 's main activities are:

1.Setting up the Professional Instructing Organization and Branch.

The Consulting and Instructing Committee of Textile and Garment Industry Custer and its practical administrative division named the Industry Cluster Office in Gaomi Economics and Information Bureau was set up in 2013, whose functions and duties are to investigate and collect the data and information of the cluster and provide some suggestions to guide and direct the future development of the industrial cluster. Until now, the government and its branches or representatives have done the following: firstly, organizing some managers of the local textile enterprises to visit the successful enterprises in Guangdong Province and Jiangsu Province; secondly, promoting the industrial-academic-research cooperation with over twenty universities, colleges and research institutes, including Wuhan Textile University, Donghua University, Qingdao University and Tianjin University of Science and Technology. It is said that The Cooperative Center of Wuhan Textile University with Gaomi City will be built and deeply cooperate in product research and development, technology innovation, the transfer of the scientific results and talent training. Thirdly, inviting some talents as

consultants or leaders to plan, design and instruct the development of the industrial cluster. Two most famous talents are Zhouxiang who is an academician from the Chinese Academy of Engineering and also a professor in Donghua University, and Wang Qiuhan, who is an associate professor in Wuhan Textile University and who will be appointed as the scientific deputy head of the town (The Consulting and Instructing Committee of the Textile Industry Cluster in Gaomi 2017).

2. Strengthening the government service functions and support.

To widen the mutual connections among the enterprises within the industry cluster, an intranet of the cluster was built in 2013 initiated by The Industry Cluster Office (The Industry Cluster Office 2016), which is necessary to focus on upgrading the existing level of public service, but also a new platform to provide a full range of services for Gaomi textile industrial cluster. In 2014, for example, two strategic alliances, The Strategic Alliance of New Material Application and Technology Innovation in Home Textile Industry and The Technology Innovation Strategic Alliance in Sports Industry were also set up with the leadership and the help of the local government (The Industry Cluster Office 2016). The former is made up of SUNVIM Group, Textile School of Donghua University, School of Chemistry and Engineering of Qingdao University and over ten textile enterprises, and the latter consists of twelve enterprises including Shandong Zhongbai Hanmei Technology Company, Xinxing Import and Export Corporation, and six research and education Institutes, including Shandong University of Science and Technology.

3. Guiding and Preparing for the Development Trends of the Textile Products.

In order to guide the healthy development of the industry, and normalize the industry self-regulation, The Consulting and Instructing Committee of Textile and Garment Industry Custer introduced the new changes and trends of the quality norms and

standards of the textile products in some countries including America, Korea and Japan and encouraged the enterprises to produce the products characterized with high-tech, energy-saving or environmental protection.

To help the entrepreneurs and managers grow, some experts are invited to give lectures on marketing, management and innovation regularly, and even the entrepreneurs are organized to participate in studying and training in famous universities. Entrepreneurs are encouraged to visit advanced areas and successful enterprises, and actively participate in various kinds of fairs and exhibitions so that entrepreneurs can further broaden their horizons and constantly know the market well. To improve the social status of entrepreneurs, Gaomi government rewards enterprises from the assessment of the tax, brand creation, technological innovation, R&D service platform construction and other aspects, to those who made outstanding contributions to the entrepreneur, in the form of free charge for the entrepreneur examination.

4. Encouraging R &D and solving the labor force shortage

To guide large and medium-sized textile and clothing enterprises to apply for technology center, engineer technology research center or engineer research center at national, provincial and city levels. On the one hand, applying for technology center could promote research and application of new technology, new material and new process, and develop new products of self-individuality, fashion and low-carbon. On the other hand, it could attract more investment opportunity to create a positive cycle and promote development of enterprises.

To make more youths interested in the textile industry and encourage more students to work in the textile industry after graduation, the Industry Cluster Office persuaded five enterprises in the Textile Industrial Park to be the outside-school practice bases of

the colleges, such as Gaomi Branch of Weifang Technician College, Gaomi Technical Secondary School and Gaomi Secondary School. The students can easily learn a lot by getting in touch with the manufacturing practices of textile products. Some skilled workers are invited to instruct the knowledge learning and skill mastering.

5. Trying to play the roles of backbone enterprises to promote the development of the small and medium-sized enterprises

In accordance with the 'Expansion-Introduction-transition' requirements, Gaomi government highlights the scale of business expansion of the growth potential enterprises. To play the role of radiation of large successful enterprises, small enterprises are encouraged to take the initiative to move closer to large enterprises, which helps to boost the development of SMEs, and achieve low-cost expansion of key enterprises. To foster more competitive companies, the government sorted out the top 50 of the most potential development of enterprises in the city, then focused on what the companies need urgently and tried to satisfy them. These enterprises achieved and will go on achieve the scale of expansion in a short period of time, which became a new economic growth point.

3.2.3 The Stage of the Textile Industrial Cluster and The Government's Role

From the data and analyses above, the textile industrial cluster can be interpreted to originate from the resource endowment and geographical conditions. The Textile Industrial Park, where most of the textile enterprises are located, is built near the cotton-planting bases of Jiangzhuang Town and Xianjia Town. Meanwhile, the nearby Ji'nan-Qingdao Motorway, Qingdao Airport and Qingdao Division of COSCO all can facilitate the delivery and logistics to and from any other cities, provinces or foreign countries conveniently. When the enterprises were concentrated in the Textile Industrial Park at first, most of them were attracted by the free land and the

preferential water and electricity charges and other business expenses or taxes, not considering others. As more and more enterprises moved into the park, especially after a few large ones, such as SUNVIM Group, Silver Eagle Chemical Fiber Company, and Dachang Textile Company also built their own manufacturing plants in the park, the number of deals between them began to rise gradually, and much more small enterprises joined the upstream sectors becoming the upstream vendors or downstream customers of SUNVIM Group, Silver Eagle Chemical Fiber Company and Dachang Textile Company, which shows the combined effects or success of the cluster. Unfortunately, some barriers or obstacles began to emerge, such as labor shortage, insufficient investment in R&D, poor access or insufficient funds and weak independent innovation capability. In general, the cluster is currently at a transition period from the horizontal stage to the vertical stage, even though some difficulties or bottlenecks appear.

The local government played different roles during the evolution of the textile industry, which can be classified into the followings according to the three phases of the cluster:

1. The enabler and regulator before the formation of the cluster. During the twenty years of reform and opening-up period, the government mainly responded to the central government's call to introduce, formulate and execute related policies and rules to encourage and help establish private and collective-owned textile enterprises, which was combined with the reform of the state-owned enterprises and the establishment of the market-orientated system.

2. Guide, and facilitator during the phase of the formation of the cluster. The Textile Industrial Park was initiated and designed by the local government, including the site

selection of the Park, construction of the infrastructures and the preferential taxes and special treatments available to the enterprises in the Park, etc.

3. Promoter and agent during the growth of the cluster. Qilu Textile Center was built to provide the trading platform and boost the reputation and sales. The Industry Cluster Office heavily played as an agent to invite the experts to give the lectures or professional instructions, to promote the industrial-academic-research cooperation with over twenty universities, colleges and research institutes, and organize the enterprises to join the trade fairs or exhibitions.

In short, the growth and better performance of the cluster show that Gaomi government and its administrative divisions have played an active role in the development of the textile industrial cluster. In brief, the empirical results can be summarized in Table3-1.

Table 3-1 The State of the Cluster and Roles of Gaomi Government in the Phase.

Stage:	**Horizontal→Vertical stage**
The State of Gaomi Textile industry Cluster	most of SMEs, also a few LEs the complete but unbalanced industry chain less small venders of the LEs weak innovation capability labor shortage
Roles of Gaomi Government	guider and facilitator； regulator; agent of encouraging innovation; service provider

Source：compiled by the author.

The table 3-1 shows the answers to the two research questions, but some bottlenecks or difficulties can be found from the above analyses, including the labor shortage, rising business expenses, insufficient investment in R&D, weak independent innovation capability.

As a labor-intensive manufacturing sector, the textile industry is low value-added business. What's more, the whole manufacturing industry is getting less and less attractive than the tertiary industry including the IT, high-tech, etc., either for the entrepreneurs or the employees during these years. Thus, in order to meet the production needs, most textile enterprises have to maintain the skilled textile workers by increasing the wages of workers to recruit, and even some enterprises make their all efforts to attract and retain employees to provide additional benefits in housing, education, health care, living facilities and other aspects, which increases the operating costs of enterprises. As we all know, the compensation tax, which includes the pension fund, medical insurance, unemployment insurance, employment injury insurance, maternity insurance and housing provident fund, almost accounts for the 40-50% of all the payroll of the workers, which is a very heavy burden for the employers, especially for those of the small and medium-sized enterprises in the textile industry clusters, just as in others in China (Démurger, Wan 2012). On the other hand, the electric charge, water rates and the land rentals are rising slowly during the recent five years, while in some regions in Zhejiang Province, some governmental subsidies are available to the small and medium-sized enterprises or those whose profits are below the market level.

Most textile enterprises in Gaomi start their business from family workshops, so they are mostly at the low end of the industrial chain mentioned above. Thus, they have

common features of low-end products, low technology content, low processing degree and low added value. Enterprises lack the capability of independent innovation, and the capital used for technical development is badly insufficient. Fortunately, Gaomi government has managed to introduce the professional talents and build up the platforms and mechanisms to promote the collaboration or cooperation between the textile enterprises and the higher educational institutes, but much work needs to be done to make the industry-academic-research model more effective and efficient and promote the innovation capabilities of the textile enterprises in the industry cluster.

4 Suggestions for Gaomi Government

Implementing the preferential policies to lower the labor and operating costs

To attract and retain the textile workers, especial the skilled ones, Gaomi government can do something to support the textiles enterprises. The successful activities of the governments in Zhejiang Province can provide some good ideas or benchmarks. For example, Gaomi government can design and implement the policies to subsidize the housing, education and family burdens of the low-income textile workers, or decrease the tax burden of the textile enterprises with low profit. In addition, Gaomi government should further improve the construction of hard environment in water, electricity, land, roads and other infrastructures, and make all attempts to decrease the fees, and even relieve the enterprises' worry to enter the cluster, or to attract accumulation of enterprises to the cluster.

Increasing investment to improve the industrial chain

The garment industry is the end of textile industry chain with high-value-added and great potential in the market. To increase the proportion of end products in Gaomi textile industrial cluster or the competitiveness and the popularity of the whole textile industry, Gaomi government should guide the investment flows to the downstream textile products. The local government should be responsible for improving the investment environment and making an attempt to integrate social financing, bank credit and venture capital investment so as to meet the demand for capital investment of the textile enterprises. Investment environment consists of two types: one is hard environment, composed of water, land, transportation, communication and electric power, etc.; the other is the soft environment of the ideological environment, institutional mechanisms, cultural atmosphere, policies and regulations and

government administrative capacity and level of soft environment. Therefore, the government should manage to broaden the financing channels for the clothing enterprises to raise enough money, improve the preferential policies and tax treatments in the respects of the discount on land use, taxation and others. To reinforce the service and administrative capacity functions of its administrative branches, the local government may strengthen the investment promotion responsibility system and assessment mechanism by putting the investment work assessment into the annual departmental assessment and introducing the incentive mechanism.

Introducing support policies to foster independent innovation of leading enterprises

To promote the cluster to expand continuously, Gaomi government should actively cultivate the strong or competitive enterprises, and make them play the "leading role" in radiation, technology demonstration, information diffusion and sales network. Innovation is the driving force of enterprise development and the success of enterprises to participate in market competition guarantee. To speed up the construction of innovation system is the new era requirements of the textile industry cluster development, the government should guide enterprises to seize the opportunity to deepen reform. Specific measures are:

- Guiding enterprises to take the road of ‘Industry-University-Research’, through strengthening the exchange and cooperation between tertiary institutions, and research institutes, to actively participate in various production and research activities.

- Accelerating the development of scientific and technological innovation strategic force. The rapid development of enterprises requires a large number of

professional and technical personnel. Colleges, universities and research institutes are important components of the innovation system and are the strategic forces to enhance scientific and technological innovation capability.

- Striving to create a good environment for innovation and entrepreneurship and strengthening the creation and protection of intellectual property rights.

- Multi-channel to financing, encouraging enterprises to increase investment in technology development funds.

5 Conclusion

On the basis of the related theory and Gaomi textile industry development present situation and characteristics, it can be concluded that Gaomi textile industrial cluster is currently in a transition stage from the horizontal gathering stage to the vertical stage.

In view of Gaomi government's policies and activities, the research result finds that the government plays several roles, including guiding, regulating, promoting, facilitating and being an agent in various phases of the development of Gaomi textile industrial clusters. In general, the role of the government is undoubtedly positive and has promoted the development of textile clusters.

As a result, the way forward for Gaomi textile industrial cluster should be： how to deal with the transformation of industrial clusters, break through the bottlenecks, and realize long-term development. So, the government is expected to perform the functions, use macroeconomic regulation and control to vigorously promote evolution and upgrade of textile industrial clusters of Gaomi City, and complete the environment support and policy support for evolution and upgrade of textile industry clusters. Main policy suggestions include: strengthening collaboration with higher educational institute, guiding the investment inflow to the end chain of the textile industry, and improving the preferential policies and tax treatments to attract and retain the textile skilled workers and even compensate the turnover or outflows of the textiles workers.

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Annex--About the Interviews

Interviewees

A1, Government officer, the experienced secretary of the General Affairs Office of Gaomi Economic and Information Bureau (2017, July 9).

A2, Government officer, the section chief of the Industry Cluster Office in Gaomi Economic and Information Bureau (2017, July 9).

A3, Government officer, the member of the Consulting and Instructing Committee of the Textile Industry Cluster (2017, July 14).

B1, Business Manager, SUNVIM Group (2017, July 14).

B2, Business Manager, Silver Eagle Chemical Fiber Company (2017, July 14).

B3, Business Manager, Gaomi Simeier Company (2017, July 18).

B4, Business Manager, Shandong Zhongbai Co. LTD (2017, July 18).

B5, Business Manager, Gaomi Kanghuize Co. LTD (2017, June 25).

B6, Business Manager, Renhe Dyeing Company(2017, June 25).

Interview Guide

1. How long have you been in the industry?

2. Have you experienced or known about the history/evolution of the industry cluster?

3. What do you think of the current status of the textile industry cluster? How about the number, size and product of the enterprises in the perspective of the development of the industry cluster or industry chain?

4. What are the interactive relationships between/among the enterprises within the cluster?

5.What are the advantages and/or bottlenecks of the cluster and/or the enterprises?

6.What has the local(Gaomi City) government done in the process of the development of the textile industry cluster? (such as policy, investment, service or others?)

7. Have you any other things about the textile industry cluster to tell us?