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ORIGINAL ARTICLE

Current state and development trend of Chinese furniture industry

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Abstract The Chinese furniture industry is important in the development of not only the furniture industry but also the social economy. From the point of view of the current state of the furniture industry in China, this review analyzes the current state of the industry's regional overall operation, industrial distribution, consumer market, development of industrial technology, and information industry chain in detail. After analyzing the product brand construction and market competition, industry cost, customer demand and consumer protection, industrialization and information integrations, resource and environmental challenges, this article give a detailed interpretation of a new state and challenge that the Chinese furniture industry will meet in the future. Meanwhile, the authors also suggest several measures, including promoting the development of industrial clusters and improvement of the whole industry chain, technological content, and added value of furniture production. The results of this article should have practical significance for sustainable development of the Chinese furniture industry as well as the world furniture industry.

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Introduction

In the more than 30 years since its beginning in 1980, the Chinese furniture industry has developed rapidly. Due to use of advanced equipment and the high technical level of workers, the quality of products has been improved, and sales continue to expand. In 2004, Cao et al. [1] reported the production, market development, and wood imports of the Chinese furniture industry. Using a structural equation model, Robb et al. [2] highlight the relative importance of the supply chain and operations practice and showed that the impact of practice on business performance is mediated by the capabilities of operations in Chinese furniture manufacturing. More than 10 years later, the Chinese furniture industry has developed from a traditional handicraft industry to a production using mechanical automation. Wu [3] reported that Chinese furniture industry has become an important industry that produces many kinds of furniture, high economic benefits, more employment opportunities, and meets the demands of domestic and foreign markets. The Chinese furniture industry plays an important role in the international furniture trade, and the whole furniture industry is moving towards industrialization. Focusing on the evolution of research and development (R&D) capacity and net exports (NE) of the Chinese furniture industry, Cheng et al. [4] concluded that if the world economy grows in a stable manner, the R&D capacity and NE of Chinese furniture industry should confirm the Tang et al.'s [5] model. However, if a sharp fluctuation in the international market occurs, R&D capacity and NE of Chinese furniture industry most likely will be unstable. After analyzing the dynamic relationship between the R&D capacity and trade in the Chinese furniture industry, Diao et al. [6] pointed out that the R&D efforts need to shift their emphasis from fostering learning capacity to fostering innovation capacity.

With the development of the policy, the Chinese government vigorously promotes the construction of new urban housing. This policy also can promote the development of the furniture industry. Meanwhile, due to steady economic growth, Zhu [7] and data of the Chinese Research Center [8] showed that the Chinese people have more money to improve and decorate their living space; in particular, the commercial housing policy creates a substantial increase in the sales of housing and will powerfully increase the demand for furniture. On the other hand, the continuous appreciation of yuan (the official currency of the People's Republic of China) has weakened the low-cost advantage of the furniture industry, and the export decrease tends to slow the growth of the furniture industry. In view of the present situation, the Chinese government announced two positive policies in 2015. The "Internet plus" policy encourages people to use network information technology (IT) to promote innovations in e-commerce and online shopping. The "made in China 2025" policy is a comprehensive guidance on the development direction of the manufacturing industry, especially to improve the technology and product quality.

In such realistic Chinese conditions, it is very important to consider how to improve the quality of the furniture industry, allocation of global resources, improve production efficiency, and gradually realize development from a "labor-intensive" to a "labor + technology-intensive" industry. The Chinese furniture industry must select a new industrialization model to achieve the globalization of the production of furniture, globalization of consumption, globalization of services, and globalization of research and development. In order for readers to have a comprehensive understanding of the Chinese furniture industry, this review will describe the Chinese furniture industry status, current state, problems, and challenges involving technology improvement and marketing. The sustainable development and upgrading of Chinese furniture industry are also discussed.

Current status and development of Chinese furniture industry

Status

Furniture plays an important role in people's lives. It is closely involved in people's work, study, and entertainment, as an evergreen industry in human society. The furniture industry is an important part of the ecological industry in the whole wood industry chain, as shown in Fig. 1. In Fig. 1, the solid line represents the forestry downstream industry chain and the dotted line indicates the forestry is involved in industry chain. It can be concluded that as a final product, furniture involves the integration of material, technology, art, function, and culture. The style and cultural characteristics have become the main parts of the furniture. The Chinese furniture industry constantly promotes the development of the wood industry by means of the international industrial transfer, integration, world trade improving people's living standards by a stable national macropolicy. It can accelerate the export and stimulate domestic consumption to meet the domestic investment as a leading industry and become a pillar of the domestic employment demand-type consumer industries. That is, the furniture industry has the power to guide the development of the wood industry in China.

Current state

Overall operation of the furniture industry showed a rising trend

The data from Chinese National Bureau of Statistics and Customs Statistics [9] are shown in Fig. 2. China furniture production was value at 1400 billion yuan in 2001, but reached 11,300 billion yuan in 2012, accounting for 2% of the whole Chinese gross domestic product (GDP) (519,322 billion yuan in 2012) and 25% [9] of the world total furniture production. The Chinese furniture industry that exported to international markets in 2012 is summarized in Table 1. It shows that the market was mainly the USA and Europe. The total export from 2001 to 2014 is shown in Fig. 3. The increasing export value suggesting that China has become the world's furniture production and export country.

Because the number of Chinese small furniture enterprises is changing, the National Bureau of Statistics and the Customs cannot obtain accurate statistical data, and statistics on these enterprises come from the China Light Industrial Economic Operation Center from 2013. In 2014, the enterprises, whose main business income was over 5 million yuan, had reached 4942, of which 3988 were domestic enterprises, accounting for 80.7%; 488 were Hong Kong, Macao, and Taiwan enterprises, accounting for 9.9%; and 466 were foreign enterprises, accounting for 9.4%, respectively, classified according to the nature of the capital. Wood furniture enterprises were 3165, accounting for 64.0%; metal furniture enterprises were 925, accounting for 18.7%; plastic furniture enterprises were 83, and Taketo furniture enterprises were 75, respectively, according to the material classification. Total production

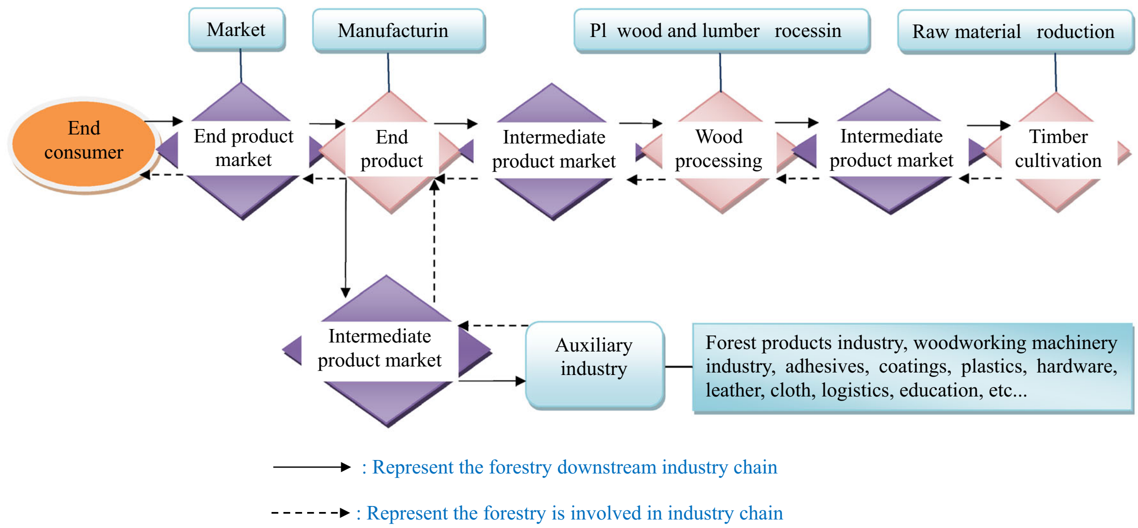

Fig. 1 Furniture industry status in the whole forestry industry. *Rightwards arrow* represents the forestry downstream industry chain. *Rightwards dashed arrow* represents that the forestry is involved in industry chain

Fig. 2 Gross output value of Chinese furniture

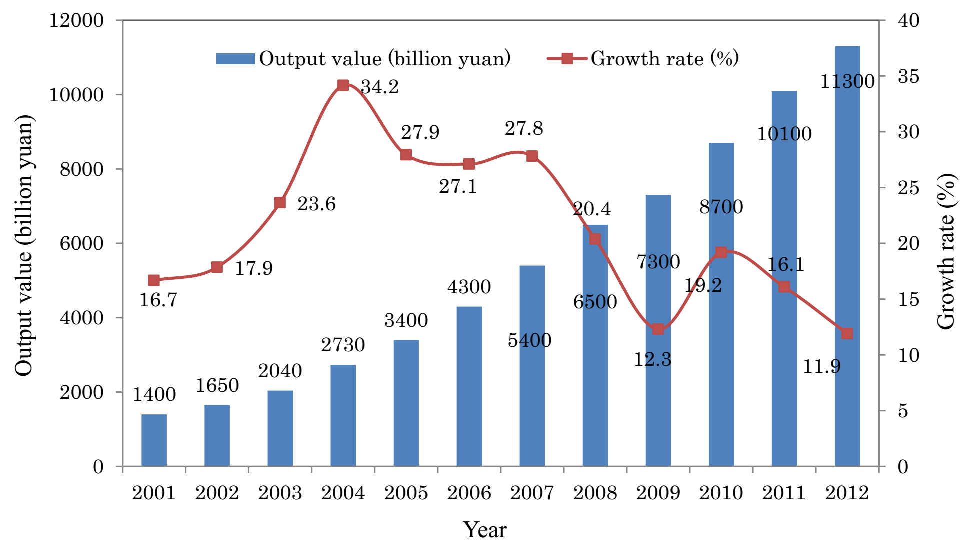

Table 1 Results of Chinese furniture industry exports to international market in 2012

Major international market		Cumulative export value (billion yuan)	Cumulative export growth rate (%)	Cumulative export value accounting (%)
Traditional market	USA	87.8	15.2	27.8
	EU (27 countries)	66.3	19.0	21.0
	Japan	27.7	15.3	5.6
New market	Eastern Europe (10 countries)	17.5	39.4	10.1
	BRICS (except China)	14.6	69.8	4.6

Data source: China light industry economic operation and forecast and early warning system

EU European Union, *BRICS* Brazil, Russia, India, China, South Africa

value, accumulated profits, and cumulative production are summarized in Tables 2 and 3. These data are the results of analysis of the Chinese industries by the China Light Industry Association, which according to the development of the industry and the relevant national policies, in every given period, usually 5–10 years and often called industry

Fig. 3 Export results of Chinese furniture

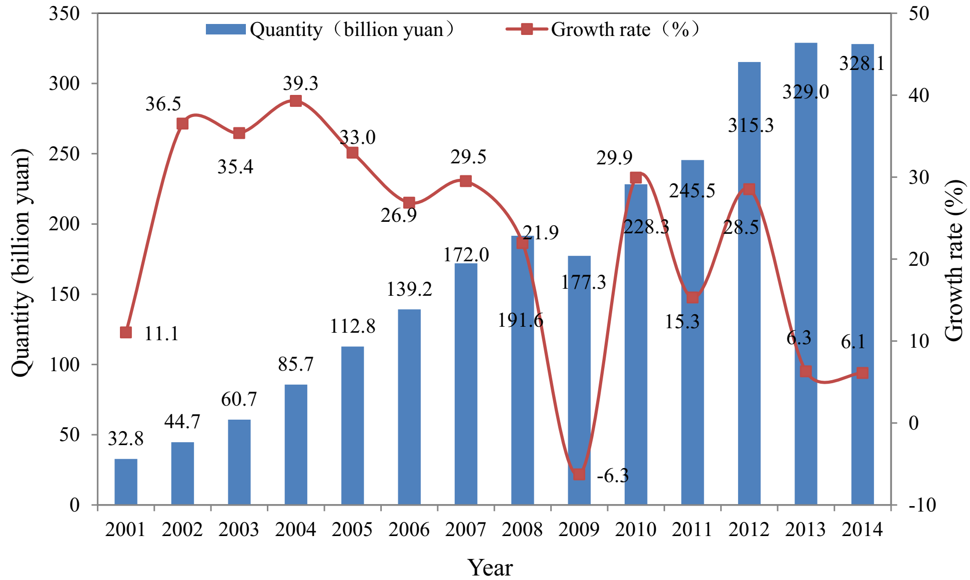

Table 2 Enterprises gross product over 5000 billion yuan from 2011 to 2015

Year	Number of enterprises	Gross product (billion yuan)	Growth rate (%)	Cumulative realized profits (billion yuan)	Profit growth rate (%)	Cumulative production (10,000 pieces)	Cumulative production growth rate (%)
2011	4125	5195.6	25.3	289.4	32.2		
2012	4412	5599.8	17.0	344.7	19.4		
2013	4716	6462.8	14.3	403.9	14.0	75,449.9	−3.5
2014	4942	7187.4	10.9	441.9	12.5	77,785.7	3.1
2015 (1–6)	5213	3558.0	8.5	205.9	17.2	37,363.9	0.61

Data source: China light industry economic operation and forecast and early warning system

Table 3 Major Chinese furniture enterprise in 2014

Industry name	2014 main business income (10,000 yuan)	2013 main business income (10,000 yuan)	Growth rate (%)	Products name	Production in 2014 (pieces)	Production in 2014 (pieces)	Growth rate (%)
Furniture manufacture	71,873,527.3	64,831,437.9	10.9	Furniture	777,856,873	754,499,272	3.1
Among them: wood furniture	45,575,633.4	41,183,326.9	10.7	Wood furniture	263,450,121	259,323,805	1.6
Metal furniture	13,693,159.5	12,245,333.2	11.8	Metal furniture	375,349,987	364,185,261	3.1
Bamboo, rattan furniture	1,509,366.2	1,349,556.3	11.8	Soft furniture	52,987,499	50,434,360	5.1
Plastic furniture	940,613.4	919,088.0	2.3				
Other furniture	10,154,754.8	9,134,133.5	11.2				

Data source: China light industry economic operation and forecast and early warning system

future forecasts and warnings. It can be seen that the ten top furniture enterprises, whose main business income was over 5 million yuan, were mainly in Zhejiang, Guangdong, Fujian, Henan, Shandong, Liaoning, Shanghai, Sichuan, Jiangsu, and Jiangxi. The production proportion distribution is shown in Fig. 4. The total production of the top three accounted for about 65.7%.

From the above data and analysis, it can be seen that while the main business income of Chinese furniture enterprises and the whole production has been trending upward, the growth rate is declining (Fig. 2; Table 3). While export production is increasing, the growth rate has also significantly decreased (Fig. 3). The scale of enterprises gradually increased, and the gross and cumulative profits increased year by year, showing good growth, as summarized in Table 2. Wood furniture including solid wood and veneer furniture, metal furniture, and soft furniture is the main products according to the material classification (Table 3). Among them, wooden furniture has been dominant and accounts for 60–70% of the total output value or 30–35% of total exports. In these, veneer furniture accounts for about 45% of production, and the value of efficiency and benefit value are higher than that of solid wood furniture and furniture of other material. Of course, wood as a traditional material is still the mainstream of furniture production, and the furniture material distribution is shown in Fig. 5. Wu [10] reported that wood consumption in furniture industry accounted for 10–15% of total wood industry consumption, and wood-based veneer cladding materials had a 37% share of furniture materials. About 70% of plywood, fiberboard, particleboard, and block board production are consumed by the furniture industry. The high-grade thin veneer particleboard and medium-density fiberboard (MDF) not only saves costly wood but also lets ordinary people enjoy wood furniture.

Developed industrial area but bad balance for regional development

Figure 6 shows the distribution of furniture manufacturing areas in China. It can be seen that there are five major furniture industrial zones and one Central Industrial Zone, forming 34 characteristic regions that have regional furniture production, sale, and raw material supply with respective characteristics [11]. In all industrial area, whether industrial scale, furniture quality, and efficiency of exports, the Eastern zone is the best. It accounted for 70% of all Chinese furniture industry sales, exports accounted for more than 90%, profits accounted for more than 60%,

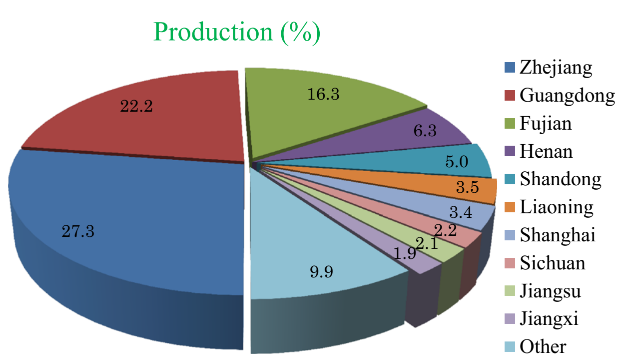

Fig. 4 Chinese production proportion of furniture industry in 2014

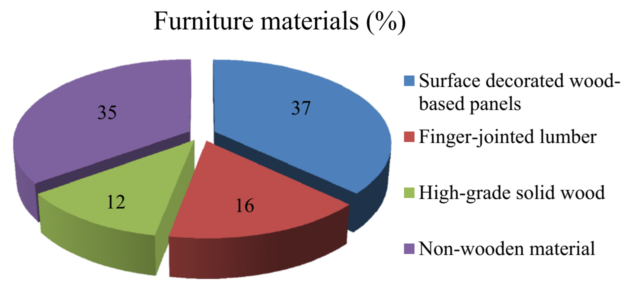

Fig. 5 Chinese furniture materials distribution in 2014

and the cumulative total assets accounted for about 75% [11], respectively. In 2009, the State Council made a policy to promote the development of the central and western regions of China, and the furniture industry began to transfer to the midwest. The furniture industry in the central region has full potential to expand the scale rapidly, but due to a weak foundation, except Sichuan, the furniture industry in the other western region is small scale, scattered, and low specialization.

The Chinese national furniture industry can be divided into five types. (1) The dominant type, including Guangdong, Shandong, and Zhejiang as the major industrial distribution cluster, belongs to the leader camp. (2) The structural adjustment type, mainly in Shanghai and Jiangsu, combined with regional economic development planning, is re-positioning and adjusting industrial structure. (3) In the rapidly rising type, including Sichuan, Hubei, Hunan, Henan, Hubei, and Anhui, the industry is in a period of rapid growth. (4) The development potential type, including Jiangxi, Fujian, Beijing, Tianjin, Northeast, Shaanxi, Guangxi, Yunnan, and Chongqing, has a strong vitality and development potential. (5) In the weak foundation type, concentrated in Xinjiang, Ningxia, Inner Mongolia, Guizhou, Shanxi, Gansu, and Hainan, the industry is poor, small scale, and poorly developed.

Domestic market is growing rapidly and gradually matures

The Chinese furniture market is strongly influenced by the external development of the environment, furniture exhibition, development of "Pan Home" diversified marketing, the rise of e-commerce, and the rapid growth of mergers and acquisitions. From south to north China has four sales center Guangdong Shunde Lecong Town, Sichuan Chengdu Wuhou District, Jiangsu Suzhou Xiangcheng Likou, and Hebei Langfang Xianghe, and 12 large furniture stores, as shown in Table 4. Furniture store area increased from 50 million square meters in 2006 to 80 million square meters in 2012, with a national per capita of 0.1 m^2. With the weakening of the international market and the decline in exports, domestic consumption has gradually become the main market. According to the China light industrial

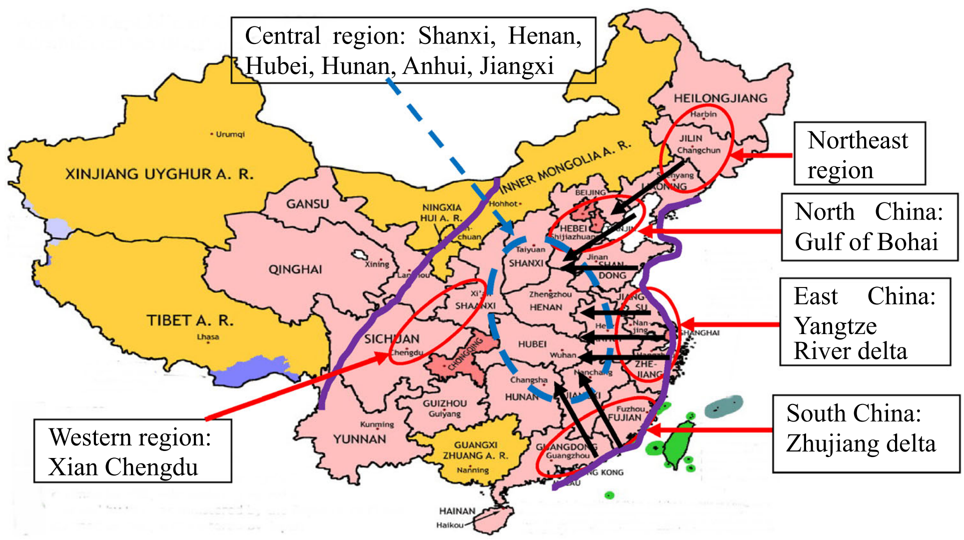

Fig. 6 Regional and transfer of Chinese furniture industry

Table 4 China furniture sales area

Location	Store area (million m^2)	Location	Store area (million m^2)	Location	Store area (million m^2)	Location	Store area (million m^2)
Xi'an	130	Beijing	280	Shengyang	120	Wuhan	70
Chengdu	180	Jinan	38	Nanjing	95	Qingdao	45
Chongqin	100	Guangzhou	400	Shanghai	300	Hangzhou	150

Data source: China light industry economic operation and forecast and early warning system

economic operation and forecast and warning system of statistics, in 2012, the domestic market consumption reached 819.4 billion yuan, accounting for 72.2%; meanwhile, exports were 315.4 billion yuan, accounting for 27.8%, respectively. Furniture consumption levels in 2005 per capita 139.8 yuan/person increased to 315.6–378.7 yuan/person in 2012 [9]. However, compared with 1262.4–2524.8 yuan/person in Europe and America, Chinese consumption is still low.

Technology and development increase

The technology and equipment of Chinese furniture industry have been greatly improved and reached the international average level. The main equipment imported from abroad and the secondary equipment use is domestic. The main equipment is imported mainly from Germany and Italy as well as the United States, France, and Japan. The working environment is continuously improved, and labor productivity also is generally improved. From 2008 to 2012, the overall labor productivity of the furniture industry double, the average labor productivity rose more than 5% [7].

Research and development and design capability have become the core advantages of the furniture industry. Han et al. [12] examined the global competitiveness of the Chinese wooden furniture industry based on Balassa's Revealed Comparative Advantage Indices and concluded that China has experienced a transition from comparative disadvantage into a high comparative advantage over the period, and has maintained a strong position in this labor-intensive industry. However, it still falls behind traditionally strong competitors such as Italy and Germany in terms of quality and unit price. The China Furniture Association [13] usually organizes various types of furniture design competition to develop furniture design and encourages enterprises to increase original design and enhance the independent brand investment. In 2012, Chinese furniture enterprises took their original product design to Milan furniture exhibition for the first time. In 2013, more than 20 Chinese furniture brand design were exhibition to the world. The "free workshop" design was awarded "Design Oscar Prize" of red dot design award.

The continuous improvement and construction speed of the standardization system played a positive role in promoting the upgrading of the furniture industry. Zhu [14] showed that 128 furniture standards have been postponed until 2013, including 66 national standards and 62 industry standards. In 2014, China released two new national standards and six industry standards for a total of 136 standards. In addition, through the integration of industry, universities, and research institutes to promote the industrialization of scientific and technological achievements, it has achieved good results in energy saving, environmental protection, comprehensive utilization of raw materials, application of information technology, and revision of the standards.

IT used in furniture industry changed the manufacturing mode

In 2013, Xiong et al. [15] reported that the Chinese furniture industry manufacturing mode changed mainly in three stages. In the middle of the 1980s, it established a large-scale production mode in the preliminary industrialization, although was still a semi-industrial production mode. In the late 1990s, small batch production of furniture became popular and gradually formed the mass customization production mode. Beginning in 2006, with a combination of IT and manufacturing technology, it formed a new mode of furniture information (Fig. 7). As the advanced manufacturing technology was applied from 2000, Xiong [16] showed that the Chinese furniture industry began to improve the furniture market adaptability and competitive abilities, especially in the veneer furniture enterprises have been vigorously developed.

On the other hand, mass customization of furniture production can promote the overall promotion of the furniture industry in the process of information technology. In 2006, transformation of furniture information was tried by the Weishang factory cooperating with the Yuanfang software for mass customization. At the same time, the "national long-term science and technology development plan (2006–2020)" and the "Eighteenth Congress of the Communist Party of China" also explicitly put forward the concept of "using high technology to transform and upgrade the traditional manufacturing industry" and "vigorously promoting the informatization of the manufacturing industry". After 2010, many types of software, such as ERP (enterprise resource planning), 2020, IMOS (integrated multiprogramming operating system), Topsolid, and SolidWorks, were used in the furniture industry for information management. In the cabinet and wardrobe area, many large-scale and mass customization star enterprises such as Gold medal, Sophia, LuxeHome, and Feimei, appeared. IT and mass customization shortened the production cycle of personalized wood bamboo products by one-third, increased the utilization rate of raw material by 5%, reduced energy consumption by 10%, and reduced product cost more than 10%, respectively [15]. With the application and promotion of mass customization in Chinese furniture enterprises, some star enterprises began to realize management of the whole life cycle of furniture information. Through the implementation of this, many areas, including customer relationship management, supply chain management, product data management, production plan management, and enterprise collaborative management, have developed various types of information management technologies, such as bar code technology, radiofrequency identification (RFID) technology, high-speed data communication 3G technology, and big data parallel processing technology. In the process of furniture production, transportation, installation, and service, IT supported barcode scanning and wireless 3G data to check the process and to ensure that each individual product shape and structure is problem-free in the tens or hundreds steps of manufacturing, transportation, installation, and service.

Formed industrial chain and gradually strengthened synergistic effect

The synergy of the Chinese furniture industry chain is gradually increasing, which is reflected in three aspects. First, the integration of furniture circulation and manufacturing has increased. Some large-scale market agglomeration effects and radiation of professional distribution market led to the development of the local furniture industry. Some new industrial agglomeration areas have appeared and the division of labor and cooperation is more clearly. Second, the Pan-home industries began to infiltrate each other. Furniture has a close relationship with interior decoration, and "overall kitchen", "overall bedroom", and "overall bathroom" spaces have appeared. The concepts of

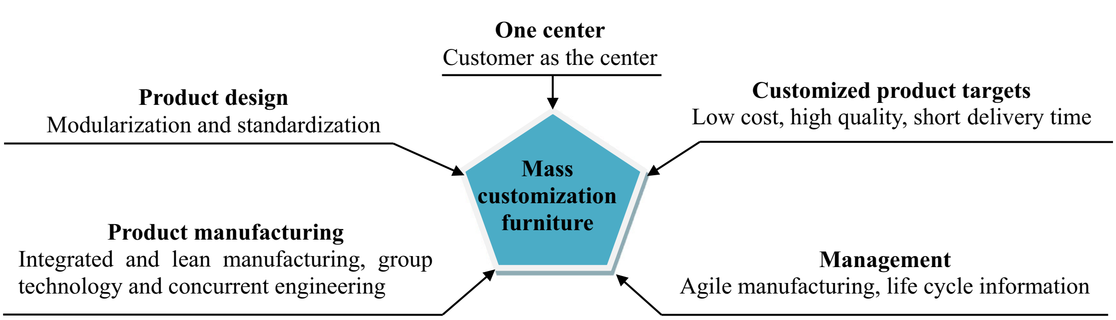

Fig. 7 Materials and production concept

an "integrated home" and an "overall home" guide and promote the industrialization of Chinese domestic furniture enterprises. Third, more cooperation occurred between different scale furniture industries. As furniture products lead the system, such as material processing, glass and metal accessories, and fabric matching have broken the traditional concept of industry to form a new furniture industry using leather, textile, metal, glass, plastics, and other industries together.

In the improvement of the industrial chain, industrial transfer through the construction of industrial park, China has built or plans to build over 30 furniture factories of 6.67 km^2 and 100 furniture factories of 0.2–0.6 km^2 [12]. The industrial park provides good integration of resources, advances industrial chain, reduces production cost, changes the distribution of employment space, promotes the adjustment of regional industrial structure, and strengthens the industrial division and cooperation.

Chinese furniture industry faces new situation and challenges

New situation

In recent years, the Chinese furniture industry has achieved a good development, but there are also many problems such as how to use new technology, how to adapt to the requirements of product changes, and how to adapt to the market competition. On the one hand, as the developments of automation, computer, information, material and management technology, the balance of "hard" manufacturing technology, and "soft" management technology should be considered, because these technologies will greatly change the furniture manufacturing mode, management mode, and production ability. Meanwhile, the enterprises need to find a suitable method to respond to the rapid changes and competition of market demands. Therefore, Zhu reported in 2012 [17], and 2013 [18] that the Chinese furniture industry will face three new major situations.

The first is manufacturing. For the current Chinese furniture industries, huge profits have ended, and meticulous management instead of extensive management is necessary. People pay more attention to green designs due to concern for the environment and health, and the product life cycle becomes shortened. Meanwhile, as the introduction and application of modern advanced technology, energy-saving emission reduction and production, and safe products and environmental protection can be achieved. The new furniture enterprise construction investment increased significantly.

The second is the market. In the international market, due to appreciation of the yuan, low export tax rebate rate, adjustment of the export processing trade policy, international trade frictions, global financial crisis, low furniture export price, and early warning mechanism of exports, Chinese furniture industries need to meet new challenges in the international market. The domestic market is also influenced by the domestic real estate market. Labor shortages and increases in raw material prices increase furniture prices. On the other hand, mass customization will become more and more personalized by consumer demand. The coexistence of multiple business furniture companies, monopoly advantage, and network marketing creates a new model. Wood-based veneer furniture will be further developed, and wood-board furniture will enhance the impact of products of the domestic furniture market, causing overcapacity.

The third is talent resources. Due to the development of the furniture industry, the lack of talents such as professional trained workers, senior management, and senior technicians become an important factor restricting the development of enterprises. Although the furniture design level has been greatly improved, plagiarism and counterfeiting occur, so protection of intellectual property rights needs to be strengthened. Of course, because use of furniture manufacturing digital information in China has just started, the talents of professional design, IT management, advanced equipment, and other aspects are scarce, and these factors will affect the rapid development of the industry.

New challenges

Chinese furniture industry has to face five challenges in the current state as follows:

1. Famous brand creation and market competitiveness

Although there are more than tens of thousands of Chinese furniture brands, there are no famous brands until now. Many furniture production enterprises pay attention to the manufacturing, but have contempt for the design, making furniture for export in a low-grade and low-added value. There is a great gap of furniture quality compared with the developed countries that affect the international status of Chinese furniture. Meanwhile, with changes in the manufacturing environment, Chinese furniture must be considered from profit maximization to the value maximization, change from competition to coopetition, from product competition to service competition, and from product quality to brand competition and cultural competition.

2. Rising cost led to the industrial transfer

In the past 10 years, the Chinese furniture manufacturing industry has had a profit of up to 30–40%, but now is generally only 15–20%, and even some enterprises only 5–10%. As the costs of wages, energy, raw materials, land, transportation, and management increase, the advantage of low-cost competition in the domestic market is gradually lost, and the micro-profit era will be eliminated by large numbers of low-cost enterprise. Some industries that produce high-quality furniture and export-oriented products began to transfer overseas or within the Chinese mainland to find a low-cost production base. However, the labor costs in middle and west China are rising, and Southeast Asian countries such as Vietnam and Laos not only have low wages, but also have abundant forest resources, resulting in the transfer of international and domestic furniture enterprises to these overseas countries. These behaviors disrupt the plan to gradually transfer furniture industries from east China to central and west China.

3. Changeable customer demand and insufficient customer protection

The changes in living environment and lifestyle make people's consumption ideas and consumption behavior tend toward the rational. People's leisure, entertainment, ecological, social culture, and cultural values are diverse, more extensive consumption and personality should bring the product design and agile manufacturing enterprises a new challenge. On the other hand, the protection of the rights and interests of consumers is also increasing, although the furniture enterprises have to change their attitude toward product service, but before the sale, enterprises rarely build their own service center; that is, customer service is inadequate, and consumers trust is reduced.

4. Integration of industrialization and informatization

The internet and information technology make important changes in furniture design, production, sales, and service. How to integrate the advanced manufacturing technology, such as mass customization, flexible manufacturing, lean production, agile manufacturing, and numerical control technology (NCT); advanced management mode such as ERP, PDM (product data management), BCT (bar code technology), and electronic commerce; service-oriented manufacturing; and the traditional manufacturing products, becomes important problems for the Chinese furniture industry.

5. Resources and environmental challenges

The Chinese furniture manufacturing industry will face a crisis of raw material resources, shortage of land resources, energy shortage, and ecological environment challenges such as low carbon, carbon tax, forest stewardship council certification, energy-saving emission reduction, and environmental protection. The living environment requirements are more stringent and have to face more serious challenges of resources and environment. Chen et al. [19] examined the forest resource utilization in China from the angle of combining quantities and value based on input–output tables and showed that demand for and input use of forest resources varies greatly across industrial sectors.

Sustainable development and industrial upgrading of Chinese furniture

From high-speed development period to strategic transition period

China has maintained a rapid growth in furniture exports by virtue of its industrial base and competitive product prices. In 1998, furniture exports were value at 12.0 billion yuan and reached 328.1 billion yuan in 2014; furniture exports increased 37 times during 15 years [13]. However, from the view of global furniture production, the major industrialized countries such as USA, Japan, France, and so on still maintain an advantage, and their furniture industries still continue to shift to developing countries and regions. Regardless of the changes in the international environment or from the internal demand of the development requirement, Chinese furniture industries have to be pushed into a strategic transformation. Its strategic transformation has changed from the expansion of quantity to quality, from low-cost competitiveness to improve design, scientific and technological elements, and enhancement of added value.

Transformation and upgrading

From the beginning of 2012, the transformation and upgrading occurred mainly in these aspects: (1) export-oriented furniture enterprises transferred to the domestic market; (2) some enterprises began to focus on domestic secondary or tertiary markets and acquisition of foreign enterprises; and (3) brand products and furniture sale channels, brand promotion, and channel construction underwent many change. The typical case is Xinjiang Meike Company. It was acquired by the American Schnadig Company including tangible assets and intangible assets in 2009, and the domestic channel construction was accelerated from 2011, with than 90 specialty stores opened in the Chinese domestic market. The Taisheng Company opened 45 stores from 2011 and developed a series of products for the domestic market. Yihua Wood Company opened more than 30 Home Furnishing Museum from 2011 [13]. On the other hand, Ashley, a large American furniture enterprise, entered the Chinese domestic market in the spring of 2011.

Methods of upgrade transformation

There are mainly two methods for upgrading the current Chinese furniture industries, and the details are as follows:

The first ought to promote the development of industrial clusters and improve the whole furniture industry chain.

Although Chinese furniture industry has had great achievements, the industrial chain is not perfect and regional development is not balanced. Moreover, product duplication, low brand concentration, high market dependence, and low circulation intensity can also be found. Many industries emphasize hardware investment, but lack the core technology. Furthermore, the lack of service-oriented manufacturing and promotion of production service also add to the Chinese furniture industries' lack of competitiveness in the international market. Therefore, the Chinese Furniture Industry Association is now vigorously promoting the construction of the furniture industry clusters and improvement of the industrial chain.

Currently, the transfer of the Chinese furniture industries also has many problems such as simple replication and simple move or duplicate construction. The enterprises focused only on the value of land resources and started from a low technical level. They do not really understand the significance of industrial transfer and cannot attract industrial transfer resources. An enterprise that undertakes the function is insufficient, and preferential policies are not rational. The ability of industry to support issues such as traffic, land, capital, labor, parks, supporting services, and environment are poor, and thus, many disorderly competitions occurred. In the sustainable development of the whole industry, transfer planning and overall coordination were not adequate and a conflict between the furniture industry and local governments appeared. Industrial transfer seems only to be a business transfer, but in fact, it is a transfer of industrial chain and industrial clusters. Therefore, how to carry out a reasonable industrial transfer become an important problem for the enterprises and the local governments.

To promote the development of industrial clusters, considering the ecological environment carrying capacity, the local government needs to create an environment conducive to the functioning of market conditions. Government can exert influence through financial support, tax incentives, and financing support to solve the matching demand for investment and innovation, construction of public service platform for research and development, testing, information, and other service institutions. In the cluster, it should select a large company with a high technological level as a leader to drive the development of the entire furniture industry. The relative small and medium enterprises can enhance the overall technological level of industrial clusters through resource sharing. When the industrial chain and clusters are completely transferred to a new industry park, it should reduce the industry's costs and can achieve the desired effect of an industrial transfer.

In addition, finding their own business positioning in the field of home furnishing has also become an important direction of the furniture industry chain extension. The development of "integrated home furnishing", that is, making the interior decoration as one product to meet individual needs has become necessary. Using the standard factory production, specialized services, and overall decoration design to produce home furnishing can lead to integration of business furniture, wardrobe, kitchen cabinet, floor, doors, staircases, and wooden lines to decorate wood products in the whole series of product design, research, development, production, and sales. Large-scale customization, industrial production, information management, and network services can provide integrated solutions for home furnishing consumers and construct a comfortable, safe, environmental protection, fashion, humanization, personalized interior for all customers.

To improve the industrial chain, it needs to speed up in the direction of specialization and subdivision development. Some enterprise should specialize in the design and development of new products, some enterprise should engage in semi-finished products processing and supporting the workplace, some enterprise should specialize in terminal supporting products and brand furniture manufacturing, and some enterprise should be engaged in marketing. Then, a competitive advantage in one or more links of the industrial chain should form.

The second is to increase the technology and added value of furniture products.

The "Eighteenth Congress of the Communist Party of China" has directed that China should take a road of Chinese characteristics of new industrialization, informatization, urbanization, and agricultural modernization, and promote the depth of integration of information technology and industrialization, urbanization, and industrialization coordination of benign interaction, urbanization, and agricultural modernization in the future. To realize the transformation from big industry to strong industry, the upgrading of Chinese furniture is the only way to develop Chinese furniture. Therefore, Chinese furniture should change from relying on resource factors such as low cost to improve product technology and added value, and focus mainly on the following three aspects.

1. First, digital control technology using new sensor technology such as laser measurement and new mechanical technology as well as in sawing, planing, drilling, veneer, and edge aspects appeared that many kinds of new equipment should be developed. Use these new machines in the Chinese furniture industry

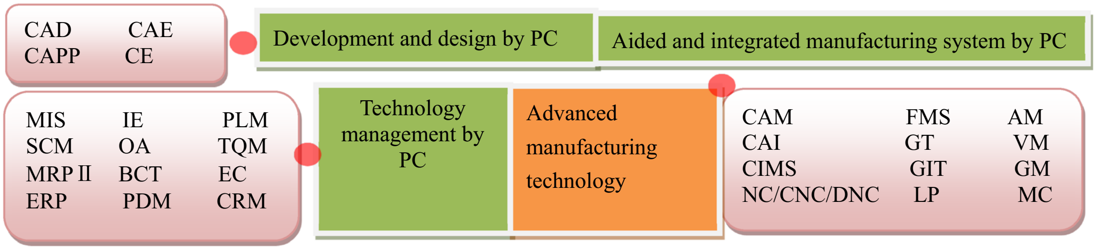

Fig. 8 Advanced manufacturing technology of furniture

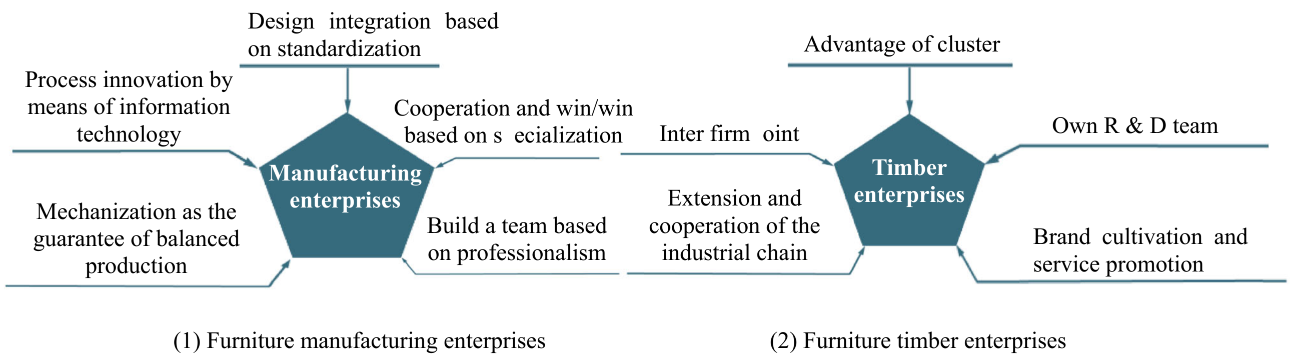

Fig. 9 Basic idea of mass customization furniture

should vigorously promote the modernization of production technique and advance manufacturing technology (Fig. 8).

2. Second, implementation of the technological content of products and value-added furniture to upgrade the Chinese furniture industry, in addition to active reform in the production technology, should improve environmental protection furniture products while strengthening enterprise management, reducing production technology and labor costs, and improving product quality and added value to ensure the sustainable and healthy development of the industry (Fig. 9).
3. Third, big furniture enterprises should attach importance to the construction of high-tech industries and vigorously develop high-tech products, in particular, to pay attention to green, multi-function, and high-quality productions.

Concluding remarks

In recent years, Chinese furniture industries have undergone rapid development and coordination of the relevant industries. The production brand, technical level, standardization work, industry scale, and market circulation have been fully improved. The scale of the furniture industry continues to expand, and the industrial cluster and characteristics of the furniture region have gradually formed. The industry standard is accelerating, and the raw materials showing a trend toward diversification. With the technological level significantly improve, the market has had rapid growth and formed a Chinese special furniture sales model.

Of course, in this state, Chinese furniture industry is still facing new challenges, that is, the changes from low-cost competition to improve the product scientific and technological content and added value; from a simple product to product and service; and from large-scale production to personalized custom design. Recently, with the performance decrease of the traditional furniture and personalized custom design furniture market increase, many traditional furniture manufacturers are facing bankruptcy. Meanwhile, the personalized custom design furniture industries appeared emergence of production line transformation, emergence of whole house customization, and cross-border industries such as real estate, household electrical appliance enterprises, IT companies, and pan-furniture areas.

Therefore, to achieve the transformation from big to strong, Chinese furniture industry must meet the national requirements of the industrial development. It need to speed up the adjustment of industrial structure, promote industrial upgrading, adhere to the combination of science and technology and industry optimization, correct assessment of market potential, increase the development model, accelerate the upgrading, and sustainable development. To improve the competitiveness of enterprises to achieve

Chinese furniture industry, globalization, consumer globalization, global services, and research and development goals are necessary.

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Compliance with ethical standards

Conflict of interest The author declares that there are no potential conflicts of interest.

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