Development, Organization, and International Competitiveness of Industrial Enterprises in Japan, 1880-1915[1]

Tsunehiko Yui
Meiji University

This paper examines the organizational and managerial development of modern industrial enterprises in prewar Japan (1880-1915). It attempts to clarify those characteristics closely connected with international competitiveness within the framework of corporate structure and strategy. This approach forms the base for a model of organizational efficiency which is different from that current in the West and which will serve to explain the international competitiveness of Japanese enterprises at this time.

According to Professor Alfred D. Chandler's well-known work, the basic traits of modern industrial enterprises are found in their multiunit organization and managerial hierarchy which integrate all the functions such as production, sales, purchasing, accounting, labor, legal affairs, and R&D. These traits are also evident in large industrial enterprises in Japan. There are, however, important differences in the pattern of organization between American and Japanese industrial enterprises.

The following characteristics of Japanese enterprises appear as contrasts to what are generally considered the features of industrial enterprises in the United States. First, Japanese enterprises are less vertically integrated, less diversified, and less multinational in character than their American counterparts. In 1984, among the 200 largest industrial enterprises in Japan, only paper, rayon fiber, and fisheries/canning were highly vertically integrated, and in terms of double-digit diversification (non-related diversification in different categories of the Industrial Classification scheme), less than 30 companies can be found [37]. Among major industrial nations, Japanese companies are the least multinational of all. The size of the large industrial enterprise in Japan is significantly smaller than in the United States [5].

Second, within the Japanese company the head office is relatively small and neither greatly specialized nor stratified. Instead, Japanese companies at the factory level have administrative offices, their own managerial hierarchy, and

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a complete set of managerial functions. At times, the size and complexity of managerial hierarchy at the main factory rival and even surpass that of the head office.

Third, in both the head office and factory-level organizations executives are salaried career managers, promoted from within the company and as a result the rate of turnover is extremely low. Almost all top executives are promoted from the ranks of middle managers who have had extensive experience both at the head office and factory level of the organization. High levels of company-specific experience and know-how are coupled with in-house promotion and information exchange.

Fourth, demarcations between and within organizational boundaries are not rigidly fixed so that a functional group at the head office or factory has the flexibility to perform the work of other groups. In other words, an engineer working in R&D at factory A can take on work at the request of factory B without transfer payments and additional remuneration. Alternatively, a top executive in one position may simultaneously carry out other functions as well. It is not unusual, for example, for the head of production engineering at a large factory to be the factory manager at the same time.

From the logic of management theory, such flexibility and duplication of function in an organization may lead to confusion, perhaps even to chaos. But because turnover is low, the volume of communication among managers is high, and employees are trained in general rather than specialized tasks, such difficulties are largely avoided. In addition, coordination at each level and between departments is often facilitated by a "General Affairs Department" (often including secretarial, legal affairs, and personnel), a seemingly singular Japanese solution to the problem of organizational coordination.

Based on these fundamental features of the organization of industrial enterprises in Japan, we can make the following observations about strategy and decision-making:

a) Japanese enterprises excel in manufacturing a full line of goods with "fine-tuning" and in diversifying closely related products, but Japanese firms are not good at unrelated diversification.

b) Because of the emphasis on human resources at the factory level and relative scarcity of resources in the head office, the momentum for decision-making comes from the bottom or middle rather than the top of the organization. Most technological innovation also occurs at the lower levels of the organization.

c) The high volume of communication and information within the company allows Japanese corporations to take full advantage of technological and market opportunities in their areas of specialization both in domestic and global markets.

d) The board of directors (*torishimari-yakukai*) does not control management but is rather controlled by management. The committee of senior executive directors (*jomu-kai*), whose members are career managers, is the locus of *de-facto* decision-making. However, this committee does not actually assume the

responsibility of dealing with decisions of high uncertainty. Its function is usually to select from among the policy alternatives proposed by middle management. This may be part of the reason why the compensation of Japanese executives is remarkably low by American standards.

These characteristics of the nature of the structure and strategy of Japanese industrial enterprises are not new, for they were apparent during the prewar period, even in the early 20th century, in such fields as cotton spinning, cotton and wool textiles, paper, food and beverages, cement, chemical fertilizers, and so on-- mainly light industries. This paper aims to consider the institutional development of such Japanese corporations,[2] examining the process of obtaining international competitiveness. In this paper "international competitiveness" means the capability of a firm to export its products in a free trade situation.

Factor Endowments of Modern Industrial Development in Japan

The timing, pace, and course of the evolutionary development of industrial enterprises have differed among the industrially-advanced, free nations. In Japan's case, the rise of modern industrial enterprises has appeared relatively recently and with great impact on the organization of business activities.

This is because in Western nations industrial organizations such as factories, shipyards, foundries, and flour mills evolved over a long period of time, beginning in the latter half of the 18th century. In Japan, however, such business institutions were absent for at least another century until after the Meiji Restoration of 1868, which released private business activities from stifling feudal political controls.

As a consequence in Japan the rise of modern industrial enterprises occasioned a simultaneous technological and organizational revolution. Although technological change has often been defined to include organizational change, even in industrially advanced nations, it is useful to distinguish between them for our purposes, as Professor Chandler has emphasized [1, p. 240]. In discussing the technological and organizational revolution which has molded modern industrial enterprises in Japan three important factor endowments should be noted.

a) Shortage of Natural Resources

Japan has few industrial raw materials. In contrast, the United States has always enjoyed an abundance of industrial raw materials such as iron ore, coal, petroleum, non-ferrous metals and other mineral resources, as well as cereal grains, cotton and timber.

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[2]One existing and pioneering work uses this approach [25].

Before World War II Japan produced a limited amount of coal and copper, but it generally lacked adequate domestic sources of petroleum, minerals, cereal grains (except rice), cotton, wool, and even sugar. After the opening of Japan's ports in 1854 the country's need for such raw materials as well as manufactured goods was met by foreign traders such as Jardine, Matheson Co. And after the Restoration those were imported not only by these foreign traders but by Japanese merchants and trading companies. Almost all industrial ventures in Japan had to purchase the needed production facilities as well as raw materials from external organizations. General trading companies in Japan, such as Mitsui Trading Co. which was established in 1876, sparked their energetic overseas trading activities with well-educated human resources.[3]

b) Fine-tuned Character of the Market

Roughly speaking, since the latter half of the 19th century the American market was geographically vast, racially diverse, relatively egalitarian, decidedly homogeneous, and well-integrated by the most advanced railroad system in the world.[4] By contrast the Japanese market was geographically small, large in population, ethnically homogeneous, but socially stratified and heterogeneous.

The social and economic characteristics of the American market tended to promote the distribution of functional, mass-marketed products, which were rapidly shipped to the seaboard, plains, and mountain states and which were useful to all Americans, native born and immigrants alike. The Japanese market, more concentrated but also more stratified, was segmented into numerous market fragments which required close attention in order to match consumer needs. The after-sale market was also important because service, delivery, terms of payment, and communications between seller and buyer had to be considered.

Noting the fine-tuned character of the Japanese market, a British diplomat described cotton manufacturers in Japan in the following terms in 1887:

> English cotton piece goods of very inferior quality were now imported for sale to Japan that Japanese taste were not consulted in respect to either patterns or dimensions and that in consequence, the Japanese consumer now preferred piece goods made in his own power to purchase here [sic]. Further and very exhaustive inquiry from both dealers and consumers of every class amongst the Japanese people have confirmed these views [6, p. 581; also see 29].

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[3]On the development and activities of trading companies, see [34].

[4]The social and economic characteristics of the American market have been discussed by Professor Mira Wilkins [30].

Prior to Japan's industrialization the well-developed commercial character of the economy demanded that wholesalers (*tonya* and *nakagai*) and retailers pay careful attention to such market differences and that they provide goods and services attuned to the needs of various regions, professions, social classes, and lifestyles. Once Japan began to industrialize manufacturers were able to take advantage of the existing distribution system by piggy-backing their new products on to the well-used sales channels for traditional products. This also led to the adoption by Japan's manufacturers of an approach to market differentiation and segmentation that stood in contrast to the mass-marketing approach that developed in the United States.

Furthermore, because the construction of railroads in Japan followed already existing patterns of cities, roads, and ports, transportation revolutions in Meiji Japan did not require or even encourage transformation of the existing distribution network.

c) The Origins of Entrepreneurs

In the Western nations industrial entrepreneurs emerged for the most part from the bourgeoisie or business class and from those skilled people in trade and industrial production. In Japan, by contrast, entrepreneurs during the Meiji period came from a variety of origins and backgrounds. Among these were merchants, ex-warriors (ex-*samurai*), landowners, aristocrats, peasants, scholars, and government officials.

This meant an important change in the nature of their work and status in society. The promoters and leaders of modern industrial ventures in Japan were not practicing businessmen. Rather, they were more akin to organizers who did not have practical business experience but who were able to gather or raise capital as well as adopt and adapt knowledge from the West. They were more varied in background, had less practical experience, and were less independent of what is sometimes called "the establishment" in the West. Adaptability more than inventiveness was prized for them.

Emergence of Modern Industrial Enterprises as Joint Stock Companies

In Japan concerted efforts to industrialize occurred after the Meiji Restoration, especially from the 1880s on, in the private sector. Most industrial enterprises were established as joint stock companies in fields such as railroads, textiles, food and beverages, paper, cement, and nonferrous metals (copper), following the adoption of this form of ownership by "the national banks." These banks, modeled after their post-Civil War American counterparts, were eagerly promoted by the government, developed rapidly, and spread throughout the country.

In Western countries the joint stock company has had a long history of evolutionary development dating from the "commercial revolution" of the early 17th century. In Japan, however, the joint stock company represented a revolutionary change in how business was organized and operated. Not only was it unlike any other form of organization in Japan, but when it was coupled with previously unknown technologies, of which it was more often than not the carrier, the joint stock company brought about a double revolution in organization and technique in Japan.

The ideological and practical constraints on business activities during the Tokugawa period limited the geographical and market scope of transactions as well as the independence and daring of businessmen. In order to establish and manage a railroad company, a full-scale factory, a shipyard, or a flour mill during the Meiji period, it was absolutely necessary that capital be gathered from numerous sources and that operations be placed in the hands of a joint stock company which was well-suited to raising the large amounts of capital and to delegating authority to able managers. The Meiji government used various incentives, including subsidies (until 1893), to encourage the establishment of new industrial ventures. The government, too, considered the joint stock form of industrial enterprise the only feasible mode of organization for successful enterprises in Japan.

Distinguished business leaders and ideologues such as Shibusawa Eiichi and Fukuzawa Yukichi promoted the formation of various new industrial enterprises in the form of joint stock companies in almost all fields. Nevertheless, although such entrepreneurs, as typified by Shibusawa, often became chairman, president, or director of most of the modern industrial corporations, they themselves had very little manufacturing experience. They were organizers of capital, human resources, and technology, but "amateurs" rather than professionals in matters of manufacturing technology and business administration [7, pp. 100-101].

In all but a few cases, the *de facto* top executives of Meiji industrial ventures were neither legally nor officially the president or director of the companies. Instead, they were younger men most often employed as general managers or chief engineers. Such men had either graduated from colleges or had gained experience or studied abroad. These younger industrial leaders were few in number and an extremely valuable managerial resource.

Kikuchi Kyozo (Settsu, Amagasaki, and Hirano Spinning Co.), Yamabe Takeo (Osaka Spinning Co.), Muto Sanji (Kanegafuchi Spinning Co.), Saito Kozo (Mie Spinning Co.) of cotton spinning, and Okawa Heizaburo (Oji Paper Manufacturing Co.) were such men. Kikuchi, to use a rather extreme example, was absolutely essential as chief engineer and general manager of not one but three leading cotton spinning companies in the 1890s. (These three later merged and became Dainihon Spinning Co. in 1918.)

Kikuchi was employed by all three companies as chief engineer and general manager. He graduated from the School of Mechanical Engineering, Imperial

University, and after working for a while in a public corporation in Japan went abroad to study. While overseas, Kikuchi mastered advanced new techniques of cotton spinning so that when he returned to Japan he was in great demand. Kikuchi capitalized on this by working at one cotton mill in the morning, a second in the afternoon, and the third the next morning [17, pp. 133-134].

The general managers of the early joint stock companies in Japan, unlike the president and directors, would actually make business decisions and set managerial policies. Their salaries were commensurately high, at times exceeding that of the president, but this was simply a reflection of the importance of their decisions and management to the company's success or failure. Also, since the annual reports of the industrial corporations organized as joint stock companies were published and distributed to stockholders, the corporations were forced to reward these able managers by giving them top positions as well as high salaries if they wanted their companies to continue to be successful. Thus, from about the turn of the century the general managers were frequently elevated to the rank of senior executive director and assigned executive positions on the board of directors even though they themselves had invested little in the enterprises which they managed [36, pp. 11-20].

One more point might be noted with respect to the joint stock company in Japan. In every industrial country modern enterprises always put their brand name on their products as a means of publicizing and advertising their industrial innovations. Traditionally in Japanese business the wholesale merchants (*tonya*) who controlled the production of the craftsmen, or dealt with local products, each sold goods under their own brands. By contrast, industrial firms with joint stock ownership sold their output under their own company brand in order to show that theirs were new, independent, and modern types of business enterprises.

Thus, by the last two decades of the 19th century Japanese corporations, technically equipped with machinery and institutionally organized in the form of the joint stock company, clearly constituted "modern industrial enterprises." They differed entirely from the traditional type of business enterprises such as merchant houses or domestic industries, as was widely seen in the silk reeling and weaving industry in the countryside.

The Organizational Structure of Modern Industrial Enterprises

In the 1880s the first modern private industrial enterprises in Japan were firms engaged in cotton spinning and textiles and in the manufacture of wool and hemp products. They appeared as well in the fields of beer brewing, flour milling, sugar refining, cement, paper manufacturing, and chemical fertilizers by the end of the 19th century. These industrial enterprises began to acquire international competitiveness as early as the beginning of the 20th century.

The managers of these industrial enterprises, especially the general managers of the spinning companies, developed and designed an organizational structure appropriate to the operation of a modern factory system. Traditional merchant organizations, even large ones, were usually operated with a relatively small numbers of employees who performed general, non-specialist business activities and who were rewarded according to ranking (*mibun*) based on status and age. By contrast, the managers of successful cotton spinning companies saw the need for a functionally diverse organization incorporating purchasing, sales, finance, engineering (including planning and construction of factories, operation and maintenance of machinery), power supply, labor recruitment, and training. In short, the various functional specializations associated with sales, labor, and technology were recognized and personnel to head these various functional responsibilities were appointed within the cotton spinning firm, even in the Japanese way, as later discussed. The early Kikuchi style of running several companies at the same time and overseeing all functions had to be changed.

Among such organizational changes in cotton spinning firms the early attempts made by Muto at Kanegafuchi Spinning and Saito at Mie Spinning were path-breaking and significant. Muto, a typical organizational innovator, was a college graduate with experience working abroad. As a chief manager of the Kobe branch office of Kanegafuchi, in 1894 he developed an independent office within the factory separate from the head office in Tokyo. In this office he placed the chief engineer along with the other functionally skilled personnel. In addition to the sales department he created a labor department responsible for recruitment, training, education, and housing of workers.[5] The chief engineer was responsible for the purchasing, installation, and maintenance of machinery and the application of new technology. Muto hired many young college graduates and technical school graduates (mainly from Keio University and Tokyo High Technical School) to be the future managers and supervisors of these departments [32, pp. 7-8]. Because his organizational innovation brought about distinguished success Muto was promoted to senior executive director in 1908 and thereafter assumed overall control of the organization as a top executive.

In the late 1890s Mie, under the initiative of Saito, a chief engineer who graduated from the School of Mechanical Engineering, Imperial University, also recruited college graduates in engineering and enhanced the functional specialization of the company. Though for a while seniority continued to play a role in the new system, functional specialization was given precedence [14, Annual Report, 1895, pp. 4-10, Business Regulation, 1900, pp. 9-15]. In 1905 functionally specialized sections were established at the three factories as well as at the head office. In the head office, secretarial, trade, technology, accounting, supply, storage, and maintenance sections were placed under the

[5]Muto was known for his discussion of fundamental differences between factory management and shop management around 1895 [18, pp. 98-99].

manager, and in the factories, technical, labor, training, medical, accounting, storage, and supply sections were formed under the authority of a chief engineer [14, Business Regulation, 1905, pp. 2-10].

Kanegafuchi and Mie became models of internal organization for enterprises which developed somewhat later, such as Kurashiki Spinning, Nisshin Spinning, and other successful spinning companies [12, pp. 128-29]. These companies introduced multi-functional organization and put young, competent, well-educated technical and clerical employees in charge of these specialized sections. Later, modern industrial ventures in other fields such as brewing, flour milling, and sugar refining were not only joint stock companies from the very beginning but often learned how to organize their factories from these examples.

In brewing Nihon Beer Co. (est. in 1887), Sapporo Beer Co. (1888), and Osaka Beer Co. (1887) were all established as joint stock companies, which also hired young, well-educated technical and clerical employees. When these three companies merged into Dainihon Beer Co. in 1906 the company with four factories had about 300 white collar employees and some 2,000 blue collar workers, not including part-time workers and subcontractors. The company established its head office with departments of trade and technology. The trade department was composed of sections of general affairs (subdivided into secretarial, finance, and storage sections) and commerce (sales and accounting). The technology department was composed of production (engineering and inspection) and mechanical (maintenance and construction) sections [3, June 1906, pp. 3-40]. Thus, it developed functional and even hierarchical organization.

Although flour milling and sugar refining lagged a little behind brewing, leading companies such as Nihon Flour Milling Co., Nisshin Flour Milling Co., Dainihon Sugar Refining Co., and Taiwan Sugar Refining Co. were established by the latter half of the 1890s. By 1910, they had several factories in addition to the main factory (located at the same place as the head office). In general, in the factories as well as the head office engineering, commerce, and accounting sections were set up under the direction of the factory manager. Young men of talent and education were recruited and later accorded considerable responsibility. In paper manufacturing as well the most pioneering joint stock company, Oji Paper Manufacturing Co., would be very keen to develop a modern progressive organization with well-educated staff. In 1914 the number of university graduates was as many as 52 in Dainihon Beer, 58 in Dainihon Sugar, and 60 in Oji Paper.[6]

As I argued above, these industrial enterprises which emerged in the last two decades of the 19th century and continued to develop in the early 20th century, should be understood as "modern" industrial enterprises in terms of being joint stock companies selling products under their own brand name and

[6]This discussion is based on data from Shinichi Yonekawa's significant research [33].

having clear functional organization, though the development of their managerial hierarchy may still have been in its infancy.

Nonetheless, it also seems evident that the organization of industrial enterprises in Japan was already different from that of the modern industrial enterprises in the West. Most importantly, a well-developed managerial hierarchy which was concentrated in the corporate head office and which administered geographically dispersed factories was the rule in the West, or at least in the United States. In contrast, Japanese enterprises tended to allocate their expertise and personnel heavily to the factories and to develop functional organization within the factories. This trait was evident in successful modern Japanese industrial corporations.

Among the cotton spinning companies, the Kobe factory (office) and later Tokyo factory in Kanegafuchi, appointed a high ratio of technical and clerical personnel and Mie developed the same functional organization in each of its factories. Almost all of the engineers employed by leading companies, including cotton spinning firms, worked in the factories. By 1910 Oji Paper Manufacturing had recruited thirty engineering college graduates, almost all of whom were dispatched to and stationed in the firm's three factories which were distant from the head office [24, 1910, pp. 3-15].

To take another example, the Osaka factory (branch office) of Dainihon Beer had a production department (with sections for brewing, storage, transportation, raw materials, machinery, bottling, and construction) as well as a commerce department (sales, export, general affairs, and accounting) well staffed by 85 technical and clerical employees in 1908. This number was larger than that of its Tokyo head office. The firm's college graduates numbered over fifty at the time. Here, too, only ten of them were enlisted in the head office, the others being placed in factories and branch offices [3, June 1906, pp. 3-41].

Shibusawa Eiichi, when visiting the United States in 1906, was impressed by the small size of American factory organization. He later wrote:

> What I felt especially strange was that neither a large office complex nor a sizable managerial staff existed at the factories of large industrial enterprises in America. In contrast, Japanese factory-level offices are large even if the factory itself is not so large. When we visited Carnegie's well-known Homestead plant, the three of us had to stand while talking to the plant manager because there was no room to sit down in his office. Moreover, there were only three young assistants working there [4, pp. 11-12].

Non-Integrated Production, Sales and Purchasing

Modern Japanese industrial enterprises were able to put their own brand names on products. Yet they rarely internalized or integrated the sales functions of these products or the purchase of raw materials.

Sales: Almost all of the modern industrial corporations which appeared at the end of the 19th century depended on external retail or wholesale organizations to market their products. Manufacturers in fields such as cotton spinning, wool textiles, flour milling, sugar refining, and paper manufacturing took advantage of existing sales distribution channels by designating certain wholesalers as their sales agents. As a result at the beginning of the 20th century many companies rarely had sales departments of their own and maintained quite limited sales staffs. For example, Mie Cotton Spinning, though one of the most successful firms in the field, had a sales staff of only three or four out of 61 white collar employees in 1895. Their blue collar workers numbered 3,749 [14, Annual Report 1895, pp. 4-8].

Manufacturing companies producing goods in fields new to Japan, such as Western types of paper, beer, and cement, relied on pre-existing sales organizations instead of creating their own sales forces. Paper manufacturing firms marketed their products through established wholesalers of traditional kinds of paper, even though the market was entirely different. Beer brewers used traditional food distribution channels. Cement manufacturers, in contrast, at first established their own sales branches in various regions with in-house sales staff. Soon after, however, when trading firms and wholesalers of building materials started to market cement, cement companies found that these external sales organizations were cheaper and more effective [20, pp. 769-76].

From about 1900 a two- or three-tier sales system developed in almost all of the industrial sectors. This system consisted of primary sales agents (usually exclusive, wealthy wholesalers with experience in big cities, and trading firms such as Mitsui or Suzuki), secondary sales agents (not always exclusive, small and local), and retailers. Since modern industrial enterprises were totally dependent on external sales organizations, they often did not produce uniform price lists for their products. Until about 1915 the wholesalers or trading firms sometimes joined price-setting cartel agreements which were formed by manufacturers.[7] For example, in sugar refining trading firms which dealt with sugar, together with sugar wholesalers, often controlled sugar prices.

Purchasing: Modern industrial enterprises did not internalize the purchase of raw materials either. In fields where Japan had only poor material resources, such as cotton spinning, wool textiles, sugar refining, flour milling, and steel, domestic supplies were at first distributed through domestic wholesalers. From

[7]There are a few works with respect to cartels in early twentieth century Japan; see for example [13].

the latter half of the 1880s, however, various trading companies began to import raw materials.

In 1886 Mitsui Trading Co. established a branch in Shanghai and started purchasing Chinese raw cotton in order to sell it to Japanese cotton spinning companies such as Osaka Spinning. Soon it opened a branch in Bombay in order to purchase Indian raw cotton, which was more abundant than Chinese cotton [8 p. 152]. Two other trading companies, Naigaiwata Co. and Nihon Menka Co., both established by cotton merchants, followed suit immediately [28, pp. 43-44]. The activities of these trading companies forced Mie Spinning, which had attempted to purchase raw cotton directly from India, to abandon its plans there [28, pp. 44-46; 23, pp. 113-20]. Moreover, in 1893 the Japan Cotton Spinners Association entered into a one-year contract with NYK, the Japanese shipping concern supported by the government, to ship raw cotton from India at a discounted transportation charge. Thus, Japanese cotton spinning firms were able to jointly obtain the desired quantities of raw cotton at reasonable prices.[8]

The situation in the food processing industry, led by sugar refining and flour milling, was similar to that in the cotton spinning industry. In the early 20th century some of the leading grain wholesalers, including Suzuki Trading House, developed into trading firms which purchased raw sugar and wheat abroad while at the same time investing in domestic food processing companies. The most significant general trading company of that era, Mitsui Trading, was also keen to enter into the bulk commodity trade. Thus, sugar refining and flour milling firms became reliant on trading firms such as Suzuki and Mitsui for their overseas purchasing.

Companies which could acquire raw materials domestically, like cement, paper, and brewing, used a different method. Oji Paper and Fuji Paper, the two largest paper manufacturing companies, were able to ensure stable supplies after an initial period of trial-and-error efforts. In about 1900 they began to establish pulp processing factories in mountainous areas, although these attempts were not always successful because of difficulties with transportation. In brewing, too, the two largest companies took a somewhat different approach. Dainihon Beer not only purchased barley through the grain merchants on the domestic market but technicians in the factories attempted to improve the strains of barley and hops used. By contrast, the second largest brewing company, Kirin Beer, relied solely on imported German products purchased through trading firms until well into the First World War [2, p. 18; 9, pp. 56-58].

With respect to acquiring raw materials various approaches were used by modern industrial enterprises in their early stages of development. In many cases their methods of purchasing raw materials were influenced by the geographical distribution of natural resources, but it should be noted that successful companies

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[8]For more detail on the contracts between cotton spinning companies and trading companies, see [31, pp. 391-496].

used various means to shave the costs of raw materials, often relying to good advantage on the activities of external organizations such as trading firms. Reliance on outside trading firms became even more marked in some cases in the inter-war period.

Strategy and International Competitiveness of Modern Industrial Enterprises

The modern industrial enterprises which appeared in the last two decades of the 19th century began as small-scale operations because they were constrained by a lack of capital and a limited market. By the early 20th century, however, they generally had begun to grow quickly by developing their internal organization and by adopting their own high-growth strategies. The strategy of the successful enterprises was characterized by merger and full-line production. And even manufacturing of related products was already evident.

Mergers among competing firms, which occurred in the 1890s, had become a definite policy by the early 20th century. Some leading executives like Muto overtly advocated the "economy of mergers,"[9] and during the 1907-1914 recession the movement toward mergers took hold. Between 1900 and 1914 Kanegafuchi Spinning merged with or acquired 6 other spinning companies and Mie Spinning (which merged with 6 other firms) and Osaka Spinning (which merged with 2 other firms) joined to form Toyo Spinning Co. in 1914.

As a strategy merger was attractive for three reasons. First, it expanded a company's sales market geographically and made it easier to purchase a competitor's plant and facilities, which was usually preferable to building a new plant from scratch. Second, a merger could bring about economies in overhead or supply costs, including energy costs. Though mergers generally did not produce many economies in the manufacturing process they could lead to savings in acquiring materials and expendables. Third, a merger could be a useful way to further full-line production, that is, production of a wide variety of goods.

Modern Japanese industrial enterprises in the beginning of the 20th century did not engage in mass production or mass sales even after they had succeeded in importing advanced machinery. Rather they focused their efforts on expanding product lines. Factory-oriented organizations were well adapted for such expansions of product line to satisfy the fine-tuned needs of the Japanese and other Asian markets in contrast to, for example, the U.S. market for mass-produced goods. Engineers stationed in the shop floor of the factories were able to conduct some basic research, but they concentrated on increasing the number of new goods in order to meet needs, desires, or specifications transmitted to them by the sales staff, sales agents, and trading firms.

Although yarn grades No. 16 to No. 20-- especially No. 16-- were standard products of cotton spinning companies towards the end of the 19th century, as

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[9]The advantages were well discussed in S. Muto [18, pp. 428-38].

early as the 1890s successful cotton spinning firms had already started to produce a great variety of yarn types. In the early 20th century each firm developed its product line in plain cotton cloth manufacturing and also expanded their types of cotton cloth. Reports by the British Consul in Japan mentioned that sales of British-made cotton textiles would be quite difficult because the Japanese manufactured cotton cloth for a greater number of purposes than did the British, and methods of weaving and dyeing differed by region [29, pp. 109-20].

In fact, from about 1905 Kanegafuchi and other leading companies were able to meet the needs of Chinese consumers as well through expansion of their production line. Sales of yarn and cloth in Korea and the Chinese mainland were begun, and partly because of good coordination with activities in these areas of Mitsui Trading Co., soon proved quite successful.[10]

In wool textiles as well, Nihon Wool Textile, having profited from its lucrative production of military blankets during the Russo-Japanese War (1904-5), extended the range of goods it produced to many kinds of wool yarn and wool cloth. These included muslin, serge, flannel, and knitwork for Japanese kimonos as well as western-style suits. Nihon Wool Textile and a few other firms were thus able to expand the market for their wool by producing a wide variety of wool goods, overcoming their technological backwardness relative to the British wool industry and the disadvantage of having to import raw materials [22, pp. 97-104].

The full-line production practice was introduced in the 20th century in flour milling, sugar refining, paper manufacturing, and chemical production. Nihon Flour Milling, the first established and the largest of the mills, started to produce various types of flour for breads, udon noodles, buckwheat noodles, and Japanese or Western-style cakes in the 1910s [21, pp. 149-50]. With the exception of the flour used to make high-grade bread, U.S. flour milling firms soon found it difficult to compete in the Japanese market. The leading sugar refining companies, such as Dainihon Sugar Refining, Meiji Sugar Refining, and Taiwan Sugar Refining, also manufactured many different grades and types of sugar, particularly cheap lower grades, including exports to the Chinese market. Even in the field of paper manufacturing, despite the increasing demands for newsprint and other types of publications, companies such as Oji Paper and Fuji Paper diversified into the production of paper board, coated and glazed paper, and envelopes.

In the context of international competitiveness a few remarks about customs duties are in order. In 1899 England agreed to revise its unequal trade treaty and by 1911 Japan had acquired overall customs sovereignty. Export duties were abolished and import duties ranging from 5 to 30 percent on industrial products (figures which were not high in international terms at the

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[10]There are quite a few excellent academic works which analyze the development of Japanese cotton spinning firms in China, among them [26, pp. 74-96].

time) were levied in order to foster infant Japanese industries.[11] These import duties, specific according to weight, generally favored the growth strategy adopted by most Japanese enterprises, which could extend product lines towards inferior grades of goods in the categories protected by duties.

The strategy of expanding product lines well-geared to the organizational structure was the most important reason modern Japanese industrial firms were able to gain a domestic market share in competition with Western products in the early 20th century.

Conclusion

As mentioned above, the development of modern industrial enterprise in Japan can be explained by the framework of "corporate strategy and structure." The institutional approach advocated by Professor Alfred D. Chandler is a useful method to gain insight into the evolution of large enterprises not only in the West but in Japan as well. It is also evident that the rapid growth in international competitiveness of Japanese industrial enterprises in the pre-war period should be attributed to the strategy and structure of enterprise, rather than to cheap labor and governmental protection.

At the same time, however, it not clear whether the theme that "structure follows strategy" is fully applicable to the Japanese experience. In the United States the top executives in the head offices of the major firms made strategic decisions involving vertical integration, diversification, and so forth and only then moved on to consider issues referring to organization, such as divisions and the like. But in the Japanese experience a fine-tuned market together with the utilization of existing distribution networks slowed the internalization of sales activities in modern industrial enterprises. In addition, the heavy allocation of human resources to the factory level and the emphasis on economies of scope facilitated the development of a full line of goods and closely related products. And in turn shop-floor-oriented management and elaborate business strategies made it possible for Japanese industrial corporations to keep growing by enhancing international competitiveness.

Such differences in corporate strategy and structure between Western countries and Japan must be considered in light of the nature of entrepreneurship, social structure, value systems, and other factors. In short, this paper shows that in different countries there are different patterns of organizational development. This makes it difficult to adopt the organizational characteristics bred in another country even when there are clear advantages to doing so.

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[11] New tariffs established in 1911 provided protection for industrial products. For details see [15, pp. 521-43].

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