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THE GROWTH OF COTTON-SPINNING FIRMS AND VERTICAL INTEGRATION: A Comparative Study of the UK, the USA, India, and Japan

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While remarkable progress has recently been made in the study of organizational development in modern firms, it appears to the author that little attention has been paid to that in cotton textile firms, the nucleus of whose manufacturing processes is spinning. In his recent brilliant and influential book, for example, Prof. A.D. Chandler, Jr., made no mention at all of integrated firms, apart from the merger movement. In that book he cited Livermore's article, showing that nearly all the mergers failed in the textile industry of the USA.[1] This may be largely because, according to his opinion, "despite the fact that the integrated textile mills were the first large factories in this country, the new textile industry had little impact on the development of modern industrial management."[2]

Indeed it is true that the single product-single function firm — that is, a single mill firm located at a single place — was still dominant in terms of numbers at the coming of the First World War. This was basically a copy of mills built in the late nineteenth century, though mills now tended to be larger. This fact appears to be most noticeable in English cotton-spinning firms, as mentioned below. As a matter of fact, however, the merger movement at the turn of the century influenced cotton-spinning firms across the world, though the degree was considerably different from one country to another. Indeed it has usually been stated that many of the amalgamated firms could not attain their expected financial achievement.[3] However, some of the cotton-spinning companies, especially in the USA, succeeded in proceeding with their business integration. Then, granting that cotton-spinning firms were rather slow in their growth, it might not be concluded that the administration and organization of the firms belonging to this industry remained as simple as in the nineteenth century. It is to be remembered that in the middle of the depression in the 1930s

M. Copeland put his emphasis on the integrating tendency clearly observed in the industry and the need to build an organization fit for each firm to attain a good financial result.[4] A detailed survey of the American cotton textile industry confirmed his opinion, with the conclusion that both manpower and organization policies were crucial. In Great Britain R. Robson emphasized the same conclusion in 1949.[5]

After taking a general view of cotton textile firms containing spinning units in the world after the First World War, it will be maintained that their business activities were very different from each other. Nevertheless it may be properly summed up that the business developments towards integration and, in some cases, diversification were slow but steady even in the cotton-spinning firms in the world. On the other hand the slow growth might appear to tell us that the cotton textile firms, generally speaking, did not easily and actively grow up to become the large modern corporations. It is widely said that the growth of a firm is closely related to the building of managerial organization.[6] In other words it might be said that, if the management is not confident of such organizational building or doubts that large firms can keep their managerial efficiency through building the organization best fitted to the strategy of the firms, they naturally are hesitant in proceeding to develop advanced and complicated organizations.

In this essay the author will make a survey of the growth, horizontal and vertical, of cotton textile firms covering four main cotton textile-producing countries: the UK, the USA, India, and Japan. They comprised the main cotton textile-exporting countries. Their products were competitive in the world market. Lastly, from the organizational point of view, some special reference will be made to Japanese firms, which built their managerial organization including overseas networks and proceeded to diversification to some extent before the Second World War. One of the characteristics of this industry lies in the large number of firms in comparison with other industries. My interest is in the behaviour of the group of largest firms in each country. In the beginning the ten largest firms will be picked up from the directories of the industry. The spindle number is selected as a measure of their size at that moment.

It would be suitable for expressing the horizontal growth, but it would tell nothing of the vertical growth. So two steps will be taken here. The first is to find out the ten largest firms in reference to their spindle number. (The type of the spindle is not taken into account in this case, though the spindle for lower-count yarns consumes more capital and labour.) The second is to assess the extent of integration in the firms picked out and further to look for other firms not ranked but listed in the directories as managerially integrated to a considerable extent. It was sometimes asserted that the spindle number was utterly unsuitable for expressing the size of firms.[7] It is however thought that after all there is no available figure better than this at this moment. Not to make the table complicated, a line between mule and ring was not drawn. It is to be remembered that, while mules predominated overwhelmingly in the UK, rings commanded an absolute majority in Japan and the USA.[8] If it was reckoned that a spindle of ring was equivalent to 1.5 spindles of mule, the ratio R. Robson used in his book, the difference in size among the four countries would have been more remarkable.[9]

It is a well-known fact that the amalgamation was largely horizontal as far as the merger movement in Great Britain around 1900 was concerned.[10] The single big result of horizontal combination in the spinning section was the Fine Cotton Spinners' and Doublers' Association. The amalgamation resulting in the Calico Printing Association contained two firms having spinning and weaving units with more than 100,000 spindles in all.[11] However, the Association did not extend these manufacturing sections afterwards. In Great Britain, there had been a comparatively small number of amalgamations and absorptions in the cotton-spinning section up to the late 1920s. This seems to have necessarily resulted in their slow growth. It also seems that the big horizontal amalgamations caused by the merger movement were so strong as to prevent the formation of integrated firms. The firms ranked in Table 1 were mostly specialized just in the cotton-spinning process.

It has been said that the spinning and weaving sections were operated by separate firms in Great Britain in the latter half of the last century.[12] This means that almost all the large spinning firms promoted as public companies during the period pursued the single process of spinning.[13] Among the ten firms in Table 1 Horrockses and Crewdson was the only firm that had maintained both processes since the formative period.[14] Other firms all engaged themselves in just the spinning section. It seems that the management's interest in the growth of the firm, if there was any, was in building as large a mill as possible at that moment. Generally speaking, cotton-spinning firms in Lancashire took on their producing activities at a single location. They used to extend their mills and add one or two new mills at their initial site. However, the area originally selected set physical limits to the expansion of their business

TABLE 1. The Ten Largest Cotton Textile Firms in the UK

Firms	Ranking		Place of Mills		Spindles		Looms		Integration
	1913	1928	1913	1928	1913	1928	1913	1928	in 1928
F.C.S.D.A.	1	1	Ashton Bolton Leigh Manchester	Ashton Bolton Leigh Manchester	3,243,674**	3,295,400**	0	0	C.S.
Crosses and Winkworth	2	3	Bolton	Bolton	346,000	599,344	0	0	C.S.
Iwell Bank	3	5	Farnworth	Farnworth	326,160	374,034	0	0	C.S.
How Bridge	4	2	Leigh	Leigh Bolton Farnworth	316,000	718,400	0	0	C.S.
Bolton Union	5	under 10	Bolton	Bolton	290,478	120,272	0	0	C.S.
Times	6	under 10	Middleton	Middleton	264,144	264,144	0	0	C.S.
Tunncriffe	7	under 10	Leigh	Leigh	263,793	208,936	0	0	C.S.
Broadstone	8	under 10	Stockport	Stockport	262,504	262,504	0	0	C.S.
Bee Hive	9	under 10	Bolton	Bolton	262,000	262,000	0	0	C.S.
Horrockses and Crewdson	10	6	Preston Mossley	Preston Mossley	250,000	320,000	1,300	8,300	C.S.W.
Amalgamated Cotton Mills	—*	2	—	Bolton Manchester Mossley Stalybridge Wigan	—	1,064,802	—	5,625	C.S.W. F.Se.
Swan Lane	under 10	4	Bolton	Bolton	210,000	400,000	0	0	C.S.
Laburham	under 10	7	Leigh	Leigh	120,000	345,000	0	0	C.S.
Atlas	under 10	8	Ashton	Ashton	87,232	323,772	0	0	C.S.
Lee and Wrightley	under 10	9	Oldham	Oldham	150,040	300,000	0	0	C.S.
Sudan	under 10	10	Middleton	Middleton	190,000	267,500	0	0	C.S.

Source: John Warrall, Cotton Spinners' and Manufacturers' Directory.
Abridgement in Tables 1-4:
C....Cotton Wo....Wool L....Linen Si.... Silk S....Spinning W....Weaving F....Finishing (Dyeing, Printing etc.) K....Knitting Se....Selling.
* This means "not in existence" or "absorbed."
** This does not contain spindles in Scotland and France.

activities. Some of the firms ranked in the table were exceptional in this respect. Crosses and Winkworth, with the largest number of spindles, had five mills at three separate locations in the Bolton district. Its initial three mills had 44,000, 55,000, and 68,000 spindles respectively. Another mill built in 1878 was furnished with 75,000 spindles, and in 1884 the firm built the fifth mill of 83,000 spindlage.[15] As in this case, the management usually paid attention to building as large a mill as possible at that moment in the original site. Thus the mill newly built became so large that at the outbreak of the First World War a single mill was usually equipped with more than 100,000 spindles. The new mill of Times was the largest in Middleton when founded in 1898. The result seems to be that the majority of the firms ranked in the table were ones quite recently born at the time of observation. General interest in the growth of firms, if any, was horizontal for the top managers in the twenties and thirties. Atlas Mills in Table 1 was the amalgamated one of the four firms engaged in spinning in Ashton. It was properly said that one of the best examples was the Lancashire Cotton Corporation founded in 1929 under the sponsorship of the Bank of England.

Well-known integrated companies were found among the firms not ranked here. J.P. Coats is one of the most successfully integrated firms in the textile industry. Specializing in manufacturing cotton thread, it controlled the world market together with the English Sewing Cotton Thread Company.[16] The Central Thread Agency remained their common selling subsidiary for the world thread market. It also had mills abroad.[17] Amalgamated Cotton Mills, emerging after the First World War, was a holding company till 1937 when a drastic reorganization took place.[18] No firm seems to have lost its individuality. As an amalgamation of large firms including a selling company it would have been expected to succeed. Some old-established firms made their business integrated to a considerable extent in the nineteenth century. Joshua Hoyle, an influential integrated firm of spinning and weaving, absorbed a few firms after the War.[19] Tootal, formed by the amalgamation of two firms in 1888, had several mills in Bolton, Leigh, Radcliffe, and Manchester, making a speciality of jaconets, twills, etc. John Ryland also was a famous integrated firm, having 17 mills in Wigan, Bolton, and Manchester district.[20] Likewise, producing sewing-

cotton thread at several mills in Lancashire, Bagley and Wright established a number of distributing centres in the world besides a spooling mill in Montreal.[21] One of the smallest integrated firms might be A. and A. Crompton. As an old firm located at Shaw near Oldham, it had two mills in the late nineteenth century. Its products, dyed coarse yarns, were mainly exported to southeastern Europe. The management was so entrepreneurial that, in addition to bleach works built in 1885, the firm established a weaving mill at Bucharest and took on shipping business. It was said that "Crompton" brand could be found in every town shop in southeastern European countries.[22]

In the USA spinning and weaving processes had been integrated in the cotton textile firms since the time of their promotion. On the coming of this century the competition from the South became severe for New England firms, and the location of the industry was gradually transferred from New England to the southern states.[23] Though many firms in New England had their mills on a single site, like English firms, a considerable number of the larger firms built their new mills in these southern states before the First World War.[24] This applies to several firms ranked in Table 2.

In due course of time the integration proceeded step by step in many of the largest firms ranked here. Amoskeag of Manchester, New Hampshire, abolished its sales agent in 1907 and began direct sales, apparently with the resulting yearly saving of a huge amount of money.[25] It had ten mills in three areas of Manchester because it had stemmed from the amalgamation of three large firms located in the city.[26] Fall River Iron Works originated in the building of spinning mills at the site of iron works by M.C.D. Borden, most influential dry goods agent of New York in the 1880s. At the same time he controlled the American Printing Company in the same city, one of the largest printing firms.[27] Three processes of manufacturing were afterwards integrated because the spinning and weaving machines of the iron works were carried over to the American Printing Company. Likewise, Pacific Mills was best known for its integrated business. It built the huge print works in Lawrence in 1916.[28] It specialized in cotton and worsted dress goods, and expanded the capacity for production by means of

TABLE 2. The Ten Largest Cotton Textile Firms in the USA

Firms	Ranking		Place of Mills		Spindles		Looms		Integration
	1913	1928	1913	1928	1913	1928	1913	1928	in 1928
Amoskeag	1	1	Manchester	Manchester	790,000	790,000	24,400	29,600	C.W. S.W.F.Se.
Union	2	3	Taunton	Taunton					
			Fall River	Fall River	540,000	not available	0	0	C. S.K.Se.
			New Bedford	New Bedford					
			Mechanicsville	Mechanicsville					
			St. Johnsville	St. Johnsville					
Fall River Iron Works	3	7	Fall River	Fall River	485,288	358,952	13,767	8,396	C. S.W.F.Se.
Pacific	4	6	Lawrence	Lawrence					
			Dover	Dover					
				Columbia	404,360	468,648	10,468	11,076	C.W. S.W.F.Se.
				Lyman					
American Thread	5	8	Glasco	Dalton					
			Willimantic	Willimantic					
			Fall River	Fall River	434,301	not available	0	0	C. S.F.(Su.)*
			Holyoke	Holyoke					
			Westerly	Westerly					
Parker	6	**	Greenville Union						
			Green						
			Walhalla						
			Seneca						
			Arlington						
			Jonesville		289,652	*	6,406		C. S.W.
			Columbia						
			Edgefield						
			Camden						
			Chester						
			Winnsboro						

6	Massachusetts	7	4	Lowell Lindale	Lowell Opelika Biddeford Lewiston	273,088	512,016	8,238	14,704	C.	S.W.F.Se
	Berkshire	8	10	Adams	Adams	260,079	265,724	6,400	6,000	C.	S.W.
	Merrimack	9	under 10	Lowell Huntsville	Lowell Huntsville	259,056	236,268	7,096	6,517	C.	S.W.F.
	Riverside and Dan River	10	5	Danville	Danville	246,800	472,220	8,276	13,500	C.	S.D.W.F.
	Lockwood Green	—	2	—	Pelzer Lowell Hogansville La Grange Lisbon Clinton Pawtucket Palinfield Winnsboro	—	570,966	—	8,523	C.L.	S.W.F.
	Lonsdale	under 10	9	Lonsdale	Lonsdale Ashton Berkeley Phoenix Hope Blackstone Seneca	184,804	294,756	4,659	8,230	C.	S.W.F.

Sources: Dockhan's American Report and Directory of the Textile Manufacture and Dry Goods Trade; Textile World Record, ed., Textile Establishments in the US and Canada

* (Su.) means "by subsidiary" ** Liquidated

buying out Cocheco Manuf. Co. in 1909. Also Massachusetts Cotton Mills was integrated in 1928, selling its products at "Pepperell Sales Offices" in six large cities.[29]

Union Mills originally specialized in knitting women's and children's underwear, but afterwards it integrated its spinning section through the lease of the mills owned by the New England Cotton Yarn Company.[30] Parker Mills, being a holding company, had not shown good performances. The failure of the cotton speculation of the president brought Parker Mills into collapse in 1916, and four mills were bought by Pacific Mills.[31] On the other hand American Thread was controlled by English Sewing Cotton and shared Central Thread Agency as its selling organization with the latter. It had its mills in Rhode Island and Massachusetts.[32] The only firm that originated in the South and is ranked in the table is Riverside and Dan River. This was founded in Georgia in 1882 and grew rapidly. Its sales organization took over the sales of all products in 1941.[33]

Not ranked in the table, some large firms had integrated their business activities. Graniteville Manufacturing Company, one of the oldest firms in South Carolina, had four mills, with a finishing mill built in 1924.[34] Arlington Mills of Lawrence was proud of its speciality in dress goods and menswear. Cannon Manufacturing Company specialized in sheetings and towels, having many mills in three cities in North and South Carolina. Nashua Manufacturing Company had several mills in New Hampshire and Massachussetts, and its products were cotton flannels, domets, and blankets. Some kinds of substantial backward integration were still in progress in 1928. Cone Export and Commission Company was an influential sole agent for about ten firms in the southern states at that time, some of whom were already controlled by the company.[35] The birth of Cone Mills in 1946 meant the organizational integration of this group. It may be concluded that many of the largest cotton-spinning and weaving firms in the USA implemented the policy for integration successfully during the period considered in this essay.

In India many spinning firms were equipped with some hundreds of looms in their mills at the end of the last century. However, the number of looms

TABLE 3. The Ten Largest Cotton Textile Firms in India

Firm	Ranking		Place of Mills		Spindles		Looms		Integration in 1928	
	1913	1928	1913	1928	1913	1928	1913	1928		
Maneckji Petit	1	4	Bombay Taredo Parel Mabaluxmee	Bombay Taredo Parel Mabaluxmee	148,388	153,363	5,043	4,683	C.	S.W.
Madura	2	1	Madurai	Madurai Tuticorin Ambasamudram	106,536	335,606	0	0	C.	S.
Victoria	3	6	Guwaltolic (Campore)	Guwaltolic (Campore)	106,000	104,336	1,400	1,500	C.	S.W.
J. Sassoon*	4	2	Bombay	Bombay	103,816	245,238	2,079	6,929	C.	S.W.F.
Campore	5	under 10	Coopergani Juhu (Campore)	Coopergani Juhu (Campore)	102,504	78,100	1,400	1,000	C.	S.W.
Central India	6	8	Nagpur	Nagpur	100,352	100,352	2,264	2,220	C.	S.W.
Century	7	9	Bombay	Bombay	92,016	100,156	3,093	3,130	C.	S.W.
Buckingham	8	under 10	Perambalur (Madras)	Perambalur (Madras)	89,284	96,540	1,076	2,692	C.	S.W.
Bengal**	9	**	Calcutta	**	85,048	**	1,050	**		
Curimbhey	10	under 10	Bombay	Bombay	83,396	86,540	1,014	1,030	C.	S.W.
Bombay D. and M.	—	3	Bombay	Bombay	46,488	181,544	988	4,848	C.	S.W.F.
Sholapur	under 10	5	Sholapur	Sholapur	59,893	111,360	1,044	2,209	C.	S.W.
Swadeshi M.	under 10	7	Coolra	Coolra Girgaum	53,396	102,592	1,461	2,722	C.	S.W.
Sir Shapurgi Broacha	—	10	Bombay	Bombay	—	97,284	—	723	C.	S.W.

Source: Annual Reports of Bombay Millowners' Association.

* Amalgamated into Sassoon United Mills in 1920.
** This was a London-registered firm, liquidated before 1928.

they possessed was limited because the firms sold yarns to hand weavers even in this century. A number of spinning firms remained single-mill firms throughout the period considered here. They were controlled by managing agency houses.[36] A member of the house was usually one of the largest stockholders of the firm. Though the houses often dominated more than one spinning firm, they did not make those mills their operating units. In a few cases agency houses had some spinning firms amalgamated. E.D. Sassoon and Co., an agency house, controlled five spinning and weaving firms.[37] They were amalgamated to form E.D. Sassoon United Mills in 1920. All products were sold by the agency house. More organizationally-integrated business activities were found in the Bombay Dyeing and Manufacturing Co. Promoted in 1879 as a dye works, it evolved by backward integration, making a spinning firm its subsidiary in 1895 and adding a weaving section in the mill in 1904.[38]

There is no room here to make a comparative study in regard to the structure of the cotton textile industry among the countries mentioned above. However, it would be useful for us to sum up that the structure of the cotton textile industry became highly oligopolistic in Japan after the merger movement began at the beginning of this century.[39] It may be generally said that the merger movement around 1900 was mostly unsuccessful in this industry in Europe and the USA. On the other hand, the movement in Japan was most prominent and successful in the cotton textile industry. All of the largest firms in Table 4 grew by absorbing many other small firms. Thus the three largest firms respectively took over ten to twenty firms by the time of the world depression, although sometimes a new firm resulted from the amalgamation of two firms equal in strength. The consequence was that they each had a number of mills or mill groups in many districts of the country. One of the most remarkable cases was Kanegafuchi Spinning Co.[40] It absorbed a small firm for the first time in 1895 and grew so large that it owned 17 groups of mills across the country in 1928. Each mill was comparatively small. The largest mills with a central office had 108,772 spindles and 34,620 doubling spindles, besides 760 looms. At the same time the firm owned ten groups of mills equipped with 10,000-20,000 spindles, besides several hundred looms. In addition to that, Japanese firms did not

concentrate their spindles at a single place, or district, even if they built new mills. In this regard the contrast with firms in other countries was very noticeable.

Originating in a single process of spinning, the large Japanese firms started their weaving units in the 1890s and added their finishing section after the First World War. Nevertheless they did not integrate the purchasing and selling functions, depending, instead, upon large and efficient trading companies.[41] In the late 1930s, some of them tried to diversify their products in the anticipation that the demand for cotton textile goods would not be elastic in the future. Especially, they were very eager to take on artificial fibres. Thus the Osaka Spinning Co., the first successful cotton-spinning firm in Japan, took on the weaving process in 1900. Toyobo Spinning Co., the firm formed by the amalgamation of Osaka and Mie, added dyeing works in the early twenties, and geared itself for a policy of diversification after the world depression.

TABLE 4. The Ten Largest Cotton Textile Firms in Japan

Firm	Ranking		Place of Mills		Spindles		Looms		Integration	
	1913	1928	1913	1928	1913	1928	1913	1928	1928	
Kanegafuchi	1	3	15	17	465,524	680,852	4,783	8,007	C.Si.	S.W.R.
Mie*	2	2	11	19	283,522	859,940	5,330	12,257	C.Si.R.	S.W.
Fujigasu	3	4	3	6	245,688	595,952	979	2,713	C.Si.	S.W.
Nihon	4	(1)	2	—	173,412	—	0	—		
Osakagodo	5	6	6	8	163,252	476,800	400	3,638	C.	S.W.
Settsu	6	(1)	6	—	157,174	—	0	—		
Osaka	7	(2)	5	—	156,496	—	4,532	—		
Tokyo	8	(1)	2	—	138,696	—	884	—		
Amagasaki**	9	1	2	13	132,392	896,676	1,785	9,555	C.Si.(R)***	S.W.F.
Fukushima	10	7	5	7	103,616	255,308	0	1,996	C.	S.W.
Nissin	under 10	5	2	5	95,156	480,518	0	2,965	C.	S.W.
Kurashiki	under 10	8	2	8	59,032	296,840	0	1,812	C.(R).K. ***	S.W.F.
Kishiwada	under 10	9	3	5	96,840	203,892	0	1,150	C.	S.W.
Wakayama	under 10	10	3	5	63,388	138,822	856	1,463	C.	S.W.

Source: Dainippon Boseki Rengokai [Japan Cotton Spinners' Association], Menshi Boseki Jijo Sankosho [The half-year's reports].

* Toyobo since 1914 through the amalgamation with Osaka.
** Dainippon since 1918 through amalgamation with Tokyo in 1916 and Settsu in 1918.
*** Rayon by subsidiary.

III

As mentioned before, large cotton textile firms became integrated and in some cases diversified up to the Second World War. At the same time a refined organization of the divisional system was sometimes advocated for the firms in this industry.

Kendal Company was a comparatively new firm of rapid growth. The president, Henry P. Kendal, was also president of the Taylor Society, being enthusiastic about the scientific approach to business organization. The firm had nine mills, mainly in Massachusetts and South and North Carolina, in the 1930s.[42] The management was centralized up to the end of the First World War. However, since that time delegation of responsibility had been felt necessary with the rapid expansion of the firm. Consequently a fundamental change in organization was realized in 1929. According to product lines, four operating divisions were newly created while five cotton mills in North and South Carolina belonged to Kendal Mills division. A general manager was in charge of each division, and in Kendal Mills division five mills each had a local manager. Each division was autonomous and the divisional general manager had "the final responsibility for divisions." On the other hand the committee of central staff, "the Staff Committee," was primarily concerned with divisional co-ordination and long-term policy making for the firm, while "the Operating Committee" in each division formulated the divisional policy. It ought to be made clear that, while the Kendal Company made a speciality of things like the surgical dressing and absorbent cotton and gauze of "Curity" brand, a part of intermediate products was sold to other firms. At the same time the firm bought some sorts of cloth made by other firms.[43] Consequently it seems that three autonomous divisions made according to processes were suitable because this divisional system made it possible for

the firm in the 1940s to further the diversification of business activities.

As a matter of fact, it seems that almost all large spinning firms took on divisional organization just after World War II. Nevertheless, several oligopolistic cotton-spinning firms in Japan developed a complicated managerial structure before the War, presumably as a result of a number of mill groups being dispersed across the country. In referring to the cases of these firms, some evolutional phases of managerial structures in Japanese textile firms at large will be described.[44]

It is widely known that the structure was very simple in the case of a firm composed of a mill or mills built on a single site. Nisshin Spinning Co. employed 37 office workers in the formative year of 1907. The managing director was finally responsible for the executive function. The middle management was undertaken both by an office manager (jimuchō) and a mill manager (komuchō). The four lower positions, responsible for purchase and sales, mill building and maintenance, dormitory, and canteen, were under the office manager's supervision. The mill manager answered for the operation of mills together with a chief engineer. At the same time the managing director had three staff sections, namely, secretariat, accountancy, and business data. As a latecomer this firm seems to have had its organization clearly defined.[45] However, forerunners may have had difficulties in their organizational building. Though Amagasaki Spinning Co. experienced many trials and errors up to the formation of Dainippon Spinning Co. in 1914, besides the president and three directors the management was composed of two or three heads of functional departments (bu). From an organizational point of view, to add mills in a new area meant the creation of another local mill manager supervised by a general mill manager (kōmu shihainin), head of the manufacturing department. The emergence of Dainippon Spinning Co., consisting of 14 mills with around 700,000 spindles and 4,300 looms across the country, made it essential to reshape functional organization. What came out was the system of functional sections (ka). It was made up of ten sections, some of which had staff functions. The production and commercial managers remained two departmental heads. Each mill had a mill manager and an assistant mill manager.[46]

Having grown up as one of the progressive local firms, Kurashiki Spinning Co. seemed aware of the organizational problems. When it absorbed a local firm in 1908 and consequently owned a group of mills in a separate area, the management set up a functional organization, learning much from Kanegafuchi and Mie. It consisted of three departments (bu), namely, production, commercial, and general affairs, of which the first was much larger than the others. The production department had four functional sections (ka) — spinning, personnel, engine, and maintenance. The president himself seems to have answered for the production department, and at the same time some directors were heads of these departments. However, it was learned that this blurred their function and responsibility and made all decisions dependent upon the president. A fundamental reorganization was made in 1922 with the consequence that the function of the board was made clear, being free from the day-to-day management. The central office had 11 functional sections with their respective heads. Once again, in 1939, with the growth of the firm and the president's death, the central office revised the functionally departmentalized organization. At this time three departments — production, purchase and sales, and general affairs — controlled nine well-defined subdivided sections. The top management consisted of the president, a senior director, and six directors, three of whom were each responsible for a department.[47] An elaborate but basically similar sort of organization was found in Nisshin Spinning Co. in 1941. The top management was composed of the president, two senior directors (jōmu torishimari yaku), and six directors, some of whom were at the same time the heads of five departments respectively. Each department was divided into two to five sections. Each mill was under the supervision of the production department, while two sales branches were controlled by the commercial department.[48]

It seems to the author that, despite the clear management policy toward diversification in Japanese cotton-spinning firms in the 1930s, the creation of divisional organization was generally slow in coming, because at first diversification just meant including different sorts of fibres. In the organization of Dainippon S. Co., several departments were based on the various kinds of product. However, these products — cotton, artificial fibre, silk, and wool — were closely related to each other in

regard to their uses, and were for similar markets. Consequently this did not lead to diversified organization. It was after the Second World War that the divisional system came to appear in large cotton textile firms in Japan.

IV

Much emphasis has been put on the trends in business toward diversified firms, and my essay has shown that this general conclusion is applicable to the cotton industry. The tendency toward managerial integration especially was clearly observed in American firms after the beginning of this century. It can also be safely said that these integrated firms showed good financial performances not only in the USA but also in other countries.

However, at the same time, the characteristics of four countries in this regard were also very remarkable. In the UK the integrated firms were comparatively small in number and moreover almost all of them were the old-established firms which had their origins in family businesses. It is worth pointing out that the large public companies founded since the American Civil War usually specialized just in the spinning process throughout the period observed here. The tendency toward integration seems to have been rather faint in the UK. This is just an example. To explain the main characteristics observed in these countries, one will need to take the business environment into consideration, and this was closely related to the firm's managerial behaviour and the structure of the industry in each country.

NOTES

1. A.D. Chandler, Jr., The Visible Hand: The Managerial Revolution in American Business, 1977, pp. 337-8.

2. Ibid., p. 72.

3. As far as the UK was concerned, cf. H.W. Macrosty, The Trust Movement in British Industry, 1907, p. 117.

4. M. Copeland and E.P. Learned, Merchandising of Cotton Textiles: Methods and Organization, 1933, p. 78 ff.

5. H.S. Davis and others, Vertical Integration in the Textile Industries, 1938, pp. 14-16; R. Robson, "Sizes of Factories and Firms in the Cotton Industry," Journal of Manchester Statistical Society, 1950, p. 25.

6. Cf. A.D. Chandler, Jr., Strategy and Structure, 1962.

7. S.D. Mehta, The Indian Cotton Textile Industry: An Economic Analysis, 1953, pp. 188-200.

8. G.C. Allen, British Industries and their Organization, 1933; S.J. Chapman, The Lancashire Cotton Industry, 1904; R. Robson, The Cotton Industry in Britain, 1957; M. Copeland, Cotton Manufacturing Industry of the United States, 1923; S.D. Mehta, op cit.

9. Cf. R. Robson, op. cit., p. 134 ff.

10. Cf. Macrosty, op. cit., p. 155 ff.

11. Warrall's Cotton Spinners' and Manufacturers' Directory for Lancashire, 1913. These firms were E. Gartside Ltd. of Manchester and Andrew George and Sons Ltd. of Stockport.

12. D.A. Farnie, The English Cotton Industry and the World Market, 1979, chapter VIII; Robson, op. cit., p. 120: A.J. Taylor, "Concentration and Specialization in the Lancashire Cotton Industry, 1825-50." Eco. Hist. Rev., 2nd ser., vol. I.

13. Shin'ichi Yonekawa, "Oldham Boseki Kabushikigaisha Setsuritsu Boom 1873-5" [The floating boom of Oldham cotton-spinning companies], The Hitotsubashi Rev., vol. 77, no. 6, pp. 16-35.

14. Sir C. Brown, "Origin and Progress of Horrockses, Crewdson and Co.," no date, p. 5.

15. Lancashire, the Premier Country of the Kingdom: Cities and Towns, 1889, part II, p. 77.

16. Macrosty, op. cit., pp. 125-9; S. Yonekawa, "Structure of Strategy of Cotton and Steel Enterprises in Britain, 1900-1939," in K. Nanagawa (ed.), Proceedings of the First Fuji Conference, 1976, pp. 220-22.

17. The first such was built in Pawtucket in 1868. At the end of the last century this mill had 200,000 spindles.

18. Company Registration Office (CRO) company file 16592; Amalgamated Cotton Mills Trust Ltd., Concerning Cotton; a Brief Account of ____, 1921. Foreword.

19. CRO company file 7903.

20. D.A. Farnie, "John Ryland of Manchester," Bulletin of the John Ryland Library of the University of Manchester, 1973.

21. Manchester of Today, 1888, p. 158.

22. Public Record Office, BT 31, 16880/2298, 21; J.E. Hargreaves, A History of the Families of Crompton and Milne and of A. and A. Crompton and Co., 1967, pp. 102-6.

23. M. Copeland, op. cit., p. 32 ff.

24. An example is that Merrimack decided to build a new mill of 25,000 spindles in Huntsville, Alabama, in 1898. This establishment was afterward expanded, having more than 100,000 spindles. This firm also integrated the printing process in the last century. From minutes of board of directors, typescript, Archive Dept. of Baker Library.

25. "Amoskeag Manufacturing Company: A History, 1805-1945," typescript, section 2, p. 16, Archive Dept., Bank Library.

26. Ibid., Section 1, on 1915.

27. Fall Weekly News, March 31, December 19, 1887, etc.

28. Business records of Parker Mills, Corporate Dept. of Baker Library; "The Company, Memoirs of a Corporate, 1850-1950," a series of booklets, no date.

29. Textile Establishments in the United States, Canada and Mexico, 34th edition by Textile World, 1928, p. 200.

30. "To the Stockholders of New England Cotton Yarn Company," 1913, Corporate Dept. of Baker Library.

31. "To the Stockholders of Parker Cotton Mills Company," 1915, Corporate Dept. of Baker Library.

32. The English Sewing Cotton Company was formed, through the amalgamation of 13 firms producing cotton thread, in 1897. Cf. H.E. Blyth, Through the Eye of a Needle: the Story of the English Sewing Cotton Company, 1947; American Thread Company, "Prospect of 1898," Corporate Dept. of Baker Library.

33. R.S. Smith, Mill on the Dan, 1960, pp. 454-5.

34. L. McCampbell, Graniteville, 1845-1935, 1935, pp. 24-28.

35. The company, Ashville Cotton Mills: Half Century Book, n.d.; World Leadership in Denims: Through Thirty Years of Progress, n.d.

36. A general description of this system is found in P.S. Lokanathan, Industrial Organization in India, 1935, pp. 15-32. Also cf. R.S. Rungta, The Rise of Business Corporation in India, 1970, 219 ff.

37. Indian Textile Journal, April 1920, p. 130; S.M. Rutnagur, Bombay Industries: The Cotton Mills, 1927, pp. 189-95; C. Roth, The Sassoon Dynasty, 1977, pp. 106-7.

38. The company, Diamond Jubilee, 1897-1939, pp. 11-16; The Employers' Association, Achievements of Managing Agency System, 1954, p. 23 ff.

39. A standard work on the history of the Japanese cotton-spinning industry is N. Takamura, Nippon Bōsekishi Josetsu [A history of the cotton-spinning industry in Japan], 2 vols, 1971-2.

The spindle shares of large firms in 1913 and 1928 were as follows:

	1913	1928
The five largest	47%	46%
The ten largest	68%	65%

40. S. Muto, president of Kanegafuchi Spinning Co., was an eager advocate of mergers. He learned much from the merger movement in the USA and wrote a series of articles for an influential weekly commercial newspaper in 1902. It was natural that his firm had taken an active part in absorbing a number of small firms since the late 1890s. It was in 1895 that it for the first time absorbed two small spinning firms under the auspices of the Mitsui Trading Company.

41. At the turn of the century more than 50 per cent of Indian cotton was imported by Mitsui Trading and Nippon Menka companies. These firms were also very active in exporting yarns and cloths made in Japan. However, it ought to be remembered that the spinning firms left the domestic market in the care of traditional merchants.

42. The following description was found in F.L. Lamson, "General Administrative Organization and Control," Bulletin of the Taylor Society, 1930.

43. The company, The Kendal Company, An Integrated Industrial Enterprise, n.d.

44. All of the large cotton-spinning firms except Kanegafuchi S.C. have published company histories themselves, often with the help of academics. In many cases they are voluminous, and good sources for research works.

45. Nisshin S.C., Nisshin Bōseki Rokujū Nen Shi [Sixty years of Nisshin Spinning Company], 1969, pp. 75, 124-5, 363-4.

46. Nichibō Company, Nichibō Nanajūgo Nen Shi [Seventy-five years of Nichibo Company], 1966, pp. 73, 85-6, 160, 316, 434, 476-7, 588-9, 871-2.

47. Kurashiki Spinning Company, Kaiko Rokujūgo Nen [The sixty-five years' recollection], 1953, pp. 127-9, 139-141, 274-5, 529-30, 670-71.

48. Nisshin S.C. op. cit., pp. 505-6, 663.