



## DIVERSIFIED EXPANSION AND DIFFERENT BUSINESS MODELS IN THE JAPANESE TEXTILE INDUSTRY

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### ABSTRACT

*Diversification into non-textile activities became the major instrument for Japan's large textile enterprises which confronted the maturing state of their original businesses. Diversification strategies that companies adopted exhibited the different directions in their basic investment patterns. The present research confirms that dissimilar technological resource and capability endowments have decisive impacts on the contrasting long-term growth patterns of the companies. The timing of new market entry is also endogenous to the firm resources and capabilities. While firms adapt to the changing environments, diversification can thus be a very much path-dependent process.*

*Keywords: textile industry, Japan, technological resources and capabilities, diversification strategy*

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### 1. Introduction

Diversification into non-textile product markets has been the primary strategy for reorganization adapted by the large enterprises in the Japanese textile industry.<sup>1</sup> This was because restructuring within textile businesses has not yielded the long-term solution to bring the satisfactory financial outcomes. As a result, the average textile sales of the largest firms in the Japanese textile industry have declined from an average of ninety percent in 1970 to around only forty percent in the present day.

Given the significant role that diversification strategies have played for the firms' survival in the strenuous business environment, this paper aims to shed light

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on the basic directions of the diversification strategies in the Japanese textile industry. It thus explores the diversification patterns of the leading companies' and in particular analyzes the effects of their dissimilar technological resources and capabilities on the different paths of diversification.

For the purposes of this analysis, the paper uses internal resource-base theories of the firm (Penrose, 1959; Nelson and Winter, 1982), which suggests that firms shall exploit their resources and capabilities to diversify into new products. The nature of those resources and capabilities thus provides the basis for companies' direction of diversification, as has also been advocated by the evolutionary economic theory (Nelson and Winter, 1982; Dosi et al,

2000). Following Nelson and Winter (1982: 103), capabilities are here defined as the firm's abilities to utilize their resources productively. Resources, then, are the stocks of available factors that are owned by the firm (Amit and Schoemaker, 1993: 35). Of course, not all aspects of resources and capabilities enable a company to improve its efficiency and effectiveness (Barney, 1991: 102). Along with the established definition in the strategic management literature, those resources and capabilities that are strategically significant and thus can be the source of value in multiple markets are referred to as core capabilities or competences (Prahalad and Hamel, 1990; Collis and Montgomery, 1995; Teece, Pisano and Shuen, 1997).

The following section briefly explores the backgrounds of the leading enterprises in the Japanese textile industry. Section three represents the core arguments of the paper. In this part, the author analyzes the strategies for new market entry among three groups of companies which exhibited dissimilar business models. In its end, the paper proposes that the nature and magnitude of firms' resources and capabilities had crucial impacts on the direction and timing of their diversification strategies.

The methodology to analyse the diversification strategies of Japan's largest textile enterprises includes the analyses of historical and contemporary literature, and company annual reports since the late 1960s, in particular the semiannual reports to the Ministry of Finance (Yuka Shoken

Hokokusho). These are supplemented by a questionnaire sent to the largest textile companies, as well as two-round in-depth interviews with the key executives at the largest five corporations.

## 2. INDUSTRIAL AND CORPORATE BACKGROUNDS

### 2.1 The Leading Enterprises in the Japanese Textile Industry

Table 1 illustrates Japan's largest ten textile enterprises in terms of their assets in 2000. The ten largest companies constituted 87 percentage of assets in the twenty largest textile firms and 76 percentage of assets when all the textile companies whose stocks are listed are considered. These figures represent the significance of the ten firms in Japan's textile industry (Japan Company Handbook, 2001).

The table also indicates the years of establishment and the original production lines of the companies. Among the ten enterprises, Toray, Asahi Kasei, Teijin, Kuraray and Mitsubishi Rayon were all founded as rayon fiber manufacturing companies, mostly as subsidiaries of other companies. In contrast, Kanebo, Toyobo, Nisshinbo and Kurabo commenced their businesses as cotton spinners. Unitika, on the other hand, was founded by the merger of the cotton spinning company, Nichibo, and its former rayon fiber subsidiary, Nippon Rayon. The sample thus represents the diverse historical origins of the enterprises (Nippon Kaishashi Souran, Jyokan, 1995).

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Table 1. The largest ten enterprises in the Japanese textile industry in 2000 measured by assets

Enterprises		I. Total Assets (¥million)	II. Establishment Date	Original production line
1.	Toray	1,456,857	1926	Rayon fiber
2.	Asahi Kasei	1,244,609	1922	Rayon fiber
3.	Teijin	1,058,216	1918	Rayon fiber
4.	Kanebo	707,352	1887	Cotton spinning
5.	Toyobo	557,775	1882	Cotton spinning
6.	Kuraray	509,000	1926	Rayon fiber
7.	Unitika	382,848	1969	Cotton spinning, Rayon fiber (Merger of Nichibo and Nippon Rayon)
8.	Mitsubishi Rayon	353,011	1933	Rayon fiber
9.	Nisshinbo	330,585	1907	Cotton spinning
10.	Kurabo	211,575	1888	Cotton spinning

Source: Compiled from *Japan Company Handbook* (2001), Toyo Keizai Shinposha, Tokyo, Japan; *Nippon Kaishashi Souran, Jyokan (The Comprehensive Directory of the History of Japanese Companies)* (1995). Vol.1, Toyo Keizai Shinposha, Tokyo, Japan.

## 2.2 Early Developments of Technological Capabilities

Rayon fiber manufacturing became the significant crossroads of the Japanese textile industry in terms of the companies' technological capability building. Teikoku Jinzo Kenshi (now Teijin) became the initial company to commence the large-scale rayon production in 1918, followed by other rayon-producing companies Toyo Rayon (now named Toray) in 1926 and Nobeoka Ammonia Fiber (presently Asahi Kasei) in 1931 (Odagiri and Goto, 1996: 126-127, Yamazaki, 1975: 34-47).

Some of the largest firms in the cotton spinning industry also branched out into rayon manufacturing, including Nippon Rayon by Nichibo and Kuraray by Kurabo,

J both established in 1926. Toyobo, Nisshinbo and Kanebo then followed the same strategy and set up their rayon fiber subsidiaries in 1928, 1933 and 1934, respectively (Yonekawa, 2000: 29-34). The major motives for the entry of cotton spinners into rayon fiber production were due to the struggling market for cotton textile products, as the protectionist policies restricted Japanese cotton textile imports in 40 of 106 national markets, and the growing demand for the rayon fiber in those years (Dickerson, 1999: 562).

Investments into rayon, chemical-based cellulosic fiber, represented the commitment into the building of different technological capabilities by the cotton spinning enterprises, given the mechanical nature of their basic spinning processes. As cotton

textile companies familiarized themselves with chemical processes in rayon manufacturing, technological skills between the companies with rayon fiber origins and those with natural fiber backgrounds became basically similar. The development of rayon fiber skills thus created a level playing field in terms of their entry into synthetic fiber after World War II.

Nevertheless, the characteristics of capabilities, particularly that were based on rayon manufacturing or synthetic fiber experiments, sometimes came to an end thanks to the termination of those operations with the government's restructuring and concentration of industries during the war. On the other hand, they sometimes got transferred to newly independent companies, as several companies had to split-off their subsidiaries along with the GHQ demands for the reorganization of large corporations after the war (Nihon Kagaku Seni Kyoukai, 1974:277-301, 388-405). This shift of technological capabilities would critically influence subsequent investment patterns of the three companies in particular: Kanebo, Kurabo and Nisshinbo.<sup>1</sup>

### 2.3 Differences in Technological Endowments: Technology Frontrunners and Laggards

In terms of the basic direction of their growth strategies, the commercialization of synthetic fiber was the decisive watershed at which the technological capabilities of individual companies constituted a critical factor. The characteristics of their technological resources and capabilities from rayon fiber manufacturing became the foremost factor in explaining the dissimilar investment decisions of the companies at the time of synthetic fiber entry. Two factors constituted the major grounds for the diverging patterns among companies.

First, the physical facilities including plants and equipment and also the know-how in rayon fiber production processes were crucial in the development process of

synthetic fibers. Accumulated technological capabilities from rayon manufacturing thus were the essential means for the companies' learning and improvement of foreign technology in the commercialization game of the new synthetic fibers (Fujii, 1971: 166-170, Suzuki, 1994:81-82).

Second, the screening device for entry into the synthetic fiber industry, regulated by the Ministry of Commerce and Industry, was the technological resources and capabilities of the individual companies. In order to be qualified as an original entrant; a firm thus had to display its technical skills to assimilate the latest technologies (Ozawa, 1980: 134-135). As government policies then regulated late entry, size restrictions prevented latecomers from achieving scale economies and enjoying large profits captured by the original entrants, thanks to their increased supply capacity and price reduction (Suzuki, 1999: 99-100). The industrial policy thus not only recognized but also secured the long-term advantages of the firms that had committed to technological investment.

Ultimately, the companies that entered into synthetic fiber manufacturing based on resources and capabilities accumulated in rayon fiber operations became the prime players in the synthetic fiber industry.<sup>2</sup> Those companies typified the "technology frontrunners". This group included all the largest enterprises listed on Table 1, except for Kanebo, Kurabo and Nisshinbo. The three companies, on the other hand, did not possess the adequate competence and thus would not make the substantial investments for synthetic fiber at its initial stage when the market and technological risks were still high. They are referred to as "technology laggards". Thanks to the rising technology hurdles and the government-induced barriers, the three companies thus sought their growth opportunities outside synthetics.

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### 3. Diverging Business Models for Non-textile Market Entry

#### 3.1 Directions of the Basic Diversification Investments of Japan's Largest Textile Enterprises

Textile companies attempted to cope with the structural troubles in the textile markets that especially worsened since the 1970s by different means. Because reorganization within textile and related

fields were not adequate enough to bring the positive results for the entire company, diversification into non-textile activities eventually became the major instrument for all the largest enterprises to confront the maturing state of their original businesses (Colpan, et al. 2002). The significance of textile sales as a percentage of the total sales for the largest firms thus dramatically declined to an average of only 40 percent in the year 2000 (Table 2).

Table 2. Ratio of textile sales to total sales of Japan's largest textile enterprises

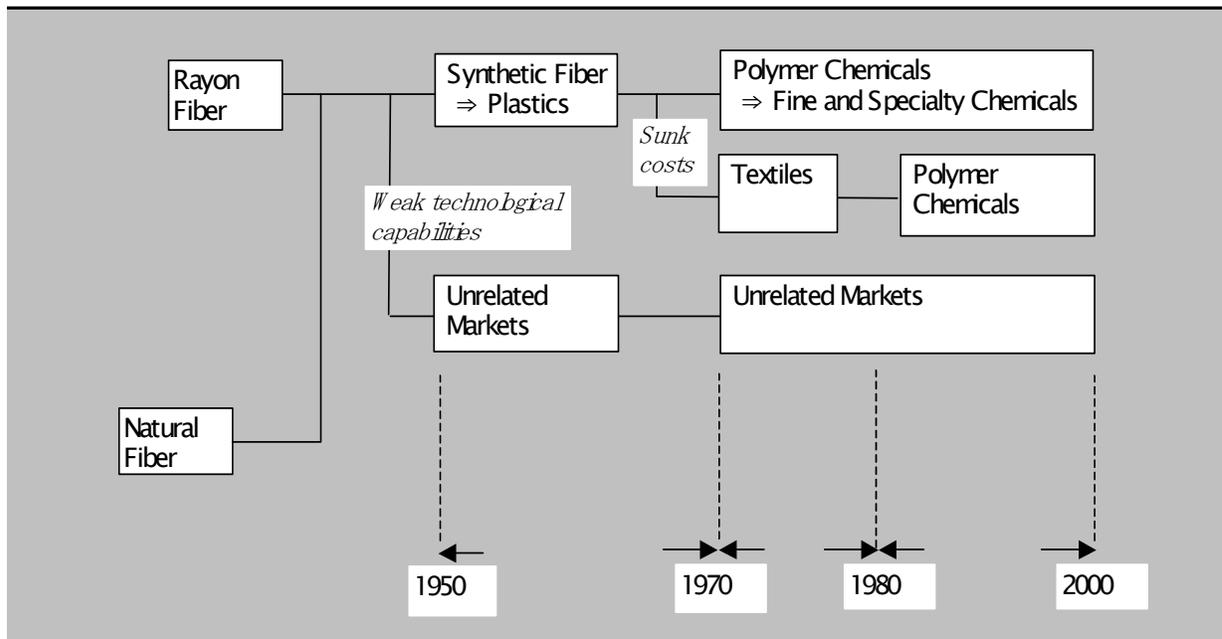
	Toray	Teijin	Asahi Kasei	Kuraray	Mitsubishi Rayon	Toyobo	Unitika	Kanebo	Kurabo	Nisshinbo
1970	92.1%	95.0%	75.0%	82.0%	86.1%	99.0%	97.7%	83.1%	95.0%	88.5%
1975	77.6	70.0	58.8	71.8	80.0	97.0	92.0	73.9	91.4	81.0
1980	74.5	69.7	38.2	73.0	60.6	89.2	80.9	68.8	91.0	74.0
1985	63.2	71.3	27.6	69.3	45.6	82.2	78.8	56.9	88.8	76.0
1990	55.3	64.5	17.2	45.3	48.0	75.7	66.4	51.5	76.6	67.0
1995	48.2	53.7	14.5	36.6	46.8	68.8	51.2	44.8	73.2	61.0
2000	41.0	53.0	12.0	31.0	33.0	56.0	47.0	30.0	65.0	49.0

Source: Compiled and calculated from *Yuka Shoken Hokokusho (Report on Securities and Stocks)*, Okurasho Insatsukyoku, Tokyo, Japan and data file by Iwao Nakamura at Japan Chemical Fibers Association.

Depending on their technological capabilities and competitive positions, companies exhibited the dissimilar strategies for non-textile diversification. Figure 1 illustrates the diverging directions of the basic investment patterns by the enterprises. As the figure confirms, the schemes of the entire companies with similar resources and capabilities exhibited the three different collective behaviors in terms of their

diversification strategies. To this end, technology frontrunners showed two dissimilar patterns: technology-driven diversification and textile adherence leading to slow transition into non-textile markets. On the other hand, technology laggards exemplified the entry into unrelated markets, and represented the market-led diversification schemes.

Figure 1. Long-term directions of basic diversification patterns in the Japanese textile industry



Source: The author's own figure.

### 3.2. Technology Frontrunners: Technology-Driven Diversification versus Textile Adherence and Slow Transition into Non-textile Markets

Non-textile entry was still limited when the growth core of technology frontrunner firms was the development of synthetic fibers in the 1950s and 1960s. Nevertheless, the companies started the entry into a number of plastic businesses, as they employed their know-how from synthetic fiber operations to those technologically-related resin and film operations. The diverging pattern into two subgroups actually became apparent as the majority of companies exemplified the

intensified entry into non-textile markets in the 1970s, while the others chose to follow a textile-centred strategy, as is illustrated in Figure 1.

Given their dissimilar strategies for non-textile diversification, Table 3 illustrates the R&D expenditures of companies to provide evidence for the differing commitment into research and development activities and core technological capability building of the entire companies. R&D expenditures in absolute terms and as a percent of total sales are employed to evaluate the commitment of individual firms into technological enhancement.

Table 3. Research and development expenditures of the largest enterprises in the Japanese textile industry, 1971–2000

Company	R&D Expenditures (million yen)						R&D Expenditures/Total Sales (%)					
	1971–75	1976–80	1981–85	1986–90	1991–95	1996–00	1971–75	1976–80	1981–85	1986–90	1991–95	1996–00
Toray	7,919	9,407	15,454	21,320	29,802	31,483	2.44	2.26	2.66	3.81	5.29	5.72
Kuraray	2,884	3,252	4,529	7,436	11,682	11,216	2.06	1.86	2.25	3.60	4.27	4.15
Asahi Kasei	5,706	8,821	16,385	28,483	34,806	33,648	1.54	1.88	2.48	3.59	3.60	3.30
Teijin	6,080	7,417	10,473	15,559	22,391	22,173	2.40	2.07	2.41	4.74	6.87	7.20
Mitsubishi Rayon	3,533	3,442	5,291	9,862	12,639	10,005	3.61	1.95	2.55	4.70	4.87	4.17
Unitika	1,446	2,263	3,940	5,303	6,941	5,625	0.79	1.06	1.58	2.07	2.58	2.74
Toyobo	2,006	2,147	5,830	8,765	10,771	9,803	0.81	0.90	1.77	2.88	3.34	3.38
Kanebo	1,593	1,839	2,036	7,908	8,572	5,088	0.73	0.56	0.48	1.36	1.84	1.69
Nisshinbo	120	167	334	2,350	3,781	2,819	0.08	0.13	0.17	1.25	2.08	1.38
Kurabo	380	356	524	959	1,150	1,255	0.43	0.27	0.31	0.71	0.87	0.83

Source: Compiled and calculated from Yuka Shoken Hokokusho (Report on Securities and Stocks), Tokyo, Japan, various years, Kaisha Zaimu Karute (Analysis of Companies' Finance), Toyo Keizai Shinposha, Tokyo, Japan, various years.

### 3.2.1. Technology-Driven Diversification

The enterprises, which committed into research and development for a variety of technologically-related businesses including plastics, chemicals, electronic components, and membranes and filters, typified the firms with the business model based on “technology-driven diversification”. Their entry into the above-mentioned businesses became technologically possible by transferring their core technologies of organic, particularly polymer, chemistry as well as fiber engineering. In addition, companies also assimilated the necessary technologies as they built on their technological roots, such as acquisition of biotechnology for entry into pharmaceuticals business. Their continuous accumulation of technological skills thus became the main driving force of this non-textile expansion, which resulted in the enhanced technological capabilities of those companies.

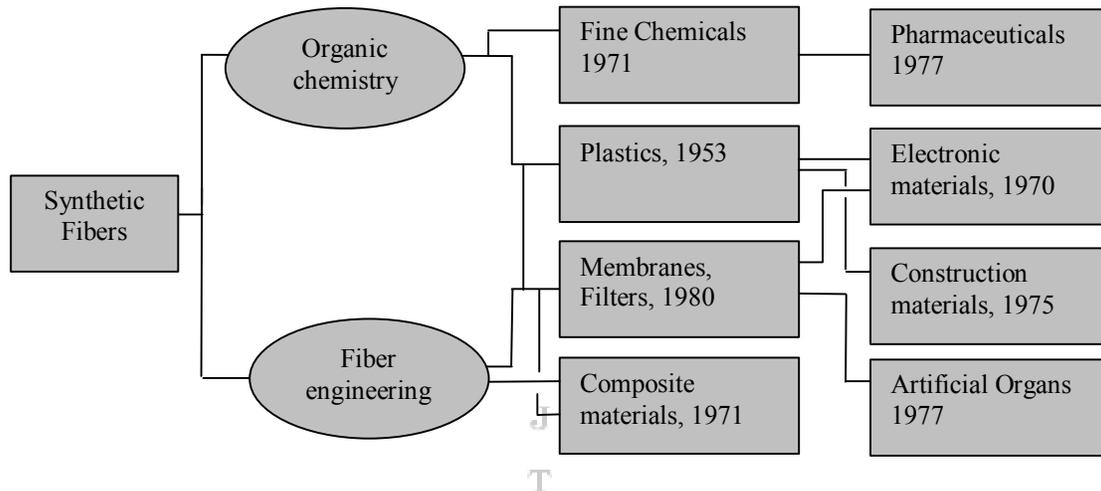
As Table 3 shows, the relatively higher levels of R&D spending provide evidence for the commitment into technological capability building by the firms with “technology-driven diversification” strategies. A closer look shows that the companies’ non-textile product market entry concentrated in the 1970s. They then accelerated their entry into other product areas under those broad business lines in the 1980s and 1990s. Whereas the five companies with specialized rayon fiber manufacturing origins, Toray, Teijin, Asahi Kasei, Kuraray and Mitsubishi Rayon, are included in this group, Toray’s business strategy for new market entry explicates the basic direction of the technology-driven diversifiers.

Having commenced its diversification into plastics operations as early as in 1953 to produce nylon-molding resin, Toray amplified its range of plastic applications into a range of fields such as electronic

materials in 1970 and construction materials in 1975 (Saitou, 2002). Toray then began employing its technological capabilities for pharmaceuticals operations through the joint research with Kaken Pharmaceutical and the manufacturing of artificial kidneys, concurrently in 1977 (Figure 2). The latter business, based on the know-how of the polymer chemistry, hollow fiber and membrane technologies, was the result of polymethylmethacrylate membrane

development of the Basic Research Laboratories of the company (Toray, 1997). Toray then exploited new business opportunities for its osmosis membranes and developed ones for water treatment purposes, such as recycling water purification in 1980. The company persisted its diversification efforts under those major business categories during the 1980s and 1990s (Makino, 2002).

Figure 2. Product diversification into non-textile markets at Toray



Source: The author's own figure, with assistance of Fumikatsu Makino, General Manager on Special Assignment, Chemical Division, Toray Industries Inc.

### 3.2.2. Textile Adherence and Slow Transition into Non-textile Markets

In contrast to the enterprises with technology-driven diversification models, some companies did not fully commit themselves to research and development activities for chemical product markets and concentrated on the high quality textile products especially until the early 1980s. Toyobo and Unitika typify the strategies of the companies in this group.

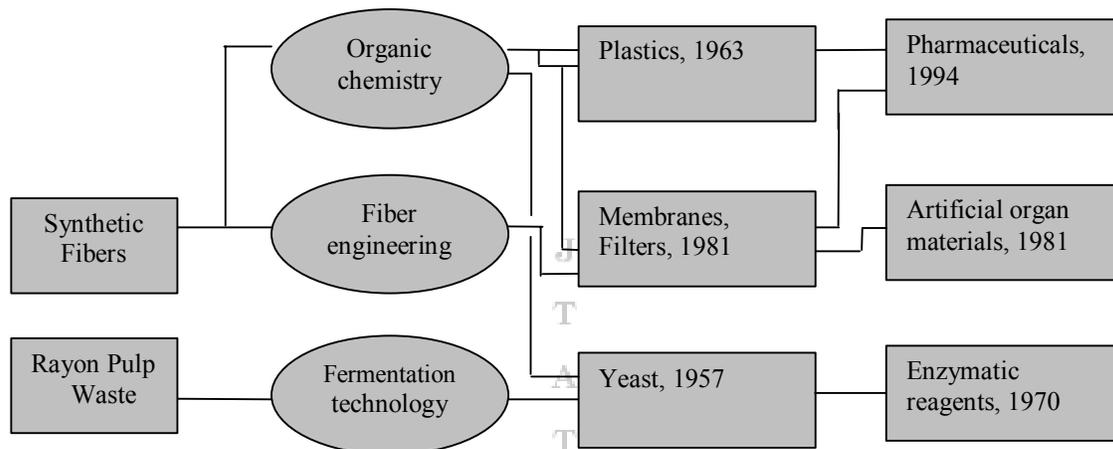
The two companies' distinct behaviour compared to that of technology-driven diversifiers was because of both their past investments and the resources and capabilities embedded in highly integrated textile operations including various downstream processes such as weaving, knitting, dyeing and apparel. This meant the sunk costs in textiles were higher compared to the companies that had more specialized operations. With their historical identity of textile business as their

domain, the companies thus apprehended their resources and capabilities in textiles as their competitive advantage (Abe and Tanimoto, 2003: 20-22). This domain commitment then functioned as a core rigidity and an exit barrier out of textiles.

The companies had to change their textile-centred growth strategies, as their performances began to decline and they failed to bring the satisfactory results from textiles alone, thanks to the depressed market conditions. They then attempted to restructure their business portfolio through the entry into chemical businesses and eventually would realize their technological potential for the non-textile markets.<sup>1</sup> The case of Toyobo exemplifies the adherence to textiles, resulting in belated diversification into chemical markets.

Toyobo regarded textiles, especially high-end ones, as its business domain throughout the 1970s (Toyobo, 1986: 313-333; Abe and Tanimoto, 2003: 20-22). Its non-textile operations in the early 1980s were thus mostly limited to a narrow range of engineering plastics, and enzymatic reagents cultivated from rayon waste in its pulp plants, thanks to its meager investments in research and development (Ishihara, 2002). Toyobo, however, had to examine and reformulate its strategies in the 1980s, because the textile domain alone did not lead to promising directions. The company, thus, belatedly turned its business model towards diversification into such fields as membranes, filters, artificial organs and others, following the strategies of technology-driven diversifiers (Figure 3).

Figure 3. Product diversification into non-textile markets at Toyobo



Source: The author's own figure, with the consultation of Hideaki Ishihara, Director General Manager, Advanced Materials Research Department, Toyobo Research Center Co. Ltd.

### 3.3. Technology Laggards: Market-Led Diversification

Technology laggard companies came up with the diversification strategies based on non-technology business models that compensated the weakness of technological

capabilities. Their strategies for entry into a number of product markets commenced as early as the 1950s and 1960s, when the technology frontrunner firms were occupied with the development of synthetic fibers. A closer look to the diversification behaviors of the three companies, Nisshinbo, Kurabo

and Kanebo, illustrated their entry into diverse areas, whose common character was the high growth of those particular markets. They then pursued their market-led diversification models once the textile markets began significantly deteriorating in the 1970s.

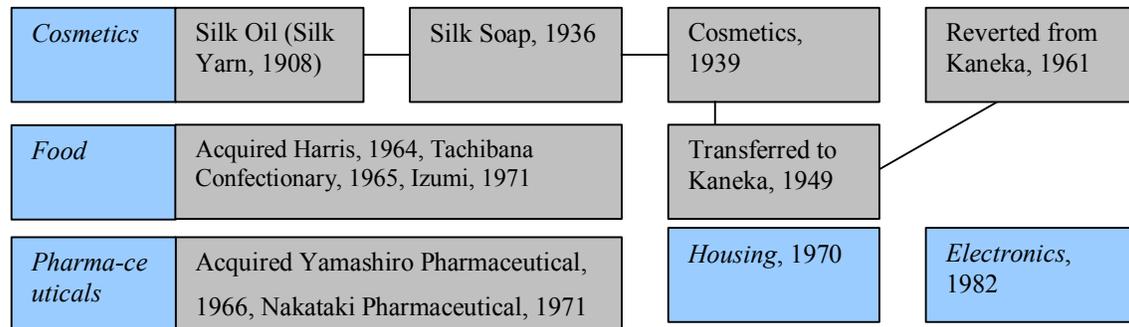
On the one end, Nisshinbo still aspired to employ its accumulated product experience by entering into diverse product markets where it could establish competitive edge. The company diversified into brake linings based on its experiences for aircraft equipment production during the World War II. Its entry into household and fine paper manufacturing followed suit, owing to its acquisition of paper companies to convert into asbestos paper making for aircraft brake lining production (Nisshinbo, 1969: 769-771). Nisshinbo then selected a number of other growing business areas including information systems particularly for color imaging and control, and biomedical products such as biological support derivatives (Shiohata, 2003). Whereas with its meager investments in R&D, the company's technological capabilities remained localized and confined. Nisshinbo deliberately concentrated to nurture its capabilities in corporate finance in which the conservative and sound financing became its core competence. The philosophy of Takeshi Sakurada, the president of Nisshinbo from 1945 up to the 1970s, "not to be the largest but the most profitable company" best revealed this premise (Nisshinbo, 1969: 811). Kurabo basically

attempted a parallel business model to that of Nisshinbo. The company, however, chose a relatively more demand-driven strategy, as it entered into the highly growing product areas including information systems, electronic equipment and biomedical products; but also food processing and real-estate leasing (Kurabo, 1990: 423-427, 643-650).

On the other extreme, despite the fact that Kanebo came up with a comparable demand-driven strategy, the company strived to generate its competence in marketing. Kanebo thus introduced a marketing-theme to combine its various product markets. With the GK (Greater Kanebo) plan in 1961, Kanebo declared its corporate theme as "Total Beauty". The company entered into the cosmetics and soap businesses, which it acquired from Kanegafuchi Chemical Industry, once its subsidiary. Then it took over small and medium-sized food enterprises, such as the chewing gum company Harris, Tachibana Confectionary. Kanebo intensified its diversification into growing product markets with its "Pentagon Management" in 1974, which implemented five domains: textiles, cosmetics, pharmaceuticals, food and housing construction and sales (Kanebo, 1988: 651-680, 820-916). The company in 1982 included the electronics business as its sixth growth direction, thanks to its joint venture with Mitsubishi Electronics for the manufacturing of IC and LSI chips in 1982 (Hasegawa, 2002). Figure 4 illustrates the diversification scheme of Kanebo.

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Figure 4. Product diversification into non-textile markets at Kanebo



Source: The author's own figure, with assistance of Osamu Hasegawa, Associate Department Manager, Kanebo Gohsen Limited and Kanebo Spinning Corporation.

#### 4. Conclusion

This paper explored the diversification strategies of the largest enterprises in the Japanese textile industry in a developmental context. It investigated the directions of the diversified expansion and concentrated its analysis on the significance of technological resources and capabilities on contrasting corporate growth patterns.

In an arduous environment in which Japanese textile companies began to face matured markets in textile products, the growth through diversification has become the foremost measure for survival. Strategies of companies into non-textile markets actually resulted in the dissimilar models. Continuous and coordinated R&D investments into technologically-related non-textile markets have generated the business strategy for the companies with historically-accumulated technological resources and capabilities. Despite the presence of the similar technological antecedents, historical identity and domain commitment in textiles has functioned as the core rigidity for those firms with highly integrated textile businesses. In the gradually but steadily declining textile industry, these companies however had

slowly to turn their strategies towards the non-textile businesses, as they would belatedly realize their technological potential. In contrast, weaknesses in technological endowments have directed the other firms into non-technology business models, as they circumvented the rising technology hurdles. They thus built their capabilities in marketing or finance functions for a variety of product markets, particularly in the high growth areas.

The diversification strategies of large enterprises in the Japanese textile industry have thus illustrated that the different patterns of corporate growth have their roots in the companies' history, and their dissimilar technological resource and capability profiles have decisive impacts on the contrasting long-term growth patterns of the companies. The timing of new market entry is also endogenous to the firm resources and capabilities. Firms select and make the investments into individual markets once they evaluate the applicability of their resource antecedents to those markets in question. Furthermore, in accordance with their resource gaps compared to the targeted markets, companies build on their existing capabilities or develop the new ones, as they

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face the drastic troubles in their original industry conditions. Those nurtured capabilities will subsequently become the basis for their subsequent entry schemes into multiple markets. The paper thus leads to the conclusion that diversification can be a very much path-dependent process in which the nature and magnitude of technological resources and capabilities have long-term consequences. While firms adapt to the changing environments, their resource and capability endowments significantly influence, if not predetermine, their future growth patterns.

### Footnotes

<sup>1</sup> Following Chandler (1990) and Chandler and Hikino (1997), diversification is defined as the entry of a firm into new product markets.

<sup>2</sup> Whereas Nisshinbo terminated its rayon fiber manufacturing, Kanebo and Kurabo split off their operations based on rayon fiber manufacturing and/or synthetic fiber developments to the newly independent companies, Kanegafuchi Chemical Industry and Kuraray, respectively. Nihon Seni Kyokai, 1974, and the company histories, Kanebo, 1998, Kurabo, 1990, Nisshinbo, 1969 describes this process of firms' relocation and realignment of resources and capabilities in more detail.

<sup>3</sup> The focused segments-such as nylon and polyester fiber sometimes differed for the individual firms. For instance, while Toray was an original entrant in nylon fiber, Kuraray became the first to enter into vinylon fiber. On the other hand, Mitsubishi Rayon, Toyobo and Asahi Kasei represented the early entry into acrylic fiber.

<sup>4</sup> On the other hand, Unitika also endeavored its entry into food and real estate businesses. Since the company could not succeed to bring the adequate financial outcomes from those operations, they constituted a minor place in the company's product portfolio, and some got ultimately divested (Unitika, 1991).

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