

Title	Comparative analysis of business behavior among manufacturing firms in Japan : by a field survey on 607 manufacturing firms
Sub Title	
Author	十川, 廣國(Sogawa, Hirokuni)
Publisher	
Publication year	1978
Jtitle	Keio business review Vol.15, (1978. ) ,p.125- 145
JaLC DOI	
Abstract	
Notes	
Genre	Journal Article
URL	<a href="https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AA00260481-19780000-03920038">https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AA00260481-19780000-03920038</a>

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

# COMPARATIVE ANALYSIS OF BUSINESS BEHAVIOR AMONG MANUFACTURING FIRMS IN JAPAN

— by a field survey on 607 manufacturing firms —

by

*Hirokuni Sogawa*

## ***I. Foreword***

This paper is intended to elucidate behavioral properties of Japan's firms resting on the basis of our enquête survey on 607 manufacturing firms.

Up to the present our analysis on managerial factors has been conducted separately on top-management, organization and product. However, these three categories of factors are conceived to interwind themselves organically in the materialization of business behavior and in their contribution to survival and development of firms. In this paper we will investigate this point, adding another important category "managerial basis,"<sup>1)</sup> fundamental for the existence of firms.

The procedure of description in this paper is as follows. Firstly our angles are set forth by propounding problems and making some preparatory considerations. Next the properties of these factors each as to big-, élite- and medium-type firms are comparatively examined according to our viewpoints, and lastly overall observations are attempted on the relations between these factors and managerial efficiency.

## ***II. Introductory Descriptions for Analysis***

In this section themes necessary for grasping the behavior of Japan's manufacturing firms shall be presented and some relevant descriptions be given, for bridging to the subsequent sections.

### **(i) Object firms and their positions in this study**

The surveyed 607 firms consist of (1) those listed on the 1st Sector of Tokyo Securities Exchange (281 firms comprising the food, textile, paper & pulp, chemical, oil & coal, ceramic, stone & clay, steel, non-ferrous metal, metal ware, machinery, electric equipment, transport equipment, precise

---

1) Concrete matters of this category of factors, and the three, are explained in the below. For the more basic thought, ref. R. Shimizu, *Jisshō Kenkyū-Nihon no Keiei*, 1957.

instrument and miscellaneous industries), (2) those on the 2nd Sector (191 firms of the same industries) and (3) non-listed (135 firms of food, ceramics, stone & clay, elect.equip., trans.equip., and furniture & wooden goods).<sup>1)</sup> To make our analysis clearer we call these three groups Bigs, Élites and Mediums. So the word élite is used in a wider sense than is usually (that is, implying excellency). And among Mediums not a few number of firms of local-industry color are involved as may be supposable from the name of industry.

In the below the emphasis of analysis is placed on the comparison of managerial behavior relating to the said categories of factors among these three classes. And our examination will be most detailed for Mediums because under the present economic conditions survival of smaller enterprises is posing an important problem, and besides we intend to make this paper a material for future studies in the relation between big and peripheral enterprises. And Mediums are those forming the periphery of national economy and are supposed to exhibit behavior similar to the so-called *chūshō kigyō* (literally middle and smaller, but meaning smaller firms.)<sup>2)</sup>

(ii) Some preparatory considerations

Needless to say anew, the Japanese economy has achieved a remarkable transformation through the postwar rapid growth and many enterprises have expanded their scales adapting themselves to environmental changes. As the result there was born a "big-business regime" with big firms making its representative in the sense of the kernel of economic power. Yet even in the current economy containing such kernel enterprises with high-level and big-scale techniques and organization, on another hand numerous smaller firms are existing as its surroundings. This fact must be recognized.<sup>3)</sup>

So it is conceived necessary to understand interrelations between big and small, and properties of the latter in particular, for the comparative analysis of behavior. For this aim some theoretical consideration shall be made in order to show our basic angles.

The problem is how to interpret the existence of two spheres, big and small, within the modern economy. Important is the positioning of small enterprises. About such coexistence there are different views as follows.<sup>4)</sup>

The views of one group, like a common term, give no positive recognition to the independent existence and particularity of small firms. Representative is a viewpoint that takes the relation between big and small generically as

- 1) The non-listed firms are those with capital from 30 mil. to 1,000 mil. yen. It is undeniable that some firms with deep élite color are included speaking strictly.
- 2) By the Chūshō Kigyō Hakusho (MITI) smaller firms denote corporate firms with capital below 100 mil. yen or employees below 300 persons, and private firms with below-300 employees.
- 3) J. K. Galbraith, *The Industrial State*, 1967, p. 9.
- 4) As literature for this problem we have K. Takizawa, *Kōdo Seicho to Kigyō Seichō*, 1973; T. Kiyonari, *Gendai Chūshō Kigyō no Shintenkai*, 1974; R. T. Averitt, *The Dual Economy*, 1968; as well as Footnote 5 and 6.

that of the governing and the governed, and grasps the latter as "historical remains." An example is Galbraith who interprets the difference between the two as a difference which invades every aspect of economic organization and behavior, including the motivation to effort itself. Thus he asserts the discontinuity between big and small.<sup>5)</sup>

On another hand there are views that positively affirm the existence of small firms from the viewpoint of social division of labor, and stress possibility of their survival and growth. For example, Papesch says that the growth of big businesses stands not only on their superiority in supplying, but also on the market control phenomenon and the excessive expansion deriving from government's intervention distorting competitive relations<sup>6)</sup> In other words, by this theory small firms are not historical remains but have *raison detre* in the modern economy.

Such diverse positioning of small enterprises is considered to tell diverse properties of themselves. As will be described later on, in some cases their existence is positively sanctioned for the reason of specialization, while in others they are fluctuated by the waves of powerful market control. In some fields they lie in a very discontinuous relation to big businesses (say marginal producer). Such diversity must be kept in mind in our research. And in view of the violent environmental fluctuation of today, hardships of smaller firms for survival and growth should be realized in every case. For instance, it is very doubtful whether such growth from small to elite or big as was seen in the past rapid growth years can be attained in the present circumstances.

So far we have outlined characteristic aspects of the modern economy focusing on the properties of big and small, especially the latter. This observation is important for our comparative analysis of Bigs, Elites and Mediums because the last-named Mediums in this paper correspond with the so-called smaller firms mentioned above. They are alike firms depending on big firms as customers on or local markets for demand. In other words, they all hold deep color of subcontractor or local industry.

### *III. Factors and Properties of Management*

In this section we consider how the differences of environments, namely conditions on which firms are placed, are embodied as basic and subjective features of managerial factors.

Now, firms can realize survival and growth only through efficient and organically-interwound functioning of three factors—top, organization and product. These factors appear in concrete practices as strategic and or-

5) Galbraith, *op. cit.*, p. 10.

6) Renate Aengenendt-Papesch, *Die Funktionen der Klein und Mittelbetriebe in der weltbewerblichen Marktwirtschaft*, 1962.

ganizational behavior. But it may be said that within a firm there are more basic conditions (= factors) that govern the actual developments and effects of practical activities. Such conditions may be said the basis of existence for business comprising patterns of production, state of transaction, finance, labor-management relations and so forth. We will name it "managerial basis" in this paper. Such managerial bases are formed as the result of environmental conditions and activities over many years, and in this sense they are considered capable of reflecting fundamentally the diversity of conditions mentioned in the foregoing section. Of course these factors embrace possibilities of improvement and fulfilment by subjective efforts of firms.

Anyhow, managerial bases define the functional effects of top-organization-product factors at a given point of time. So we shall first examine the factors of managerial basis and then proceed to other ones.

#### (i) Managerial bases

Managerial bases affect much on the function of other factors. For example, if stable sources of long-term funds are absent strategic decision-making by top and activities for its execution will be restricted. And limited sales routes of subcontractors will make them subject to parent's control and subjective behavior difficult. These restrictions due to managerial bases, however, will be possible to improve through future top's decision-making and concrete measures.<sup>1)</sup>

First let's observe managerial bases with respect to the aspect of production. Table 3-1 presents patterns of production, one of the conditions of production. Among Bigs, firms taking the pattern of small-sort & big-volume production are more numerous, while among Elites that of large-sort & small-volume. This tells that most Bigs product standardized goods by big-scale equipment, and many Elites employ the latter pattern because of restrictions of financial power, market control and so on, while being engaged in speciality goods or parts using unique techniques.

Speaking generally it is imagined that firms of large-sort pattern make up a larger portion among Mediums as compared with Bigs and Elites because of limited markets and inferior capital and techniques, yet by this Table those of small-sort pattern are more numerous. To clarify this point, it is necessary to investigate dividing by sections. In most manufacturing sections, excepting food and furniture, the large-sort pattern shows a larger share.<sup>2)</sup> As for the food industry this pattern has a high share of 75% supposedly because there are many firms making bread and special-brand cake, a feature of local industry. The furniture section also shows an appreciably high ratio, 54.8%. This may be because in this industry, of

1) Steady management will produce higher social confidence, and the status of subcontractor will be got out by efforts.

2) To Show the ratios of firms of small-sort % large-volume pattern by sections: food 75.76%, ceramics and stone 45.5%, elect. equip. 27.78%, trans. equip. 48.37% and furniture & wooden goods 54.76%.

**Table 3-1.** Patterns of Production

	Bigs	Élites	Mediums
Large-sort & small-volume prod.	48.7%	65.4%	45.9%
Small-sort & large-volume prod.	51.3	34.6	54.1

**Table 3-2.** State of Clients of Mediums

Number of Clients	Whole Mediums	Food	Elect. Equip.	Trans. Equip.	Furniture Wood	Ceramics, Stone & Clay
• <2 (firms)	30.37%	24.24%	22.22%	41.94%	33.33%	18.18%
2 < • <10	28.15	18.18	22.22	38.71	30.95	27.27
10 < • <70	23.70	18.18	38.89	16.16	21.43	45.45
70 < •	17.78	39.39	16.69	3.23	14.29	9.09

**Table 3-3.** Linkage of Production

	Bigs	Élites	Mediums
With linkage	29.9%	33.5%	37.78%
No linkage	70.1	66.5	62.22

(In elect. equip. 55% of Mediums belong to some linkage and in trans. equip. 61%. The among Mediums firms with linkage are not so many is because of the above-mentioned sections and local-industry sections.)

local color and handicraft system, recently such makers have increased as carry large-volume manufacturing of standardized products in accompany with the qualitative changes in demand from the Japanese style to Western, use of speciality machines, and introduction of new materials.<sup>3)</sup>

Thus it may be said that the existence of these two sections has greatly affected the average value of Mediums as a whole. So this does not lead to overall negation of a hypothesis that there is a larger share of small-sort producers in Mediums than in other groups.

So, in order to make the property of Mediums on this point clear, we examine the state of their clients. (Table 3-2). In this Table Mediums, as a whole and by sections, are classified by the numbers of clients whose transaction makes us about 80% of sales for each medium firm, and the weight of each class is shown. It is seen that in food most makers have more than 10 clients each, being firms with strong independency. By contrast, in transport equip. many firms are transacting with specified clients alone, suggesting their overwhelming character as subcontractor. In elect.equip., while a good many firms being subcontractors with clients less than two, firms with more than 10 hold an appreciably high ratio. That in this industry there are many firms with not a few clients may be due to its postwar rapid growth by technical innovation.

Nevertheless we may conclude that, as a trend of whole Mediums, many firms are depending on a small number of customers.

3) S. Nakamura, *Chūkenkigyō-ron*, 1974, p. 42.

Next, as a supplement to the above observation let's see whether the surveyed firms belong to a group of some specified enterprise for production or not, in other words to some linkage (Table 3-3). Needless to say, such firms are rare among Bigs, but increase as the class goes to Élites and then to Mediums. Of course, medium firms of local color are exceptions. Yet by the result over whole Mediums, the smaller the scale, the lower is the proportion of firms with independent products or markets. And it appears that restrictions against self-dependent development—technological and other—become larger and larger as the business scale goes down.

From the above examination we may summarize as follows. As the scale becomes smaller, generally the large-sort & small-volume pattern is more numerously seen, and more firms are introducing techniques from some group of firms and supplying products to them. On another side in local industries there are firms that, as independent beings, are specialized in regional markets or are supplying to national markets by dint of special techniques. Again in the elect.equip. industry, having experienced high-rate growth, even among low-rank firms there are supposed to be not a few of them with élite color, supplying goods of own brand to many firms by their accumulated technology.

It may be said by this result that within Mediums many types are involved, that is, diversity is seen.

So far we have observed managerial bases on the aspects of production and market. Next we shall take up finance. Among the various factors relevant to finance, the most important task may be raising of long-term funds for survival and development. Table 3-4 shows the sources of long-term money on which the three classes place emphasis. It is seen that in Élites inclination to weight on borrowing is slightly stronger than in Bigs and Mediums, and that to retained earnings weaker. And among Mediums those respecting owned capital account for a smaller proportion than among Élites, and those respecting borrowing a larger share, and not a few firms depend on short-term borrowing. Thus, the smaller the scale, the stronger is the inclination toward borrowing, which implies a possibility of heavy effects of business depression, especially in the case of short-term money. Here again a severe condition for existence lies for Mediums.<sup>4)</sup>

Next we shall see firms' ideas on profit distribution, taking account of its significance on employee's welfare. Profit distribution may involve dividends, retained earnings, improvement of employee's welfare and back-turn to product prices. These provide important bases not only for raising of funds but also for favorable relations to employees, stockholders and consumers. As Table 3-5 tells, weight of dividends becomes smaller as the scale is bigger, and that of reserves increases. This is because Bigs

---

4) In sections with many linked firms dependency on borrowing is relatively low supposedly because these firms are woven into parent's production plans.

**Table 3-4.** Sources of Stable Funds

	Bigs	Élites	Mediums
Retained earnings	41.9%	36.1%	31.11%
Capital increase	9.3	8.9	5.93
Debenture, long-term borrowing	44.1	46.6	45.93
Short-term borrowing, inter-firm finance	4.7	8.4	16.30
Miscellaneous	0	0	0.74

**Table 3-5.** Distribution of Profits

	Bigs	Élites	Mediums
Dividends to stock-holders	29.2%	18.8%	13.33%
Fulfilment of retained earnings	46.6	56.0	51.11
Improvement of welfare	18.1	21.5	27.41
Cooperation to regional development	0	0	0
Reinforcement of public-nuisance prevention	1.1	1.0	0.74
Price-down of products	1.1	0	3.70
Betterment of product quality	3.2	2.6	3.70
Miscellaneous	0.7	0	0

take deliberation on dividends as an important social responsibility in view of wide dispersion of stockholding, while Élites and Mediums place emphasis on securing of funds in respect of inadequate reserves. And it should be noted that in Mediums a large weight is with employee's welfare. This may be said to represent efforts of adjusting differentials of labor conditions as against Bigs, and of raising fixity of employees. Firms considering price-down as profit distribution are very scarce. It is undeniable, however, that this form of turn-back of profits will become an important theme from the viewpoint of social responsibility such as better relations with consumers and regional communities.

By the above observation on managerial bases we can say substantial differences exist among the three classes.

(ii) Properties regarding top-management, organization and product factors

(a) Factors of top-management

It must be essential for business how exactly top has insights in environmental changes and decides policies to meet them. Decisions made by top are reflected in organization factors and product strategies, determine directions of survival and development, and lead to improvement and establishment of managerial bases. For this reason "entrepreneurship" is esteemed as the constitution of top. So our analysis is focused on what basic policies tops are wishing to establish amidst changing environments. The point is "weight of goals" set by tops.

Before going into the problem of goal, we shall explain what ideas about growth factors are being held among Mediums, whose bases and conditions have been considered in the above. In other words, what factors



are conceived by tops as regards past growth.

As the subjective (or internal) factors for growth the following items are mentioned most numerous by tops of Mediums. "Unique techniques," "unique technology on product, quality and function," "brand matched with local image, and "large-sort production which gives no scale-merit to big business" are being considered especially contributory to growth. As for external growth factors "existence of craftsmen and engineers," "locality adjacent to customers," "relations with parent companies," "field of growth industry," "established local market," etc. are seen. It may be said from these answers that the recent growth of Mediums has depended either on the growth of parents, or specialization to local markets and speciality goods in order not to fall in a state of marginal producer of big-scale sectors. This accords with the above-explained analysis on managerial bases. So, keeping these positions of Mediums in mind, let's go to examination and comparison of managerial goals.

It is supposable that managerial goals are influenced by various surrounding conditions. As Table 3-6 shows, in all the three firm classes "share expansion of existing products" is most respected as a goal, and next comes "development of products," which increases its weight in smaller scales. This may be said to reflect a bias of "expectation to future," involved in the word "goal" (for example, expectation to get out of the state of subcontractor).<sup>5)</sup> And another cause for such a result may be that most of Bigs can increase weight of stable products relying on established markets (and superior technology), while few among Mediums can find their techniques and markets and there are possibilities of shorter life cycles of products. For these reasons "product development" must be expected as a goal for future existence.

Next to note, "rationalization and labor-saving" is attached importance especially by Mediums. This tells that this theme lies in consciousness as a very urgent problem under the current severe conditions, and that rising labor costs make the reason. (Rationalization makes a countermeasure to wage increase for 54.8% of Mediums.)

Lastly, although "business diversification" is being widely advocated today, few of Mediums are intending to go this line. This is because they are lacking in ability profile of enterprise (such as capital, techniques and organization), and more important for them is how to sustain themselves in the present fields. And firms mentioning relation with regional community are very few in every class, suggesting that survival makes the utmost concern in the present conditions. This problem, however, must be positively taken up, in particular by Bigs.

As above, attitudes to environmental changes are very important, and

5) This point was seen also in an interview survey on tops. H. Sogawa. Keiseisaku ni kansuru Top no Ishiki, *Mita Shōgaku Kenkyū*, vol. 14, No. 3, 1971.

Table 3-6. Managerial Goals

	Bigs	Élites	Mediums
Product development	23.9%	27.2%	28.89%
Share expansion of main existing products	46.8	47.1	35.56
Coordination with regional community	1.4	0.5	2.96
Reinforcement of export and overseas footholds	1.8	0	2.22
Cost-down by rationalization and labor-saving	19.3	20.4	28.89
Increase of employee's welfare	0.4	0.5	0.74
Diversification of business	4.3	2.1	0.74
Acquisition and merger of other firms	0	0	0
Reinforcement of service to consumers	0	0.5	0
Miscellaneous	2.1	1.6	0

top's decision-making to meet them must pose a problem. However, on another hand firm's organization as a whole must be able to take adaptable and flexible actions to meet environments. Square adaptability is conceived to depend much on human creativeness. Since organizations exist in constantly changing environments and must adjust to them, human creativeness may be said to affect efficiency of organization<sup>6)</sup> greatly. In this sense such a measure as ability cultivation of middle-management, encouragement of labor-will of employees and so on, which we will take up below, are essential for men's creative mind and adaptability and flexibility of organization.

Middle-management takes middle positions in the strata of organization and plays an important role in the concrete execution of measures. Hence cultivation of their ability is an essential task.

What are conceivable for such ability cultivation involve boarding seminar of division-section chiefs, aid to attendance to outside lectures, resident study at home and abroad, dispatch to other establishments, machines for cultivation, pay-increase system reflecting ability, and examination for promotion. In practice appreciably many firms are employing the said boarding seminar, outside lecture, management by objectives and pay-increase by ability.<sup>7)</sup> By scales, Bigs and Mediums are more active than Élites. This is because generally big organization is apt to be stiff and hence ability cultivation of middle is required to promote flexibility. For Mediums these schemes are required to fulfil operation of organization which is generally immature. The reason why Élites are not active may be found

6) Paul E. M. Mott, *The Characteristics of Effective Organization*, 1972, p. 3.

7) State of main measures:

	Bigs	Élites	Mediums
Boarding seminar	58.0%	29.5%	31.11%
Aid to outside lecture	87.9	85.8	89.63
Management by objectives	50.7	25.3	20.74
Pay-increase reflecting ability	26.7	21.6	24.44

in the fact that many of them have experienced rapid growth and hence ability cultivation has been achieved through business activities.

By industries, these schemes are more actively adopted in those fields where product-development competition has been seen, in all the three classes.

Next let's see schemes regarding loyalty, job-fulfilment and labor-will of general employees.

Measures to raise loyalty of general employees are intended to raise worker's mentality of fixity to firm, to satisfy their wish for stability and to invite effective display of creativeness. Employee's stockholding plan, within-firm deposit, company's house, owner housing, counselor system, reward for long service, five-day week, profit distribution and so forth come under these measures. To observe actual state, in Bigs and Élites, stockholding, company's house, owner housing and long-service reward hold high ranks. Contrastively in Mediums, stockholding and owner housing show relatively low shares.<sup>8)</sup> Supposedly stockholding plan is difficult because many of this class take the form of family partnership, and owner housing is not popular for scarcity of funds. So it may be said that generally bigger firms are more active in taking these measures.

For the measure regarding fulfilment of job, such systems as target control, job rotation, enrichment of job contents, incentive to performance and plan proposal system are conceivable. Through all the three classes plan control is most numerous, followed by enrichment of job contents and target control. The property of scale is most clear for job rotation.<sup>9)</sup> That is, relatively bigger firms attach importance to this system. Possibly this is because in big enterprises jobs are minutely divided and monotonous, and hence this method is utilized for improvement of morale.

Lastly we will observe schemes for labor-will encouragement. These aim at more realistic and direct effects as compared with schemes for loyalty-raising which are of indirect effect. It is intended to raise efficiency of organization by satisfying not only wish for money but also that for self-fulfilment. As measures for this aim weight is placed on "salary and wages, and other labor conditions," "human relations between the superior and the subordinate as well as among the equal," "status and promotion,"

8) State of main measures:

	Bigs	Élites	Mediums
Stockholding	74.6%	64.9%	39.3%
Owner housing	94.3	78.5	71.85
Company's house	89.7	60.7	43.70
Long-service reward	96.4	92.1	88.15
Profit distribution	12.9	14.1	25.19

9) Rates of introduction of job rotation are: 43.8% in Bigs, 22% in Élites and 20.7% in Mediums.

or "enrichment of work itself." For these measures, firms respecting "enrichment of work itself" are more numerous as the scale is bigger.<sup>10)</sup> Among Mediums relatively many firms take "salary and wages" and "superior-subordinate relations." Such weight on salary and wages may represent intention to adjust differentials of wages against bigger firms and thus to raise morale and fixity. By contrast, "enrichment of work" is respected as a means of solving monotony of work and satisfying employee's wish for self-fulfilment.

(b) Product factors

The factors of product may be said combined materialization of the three factors discussed above—managerial basis, top and organization—as product strategies. That is to say, product strategies are developed on managerial policies set up and through the process of investigation, inspection and decision of products. As this process tells actual fruits can be obtained only by combination of various factors including basis, top, technique and organization.

Our analysis is focused on such points as the realized new-product developments, the aim of research and development work and the system of production.

As mentioned already, generally the bigger the business scale, the larger is the ratio of stable and grown-up products and the smaller is the ratio of new and abandoned products. This is probably because the markets for bigger firms are oligopolistic, and on another hand their main products tend to be basis goods, e.g., materials, which are under relatively minor influences of environmental changes and hence the ratio of stable goods with a long life cycle becomes larger.

By our survey, as in Table 3-7, firms with more than 30% on new products, and again with a high ratio of more than 15% on decaying products are numerous among Mediums.

Because it is difficult for smaller firms, as explained already, to hold stable and grown-up products with a long life cycle, it will be necessary to contemplate positive introduction of new products, if not in a full scale.

Now under these situations, important is the point of research and development. As Table 3-8 shows, in all the classes aims of cost-down, quality betterment and product improvement are emphasized, and especially among Mediums cost and quality. This is supposed to reflect their policy,

10) State of main measures:

	Bigs	Élites	Mediums
Weight on salary and wages	12.9%	13.2%	22.22%
Weight on work conditions	1.1	1.1	14.07
Weight on improvement of human relations between superior and subordinate	13.9	18.9	25.19
Weight on enrichment of work itself	60.4	49.5	28.89

**Table 3-7. Ratios of New and Decaying Products**

New Products	Bigs	Élites	Mediums
0-10%	59.4%	59.7%	40.74%
10-30	21.2	24.3	23.70
20-30	12.9	10.1	12.59
30-	6.4	9.0	22.96
Decaying Products	Bigs	Élites	Mediums
0-5%	73.6%	60.6%	62.96%
5-10	14.6	22.3	9.63
10-15	5.1	7.4	14.07
15-	6.9	9.6	13.33

**Table 3-8. Aims of Research & Development**

	Bigs	Élites	Mediums
Keeping present state	0.4%	2.2%	5.2%
Cost-down, quality betterment	16.5	18.7	37.0
Innovational products to present markets	9.8	6.0	2.9
Reinforcement of selling	6.3	10.4	14.0
Product improvement	21.4	15.7	14.8
Market exploitation by innovational products	17.4	11.9	7.4
Cultivation of new usage	3.6	6.0	2.9
Market expansion by improved products	8.9	10.4	9.6
New market exploitation by innovational products	15.6	18.7	5.9

**Table 3-9. Ratio of Fresh-Type Equipment**

Ratio	Bigs	Élites	Mediums
20%	27.6%	33.9%	26.7%
20~30	31.9	27.5	31.1
30~40	23.3	18.5	17.8
40~50	9.7	11.6	5.9
50~60	3.9	3.2	6.7
60~70	2.5	2.6	6.7
70%	1.1	2.6	5.2

**Table 3-10. Ratio of Exports**

Ratio	Bigs	Élites	Mediums
0~10%	54.4%	67.5%	29.6%
10~20	21.0	18.3	7.4
20~30	11.4	6.8	5.2
30~50	10.3	3.7	2.9
50%	2.8	3.7	2.9

as above mentioned, to absorb rising wages by rationalization, and to develop competitive goods. Here is seen a characteristic product strategy which

derives from the property of small business with poor power of market control, finance and technology.

In order to aim at rationalization or product improvement, however, it is necessary to introduce fresh equipment. This is especially so for smaller scales because of effects on employee's morale. Table 3-9 exhibits that smaller firms have larger ratios of fresh-type equipment. Thus we could infer that many of Mediums first make efforts of rationalization and then of product improvement in order not to fail in the struggle for competition.

As to the positiveness in product strategy, if export ratio is used for proxy, the results are as shown in Table 3-10. Among Mediums firms that replied "no exports" account for 52%; a half of them are specialized in home markets. That this class includes many firms of local or subcontractor nature explains this. And as regards those carrying export business, the ratios are lower than for Bigs and Elites.<sup>11)</sup>

#### *IV. Managerial Factors and Efficiency*

In this section our analysis proceeds to the interrelations between managerial factors (basis, top, organization and product) and managerial efficiency.

Our method is as follows. An index "achievement"—combining profitability and growth potentiality—is used for the dependent variable, namely managerial efficiency. As for the growth potentiality the rate of sales growth (between 1971 and 1973) and for the profitability the rate of net profit of capital (total liabilities and net worth) are used. For each of the two, distribution is made and average values are measured. Taking breadth  $\sigma$ , with the average value making its central point, and dividing the breadth into five equal parts, we give marks 0, 1, 2, 3 and 4 to each part from the smaller. Thus all indexes are given marks respectively, and on these marks the indexes of achievement is calculated as  $\text{achievement} = \sqrt{(\text{growth})^2 + (\text{profitability})^2}$ . And a qualitative factor (Item) it divided by the positions at that time (Category), and a value of achievement corresponding to the Category is sought in order to find the relation between concrete development of qualitative factors and managerial efficiency. (More fundamentally the value of  $D$ , namely the difference between the largest and smallest values of achievement, should be taken into account, but here only achievement values are shown because there are included a number of factors that are meaningful for business economics but statistically insignificant.)

##### *(i) Managerial bases and efficiency*

---

11) Among Mediums of elect. equip. and trans. equip. there are appreciably many firms with high export ratio, mostly producers of high-grade processing parts.

**Table 4-1. Managerial Bases and Average Achievements**

		Bigs	Élites	Mediums	
Prod.patt.	Many-sort & small-vol.	2.763	2.806	2.870	
	Small-sort & many-vol.	2.872	2.990	2.769	
Financial	Retained earnings	2.993	3.196	Retained earnings	2.727
	Capital increase	3.043	3.361	Capital increase	2.940
	Debenture, long borrowing, others	2.623	2.576	Debenture, long borrowing, others	3.044
				Short bor. infer-form	2.317
				Others	2.240
Linkage	Having	2.784	2.770	2.818	
	Not	2.833	2.920	2.813	

**Table 4-2. Number of Clients and Average Achievements**

• < 2 (firms)	2.768
2 ≤ • < 10	2.918
10 ≤ • < 70	2.743
70 ≤ •	2.827

**Table 4-3. Production Linkage and Profitability**

	Élites	Mediums
Having	1.734	1.680
Not	2.063	2.011

The relations of major factors of managerial basis to achievement are shown in Table 4-1. As to Bigs and Élites the results are almost the same. For both classes achievements are slightly better for firms taking small-sort & large-volume pattern of production and placing weight on capital increase for finance. This is because scale merits are born at a certain level, and capability of capital increase implies future rise of achievement, a favorable cycle. And speaking generally firms lying within production linkage have worse achievements relative to those not in linkage. (This is more distinct as regards Élites.) And connections of linkage often cause declines of morale among employees, for example, by dispatch of executives. As regards profit distribution, fulfilment of reserves shows better achievements.

These states seem somewhat different as to Mediums supposedly because of their relatively rigid conditions.

Among Mediums achievements may be said better for firms taking large-sort production. It may be suitable to them to be specialized in the production of special goods escaping from competition with big enterprises, that is, covering their inferior positions in market, organization and fund. As regards financial source capability of long-term borrowing greatly affects achievements because of the form of family partnership and the smallness of scale. As to linkage of production no definite relations are seen, as will

be mentioned later.

As regards Mediums the number of clients shows little effect (Table 4-2). To observe this point referring to the growth factors (explained in the top-management factors above), subjective growth factors, notably the "miscellaneous," has considerable relation with achievements. This item of "miscellaneous" includes "partnership to a specified group," "no rival makers" and so on, of which one with stronger effect cannot be identified. As the growth factors of Mediums, "specialization to subcontractor of growth firms" and "specialization to local markets" are conceivable in respect of their properties.<sup>1)</sup> The former point must be examined with respect to linkage. The relation of this factor linkage with achievements is not clear but that to profitability is as shown in Table 4-3. It is seen that in both Élites and Mediums firms having no linkage show higher profitability. This is nothing but to tell appreciable impacts being placed on subcontractors by parents (Bigs) as mentioned in the foregoing section. It may be said that present situations are harsh to most Mediums with weak constitution.

(ii) Factors of top, organization and product and efficiency

(a) Top factors and efficiency

It appears to depend much on the entrepreneurship of tops how they draw out managerial efficiency of own firms, assign appropriate policies and goals and meet environmental changes.<sup>2)</sup>

Now, to observe the relation of managerial goals tops place weight and achievements (Table 4-4), better achievements are seen for firms respecting "share expansion of existing products" among Bigs, and those on "new-product development" and Élites. This is because most of Bigs hold control on markets and a high ratio of stable goods, while most Élites have grown up by means of unique products and techniques and must advance further development because they have not market control. On the other hand among Mediums achievements are best for firms emphasizing employee welfare, but its significance is not affirmable because such firms are very few. To look on other goals, "expansion of existing products" and "rationalization" work better than "product development." These two goals are naturally regarded as important by Mediums which are lacking in power of market control, technology and finance, and embracing a heavy problem. However, the minor fruit of rationalization tells that it is a hard theme how to success in cost-down, to adapt oneself to prices determined by parents and to keep

1) Most of the firms that consider linkage to a certain group as the factor of growth belong to transport equipment. This is understandable by the postwar growth and the structure of partsproduction of this industry.

2) To observe the relation between achievements and types of president (dividing into founder, second-successor, born elsewhere and executive-born, among Bigs and Élites firms with founder president have better achievements. This may be because generally founders have excellent leadership and ability of insight and decision. This is not clear for Mediums because founders are numerous.



Table 4-4. Managerial Goals and Average Achievements

	Bigs	Élites	Mediums
New-product development	2.704	3.168	2.689
Share expansion of existing products	2.928	2.928	2.824
Cost-down	2.840	2.840	2.799
Employee welfare, others	2.546	2.546	3.936

with competition among the same class of firms.<sup>3)</sup>

(b) Organization factors and efficiency

Needless to say, management of organization must be effectively conducted, whatever the strategies or measures to meet environments may be. So here measures to maintain adaptability and flexibility make the focus of study in the relation to managerial efficiency. However, organization factors, though having direct connections with morale, work only indirect effects on achievements, and hence are factors of long-run character. So in the below both achievements and morale shall be taken into account.

First let's see ability-cultivation schemes for middle-management. From a viewpoint of positiveness or negativeness for these schemes, in all the three classes, generally the more positive a firm is, the higher is employee's morale. This is because cultivation of ability as administrator brings about such fruits as more democratic attitude to organization members, judgement on a wide scope, mild atmosphere, and hence improvement of morale. Next, to observe relations to achievements, firms carrying a moderate extent of ability cultivation show the best results supposedly because a positive policy, while leading to higher morale, on another hand works as a factor impeding routine activities and hence inversely affects achievements in the short run. (Another reason is that many Élites have been able to enforce cultivation through their process of growth). In other words, although a bias to production-focused routine system cannot be connected to better efficiency and achievements, organization must be directed toward routine constitution through democratic attitudes for the sake of adaptability, flexibility and true organizational efficiency.<sup>4)</sup> Accordingly Adoption of this scheme must be essential to all firms.

Some example cases about this scheme are shown in Table 4-5. It is seen that "system of eligibility to promotion" is not reflected in higher morale. This suggests that, for Élites and Mediums of growth type in particular, this scheme fosters competition among administration staff on

3) Firms with no idea of business diversification and those advancing it show no remarkable difference of achievement. Achievements of firms respecting utilization of surplus resources and different-line diversification are worst. So diversification may be said to show a higher probability of success when it is conducted in a direction that brings about synergy effects.

4) H. Sogawa, *Kigyō no Soshikiyōin Kōritsu ni kansuru Bunseki*, *Mita Shōgaku Kenkyū*, vol. 16, No. 6, 1973.

**Table 4-5.** Ability Cultivation and Average Achievements and Morale

	Bigs		Élites		Mediums		
	Morale	Achiev.	Morale	Achiev.	Morale	Achiev.	
Negative policy	2. 257	3. 000	2. 288	2. 846	1. 327	2. 623	
Moderate policy	2. 487	2. 711	2. 470	2. 946	1. 725	2. 995	
Positive policy	2. 716	2. 748	2. 500	2. 693	1. 767	2. 882	
Promotion eligibility system	Having	2. 667	2. 824	2. 381	2. 850	1. 923	2. 508
	Not	2. 454	2. 816	2. 362	2. 875	1. 549	2. 848
Job rotation	Having	2. 735	2. 698	2. 683	2. 914	1. 821	3. 378
	Not	2. 855	2. 428	2. 318	2. 862	1. 558	2. 750

**Table 4-6.** Loyalty-Raising Schemes and Average Values of Achievement and Morale

	Bigs		Élites		Mediums	
	Morale	Achiev.	Morale	Adhiev.	Morale	Achiev.
Negative	2. 395	2. 815	2. 324	2. 804	1. 314	3. 098
Moderate	2. 436	2. 702	2. 336	2. 701	1. 613	2. 738
Positive	2. 616	2. 930	2. 489	3. 260	1. 755	2. 692

the base of endowed-few principle and makes speedy adaptation possible, but on another hand it involves a danger of worsening human relations. Next, the system of job rotation for middle-men results in higher morale in all classes because it cultivates ability on a wide scope. Its relation to achievements is not clear for Bigs but can be seen for Élites and Mediums. In the latter two groups, without big organization and minute division of administrative tasks as in Bigs, activities on a wide viewpoint are always required and job rotation can result immediate results.

So far we have considered organization factors relevant to middle. Next, those regarding general employees shall be described.

First, schemes to raise loyalty. Firms taking a positive attitude to these schemes show higher morale for the three classes (Table 4-6). However, as regards achievements the state is somewhat different. In Bigs and Élites active introduction is reflected in better achievements, but in Mediums the effects are reverse. In this group such schemes as "fruit distribution system" leads to better achievements, while "company's house" and "owner housing" bring about reverse effects because of financial burdens.<sup>5)</sup> So the result becomes as mentioned above.

Next let's see schemes for enrichment of job contents and labor-will

5) Average Values of achievement of Mediums

	Having	Not
Fruit distribution	3. 1553	1. 7647
Company's house	2. 7598	2. 9574
Owner housing	2. 7347	2. 8780

**Table 4-7.** Job Fulfilment Measures and Average Values of Achievement and Morale

		Bigs		Élites		Mediums	
		Morale	Achiev.	Morale	Achiev.	Morale	Achiev.
Job rotation system	Having	2.589	2.746	2.536	2.893	1.946	2.992
	Not	2.449	2.875	2.319	2.863	1.491	2.769
Enrichment of job contents	Having	2.579	2.763	2.412	2.907	1.709	2.939
	Not	2.285	3.004	2.292	2.808	1.411	2.641
Incentives to performance	Having	2.652	2.918	2.573	3.070	1.652	2.948
	Not	2.426	2.759	2.267	2.773	1.538	2.722

**Table 4-8.** Labor-will Encouragement and Average Values of Achievement and Morale

	Bigs		Élites		Mediums	
	Morale	Achiev.	Morale	Achiev.	Morale	Achiev.
Emphasis on pay and work conditions	2.450	2.990	2.304	2.549	1.449	2.884
Emphasis on promotion and human relations	2.333	2.902	2.283	2.779	1.575	2.751
Emphasis on enrichment of work itself	2.601	2.742	2.447	3.032	1.769	2.807

encouragement, which are conceived to have relation with employee's morale in a more direct form than ability cultivation or loyalty raising.

Table 4-7 shows that most of schemes for task fulfilment described in the previous section relate to morale. In particular, introduction of "incentives to performance" holds substantial contribute to achievement as well as to morale. (This is more effectual in Élites and Mediums.) This is because incentives can work as a direct supplementary method of satisfying worker's ego motive through work.<sup>6)</sup>

Next, labor-will encouragement (Table 4-8). In all the three classes higher morale is seen for firms placing emphasis on "promotion" and "enrichment of work itself." To observe from achievements, however, weight on "pay and work conditions" is effectual in Bigs and Mediums and "enrichment of work itself" in Élites. This is because in Élites—with high speed growth and smaller organization—employees can find satisfaction directly through work, and so this measure produces both better morale and achievements. Such an effect is less expectable for Bigs due to bigness itself and so emphasis on "enrichment of work itself" can be connected to morale but not to achievements. And in Mediums measures concerning with pay and work conditions show immediate effects because of existing wage differentials, inferior conditions and relatively poor stability of business.

From the above descriptions on the relations between organization

6) Among Mediums firms taking actively carrying these measures are better for either achievement or morale. This tells the importance of loyalty-raising for firms of unestablished organization.

**Table 4-9.** Ratios of New and Decaying Products and Average Achievements

New Products	Bigs	Élites	New Products	Mediums
• <10%	2.779	2.751	• <10%	2.704
10 ≤ • <20	2.896	2.918	10 ≤ • <20	2.979
20 ≤ •	2.855	3.190	20 ≤ • <30	2.876
			30 ≤ •	2.812
Decaying Products	Bigs	Élites	Decaying Products	Mediums
• < 5%	2.885	2.705	• < 5%	2.866
5 ≤ • <10	2.475	2.986	5 ≤ • <10	2.741
10 ≤ •	2.305	3.317	10 ≤ • <15	2.834
			15 ≤ •	2.609

factors and managerial efficiency we can generally say as follows. Most of these factors have significant relations with employee's morale, but those with achievement are not so many. However, this does not mean that these factors cannot have importance to management, but merely that it is impossible to interpret organizational efficiency as equal with achievement. For effectiveness of organization constitutes preconditions for the execution of concrete policies, and what hold important and direct relations with achievements are the contents of top's decision and policies and strategies based on it. Accordingly in any firms promotion of managerial efficiency must be conducted on a long-run standpoint.<sup>7)</sup>

(c) Product factors and efficiency

Here we shall consider how the positiveness of product strategy, research & development system and other relevant matters are reflected in efficiency.

First let's see the ratios of new products and decaying products which have connections with product strategy and market conditions (Table 4-9). As regards Élites, the higher the two ratios alike, the better is the achievement. Supposedly this is because this class includes those firms that have achieved growth by developing their own high-level techniques, although lacking in market control. On the other hand among Bigs and Mediums those with a low ratio of decaying products show better achievements, because in the former there are many firms that have a large weight of stable products by dint of market control and so on. And among Mediums, speaking generally, there are few possibilities of product development by means of pioneering and unique techniques, and hence those with local color and stable customers are likely to experience less fluctuation of achievement.<sup>8)</sup>

Next, about research & development. The basic aims of R&D described in the previous section are condensed here as existing, improved and innovational techniques, say, difference of level (Table 4-10). It may be seen that

7) H. Sogawa, *op. cit.*

8) Subcontractors are afflicted pressure about profitability, as mentioned already.

**Table 4-10.** Aims of R & D and Average Achievements

	Bigs	Élites	Mediums
Mainly on existing techniques	2.875	2.859	2.747
Mainly on improved techniques	2.732	2.711	2.840
Mainly on innovational techniques	2.867	3.082	2.814

**Table 4-11.** Ratio of Research Expenditure and Average Achievements

	Bigs	Élites	Mediums
• <1%	2.893	2.743	2.664
1 ≤ • <2	2.756	2.829	2.862
2 ≤ • <4	2.771	2.916	3.150
4 ≤ •	2.884	3.411	

**Table 4-12.** Ratio of Fresh Equipment and Average Achievements

	Bigs	Élites	Mediums
• <20%	2.609	2.573	2.589
20 ≤ • <30	2.816	2.920	2.667
30 ≤ • <40	2.879	3.061	3.175
40 ≤ •	3.086	3.139	2.989

in Bigs the existing-technique group shows better achievements, followed by the innovational-technique group. This is because most big firms are capable of technical innovation on account of the high ratio of stable products as well as financial power. Among Élites firms of innovational techniques have better achievements. This may be explained by the reasons discussed in connection with new products. In Mediums the improved-technique group is better. This is understandable by relating it with the weight placed on rationalization. That is to say, such aims as cost-down and quality betterment make more urgent requisites than new-product development for reasons of the limited ability profile and the nature as such contractor.

Yet it is doubtless that fulfilment of the systems of research and production inside a firm makes a precondition, whatever the aim may be. So here the ratio of research expenditure is taken for the indicator of research system, and the ratio of fresh (and efficient) equipment for that of production system (Table 4-11). Results of survey for Bigs are not clear, but as for Élites and Mediums it is seen that firms with a high ratio of research expenditure show better achievements. This is because these firms are always being compelled to advance product development and technical development due to a low level of market stability.<sup>9)</sup> Despite these results a point must be noticed in a particular as to Mediums. That is, while many of Élites are capable of technical development, in Mediums it is confined to a very narrow extent.

9) As another reason, an appreciably large number of Bigs are makers of materials.

Lastly to observe the ratio of fresh equipment (Table 4-12), in all the classes firms with a high ratio have better achievements. This tells that establishment of production system is necessary regardless of the product strategy taken.<sup>10)</sup>

## V. Conclusion

To observe the properties of Japan's firms dividing into Big, Élite and Medium classes, environments are severe especially to Mediums, and in addition ability profile is inferior, which makes management from a long-run viewpoint difficult. This can be summarized as follows. (1) As regards finance, raising of long-term funds is a task more urgent to Mediums than to other groups. (2) Restrictions to positive management are stronger even though the line is similar. (3) As to product strategy, because stable markets are insecure capability of active development is lacking, and in addition subcontractors are numerous, rationalization and labor-saving are seriously required.

In view of these properties of medium-scale firms and supposable future economic environments, should-be ways of relation between big and peripheral firms must pose a theme of study. The problem may be one relevant to the relation between "planned system and market system" pointed out by Galbraith. In conclusion there are observed substantial differences of business behavior by firm groups, which should wait more specific and detailed study.

---

10) The relation between export ratio and efficiency was omitted from description because among Mediums exporters are very small. To show new-equipment and morale, for firms of below 20% (equipment ratio) the average morale value is 1.291, and for above 40% 1.8636.