

Title	Empirical research on relationship between top management factors and corporate growth in Japanese big 4573 companies : from the viewpoint of chief executive's ability
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Abstract	The desirable qualities of the chief executive are the abilities to adopt himself to given circumstances and to carry out his functions effectively, thereby contributing to the development of a business firm. These abilities can be described only in broad, abstract terms such as "entrepreneurship" and "administratorship." The abilities required of chief executives differ depending on the environment in which they are placed or the functions they are to perform. For example, in the electronics industry where the environment is now improving, intuition is the most important requirement ; while in the sake-brewing industry chief executives are required to have calculating abilities because of unfavorable changes in its environment. When thinking out the future business concept, the president should excel in intuition, insight and imagination. But, for strategic decision-making, such qualities as belief, judgement and generosity assume greater importance. It is a sense of responsibility and a calculating ability that count most in business management and control. The desirable abilities of the chief executive differ with the required functions and the environment surrounding the business enterprise. Thus, properly speaking it is very difficult to define such abilities by large scale observation. The usual approach is to limit the environment and functions to specific examples and then pursue the desirable abilities within these limits. This method is similar to that adopted in case study and in research on the history of business administration. In this paper, however, an attempt is made to identify the desirable abilities of top management by large scale observation. Instead of trying to identify abilities directly, I intend to pursue them indirectly by observing a large number of objective factors which are related to the chief executive's abilities, i.e., surrogates. Full utilization of these surrogates will hopefully make it possible to obtain general hypotheses in which the special circumstances of individual enterprises are removed.
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EMPIRICAL RESEARCH ON RELATIONSHIP BETWEEN TOP MANAGEMENT FACTORS AND CORPORATE GROWTH IN JAPANESE BIG 4573 COMPANIES.

— From the Viewpoint of Chief Executive's Ability —

by

Ryūei Shimizu

The desirable qualities of the chief executive are the abilities to adopt himself to given circumstances and to carry out his functions effectively, thereby contributing to the development of a business firm. These abilities can be described only in broad, abstract terms such as "entrepreneurship" and "administratorship."

The abilities required of chief executives differ depending on the environment in which they are placed or the functions they are to perform. For example, in the electronics industry where the environment is now improving, intuition is the most important requirement; while in the sake-brewing industry chief executives are required to have calculating abilities because of unfavorable changes in its environment. When thinking out the future business concept, the president should excel in intuition, insight and imagination. But, for strategic decision-making, such qualities as belief, judgement and generosity assume greater importance. It is a sense of responsibility and a calculating ability that count most in business management and control.

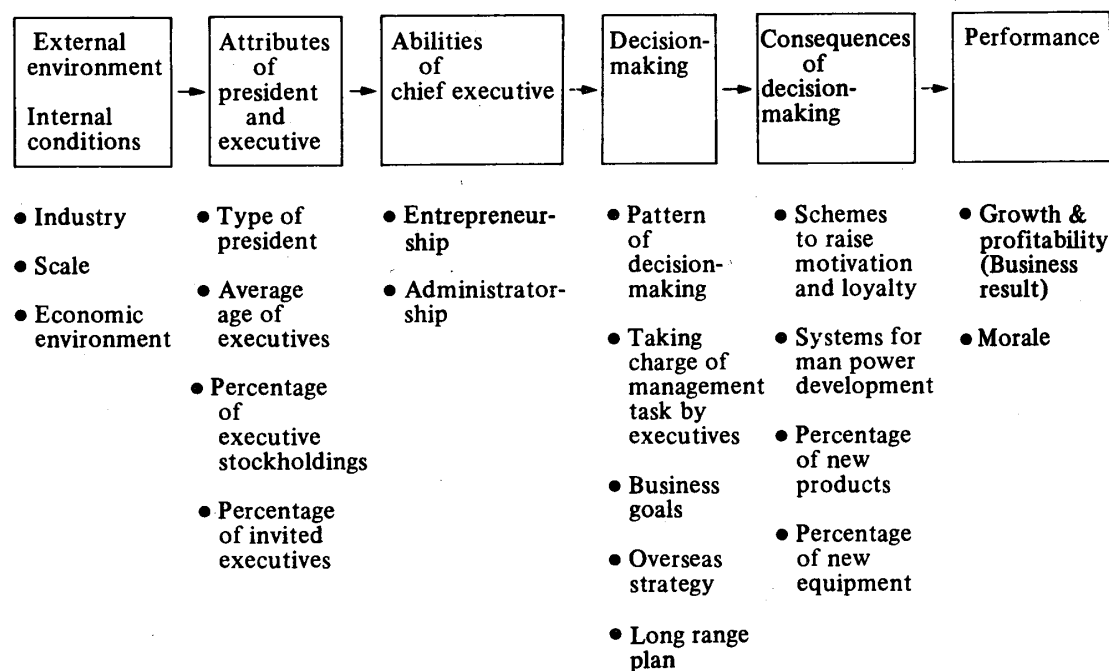
The desirable abilities of the chief executive differ with the required functions and the environment surrounding the business enterprise. Thus, properly speaking it is very difficult to define such abilities by large scale observation. The usual approach is to limit the environment and functions to specific examples and then pursue the desirable abilities within these limits. This method is similar to that adopted in case study and in research on the history of business administration. In this paper, however, an attempt is made to identify the desirable abilities of top management by large scale observation. Instead of trying to identify abilities directly, I intend to pursue them indirectly by observing a large number of objective factors which are related to the chief executive's abilities, i.e., surrogates. Full utilization of these surrogates will hopefully make it possible to obtain general hypotheses in which the special circumstances of individual enterprises are removed.

I. Framework for Empirical Research in Factors Related to the Chief Executive's Ability

In general, the chief executive displays his ability in three functional processes:

thinking out the future business concept, strategic decision-making, and business management and control. The ability of the chief executive and related objective factors are shown in Figure 1. A chief executive with certain attributes plans out future business by taking account of conditions both internal and external to the company. He then makes decisions to establish goals and corporate strategies which give birth to corporate structure. Business in the new-born structure yields new business result. As objective factors which are concerned with the chief executive's ability, such surrogates as "external environment & internal conditions," "attributes of presidents and executives," "decision-making" and "consequences of decision-making" are to be measured. In other words, the extent to which these factors contribute to the improvement in corporate performance and employees' morale is studied. An analysis is then conducted to evaluate the ability of top management in an indirect manner. Specific factors are given in Figure 1.

Figure 1. Factors Related to the Top-Management



For this study, the chief executive's abilities are classified into "entrepreneurship" and "administratorship." While some presidents excel in the former, others excel in the latter. The presidents can be divided into four types: founder, successor, company-bred, and Amakudari (retired high-ranking official). The founder-president generally possesses a great amount of entrepreneurship in contrast to the company-bred and the Amakudari-presidents who abound in administratorship. The company with a higher percentage of executive's stock holdings is relatively new and full of entrepreneurship, whereas the company in which executives hold a lower percentage of stocks boasts a long history and administratorship permeates. Decision-making at the highest decision-making body falls into three types: 1) decision-making according to president's view, 2) decision-making

upon discussions with executives, 3) decision-making according to executives view. The company in which the president's opinion dominates decision-making is generally small in scale and imbued with a strong entrepreneurship. In the company where executives, not the president, have a strong voice in decision-making, administratorship is more valued. The company with a higher proportion of new products and new equipment allows the president to bring his entrepreneurship into full play. The company which encourages the development of new products is rich in this ability, while administratorship is predominant in the firm which gives priority to cost reduction. These points will be enlarged upon in latter chapters.

In order to evaluate the extent to which various factors contribute to better corporate performance, D-value* analysis is conducted. The data employed for this study were collected by the Japan Development Bank (JDB) and the Ministry of International Trade and Industry (MITI). From 1973 to 1981 I served as a chief examiner for JDB and Head of MITI's Management Ability Research Committee when they conducted an investigation and analysis of Japanese business. In 1973, data were gathered for 630 companies (JDB), and from 1974 the data were collected by the Ministry of International Trade and Industry. Data were gathered for 472 companies in 1974, 478 companies in 1975, 438 companies in 1976, 540 companies in 1977, 541 companies in 1978, 521 companies in 1980, 473 companies in 1981 and 480 companies in 1982. There was no investigation in 1979 although no reason was given.

During 1973 and 1974 the effect of high economic growth was still lingering. Then came a period of low economic growth which lasted until 1977. From 1979 to 1982 the Japanese economy was in a period of stable growth. By utilizing the long-term data, we can estimate which type of ability is most desirable as the environment changes. Furthermore, by classifying factors according to the sectors of industry, the desirable abilities which vary from one area to another because of different technology and market conditions can be observed.

The dependent variables employed are morale and business result, the latter being the integration of growth and profitability. With regard to the relationship between morale and business result, we assume that when business management is carried out in line with an aggressive strategy to attain corporate goals as determined by the president, employees are inspired and morale increased. This gives free play to their originality in the process of product strategy implementation and contributes to the improvement of business result.

II. Factors Related to the Attributes of Chief Executives

2-1. Type of president

The type of president is one of the most significant surrogates that explain his

* A sophisticated and very useful statistical measure to analyse the qualitative factors in social science, which has been newly developed by author and his associates. For details, refer to author's book; *The Growth of Firms in Japan*, KEIO TSUSHIN CO. LTD., TOKYO, 1980, pp. 211 ~ 214.

attitude and policy toward business management. As mentioned above, there are four types of company presidents: founder, successor, company-bred*, and Amakudari**. The founder-president has a high degree of entrepreneurship, while the company-bred and Amakudari presidents usually have a strong administratorship. Large firms listed in the first section of the Tokyo Stock Exchange are primarily headed by company-bred presidents, while Amakudari-presidents are generally found in medium-large firms. The founder-presidents comprise the smallest group in the industry.

The relationship between the type of the president and employees' morale is represented in Tables 1, 2, 3, and 4. The following hypotheses are obtained from these Tables.

Hypothesis 1: < The founder president-headed firm enjoys excellent business result due to the high degree of entrepreneurship though employees' morale is not necessarily high. This holds true regardless of scale or external environment. >

Hypothesis 2: < The company-bred president-headed firms show a lower degree of business result because of the conservative policies of the strong administratorship. Employee morale however is generally maintained at a higher level. >

Hypothesis 3: < The Amakudari-president-headed firm experiences a lower level of morale and poorer business result. >

Although the founder-president may be successful in improving business result by adjusting the company's policies to a changing environment, his forcible manner sometimes provokes antipathy among employees, resulting in low morale. Conversely, the company-bred president, who has learned from experience how to behave toward his subordinates, is better able to win employees' cooperation, because they feel satisfied with the president's compassionate attitude. The lower morale and poorer business result of the company with the Amakudari-president can be attributed to the president's failure to familiarize himself with the company's ethos and atmosphere. In addition, the employee's apprehension about his unfairness in personnel management contributes to the lower morale.

The relationship between the type of president and business result categorized by area is described in Table 5 through 9. This provides us with the following hypothesis.

Hypothesis 4: < In those industries whose growth rate is low, such as textiles and chemicals, the company with the founder-president experiences better corporate achievement. This can be attributed to the entrepreneurship of the president. However, in highly growing areas such as the electric machinery and transport equipment industries, good performance is shown by those companies headed by a company-bred or Amakudari-president with a strong administrative ability. >

In the field where the industry as a whole is stagnant, corporate performance is increased by the enterprising president who encourages the research and development of new products because demand cannot otherwise be developed. But when the industry is rapidly expanding due to technological innovation or changes in consumption, new

* Company-bred refers to those presidents who worked themselves up through the company ranks.

** Amakudari refers to those presidents who were formerly government officials or officials of associated banks or the parent firms.

Table 1. The Relationship between the Type of President and Performance
(All manufacturing industry)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	21.2%	<u>3.40*</u>	11.7	<u>3.50*</u>	10.7	<u>5.59*</u>	9.8	5.06
Successor	21.0	2.65	23.7	2.95	20.7	5.12	21.0	5.03
Company-bred	22.4	2.66	30.3	2.63	36.2	5.00	34.7	<u>5.08</u>
Amakudari	35.4	2.66	34.3	2.72	32.4	4.69	34.5	4.87

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
10.9	<u>5.08</u>	9.1	<u>5.52*</u>	8.3	<u>5.21</u>	6.8	<u>5.24</u>	5.6	<u>5.32</u>
21.5	4.91	19.6	5.03	23.4	4.97	23.3	5.03	25.0	4.91
35.7	4.99	37.7	5.07	34.9	4.91	35.9	5.01	35.4	5.00
31.9	4.90	33.6	4.78	33.4	4.89	34.0	5.01	34.0	4.90

In the tables underlined figures indicate note worthy values – that is, maximum values.

The * mark on figures indicates statistical significance for the F-test (5% level).

Figures of 1973 and 1974 are different from the others, due to the different measuring method used.

Table 2. The Relationship between the Type of the President and Employees' Morale
(All manufacturing industry)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
Founder	11.7%	<u>2.62*</u>	10.7	3.53	9.8	3.44	10.9	3.48
Successor	23.7	2.41	20.7	3.31	21.0	3.29	21.5	3.30
Company-bred	30.3	2.49	36.2	<u>3.54*</u>	34.7	<u>3.57*</u>	35.7	<u>3.49*</u>
Amakudari	34.4	2.39	32.4	3.27	34.5	3.30	31.9	3.25

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
9.1	<u>3.52*</u>	8.3	3.45	6.8	3.27	5.6	3.37
19.6	3.41	23.4	3.43	23.3	3.40	25.0	3.22
37.7	3.51	34.9	<u>3.57*</u>	35.9	<u>3.63*</u>	35.4	<u>3.57</u>
33.6	3.21	33.3	3.26	34.0	3.24	34.0	3.21

Morale is quantified by SD-Method, utilizing the following questionnaire. "What is the level of morale of your employees compared with other firm in the same field? Please select from the below. 1.Lower, 2.Slightly lower, 3.Almost equal, 4.Slightly higher, 5.Much higher."

Figures of 1974 are different from the others, due to using 3 levels of morale while the others are 5 levels.

Table 3. The Relationship between the Type of the President and Performance
(Large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	12.2%	<u>3.64*</u>	8.9	<u>3.59*</u>	7.6	<u>5.84*</u>	7.4	<u>5.17</u>
Successor	12.2	2.88	20.3	2.94	17.5	5.15	15.9	5.10
Company-bred	41.2	2.65	40.6	2.62	46.9	5.01	45.2	5.17
Amakudari	34.3	2.52	30.2	2.77	28.1	4.88	31.4	4.81

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
8.2	<u>5.22</u>	7.3	<u>5.57*</u>	8.0	<u>5.18</u>	6.8	<u>5.22</u>	5.2	<u>5.26</u>
18.7	4.98	16.0	5.12	20.2	5.02	19.0	5.04	21.1	5.06
47.1	5.05	47.1	5.08	43.5	4.96	45.3	5.10	45.1	4.95
26.0	4.90	29.7	4.90	28.3	5.00	28.9	5.03	28.6	4.94

Table 4. The Relationship between the Type of the President and Performance
(Medium-large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	15.0%	<u>3.47*</u>	15.7	<u>3.43</u>	16.0	<u>5.38*</u>	14.2	<u>4.95</u>
Successor	22.5	2.55	28.8	2.97	26.3	5.08	30.3	4.95
Company-bred	15.5	2.79	15.2	2.66	17.7	4.94	15.5	4.60
Amakudari	46.9	2.69	40.3	2.66	40.0	4.47	40.0	4.94

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
15.3	<u>4.96</u>	12.2	<u>5.47*</u>	8.6	<u>5.27</u>	6.8	<u>5.29</u>	6.4	<u>5.40</u>
25.8	4.83	25.9	4.85	29.2	4.91	31.5	5.02	32.0	4.73
17.7	4.72	21.3	5.05	19.5	4.72	17.9	4.55	18.0	5.18
41.1	4.90	40.6	4.64	42.7	4.77	43.8	4.97	43.6	4.85

Table 5. The Relationship between the Type of the President and Performance (Textiles)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	9.3%	2.00	8.3	<u>4.96</u>	8.3	<u>6.27*</u>	7.1	<u>6.21*</u>
Successor	23.3	<u>2.30</u>	13.9	4.32	16.7	4.54	23.8	4.40
Company-bred	37.2	2.13	38.9	3.87	38.9	4.24	35.7	4.45
Amakudari	30.2	2.00	38.9	3.15	36.1	4.56	33.3	4.76

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
4.7	<u>5.77</u>	7.0	<u>5.06</u>	7.4	<u>5.91*</u>	6.5	4.99
14.0	4.36	23.3	4.15	22.2	4.23	19.4	4.39
46.5	4.82	44.2	4.20	48.1	4.36	35.5	4.34
34.9	4.21	25.6	3.97	22.2	3.50	38.7	4.42

Table 6. The Relationship between the Type of the President and Performance (Chemicals)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	9.3%	<u>3.25*</u>	8.2	<u>6.04</u>	9.5	<u>5.64</u>	6.9	5.29
Successor	23.3	2.40	25.9	5.26	21.6	5.32	26.4	<u>5.44</u>
Company-bred	31.4	1.52	37.6	5.37	43.2	5.41	37.9	5.35
Amakudari	36.0	1.68	28.2	5.54	25.7	5.46	28.7	5.32

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
8.8	<u>5.56</u>	2.5	<u>5.37Δ</u>	2.9	<u>6.10Δ</u>	4.5	<u>5.61*</u>
23.1	5.29	26.3	<u>5.17</u>	30.0	<u>5.05</u>	19.7	4.93
45.1	4.98	42.5	4.97	41.4	4.89	43.9	4.88
23.1	4.91	28.8	4.88	25.7	5.04	31.8	5.19

Δ This figure is insignificant because the percentage is smaller than 5%.

Table 7. The Relationship between the Type of the President and Performance (General machinery)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	6.2%	<u>3.20*</u>	10.6	<u>5.62</u>	9.5	4.25	10.5	4.62
Successor	28.4	1.87	25.8	5.47*	20.6	<u>4.77</u>	23.7	4.38
Company-bred	24.7	1.85	25.8	5.21	27.0	4.58	28.9	<u>4.67</u>
Amakudari	40.7	1.46	37.9	4.31	42.9	4.74	36.8	4.28

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
8.6	<u>5.75*</u>	7.5	<u>5.83</u>	6.3	4.72	4.9	<u>6.46</u>
24.3	4.92	25.0	4.83	28.6	5.19	26.2	4.83
35.7	4.83	31.3	5.15	31.7	<u>5.63</u>	29.5	5.30
31.4	4.56	36.3	5.15	33.3	5.50	39.3	5.30

Table 8. The Relationship between the Type of the President and Performance (Electric machinery)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Founder	20.9%	2.33	13.2	5.01	16.0	4.80	14.7	4.99
Successor	39.5	2.35	22.1	4.65	22.8	<u>4.91</u>	17.6	4.86
Company-bred	14.0	2.17	26.5	<u>5.08*</u>	26.3	4.90	27.9	<u>5.02</u>
Amakudari	25.6	<u>2.36</u>	38.2	4.29	36.8	4.62	39.7	4.63

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
9.0	<u>5.68</u>	12.5	4.96	8.3	<u>6.59*</u>	3.4	<u>5.82</u>
20.5	5.12	17.2	5.05	25.0	5.16	25.4	5.32
30.8	5.48	32.8	<u>5.40</u>	25.0	5.35	40.7	5.34
39.7	5.23	37.5	5.25	41.7	5.45	30.5	5.34

Table 9. The Relationship between the Type of the President and Performance
(Transport equipment)

	1974		1975		1976		1977	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
Founder	3.2%	<u>2.00</u> [△]	10.5	4.67	0	—	4.4	5.44
Successor	25.8	1.38	18.4	4.56	22.9	5.38	22.2	<u>5.55</u>
Company-bred	32.3	1.40	34.2	4.82	37.1	5.37	37.8	5.21
Amakudari	38.7	<u>1.75</u>	36.8	<u>4.71</u>	40.0	<u>5.57</u>	35.6	5.39

1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
0	—	0	—	6.3	4.50	2.2	<u>5.89</u> *
26.2	5.28	25.6	4.74	18.8	<u>5.20</u>	26.1	5.33
33.3	<u>5.36</u>	41.0	<u>4.83</u>	35.4	5.08	26.1	5.37
40.5	5.23	33.3	4.77	39.6	4.77	45.7	4.76

Table 10. The Relationship between the Average Age of Executives and Performance
(All manufacturing industry)

	1974		1975		1976		1977	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
<55 years	23.5%	<u>3.01</u> *	24.1	4.84	19.4	4.88	21.3	<u>5.02</u>
55 ≤ <58	26.7	2.76	33.3	4.95	28.3	4.90	31.1	4.89
58 ≤ <61	32.0	2.77	31.2	<u>5.15</u>	36.3	5.06	32.4	4.95
61 ≤	17.8	2.69	11.5	4.96	16.0	<u>5.14</u>	15.2	4.99

1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
20.5	<u>5.28</u> *	23.6	<u>5.09</u>	23.3	<u>5.05</u>	21.3	<u>5.08</u>
29.8	4.84	20.7	4.99	21.1	4.98	18.3	4.69
33.8	5.01	28.8	4.89	29.6	<u>5.05</u>	29.8	4.95
15.9	4.97	26.9	4.84	26.0	5.03	30.6	4.88

products are further developed without particular effort. In such circumstances, the company should realize the importance of cost reduction and implement policies designed to enable the firm to be more competitive; this is where the role of the president with a long experience in management comes into play.

2-2. Average age of executives

It is generally accepted that younger people are more progressive and more flexible. This also pertains to the company executive. Exceedingly progressive and innovative executives, however, may tend to venture upon ambitious schemes at the expense of employees' "desire for stability." In contrast, elderly executives may lack both an innovative spirit and flexibility and the corporate structure is regidified despite employees' "desire for change." Although this may result in lower morale, employees' "desire for stability" can be satisfied by the discreet manner of the elder executives. The average age of Japanese business firm executive listed on the Tokyo Stock Exchange is 56.5. The relationship between the average age of executives and business result is indicated in Table 10. The following hypothesis can be derived:

Hypothesis 5: < Companies with younger executives achieve a high level of business result as long as the external environment is experiencing a high rate of growth. When the growth rate is lower, companies with elderly executives excel in the level of performance. >

During a rapidly expanding external environment, younger executives who tactfully respond to the changing circumstances are more competent in elevating business achievement. In the low-growth period, however, cautious and defensive elders better lend themselves to the improvement of corporate performance. The evidence in Table 10 indicates that companies with executives 58 years old or older produced, on the average, a higher performance level in 1975 and 1976 when economic growth slackened. This is further confirmed in Table 1 which shows that only in 1976 did companies headed by company-bred presidents achieve the highest results.

III. Factors Related to Decision-Making

3-1. Decision-making pattern in the highest decision-making body

The highest decision-making body in a Japanese business firm generally takes the form of either a board of managing directors (Jōmukai in Japanese), a board of directors, or a committee. One of the salient features of the Japanese business organization is that the highest decision-making body in most companies is not a board of directors which comprises the directors designated by stockholders, but rather a "Jōmukai" whose members are all managing directors. This practice facilitates the decision-making process, making possible the establishment of business goals from the corporate, not from the stockholders' standpoint. In the Japanese manufacturing sector, a board of managing directors constitutes the highest decision-making body in 52 percent of the companies. This is followed by the board of directors found in 36 percent of firms and the committee or other type of body found in 12 percent of the companies. Based on the scale

of business, the board of managing directors as the highest decision-making body is more prevalent in large firms, while a board of directors is more prevalent in medium-large firms.

The pattern of decision-making at the highest decision-making body falls into three categories: 1) Decisions are made mainly by the president, though executives' opinions are to some extent respected. 2) After all the members of the body participate in the discussion on an equal basis, the president takes the leadership in making a final decision, 3) A decision is made focusing upon constituent members' opinions, which are brought to a conclusion by the president in the final stage. In Japanese business firms, the second type of decision-making is the most popular. This is followed by decision-making of the third type. The relationship between the decision-making patterns and business result is presented in Tables 11, 12, and 13. This gives rise to the following hypothesis.

Hypothesis 6: < Companies where decisions are primarily made in accordance with the president's opinion and view are prosperous when the external environment shows a high rate of growth. In the low economic growth period, however, the company where decision-making is based on executives' ideas achieves better results. The scale of business does not have an effect on any of three types of decision-making. >

When the rate of economic growth is low, highly prudent decision-making through the full participation of all executives is demanded because reduced profit margin does not permit the company to make even smallest mistake. Consequently, all the constituent members of the highest decision-making body must assume responsibility for their policies which they have decided. In a period of high economic growth, it is essential for business enterprises to surpass the market competition by prompt decision-making rather than by avoiding risks. Since profit margin increases, they need not be apprehensive about committing small mistakes. As Tables 12 and 13 indicate, the most suitable patterns of decision-making for the external conditions in large firms and medium-large firms are identical. Although Chandler raised the proposition that functions for adjustment of the top-management are important for large scale enterprises and functions for innovation of the top-management are important for medium or medium-large firms, the results of our investigation do not attest to his hypothesis. The most appropriate pattern of decision-making depends, not on the scale of business, but on the external environment and, as will be stated later, on the sector of industry.

Tables 14 through 18 deal with the relationship between the patterns of decision-making at the highest decision-making body and business result in different industries. This provides us with the following hypothesis.

Hypothesis 7: < In the electric machinery industry, the firm whose president takes precedence over executives in decision-making enjoys favorable results; in the transport equipment industry, the company where a decision is made by the president who also considers the executives' opinions achieves a higher level of business result. In the fields of textile, chemicals and general machinery, the decision-making pattern should be adjusted in response to changes in external conditions, though the most appropriate pattern of decision-making in a given period might be slightly different from one sector to another. In other words, decision-making based on the president's view or discus-

Table 11. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (All manufacturing industry)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	29.2 [%]	<u>2.91</u>	15.7	<u>3.04*</u>	13.8	5.01	11.4	4.91
Upon discussions with executives	48.5	2.78	54.9	2.83	59.3	4.96	66.9	4.98
According to executives' view	22.3	2.73	29.4	2.75	26.8	<u>5.03</u>	21.7	<u>5.08</u>

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
13.2	4.95	12.6	<u>5.12</u>	13.4	<u>5.10*</u>	14.8	<u>5.17</u>	12.5	<u>5.11</u>
66.9	<u>4.96</u>	70.8	4.99	66.4	4.98	68.5	5.00	69.4	4.95
19.9	4.94	16.6	5.00	20.2	4.73	16.7	5.00	18.1	4.88

Table 12. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	28.9 [%]	<u>2.88</u>	11.7	2.84	11.3	5.14	8.1	5.01
Upon discussions with executives	49.6	2.78	59.4	<u>2.86</u>	60.9	5.00	69.3	5.02
According to executives' view	21.5	2.49	28.8	2.75	27.8	<u>5.14</u>	22.6	<u>5.16</u>

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
10.9	4.99	12.5	<u>5.17</u>	11.0	<u>5.06</u>	15.1	<u>5.14</u>	10.1	<u>5.28</u>
68.5	4.98	71.2	5.06	68.8	5.05*	67.2	5.09	71.8	4.97
20.6	<u>5.13</u>	16.3	5.11	20.2	4.79	17.7	5.00	18.2	4.88

Table 13. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Medium-large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	28.4 [%]	<u>2.89</u>	21.5	<u>3.23*</u>	18.3	4.87	17.4	4.82
Upon discussions with executives	48.3	2.80	48.2	2.79	56.6	<u>4.88</u>	62.6	4.90
According to executives' view	23.2	2.70	30.4	2.74	25.1	4.81	20.0	<u>4.93</u>

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
16.8	4.91	12.7	<u>5.03</u>	17.8	<u>5.15</u>	14.2	<u>5.25</u>	16.9	<u>4.92</u>
64.4	<u>4.92</u>	70.1	4.87	62.2	4.83	71.0	4.85	65.1	4.91
18.8	4.60	17.3	4.81	20.0	4.62	14.8	5.00	18.0	4.88

Table 14. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Textiles)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	25.6 [%]	2.91	11.1	3.37	16.7	4.64	16.7	<u>4.72</u>
Upon discussions with executives	51.2	<u>3.00</u>	63.9	3.70	63.9	<u>4.64</u>	76.2	4.66
According to executives' view	23.3	2.22	25.0	<u>4.02</u>	19.4	4.30	7.1	4.62

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
16.3	4.58	18.6	4.03	14.8	<u>4.64</u>	16.1	4.60
72.1	<u>4.66</u>	62.8	<u>4.31</u>	63.0	4.12	71.0	4.31
11.6	4.13	18.6	3.96	22.2	4.41	12.9	<u>4.79</u>

Table 15. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Chemicals)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	15.1 [%]	2.61	15.3	5.16	5.4	5.45	10.3	<u>5.54</u>
Upon discussions with executives	52.3	2.84	48.2	5.45	67.6	<u>5.46</u>	66.7	5.33
According to executives' view	32.6	<u>2.92</u>	36.5	<u>5.56</u>	27.0	5.33	23.0	5.37

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
12.1	<u>5.28</u>	5.0	5.03	14.3	4.90	12.1	4.77
64.8	5.08	70.0	<u>5.13*</u>	67.1	5.00	65.2	4.88
23.1	5.01	25.0	4.66	18.6	<u>5.13</u>	22.7	<u>5.55*</u>

Table 16. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (General machinery)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	14.8 [%]	<u>3.17</u>	16.7	<u>5.09</u>	11.1	4.62	13.2	4.28
Upon discussions with executives	53.1	2.50	56.1	4.96	66.7	4.52	71.1	<u>4.52</u>
According to executives' view	32.1	2.65	27.3	4.97	22.2	<u>5.08</u>	15.8	4.25

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
20.0	4.84	21.3	<u>5.36</u>	15.9	<u>5.84</u>	18.0	<u>5.77*</u>
68.6	<u>4.85</u>	60.0	5.25	65.1	5.28	67.2	5.29
11.4	4.82	18.8	4.42	19.0	5.47	14.8	4.32

Table 17. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Electric machinery)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	14.0 [%]	<u>3.46</u>	16.2	<u>4.76</u>	8.8	4.23	13.2	<u>4.99</u>
Upon discussions with executives	67.4	3.03	64.7	4.69	75.4	<u>4.88</u>	67.6	4.80
According to executives' view	18.6	3.35	19.1	4.52	15.8	4.65	19.1	4.84

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
15.4	<u>6.07*</u>	17.2	4.81	11.7	<u>5.74</u>	11.9	5.24
69.2	5.12	65.6	5.30	78.3	5.44	71.2	<u>5.42</u>
15.4	5.48	17.2	<u>5.35</u>	10.0	5.21	16.9	5.24

Table 18. The Relationship between the Patterns of Decision-Making at the Highest Decision-Making Body and Performance (Transport equipment)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
According to president's view	9.7 [%]	<u>2.79</u>	5.3	4.49	20.0	5.21	8.9	5.07
Upon discussions with executives	58.1	2.50	57.9	<u>4.82</u>	65.7	<u>5.54</u>	71.1	<u>5.42</u>
According to executives' view	32.3	2.36	36.8	4.59	14.3	5.33	20.0	5.25

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
11.9	5.06	5.1	3.41	20.8	4.72	8.7	<u>5.29</u>
76.2	5.29	66.7	<u>4.86*</u>	60.4	<u>5.07</u>	67.4	5.10
11.9	<u>5.47</u>	28.2	4.68	18.8	4.79	23.9	5.01

sions with executives helps the firm to raise corporate achievement when an economy is growing fast, while in the low economic growth period the decision-making based on executives' view is favorable. >

Even when economic growth is slow, good performance is observed in the electric industry which is constantly subject to technological innovation. In this sector emphasis should be placed not on the avoidance of risks, but on prompt decision-making by the president's view. The growth of the transport equipment industry is also generally high, but not as high as that of the electric machinery industry. Its technological innovation is also less remarkable. Therefore, executives' views as to future risks should be taken fully into account when decisions are made. They should be ready to take a responsible role in the policy implementation process. In the textile, chemical and general machinery industries, the optimum pattern of decision-making changes depending on the external conditions. This can be attributed to the following. In these three fields of industries, profit margin is limited due to the nature of the business. Accordingly, prompt decision-making centering upon the president's opinion is desirable when an economy is growing fast. Once the speed of economic growth has decreased, cost reduction and other measures for which all the executives should take a responsibility are demanded. The time when a certain pattern of decision-making is recommended differs from one industry to another. This is due to either the time lag from decision-making to implementation or the differences in "slacks" which results from the differences in profit margin.

3-2. Taking charge of management task by executives

An executive who is in charge of a division in a functional organization tends to assume the role of a representative of the particular division. Thus he may lose sight of the objectives and the prospects of the company as a whole. Such an attitude adversely affects the decisions in which they participate. It is generally considered, therefore, that the executives who take part in strategic decision-making should preferably be free from the task of division management. And yet, in the Japanese manufacturing sector, executives are usually in charge of divisions; the firms where executives are exempt from division management tasks are so few that they are taken the exceptional rather than the rule. In over 50 percent of the firms in the manufacturing industry in Japan, a majority of executives are responsible for division management. In about forty percent of the firms a portion of executives are in charge of divisions, while in only three to six percent of the firms all executives are free from the task of division management. The relationship between the division management task of executives and corporate performance is presented in Table 19. The following hypothesis is obtained.

Hypothesis 8: < When external conditions are favorable, the firms whose executives do not assume the task of management achieve better results. But, when the economic growth is slow, better results are produced by those companies whose executives are responsible for management task. >

During the low-growth period, executives are not permitted to make the smallest mistakes due to the low profit margin. Most executives who take charge of a division are held responsible for management and control. When an economy is enjoying high

growth, however, executives need not be mindful of trivials; they should be more concerned with the prospect of the company as a whole, detaching themselves from the task of division management.

3-3. Business goals

In establishing business goals and strategies the chief executive envisages the company's outlook and determines measures and policies to be executed, taking account of both external and internal conditions. The business goals and strategies for accomplishing objectives reveal most clearly the attitude of the president. For this paper, I conducted a survey by sending out a questionnaire to chief executives. They were asked to choose what they consider to be the most significant of the following eleven business goals. They are: 1. new product development, 2. expansion of the main products' market share, 3. coordination with the regional community, 4. reinforcement of export and overseas investment, 5. cost reduction by rationalization and labor-saving, 6. personnel curtailment, 7. expansion of employees' welfare, 8. diversification and changes in business, 9. improvement of consumer services, 10. reduction of production lines, and 11. increase of the own capital ratio. Ninety percent of those who responded to the survey chose new product development, expansion of the main products' market share, or cost reduction by rationalization and labor-saving; the remaining eight items did not attract the attention of chief executives. With regard to the relationship between business goals and external environment, it can be concluded that most presidents attach importance to the share expansion of main products when economic growth rate is on the rise. When economic growth is low, cost reduction is stressed. The development of new products is also given more attention when external conditions are favorable, while less attention may be given in a low economic growth period, though the differences is not as marked as with the expansion of main products' market share. Classification of business goals by industry reveals that new product development is highly regarded in the electric machinery and chemical industries where technological innovation is very rapid. The expansion of main products' market share leads the list in textile and general machinery industries where technological innovation is slower.

Tables 20 through 26 describe the relationship between the selection of business goals and corporate performance. This gives rise to the following hypothesis.

Hypothesis 9: < The company which vigorously pursues the development of new products constantly enjoys a higher level of achievement regardless of external environment. >

The ambitious development of new products gives impetus to manpower development, which, in turn, furthers new product development. Such a reciprocity stimulates the creativity of employees and paves the way for the promotion of corporate performance. Among the various abilities of chief executives, energetic implementation of forward-looking policies backed by a strong entrepreneurship is a major factor contributing to the prosperity of business.

The following hypothesis is possible with regard to the relationship between the selection of business goals and corporate performance.

Hypothesis 10: < In the electric machinery industry, companies which primarily aim

Table 19. The Relationship between Taking Charge of Management Task by Executives and Performance (All manufacturing industry)

	1973		1974		1975	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
A majority of executives are in charge of management task	37.7 [%]	2.88	53.1	2.79	53.1	4.90
A portion of executives are in charge of management task	34.4	2.65	40.3	2.84	41.8	5.06
All executives are free from management task	27.9	<u>2.91</u>	6.6	<u>3.19</u>	5.0	<u>5.36</u>

1976		1977		1978	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
51.6	<u>5.05</u>	56.1	4.89	56.7	<u>5.03</u>
43.4	4.98	40.9	<u>5.01</u>	40.5	4.99
5.3	4.62	3.0	4.61	2.8	4.84

Table 20. The Relationship between the Selection of Business Goals and Performance (All manufacturing industry)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	23.9 [%]	<u>3.01*</u>	25.6	<u>2.90*</u>	24.5	<u>5.10*</u>	20.1	4.89
Share expansion of main products	30.0	2.67	46.8	2.89	45.6	5.03	47.7	<u>5.19*</u>
Cost-reduction	33.2	2.76	19.5	2.72	15.7	4.98	17.8	4.79
Others	12.9	2.81	8.1	2.64	14.2	4.67	14.4	4.74

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
22.6	<u>5.03</u>	21.1	<u>5.29*</u>	21.9	<u>5.36*</u>	25.1	<u>5.17</u>	26.0	<u>5.29*</u>
52.4	4.92	47.0	5.00	46.4	4.90	47.6	5.03	49.0	4.86
17.0	4.94	23.8	4.82	18.6	4.95	17.3	4.94	16.7	4.64
8.0	4.99	8.1	4.87	13.1	4.41	9.9	4.81	8.3	5.13

Table 21. The Relationship between the Selection of Business Goals and Performance (Textiles)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	23.6 [%]	2.51	11.6	2.01	11.1	<u>4.55</u>	11.1	4.65
Share expansion of main products	16.7	<u>2.73</u>	41.9	<u>3.16</u>	41.7	4.13	38.9	4.67
Cost-reduction	54.2	2.57	34.6	2.64	22.2	3.06	27.8	<u>4.82</u>
Others	5.5	2.71	11.6	2.77	25.0	3.34	22.2	4.07

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
16.7	4.77	11.6	<u>4.86</u>	9.3	<u>4.75*</u>	22.2	4.12	9.7	4.28
50.0	<u>4.81</u>	39.5	4.84	41.9	4.51	25.9	3.85	51.6	4.32
23.8	4.50	44.2	4.30	32.6	3.60	25.9	3.85	16.1	4.33
9.5	4.15	4.7	4.50	16.3	4.22	25.9	<u>5.14*</u>	22.6	<u>4.78</u>

Table 22. The Relationship between the Selection of Business Goals and Performance (Chemicals)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	36.7 [%]	<u>3.04</u>	36.0	2.90	29.4	5.41	25.7	<u>5.57</u>
Share expansion of main products	25.5	2.50	38.4	<u>2.93</u>	49.4	5.43	51.4	5.35
Cost-reduction	16.3	2.85	11.6	2.39	8.2	<u>6.49*</u>	8.1	5.43
Others	21.5	2.60	14.0	2.77	12.9	4.89	14.9	5.41

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
28.7	<u>5.55*</u>	36.3	<u>5.41*</u>	32.5	<u>5.29*</u>	42.9	<u>5.20</u>	42.4	5.15
54.0	5.28	49.5	4.93	45.0	4.99	44.3	4.87	37.9	<u>5.16</u>
11.5	5.51	9.9	4.65	11.3	4.70	8.6	4.91	13.6	4.33
5.7	4.88	4.4	5.19	11.3	4.54	4.3	4.75	6.1	4.78

Table 23. The Relationship between the Selection of Business Goals and Performance
(General machinery)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	33.3 [%]	2.36	33.3	<u>2.92</u>	30.3	5.12	28.6	4.20
Share expansion of main products	37.6	2.15	42.0	2.45	50.0	5.01	46.0	<u>5.09*</u>
Cost-reduction	26.9	<u>2.51</u>	18.5	2.53	9.1	<u>5.24</u>	11.1	4.84
Others	8.1	2.34	6.2	2.89	10.6	4.24	14.3	4.00

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
32.9	<u>4.64</u>	22.9	4.84	22.5	<u>5.72*</u>	25.4	5.20	24.6	<u>5.99*</u>
43.4	4.33	40.0	4.65	48.8	4.86	46.0	<u>5.50</u>	57.4	4.93
19.7	4.27	28.6	5.03	16.3	5.64	19.0	5.50	11.5	5.40
3.9	(5.13)	8.6	5.15	12.5	4.37	9.5	5.27	6.6	4.74

Table 24. The Relationship between the Selection of Business Goals and Performance
(Electric machinery)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	54.3 [%]	<u>3.30</u>	27.9	<u>3.38</u>	47.1	4.90	35.1	4.60
Share expansion of main products	25.4	3.26	48.8	3.14	36.8	4.38	45.6	4.91
Cost-reduction	16.9	2.94	20.9	2.84	8.8	<u>5.31</u>	10.5	<u>5.06</u>
Others	3.4	2.23	2.3	3.61 ^a	7.4	3.88	8.8	4.54

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
27.9	4.70	26.9	5.59*	40.6	5.38	41.7	5.56	37.3	5.73
52.9	4.77	44.9	5.11	35.9	5.19	45.0	5.29	45.8	5.03
17.6	<u>5.21</u>	23.1	5.32	15.6	<u>5.57*</u>	8.3	<u>5.85</u>	6.8	4.90
1.5	4.90	5.1	<u>5.83</u>	7.8	3.94	5.0	5.40	10.2	<u>5.85</u>

Table 25. The Relationship between the Selection of Business Goals and Performance
(Transport equipment)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
New product development	24.8 [%]	<u>3.33</u>	32.3	<u>2.61</u>	21.1	4.65	8.6	5.73
Share expansion of main products	27.1	2.98	29.0	2.56	34.2	4.64	51.4	5.30
Cost-reduction	42.4	2.92	29.0	2.31	28.9	4.75	22.9	<u>5.81</u>
Others	5.7	2.87	9.7	2.36	15.8	<u>4.92</u>	17.1	5.24

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
15.6	5.37	14.3	5.37	25.6	5.26	20.8	<u>5.28</u>	30.4	<u>5.24</u>
57.8	5.22	54.8	5.25	35.9	5.03	47.9	<u>5.24</u>	37.0	5.24
17.8	5.64	21.4	<u>5.50</u>	15.4	<u>5.37</u>	14.6	4.68	26.1	4.74
8.9	<u>5.65</u>	9.5	4.86	23.1	3.49	16.7	3.91	6.5	5.03

Table 26. The Relationship between the Selection of Business Goals and Employees' Morale
(All manufacturing industry)

	1974		1975		1976	
	Percentage	Morale	Percentage	Morale	Percentage	Morale
New product development	25.6 [%]	24.3	20.7	3.42	19.4	3.39
Share expansion of main products	46.8	2.46	34.1	3.39	36.5	3.36
Cost-reduction	19.5	2.39	27.4	<u>3.43</u>	29.2	3.42
Others	8.1	<u>2.63*</u>	17.8	3.31	14.8	<u>3.50</u>

1977		1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
21.7	3.39	28.8	<u>3.43</u>	38.6	<u>3.47</u>	46.3	3.46	26.0	3.38
41.1	3.40	40.5	3.40	34.0	3.43	30.2	3.42	49.0	3.34
29.4	3.23	22.9	3.32	16.9	3.35	15.0	3.18	16.7	3.26
7.8	<u>3.49</u>	7.8	3.38	10.6	3.34	8.5	<u>3.65*</u>	8.3	<u>3.49</u>

at the reduction of cost show good performance, whereas in the chemical industry firms which have new product development as their objective enjoy better results. In the area of textiles, both share expansion of main products' market and new product development should be given similar importance. >

Companies in an industry showing rapid development should realize the importance of the administratorship, that is, defensive measures including cost reduction. In a stagnant industry, the entrepreneurship, that is the expansion of main products' market share and new product development is important.

Table 26 explains the relationship between the selection of business goals and employee morale. This provides us with the following hypothesis.

Hypothesis 11: < The selection of business goals does not exert direct influence upon the morale of employees. >

Employees' morale cannot be immediately elevated by changing business goals.

3-4. Overseas strategies

Today many Japanese business firms operate internationally. The chief executives' positive attitude toward business management is displayed in active and progressive overseas strategies. This in general falls into two categories, export and the establishment of overseas production bases. From the standpoint of a solution to trade friction, the latter is regarded as more positive and enterprising. An investigation was conducted for this paper through the use of the questionnaire, by requesting chief executives to choose the most significant of the following four items:

- 1) No export or foreign foothold
- 2) Without establishing overseas production bases, export should be promoted by expanding the market through trading companies and sales agents.
- 3) Without establishing overseas production bases, export should be promoted and the market expanded by establishing business offices and sales subsidiaries.
- 4) Production should be fostered abroad by active investment in overseas factories.

In the Japanese manufacturing sector, most companies export their products through trading firms and sales agents. This tendency has remained unchanged in spite of changes in the external environment. The relationship between the overseas strategies emphasized and corporate performances is represented in Table 27. The following hypothesis is derived.

Hypothesis 12: < Until the end of the 1970s, companies which placed an emphasis on the establishment of, and investment in, overseas production bases proved more successful in achieving higher level of business result. But in the 1980s companies that promote export through their own business offices and sales subsidiaries have been experiencing better business result. >

Positive strategies utilized by chief executives for the expansion of overseas production and foreign investment serve to vitalize employees. The possibility of an active role abroad and the prospect of company's development enhance employees' morale and creativity, that is, important factors that contribute to favorable performance. In the 1980s, however, life in foreign countries has become less attractive to the Japanese as

Table 27. The Relationship between Overseas Strategies and Performance
(All manufacturing industry)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
No export or foreign foothold	22.2 [%]	2.93	12.7	2.85	17.6	5.03	13.2	5.10
Mainly export through trading companies	36.4	2.62	46.0	2.75	45.8	4.92	50.2	4.81
Mainly export through business offices or subsidiaries	4.1	2.62	11.9	2.83	10.7	5.07	16.4	4.98
Positive expansion through production abroad	37.4	<u>2.95</u>	29.8	<u>2.93*</u>	25.9	<u>5.05</u>	29.1	<u>5.39</u>

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
14.3	4.81	17.4	4.99	15.7	4.91	12.7	5.07	8.8	4.75
53.0	4.88	51.0	4.89	49.5	4.88	53.5	4.91	49.4	4.65
15.0	5.09	13.5	<u>5.29*</u>	12.7	<u>5.15</u>	12.9	<u>5.35*</u>	19.0	<u>5.42*</u>
17.8	<u>5.18</u>	18.1	5.15	22.1	5.00	20.9	5.02	22.9	5.31

Table 28. The Relationship between the Long-Range Plan and Performance
(All manufacturing industry)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
Have long-range plan	74.9 [%]	<u>2.87</u>	72.9	<u>2.83</u>	71.5	<u>5.01</u>	63.9	<u>5.11*</u>
No long-range plan	25.1	2.67	27.1	2.87	28.5	4.92	36.1	4.79

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
65.9	<u>5.07*</u>	66.7	<u>5.08*</u>	74.1	<u>4.97</u>	72.3	<u>5.70*</u>	68.3	<u>5.07*</u>
34.1	4.72	33.3	4.88	25.9	4.87	27.7	4.80	31.7	4.71

the standard of living rose in Japan. To be dispatched abroad is no longer an incentive to most employees. This tendency in recent years has forced companies to export their products through their own well-established overseas export networks and as a result better corporate performance has been achieved.

3-5. Long-range plan

In devising a long-range plan, business goals and strategies should be presented with concrete numerical data based on an overall analysis, reflecting a total system concept and scientific attitude of the chief executive. The long-range plan as a total system is comprised of individual strategies and various short-range plans as sub-systems, in reference to which, annual budget, profit plan and others are set up. The period of a long-range plan in most Japanese manufacturing companies listed on the Tokyo Stock Exchange is three years, and about 65 to 75 percent of companies make such long-range plans.

The long-range plan effect on corporate performance is revealed in Table 28. This gives rise to the following hypothesis.

Hypothesis 13: < Compared with companies without any long-range plan, those which devise scientific, long-range plans always enjoy prosperous achievement, irrespective of changes in external economic conditions. >

A long-range plan reflects the scientific attitude of the president who aims at the total system. It helps to coordinate business and to promote growth and profitability.

IV. Factors Related to the Results of Decision-Making

4-1. Percentage of executives' stockholdings

For those companies listed on the Tokyo Stock Exchange, the percentage of executives' stockholdings to total stocks issued varies from five to ten percent. The higher the percentage, the greater responsibility the executives assume for business achievement because corporate achievement is directly related to their own income. The proportion of stocks held at executives has recently been changing. This is probably a result of an increase in the number of companies newly listed on the Tokyo Stock Exchange. In these companies the percentage of executives' stockholdings is generally high. The relationship between the percentage of executives' stockholdings and corporate performance is indicated in Table 29. The following hypothesis is obtained.

Hypothesis 14: < Regardless of the economic growth rate, good performance is shown by those companies in which the proportion of executives' stock holdings exceeds 10 percent. >

The company in which executives hold more than 10 percent of the stock has characteristics of a family enterprise; when many executives are from the same family, there is sufficient mutual understanding among them and decision can be made quickly to cope with changes in external environments. Generally speaking executives of small family enterprises tend to be concerned with their own interest. But when those firms become large scale firms such as those listed on the Tokyo Stock Exchange, opinions

Table 29. The Relationship between the Percentage of Executives' Stockholdings and Performance
(All manufacturing industry)

	1974		1975		1976		1977	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
$\cdot \leq 1\%$	47.5 [%]	2.67	41.2	4.82	45.4	4.99	24.3	5.02
$1 < \cdot \leq 5$	23.1	2.84	27.0	5.04	23.3	4.97	35.0	4.87
$5 < \cdot \leq 15$	18.9	2.86	18.4	5.08	20.8	4.94	30.4	5.00
$15 < \cdot$	12.5	3.47*	13.4	5.24*	10.5	5.19	10.4	4.94

1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
29.0	4.79	23.8	4.87	25.2	4.99	24.4	4.95
32.5	4.94	23.0	4.83	24.7	5.04	23.1	4.93
29.0	5.28*	26.9	4.98	25.8	5.00	29.0	4.92
9.4	5.02	26.3	5.08	24.3	5.09	23.5	5.03

Table 30. The Relationship between the Percentage of Invited Executives and Employees' Morale
(All manufacturing industry)

	1974		1975		1976		1977	
	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale
$\cdot = 0 \%$	53.2 [%]	2.49*	41.0	3.65*	39.7	3.49*	41.1	3.50*
$0 < \cdot \leq 12.5$	15.9	2.47	30.0	3.51	31.3	3.42	27.2	3.35
$12.5 < \cdot \leq 25.0$	19.5	2.47	15.1	3.52	18.0	3.22	17.6	3.28
$25.0 < \cdot$	11.4	2.20	13.6	3.00	11.0	3.34	14.1	3.15

1978		1980		1981		1982	
Per-centage	Morale	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale
45.1	3.48*	43.2	3.51*	43.3	3.48	45.0	3.41*
26.1	3.44	27.3	3.50	27.1	3.45	29.0	3.40
15.3	3.28	15.0	3.24	16.3	3.40	14.6	3.24
13.5	3.12	14.6	3.20	13.3	3.17	11.5	3.09

and views of the executives and managers who are non-relatives are also respected in long-range planning, including fund raising. In other words, the large companies whose executives' stockholdings exceed 10 percent show both merits of a family-owned company and merits of a large company that is managed by scientific thought.

4-2. Percentage of invited executives

Edith T. Penrose argues that the shortage of able executives prevents the growth of firms; a rapidly expanding firms, in order to increase executives, must resort to offering the post to those outside the company, incurring the lack of mutual understanding among the executives and inefficient decision-making. The offering of the post of executive to outsiders has additional disadvantage in Japanese business firms. It discourages and demoralize employees. University graduates join companies with the hope and belief of promotion step by step through the ranks of middle management to executive according to their ability and seniority. This is based on the life-time employment system. Whatever the reason, it is very disheartening to employees that a firm should offer the post of executive to those who do not belong to the company. Invited executives constitute an average of eight or nine percent of all executives in Japanese companies. This has been showing a very little change in the past several years. Invited executives are non-existent in about 40 to 50 percent of companies and this percentage has also been remaining unchanged. Most of the invited executives in Japanese business enterprises come from parent companies, financial institutions, or government offices. The relationship between the percentage of invited executives and employees' morale is revealed in Table 30. The following hypothesis can be deduced.

Hypothesis 15: < If a company offers the post of executive to those outside the company, employees' morale visibly declines regardless of external economic environments. This is statistically significant. >

One of the most significant elements to activating a business organization is fair personnel affairs at the level of top. For a majority of employees wishing to be top management, it is unacceptable that the post of executive should be open to outsiders. And a reduction in their morale is a natural consequence. This is confirmed by Table 2 which shows that the morale of employees is lower in the company with an Amakudari-president. Thus, personnel administration of top management exerts an influence on employees' morale. The following hypothesis can be derived.

Hypothesis 16: < Employees in Japanese firms are highly sensitive to personnel affairs in top management. Their morale is evidently affected by the percentage of invited executives, as well as by the type of president. >

The relationship between the percentage of invited executives and business result as indicated in Table 31 gives rise to the following hypothesis.

Hypothesis 17: < The company with virtually no invited executives and where top management has full communication and mutual understanding enjoys a higher level of corporate performance regardless of the growth rate of the external economy. >

The lower percentage of invited executives might be a result, rather than a cause,

Table 31. The Relationship between the Percentage of Invited Executives and Performance
(All manufacturing industry)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
$\bullet = 0$ %	53.2 [%]	<u>2.96*</u>	41.0	<u>5.25*</u>	39.7	5.09	41.1	<u>5.01</u>
$0 < \bullet \leq 12.5$	15.9	2.72	30.3	5.02	31.3	<u>5.18</u>	27.2	4.98
$12.5 < \bullet \leq 25.0$	19.5	2.85	15.1	4.75	18.0	4.77	17.6	4.92
$25.0 < \bullet$	11.4	2.43	13.6	4.40	11.0	4.47	14.1	4.77

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
45.1	<u>5.21*</u>	43.2	<u>5.02</u>	43.3	5.03	45.0	<u>5.03*</u>
26.1	4.99	27.3	4.95	27.1	<u>5.15*</u>	29.0	4.98
15.3	4.86	15.0	4.81	16.3	5.11	14.6	4.92
13.5	4.53	14.6	4.89	13.3	4.65	11.5	4.66

Table 32. The Relationship between the Implementation of Schemes to Raise Motivation and Loyalty and Employees' Morale (All manufacturing industry)

	1974		1975		1976**	
	Percentage	Morale	Percentage	Morale	Percentage	Morale
Negative ($\bullet < 7$)	23.7 [%]	2.35	12.6	2.95	15.5	3.02
Average ($7 \leq \bullet < 10$)	40.5	2.40	35.8	3.31	30.4	3.36
Positive ($10 \leq \bullet$)	35.8	<u>2.58*</u>	51.7	<u>3.58*</u>	54.1	<u>3.54*</u>

1977		1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
15.0	3.09	13.1	3.13	24.8	3.21	23.9	3.22	23.3	3.09
56.7	3.30	50.6	3.28	36.7	3.40	37.0	3.39	34.4	3.29
28.3	<u>3.67*</u>	36.2	<u>3.64*</u>	38.6	<u>3.58*</u>	39.1	<u>3.58*</u>	42.3	<u>3.53*</u>

of satisfactory corporate performance because the company which is favorably developing has no need to call for the help of those outside the firm. Nevertheless, the company with no or very few invited executives has certain advantages such as good communication among top management and quick decision-making to cope with ever-changing external conditions. As Penrose maintains, mutual understanding and the sharing of objectives and goals among executives are important factors necessary to produce higher levels of corporate performance.

4-3. Schemes to raise motivation and loyalty

One requirement of an enterprise is to continue promoting employees' morale by means of schemes to raise motivation and loyalty. In implementing such schemes, most business firms institutionalize so-called Japanese management customs and practices which they believe agreeable to employees. The schemes to raise motivation and loyalty of employees involved in this investigation are; employee stock ownership, recreation for employees' families, employee savings and deposit accounts, company housing, house-ownership plan, counseling service, employee's news letter (edited by employees), bonuses for long service, five-day week, private pension, employee's property accumulation savings, profit-sharing, and a mutual aid society. The number of schemes implemented serves as a yardstick to measure the company's efforts to raise motivation and loyalty of employees. In this study, companies which practice more than ten of the above-mentioned schemes are rated "positive," and those which implement more than seven and less than ten are rated "average." Companies which practice less than seven items are rated "negative."

Categorized by scale, large companies are unquestionably more eager to adopt schemes to raise motivation and loyalty. However, the number of schemes implemented by Japanese companies is not constantly increasing probably because some schemes are discontinued. The schemes most widely adopted by Japanese enterprises are typically Japanese: bonuses for long service, company housing, house-ownership plan, employee stock ownership, and employee's news letter. Such systems as a counseling service or profit-sharing are practiced by very few companies.

Tables 32 and 33 present the relationship of the number of schemes implemented to employees' morale and corporate performance. The following hypothesis is presented.

Hypothesis 18: < Positive implementation of schemes to raise motivation and loyalty contributes greatly to the enhancement of employees' morale and corporate performance regardless of business scale or the economic growth rate in the external environment. >

The implementation of such schemes as bonuses for long service, employee stock ownership, company housing, house-ownership plan, recreation for employees' families, etc. strengthens employees' loyalty and elevate their morale, resulting in more creativity and better performance. No effort should be spared to carry out the schemes to raise motivation and loyalty of employees if the company desires to grow and expand.

4-4. Systems for human resource development

The schemes to raise motivation and loyalty are effective in meeting the economic

Table 33. The Relationship between the Implementation of Schemes to Raise Motivation and Loyalty and Performance (All manufacturing industry)

	1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
Negative ($\bullet < 7$)	23.7%	2.81	12.6	4.64	15.5	4.57
Average ($7 \leq \bullet < 10$)	40.5	2.70	35.8	4.95	30.4	4.94
Positive ($10 \leq \bullet$)	35.8	<u>3.02</u>	51.6	<u>5.07*</u>	54.1	<u>5.15*</u>

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
15.0	4.58	13.1	4.80	24.8	4.74	23.9	4.82	23.3	4.70
56.7	4.95	50.6	4.97	36.7	4.91	37.0	5.00	34.4	4.87
28.3	<u>5.16*</u>	36.2	<u>5.14*</u>	38.6	<u>5.12*</u>	39.1	<u>5.18*</u>	42.3	<u>5.17*</u>

Table 34. The Relationship between the Implementation of Human Resource Development System for Middle Management and Employees' Morale (All manufacturing industry)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
Negative ($\bullet < 3$)	37.9%	2.28	36.4	3.24	35.6	3.24	36.5	3.14
Average ($3 \leq \bullet < 5$)	38.6	2.46	33.9	3.39	34.5	3.39	34.4	3.42
Positive ($5 \leq \bullet$)	23.5	<u>2.69*</u>	29.7	<u>3.63*</u>	29.9	<u>3.61*</u>	29.1	<u>3.61*</u>

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
34.6	3.21	28.0	3.21	28.5	3.19	27.5	3.16
32.0	3.37	34.4	3.41	31.7	3.39	35.4	3.27
33.5	<u>3.60*</u>	37.6	<u>3.60*</u>	39.7	<u>3.61*</u>	37.1	<u>3.56*</u>

needs of employees, but their desire for self-realization may not be satisfied. In today's society, it is impossible to elevate employees' morale only by satisfying their economic needs. This realization has led most Japanese companies to practice schemes to develop employees' ability with a view to answering their desire for self-realization. Just as with the schemes to raise the motivation and loyalty of employees, Japanese management customs are manifested also in the human resource development system. This reflects the chief executives' respect for human factors in business organization. The human resource development schemes for middle management involved on this paper are as follows: training "camp" program for department and section chiefs, assistance to attend outside lectures, university study, paid holiday for education, establishment of a development center, pay-increase system reflecting ability and capability, periodical seminars for university graduates, examination system for promotion, publishing or report system connected with personnel evaluation, result management by self-reporting, and job rotation. Companies which implement more than five of these items are rated "positive" in their efforts to enhance the human resource development of employees. Those which implement more than three and less than five are rated "average" while firms which adopt less than three of the above-mentioned schemes fall under the category "negative."

Obviously, large companies show more enthusiasm for adopting schemes to develop the abilities of middle management as compared with medium- large firms. Unlike the schemes to raise motivation and loyalty, the number of schemes for human resource development has been constantly increasing in response to employees' desire for self-realization. This is becoming stronger as their economic conditions improve. The schemes most widely adopted by Japanese business enterprises are assistance to attend outside lectures and training "camp" programs for department and section chief. Systems such as the examination system for promotion and publishing or report system connected with personal evaluations are found in few companies. This tendency is a characteristic of the Japanese management system and is often termed "Olympic System." Just as in Olympic Games, it is not the results but the participation itself that counts. The relationship of the number of human resource development schemes adopted to employees' morale and corporate performance is found in Tables 34 and 35. The following hypothesis is obtained.

Hypothesis 19: < The implementation of human resource development systems undoubtedly contributes to the improvement of employees' morale, but not necessarily to corporate performance. In other words, those systems invigorate employees and raise their morale regardless of external economic environment, but they prove effective in improving corporate performance only in a high economic growth period. >

It is the chief executive's responsibility to satisfy employees' desire for self-realization and raise their morale. This can be achieved by implementing such systems as training "camp" for middle management, assistance and subsidies to attend outside management courses and lectures, and scholarship for study in the university. However, they should keep in mind that these schemes incur a high cost and consequently lower corporate performance when external conditions are unfavorable. Chief executives are required to be a humanist and scientist at the same time.

Table 35. The Relationship between the Implementation of Human Resource Development System for Middle Management and Performance (All manufacturing industry)

	1974		1975		1976		1977	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
Negative ($\bullet < 3$)	37.9 [%]	<u>2.91</u>	36.4	<u>5.08</u>	35.6	4.72	36.5	4.78
Average ($3 \leq \bullet < 5$)	38.6	2.83	33.9	4.94	34.5	5.06	34.4	4.97
Positive ($5 \leq \bullet$)	23.5	2.74	29.7	4.93	29.9	<u>5.24*</u>	29.1	<u>5.15*</u>

1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
34.6	4.71	28.0	4.91	28.5	4.88	27.5	4.70
32.0	5.14	34.4	4.90	31.7	5.04	35.4	4.88
33.5	<u>5.19*</u>	37.6	<u>4.97</u>	39.7	<u>5.12</u>	37.1	<u>5.22*</u>

Table 36. The Relationship between the Percentage of New Products and Employees Morale (All manufacturing industry)

	1974		1975		1976		1977	
	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale
$0 \leq \bullet < 10\%$	58.9 [%]	2.42	62.1	3.39	60.7	3.36	20.4	3.32
$10 \leq \bullet < 20$	22.2	<u>2.53</u>	19.0	3.32	21.7	3.39	14.3	3.28
$20 \leq \bullet$	18.9	2.47	18.8	<u>3.54*</u>	17.6	<u>3.57*</u>	65.4	<u>3.41</u>

1978		1980		1981		1982	
Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale
59.7	3.32	55.5	3.34	55.0	3.34	55.0	3.29
17.2	3.45	20.3	3.47	20.1	3.47	19.6	3.31
23.1	<u>3.53*</u>	24.2	<u>3.59*</u>	24.9	<u>3.57*</u>	25.4	<u>3.51*</u>

4-5. Percentage of new products

In the manufacturing sector, the entrepreneurship of the chief executive is most clearly manifested in new product development and new equipment introduction. The former, as a contact point between a changing external environment and fixed internal conditions, points the direction the company should take. It is the embodiment of chief executives' qualities of ambition, insight and determination. The development of new products promotes employees' ability development and stimulates their creativity, which, in turn, accelerates the development of new products. By undergoing such a reciprocal process, the development of new products and ability development give an impetus to corporate growth.

The products newly developed by Japanese manufacturing companies in the past three years account for 23 to 15 percent of total sales in the corresponding period. The percentage of new products in large firms becomes a little bit greater than that of medium-large firms recently. The percentage of new products increases when the external economy is growing and decreases as economic growth slackens. In terms of industrial fields, a higher percentage of new product development is observed in assembly industries which includes electric machinery, transport equipment and precision instruments. A lower percentage of new products is developed in process industries such as chemicals, oil, ceramics and steel.

The relationship between the percentage of new products and employees' morale and the relationship between the percentage of new products and corporate performance are shown in Tables 36 through 41. The following hypothesis can be derived.

Hypothesis 20: < In those companies whose percentage of new products in total sales exceeds 20 percent, employees' morale remains at the highest level regardless of external economic conditions, although this higher percentage of new products does not necessarily bring about a higher level business result. The percentage of new products should be increased when the economy shows favorable growth and reduced in a low-growth period in order that satisfactory corporate performance may always be maintained. This holds true for both large and medium-large firms. >

The policy to encourage the development of new products breathes new life into an organization. However, despite the high cost of development, new products may not sell well in the market when external conditions are unsatisfactory. The entrepreneurship of a progressive chief executive does not necessarily lend itself to the improvement of both employees' morale and corporate performance.

The relationship between the percentage of new products and employees' morale in different industries is shown in Tables 42 through 46. The following hypothesis is obtained.

Hypothesis 21: < In assembly industries such as electric machinery and transportation equipment, companies whose percentage of new products to total sales is over 20 percent are successful in elevating employees' morale. This, though, is not applicable to process industries including textiles and chemicals. >

In assembly industries, the necessity of new process control and new quality control arises as new products increase. As a result, employees are provided with many opportunities to participate in a proposal system, management by objective, QC circle activities

Table 37. The Relationship between the Percentage of New Products and Employees' Morale
(Large firms)

	1974		1975		1976		1977	
	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
0 ≤ < 10%	59.4%	2.50	62.4	3.50	62.9	3.50	16.6	3.57
10 ≤ < 20	21.0	<u>2.56</u>	20.1	3.55	20.1	3.48	17.2	3.35
20 ≤	19.6	2.49	17.5	<u>3.58</u>	17.0	<u>3.63</u>	66.2	<u>3.57*</u>

1978		1980		1981		1982	
Per- centage-	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
60.2	3.44	57.7	3.39	53.1	3.44	55.8	3.38
13.7	3.59	18.2	3.66	19.6	3.50	18.2	3.45
26.2	<u>3.68*</u>	24.1	<u>3.65*</u>	27.3	<u>3.69*</u>	26.0	<u>3.62*</u>

Table 38. The Relationship between the Percentage of New Products and Employees' Morale
(Medium-large firms)

	1974		1975		1976		1977	
	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
0 ≤ < 10%	58.1%	2.29	61.7	3.19	56.8	3.09	26.3	3.06
10 ≤ < 20	24.1	<u>2.49</u>	17.1	2.87	24.5	3.25	9.6	3.08
20 ≤	17.8	2.44	21.1	<u>3.49*</u>	18.7	<u>3.47</u>	64.1	<u>3.15</u>

1978		1980		1981		1982	
Per- centage-	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
58.9	3.10	51.4	3.23	58.6	31.5	53.5	3.11
23.4	<u>3.30</u>	24.3	3.21	21.0	<u>3.43*</u>	22.1	3.11
17.8	3.13	24.3	<u>3.48*</u>	20.4	3.24	24.4	<u>3.30</u>

Table 39. The Relationship between the Percentage of New Products and Performance
(All manufacturing industry)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
0 ≤ • < 10%	59.1%	2.76	58.9	2.77	62.1	<u>5.11*</u>	60.7	4.93
10 ≤ • < 20	17.5	2.57	22.2	2.91	19.0	4.84	21.7	<u>5.17</u>
20 ≤ •	23.4	<u>3.10</u>	18.9	<u>2.98</u>	18.8	4.72	17.6	5.00

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
20.4	4.78	59.7	4.85	55.5	4.83	55.0	4.96	55.0	4.79
14.3	4.95	17.2	4.93	20.3	4.97	20.1	4.83	19.6	4.99
65.4	<u>5.01*</u>	23.1	<u>5.46*</u>	24.2	<u>5.19*</u>	24.9	<u>5.33*</u>	25.4	<u>5.29*</u>

Table 40. The Relationship between the Percentage of New Products and Performance
(Large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
0 ≤ • < 10%	64.6%	2.70	59.4	2.78	62.4	<u>5.10</u>	62.9	5.02
10 ≤ • < 20	18.3	2.71	21.0	<u>2.90</u>	20.1	5.03	20.1	<u>5.14</u>
20 ≤ •	17.1	<u>2.96</u>	19.6	2.86	17.5	4.94	17.0	5.04

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
16.6	5.01	60.2	4.89	57.7	4.83	53.1	4.98	55.8	4.76
17.2	4.93	13.7	5.02	18.2	5.13	19.6	4.83	18.2	5.14
66.2	<u>5.03</u>	26.2	<u>5.55*</u>	24.1	<u>5.32*</u>	27.3	<u>5.44*</u>	26.0	<u>5.37*</u>

Table 41. The Relationship between the Percentage of New Products and Performance
(Medium-large firms)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
$0 \leq \cdot < 10\%$	55.9 [%]	2.80	58.1	2.75	61.7	<u>5.13*</u>	56.8	4.75
$10 \leq \cdot < 20$	17.4	2.43	24.1	2.92	17.1	4.44	24.5	<u>5.21</u>
$20 \leq \cdot$	26.7	<u>3.05</u>	17.8	<u>3.19*</u>	21.1	4.41	18.7	4.93

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
26.3	4.54	58.9	4.79	51.4	4.83	58.6	4.93	53.5	4.85
9.6	<u>5.01</u>	23.4	4.85	24.3	4.76	21.0	4.82	22.1	4.77
64.1	4.97*	17.8	<u>5.22</u>	24.3	<u>4.96</u>	20.0	<u>5.05</u>	24.4	<u>5.15</u>

Table 42. The Relationship between the Percentage of New Products and Employees' Morale
(Textiles)

	1974		1975		1976		1977	
	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale
$0 \leq \cdot < 10\%$	55.8 [%]	2.33	58.3	<u>3.60</u>	47.2	3.29	19.0	<u>3.81</u>
$10 \leq \cdot < 20$	23.3	<u>2.60</u>	16.7	3.50	30.6	<u>3.64</u>	26.2	3.00
$20 \leq \cdot$	20.9	2.44	25.0	3.39	22.2	3.63	54.8	3.65*

1978		1980		1981		1982	
Per-centage-	Morale	Per-centage	Morale	Per-centage	Morale	Per-centage	Morale
65.1	<u>3.50</u>	62.8	3.40	40.7	3.46	58.1	3.28
20.9	3.44	4.7	<u>4.50</u>	22.2	<u>4.08</u>	19.4	3.58
14.0	3.33	32.6	3.50	37.0	3.60	22.6	<u>3.93*</u>

Table 43. The Relationship between the Percentage of New Products and Employees' Morale
(Chemicals)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
$0 \leq \bullet < 10\%$	55.8%	2.40	60.0	3.27	66.2	<u>3.53</u>	18.4	3.34
$10 \leq \bullet < 20$	31.4	2.39	27.1	3.30	21.6	3.34	21.8	<u>3.47</u>
$20 \leq \bullet$	12.8	<u>2.59</u>	12.9	<u>3.54</u>	12.2	3.44	59.8	3.34

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
53.8	3.31	55.0	3.22	41.8	3.21	56.1	3.42
24.2	3.50	32.5	3.54	38.6	3.54	24.2	3.47
22.0	<u>3.55</u>	12.5	<u>3.85*</u>	20.0	<u>3.71*</u>	19.7	<u>3.89*</u>

Table 44. The Relationship between the Percentage of New Products and Employees' Morale
(General machinery)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
$0 \leq \bullet < 10\%$	50.6%	2.43	47.0	3.45	49.2	3.26	15.8	2.96
$10 \leq \bullet < 20$	22.2	2.42	22.7	3.10	17.5	3.18	5.3	<u>3.63</u>
$20 \leq \bullet$	27.2	<u>2.57</u>	30.3	<u>3.68*</u>	33.3	<u>3.26</u>	78.9	3.36

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
51.4	3.22	45.0	3.24	47.6	<u>3.43</u>	49.2	3.07
18.6	<u>3.39</u>	26.3	<u>3.41</u>	19.0	3.29	21.3	3.35
30.0	3.07	28.8	3.35	33.3	3.24	29.5	<u>3.44*</u>

Table 45. The Relationship between the Percentage of New Products and Employees' Morale
(Electric machinery)

	1974		1975		1976		1977	
	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
$0 \leq \bullet < 10\%$	32.6 [%]	2.00	42.6	3.19	33.3	3.18	5.9	2.75
$10 \leq \bullet < 20$	30.2	<u>2.23</u>	20.6	3.07	28.1	3.47	5.9	2.88
$20 \leq \bullet$	37.2	2.16	36.8	<u>3.64</u> *	38.6	<u>3.73</u> *	88.2	<u>3.37</u>

1978		1980		1981		1982	
Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
32.1	3.30	29.7	3.21	30.0	3.17	30.5	3.08
24.4	3.47	25.0	3.34	28.3	3.29	25.4	3.07
43.6	<u>3.75</u> *	45.3	<u>3.57</u>	41.7	<u>3.50</u>	44.1	<u>3.44</u>

Table 46. The Relationship between the Percentage of New Products and Employees' Morale
(Transport equipment)

	1974		1975		1976		1977	
	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
$0 \leq \bullet < 10\%$	67.7 [%]	2.21	71.1	3.30	80.0	3.36	15.6	3.43
$10 \leq \bullet < 20$	12.9	2.25	13.2	3.40	11.4	3.25	15.6	3.29
$20 \leq \bullet$	19.4	<u>2.42</u>	15.8	<u>3.42</u>	8.6	<u>4.00</u> *	68.9	<u>3.44</u>

1978		1980		1981		1982	
Per- centage	Morale	Per- centage	Morale	Per- centage	Morale	Per- centage	Morale
73.8	3.21	53.8	3.33	52.1	3.20	39.1	3.06
9.5	3.13	20.5	3.50	18.8	3.33	15.2	3.14
16.7	<u>3.57</u>	25.6	<u>3.85</u>	29.2	<u>4.03</u> *	45.7	<u>3.45</u> *

and job rotation. Process industries, however, do not afford enough opportunities to raise employees' morale.

In the electric machinery and transport equipment industries, where new product development elevates employees' morale, entrepreneurship of chief executives is demanded. Such an ability is not necessarily demanded in the textile and chemical industries.

The relationship between the percentage of new products and corporate performance in various areas of industry is represented in Tables 47 through 51. This makes possible the following hypothesis.

Hypothesis 22: < In growing industries such as electric machinery and transport equipment, the percentage of new products to total sales consistent with favorable corporate achievement is over 20 percent, while in market-sensitive industries such as textiles, chemicals and general machinery, companies are required to adjust new product development to changes in the external environment; i.e. preferably over 20 percent in a high economic growth period and lower than 10 percent in a low-growth period. >

In the growing areas of industry including electric machinery and transport equipment, corporate performance can be increased by the development of new products through the enhancement of morale, for they can develop new technological or marketable products in accordance with the trend of demand. The situation is different in market-sensitive industries where new product development entails reduced business achievement, because even if they develop new products, these products do not increase sales and increase cost when demand is in ebb.

4-6. Percentage of new equipment

As stated in the previous chapter, the introduction of new equipment is also a manifestation of the chief executives' entrepreneurship. When the life cycle of products goes into a stable period, innovative presidents change the stable product to the new marketable products and introduce new machines and equipment to maximize quality and minimize the cost. Such an innovative attitude on behalf of the president revitalizes employees' future hopes and improves their morale. This, coupled with the high efficiency of new equipment, gives birth to a high level of corporate performance. Based on the total amount of equipment used in Japanese companies, new equipment introduced in the last three years constitutes 22 to 27 percent. The percentage increases in a high economic growth period and decreases when the growth rate is low, though a three year time lag is usually found between economic fluctuations and change in the percentage. Compared with medium-large firms, the proportion of new equipment in large firms is 0.5 to 1 percent larger. Broken down by industrial field, the proportion of new equipment in such growing industries as electric machinery and transport equipment is eight to twelve percentage larger than that in relatively stagnant industries such as textiles, chemicals and general machinery.

Tables 52 through 57 represent the relationship between the percentage of new equipment and employees' morale. The following hypothesis is derived.

Hypothesis 23: < Firms with a higher percentage of new equipment show proportion-

Table 47. The Relationship between the Percentage of New Products and Performance (Textiles)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
$0 \leq \cdot < 10\%$	52.8%	2.43	55.8	2.81	58.3	<u>4.04</u>	47.2	4.18
$10 \leq \cdot < 20$	22.2	2.51	23.3	<u>2.82</u>	16.7	3.60	30.6	<u>5.04</u>
$20 \leq \cdot$	25.0	<u>3.00</u>	20.9	2.73	25.0	3.15	22.2	4.78

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
19.0	4.04	65.1	4.53	62.8	<u>4.31</u>	40.7	4.11	58.1	4.17
26.2	4.78	20.9	4.49	4.7	3.97	22.2	4.01	19.4	4.57
54.8	<u>4.83*</u>	14.0	<u>5.01</u>	32.6	3.99	37.0	<u>4.57</u>	22.6	<u>4.95</u>

Table 48. The Relationship between the Percentage of New Products and Performance (Chemicals)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
$0 \leq \cdot < 10\%$	67.3%	2.62	55.8	2.74	60.0	<u>5.52</u>	66.2	5.39
$10 \leq \cdot < 20$	15.3	2.57	31.4	2.73	27.1	5.31	21.6	<u>5.54</u>
$20 \leq \cdot$	17.4	<u>3.57</u>	12.8	<u>3.48*</u>	12.9	5.37	12.2	5.39

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
18.4	5.38	53.8	4.85	55.0	4.91	41.4	5.11	56.1	4.82
21.8	<u>5.42</u>	24.2	5.15	32.5	<u>5.14</u>	38.6	4.73	24.2	4.83
59.8	5.33	22.0	<u>5.60*</u>	12.5	5.08	20.0	<u>5.34*</u>	19.7	<u>5.83*</u>

Table 49. The Relationship between the Percentage of New Products and Performance
(General machinery)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
$0 \leq \cdot < 10\%$	38.7%	2.17	50.6	2.60	47.0	<u>5.59*</u>	49.2	<u>4.89</u>
$10 \leq \cdot < 20$	31.2	2.10	22.2	2.40	22.7	4.65	17.5	4.20
$20 \leq \cdot$	30.1	<u>2.64</u>	27.2	<u>2.94</u>	30.3	4.28	33.3	4.54

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
15.8	3.88	51.4	4.83	45.0	4.84	47.6	5.14	49.2	5.07
5.3	4.56	18.6	<u>5.00</u>	26.3	4.97	19.0	5.59	21.3	5.03
78.9	<u>4.56*</u>	30.0	4.77	28.8	<u>5.69*</u>	33.3	<u>5.68</u>	29.5	<u>5.65</u>

Table 50. The Relationship between the Percentage of New Products and Performance
(Electric machinery)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
$0 \leq \cdot < 10\%$	35.1%	3.10	32.6	2.96	42.6	4.61	33.3	4.34
$10 \leq \cdot < 20$	22.0	3.00	30.2	<u>3.57</u>	20.6	4.50	28.1	4.84
$20 \leq \cdot$	42.4	<u>3.36</u>	37.2	2.99	36.8	<u>4.83</u>	38.6	<u>5.13</u>

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
5.9	4.29	32.1	5.14	29.7	5.07	30.0	5.25	30.5	5.38
5.9	4.65	24.4	5.03	25.0	5.21	28.3	5.51	25.4	5.13
88.2	<u>4.88</u>	43.6	<u>5.63*</u>	45.3	<u>5.34</u>	41.7	<u>5.56</u>	44.1	<u>5.49</u>

Table 51. The Relationship between the Percentage of New Products and Performance
(Transport equipment)

	1973		1974		1975		1976	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
0 ≤ • < 10%	67.1%	3.01	67.7	2.32	71.1	<u>4.78</u>	80.0	5.45
10 ≤ • < 20	16.5	<u>3.31</u>	12.9	2.59	13.2	4.49	11.4	5.32
20 ≤ •	16.4	2.87	19.4	<u>3.00*</u>	15.8	4.65	8.6	<u>5.51</u>

1977		1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
15.6	5.26	73.8	5.34	53.8	4.60	52.1	4.76	39.1	5.25
15.6	5.26	9.5	4.43	20.5	4.44	18.8	4.63	15.2	<u>5.30</u>
68.9	<u>5.40</u>	16.7	<u>5.55*</u>	25.6	<u>5.45*</u>	29.2	<u>5.49</u>	45.7	4.89

Table 52. The Relationship between the Percentage of New Equipment and Employees' Morale
(All manufacturing industry)

	1974		1975		1976		1977	
	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale
0 ≤ • < 20%	30.7%	2.41	38.3	3.30	43.4	3.30	48.9	3.29
20 ≤ • < 30	29.9	2.43	24.7	3.46	23.3	3.44	22.6	3.41
30 ≤ • < 40	21.2	2.50	18.6	<u>3.52*</u>	18.0	<u>3.52*</u>	13.7	3.43
40 ≤ •	18.2	<u>2.52</u>	18.4	3.44	15.3	3.51	14.8	<u>3.52*</u>

1978		1980		1981		1982	
Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale	Perce- tage	Morale
47.5	3.29	43.0	2.23	43.8	3.36	46.7	3.34
27.7	3.42	29.8	2.54	27.7	3.39	26.3	3.35
13.1	3.51	14.8	2.71	14.4	<u>3.56*</u>	11.9	3.26
11.6	<u>3.58*</u>	12.5	<u>2.99*</u>	14.2	3.55	15.2	<u>3.42</u>

Table 53. The Relationship between the Percentage of New Equipment and Employees' Morale.
(Large firms)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
$0 \leq \cdot < 20\%$	28.1 [%]	2.46	38.9	3.41	40.3	3.48	46.5	3.46
$20 \leq \cdot < 30$	31.7	2.48	24.1	<u>3.64*</u>	26.1	3.55	26.8	3.60
$30 \leq \cdot < 40$	23.1	<u>2.63</u>	21.1	3.58	19.8	<u>3.58</u>	13.6	3.50
$40 \leq \cdot$	17.1	2.49	15.8	3.55	13.8	3.49	15.1	<u>3.67</u>

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
45.9	3.45	40.5	2.26	43.1	3.41	45.8	3.43
29.4	3.56	32.7	2.61	26.7	3.52	27.3	<u>3.51</u>
13.4	3.57	13.7	2.82	16.4	<u>3.70*</u>	13.6	3.39
11.3	<u>3.71</u>	13.1	<u>2.87*</u>	13.8	3.66	13.3	3.48

Table 54. The Relationship between the Percentage of New Equipment and Employees' Morale
(Medium-large firms)

	1974		1975		1976		1977	
	Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
$0 \leq \cdot < 20\%$	34.6 [%]	2.35	37.1	3.11	49.0	3.03	52.6	3.06
$20 \leq \cdot < 30$	27.2	2.33	25.7	3.16	18.1	3.16	19.1	3.04
$30 \leq \cdot < 40$	18.3	2.26	14.3	<u>3.36</u>	14.8	3.37	13.9	<u>3.33*</u>
$40 \leq \cdot$	19.9	<u>2.55*</u>	22.9	3.30	18.1	<u>3.54*</u>	14.4	3.27

1978		1980		1981		1982	
Percentage	Morale	Percentage	Morale	Percentage	Morale	Percentage	Morale
50.3	3.05	47.6	2.19	45.1	3.26	48.3	3.19
24.9	3.12	24.3	2.39	29.6	3.15	24.4	3.04
12.7	<u>3.40*</u>	16.8	2.55	10.5	3.15	8.7	2.90
12.2	3.38	11.4	<u>3.18*</u>	14.8	<u>3.33</u>	18.6	<u>3.34*</u>

Table 55. The Relationship between the Percentage of New Equipment and Performance
(All manufacturing industry)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
0 ≤ < 20%	%	2.30	30.7	2.59	38.3	4.78	43.4	4.61
20 ≤ < 30		2.86	29.9	2.85	24.7	5.00	23.3	5.07
30 ≤ < 40		34.9	21.2	2.94	18.6	5.02	18.0	5.51*
40 ≤		3.09	18.2	3.11*	18.4	5.36*	15.3	5.35

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
48.9	4.71	47.5	4.74	43.0	4.60	43.8	4.78	46.7	4.73
22.6	5.00	27.7	5.18	29.8	5.02	27.7	5.03	26.3	4.90
13.7	5.36*	13.1	5.23	14.8	5.23	14.4	5.39	11.9	5.21
14.8	5.32	11.6	5.39*	12.5	5.61*	14.2	5.41*	15.2	5.56*

Table 56. The Relationship between the Percentage of New Equipment and Performance
(Large firms)

	1973		1974		1975		1976	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
0 ≤ < 20%	%	2.39	28.1	2.61	38.9	5.01	40.3	4.67
20 ≤ < 30		2.92	31.7	2.82	24.1	4.74	26.1	5.11
30 ≤ < 40		30.2	23.1	2.88	21.1	5.08	19.8	5.41
40 ≤		2.98	17.1	3.09*	15.8	5.65*	13.8	5.49*

1977		1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
46.5	4.78	4.59	4.80	40.5	4.62	43.1	4.84	45.8	4.76
24.8	5.00	29.4	5.22	32.7	5.10	26.7	4.98	27.3	4.87
13.6	5.36*	13.4	5.30	13.7	5.41	16.4	5.46	13.6	5.31
15.1	5.42	11.3	5.61*	13.1	5.50*	13.8	5.57*	13.3	5.66*

Table 57. The Relationship between the Percentage of New Equipment and Performance
(Medium-large firms)

	1973		1974		1975		1976	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
0 ≤ • < 20%	%	2.13	34.6	2.57	37.1	4.37	49.0	4.51
20 ≤ • < 30	34.8	2.77	27.2	2.92	25.7	<u>5.43*</u>	18.1	4.97
30 ≤ • < 40		3.02	18.3	3.06	14.3	4.86	14.8	<u>5.76*</u>
40 ≤ •		3.15	19.9	<u>3.14*</u>	22.9	5.01	18.1	5.14

1977		1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
52.6	4.60	50.3	4.65	47.6	4.57	45.1	4.67	48.3	4.69
19.1	4.99	24.9	5.08	24.3	4.84	29.6	5.12	24.4	4.95
13.9	<u>5.35*</u>	12.7	<u>5.24*</u>	16.8	4.96	10.5	<u>5.18</u>	8.7	4.91
14.4	5.16	12.2	5.04	11.4	<u>5.84*</u>	14.8	5.14	18.6	<u>5.43*</u>

Table 58. The Relationship between the Percentage of New Equipment and Performance
(Textiles)

	1974		1975		1976		1977	
	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
0 ≤ • < 20%	39.5%	2.21	58.3	3.76	55.6	4.58	47.6	4.77
20 ≤ • < 30	30.2	3.29	16.7	3.80	27.8	4.69	31.0	4.15
30 ≤ • < 40	20.9	2.93	19.4	3.56	5.6	<u>5.64</u>	14.3	<u>5.37*</u>
40 ≤ •	9.3	<u>3.39</u>	5.6	<u>4.03</u>	11.1	3.73	7.1	4.80

1978		1980		1981		1982	
Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result	Per-centage	Bus. Result
72.1	4.52	67.4	3.98	63.0	4.47	64.5	4.54
14.0	4.21	18.6	4.35	29.6	3.87	25.8	4.19
11.6	<u>5.37</u>	7.0	<u>5.57*</u>	7.4	4.02	3.2	3.52
2.3	4.81	7.0	4.45	0	—	6.5	<u>4.61</u>

ately higher morale. After the introduction of new equipment, employees' morale is raised and corporate performance is improved. The improvement in corporate performance is usually subject to one year time lag. >

The chief executives' positive attitude toward promoting the introduction of new equipment vitalizes employees and raises their morale, that is consisted of a will for work and sense of belonging. The creativity of employees, combined with the physical accuracy of new equipment, contributes to a higher level of corporate achievement though with a time lag.

Hypothesis 24: < The companies which pursue a policy of maintaining the percentage of new equipment (introduced in the previous three years) at over 30 percent enjoy good performance irrespective of changes in the economic growth rate. This is particularly true of large firms, which should preferably keep the proportion around 40 percent. Medium-large firms are advised to adjust their percentage of new equipment to external conditions, maintaining it at over 40 percent in high-growth periods and reducing it to about 30 percent once the economy becomes slack. >

Large firms favored with marketable, stable products and a relatively sufficient amount of fund do not experience much difficulty undertaking investment for the purpose of rationalization, labor-saving and the increased precision of machines. The resultant lower manufacturing costs and higher quality give their products a more competitive edge. However, medium-large firms with less fund and less selling power should be cautious when introducing new equipment in an unfavorable external environment. An excessively positive investment can increase capital cost and lower corporate performance.

The relationship between the percentage of new equipment and corporate performance is indicated in Tables 58 through 62. This makes it possible to propose the following hypothesis.

Hypothesis 25: < In the electric machinery industry, companies with a higher percentage of new equipment enjoy a higher level of corporate performance. In the transport equipment, textile and chemical industries, companies are recommended to adjust the introduction of new equipment in response to the external environment. >

Since advanced technology is most essential to electronic products, the reduced cost and the improved quality resulting from the introduction of new equipment lead to the enhancement of corporate performance in the electronic equipment industry. This is irrespective of the conditions in the external economy. By contrast, companies manufacturing products which are immediately affected by market factors such as apparels in textile, basic material products in chemicals, and automobiles in the transport equipment industry should adjust investment in new equipment depending on external economic conditions. With regard to the introduction of new equipment, aggressive chief executives with a vigorous entrepreneurship are desirable in the electronic equipment industry, whereas administrator-oriented presidents knowledgeable on various phases of the business operation are valued in the transport equipment industry.

Incidentally, the relationship between the percentage of new equipment and employees' morale is not as clear as that between the percentage of new equipment and

Table 59. The Relationship between the Percentage of New Equipment and Performance
(Chemicals)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
$0 \leq \bullet < 20\%$	30.2%	2.47	36.5	5.20	43.2	5.08	35.6	5.22
$20 \leq \bullet < 30$	29.1	3.01	25.9	5.50	17.6	<u>5.85*</u>	26.4	5.39
$30 \leq \bullet < 40$	24.4	2.65	21.2	5.67	23.0	5.66	13.8	<u>5.54*</u>
$40 \leq \bullet$	16.3	<u>3.48*</u>	16.5	<u>5.59</u>	16.2	5.56	24.1	5.42

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
36.3	4.84	40.0	4.88	41.4	5.06	51.5	4.85
34.1	5.20	36.3	5.07	31.4	4.78	30.3	4.95
13.2	<u>5.36</u>	13.8	4.85	12.9	5.14	10.6	5.13
16.5	5.18	10.0	<u>5.00*</u>	14.3	<u>5.23</u>	7.6	<u>6.31*</u>

Table 60. The Relationship between the Percentage of New Equipment and Performance
(General machinery)

	1974		1975		1976		1977	
	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
$0 \leq \bullet < 20\%$	35.8%	2.49	45.5	4.74	58.7	4.30	59.2	4.18
$20 \leq \bullet < 30$	34.6	2.58	25.8	4.97	14.3	5.21	23.7	4.61
$30 \leq \bullet < 40$	13.6	<u>3.18</u>	10.6	<u>5.62</u>	15.9	5.03	7.9	5.06
$40 \leq \bullet$	16.0	2.70	18.2	5.23	11.1	<u>5.24</u>	9.2	<u>5.25*</u>

1978		1980		1981		1982	
Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result	Percentage	Bus. Result
58.6	4.65	43.8	4.58	39.7	4.89	45.9	4.97
27.1	<u>5.16</u>	30.0	5.35	27.0	5.64	32.8	5.13
11.4	5.10	15.0	5.02	14.3	<u>5.84</u>	8.2	5.56
2.9	4.92	11.3	<u>6.74*</u>	19.0	<u>5.79*</u>	13.1	<u>6.22*</u>

Table 61. The Relationship between the Percentage of New Equipment and Performance
(Electric machinery)

	1974		1975		1976		1977	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
0 ≤ • < 20%	27.9 %	2.73	27.9	4.38	31.6	4.31	44.1	4.60
20 ≤ • < 30	32.6	3.21	30.9	4.64	28.1	4.55	23.5	4.76
30 ≤ • < 40	27.9	3.38	25.0	4.55	22.8	5.40*	17.6	5.07
40 ≤ •	11.6	3.47	16.2	5.42*	17.5	5.24	14.7	5.38*

1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
32.1	5.09	20.3	4.39	20.0	5.10	23.7	4.86
32.1	5.29	29.7	5.33	35.0	5.47	33.9	5.34
19.2	5.50	23.4	5.23	18.3	5.67*	15.3	5.68
16.7	5.65	26.6	5.75*	26.7	5.55	27.1	5.67

Table 62. The Relationship between the Percentage of New Equipment and Performance
(Transport equipment)

	1974		1975		1976		1977	
	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
0 ≤ • < 20%	16.1 %	3.26*	7.9	4.79	20.0	4.59	28.9	4.86
20 ≤ • < 30	41.9	2.44	34.2	4.64	31.4	5.08	37.8	5.37
30 ≤ • < 40	16.1	1.91	28.9	4.86	28.6	6.04*	17.8	5.61
40 ≤ •	25.8	2.43	28.9	4.66	20.0	6.01	15.6	5.95*

1978		1980		1981		1982	
Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result	Perce- tage	Bus. Result
35.7	5.03	30.8	3.81	35.4	4.28	32.6	4.86
33.3	5.22	17.9	5.08	22.9	5.06	10.9	5.29
14.3	5.30	23.1	5.34*	18.8	5.46*	21.7	5.46
16.7	5.96*	28.2	5.21	22.9	5.45	34.8	5.02

corporate performance. Therefore, it could be concluded a higher level of corporate achievement is a direct result of the introduction of new equipment. This effect does not occur indirectly through the enhancement of morale...

V. Summary

The factors related to the top management in this paper are broken down into two groups: 1. those whose desirable states remain unchanged in spite of environmental changes and 2. those whose desirable states depend on the external economic environment. This makes it possible to review these factors in the light of morale and business result as set forth in Table 63. Whatever growth rate the economy might show, the company whose top management comprises only company-bred executives, has no invited executives, and manages in a fair personnel affairs can maintain higher morale. The important factor necessary to increase business result independent of economic conditions is the introduction of new equipment. This should preferably be kept at over 30 percent. One factor whose desirable condition depends on the external environment is the pattern of decision-making. The company which makes decisions based on the president's opinion is more profitable in a high economic growth period, whereas decisions should be put in the hands of executives when economic growth is slow. The following hypotheses can be formed from Table 63.

Hypothesis 26: < For the purpose of elevating employees' morale, the chief executive should always strive to improve both their administrative ability based on fairness and humanity, and the entrepreneurship which keeps businesses in progress. >

Hypothesis 27: < In order to attain high business result, the chief executive has to always maintain fairness of personnel management, and to promote the mutual understanding in the firm and scientific attitude for decision making, besides continuing to make efforts to be an excellent entrepreneur who has a positive attitude toward setting business goals, developing business strategies and introducing new equipments. In addition, to cope with environmental changes by changing decision-making patterns, the chief executive should make decisions according to his own view in the highest decision-making body in which younger executives participate, who are free of divisional management task, in a high economic growth. And also, the proportion of new equipment is advised to be higher than 20 percent in a high economic growth period. In a low economic growth period, however, the decision-making should be done according to executives who are elder and take charge of division management task. And the chief executive's prudent business attitude such as from ten to twenty percent proportion of new equipment is also advised in this period. >

The following hypotheses are possible with regard to the five different areas of industry.

Hypothesis 28: < In the electric machinery industry, the enhancement of corporate performance is always realized in the company where decisions are based on the opinion of an administratively superior company-bred or Amakudari-president, who attaches importance to cost reduction as a business goal. Though cost reduction should be the

Table 63. Factors Related to Top-Management of Which Desirable States are Independent of Environmental Changes and Those of Which Desirable States Depend on External Environment (All manufacturing industry)

	Morale		Business Result	
	Factors related to top-management	Desirable states	Factors related to top-management	Desirable states
Factors whose desirable states are independent of environmental change.	Percentage of invited executives Schemes to raise motivation and loyalty Systems for human resource development Percentage of new products Percentage of new equipment	0% Positive Positive More than or equal to 20% More than or equal to 30%	Type of president Business goals Oversea strategies Long-range plan Percentage of executives' stockholdings Percentage of invited executives Schemes to raise motivation and loyalty Percentage of new equipment	Founder New-product development Positive production abroad Have the long-range plan More than or equal to 10% 0% Positive More than or equal to 30%
Factors whose desirable states depend on environmental change.			Average age of executives Patterns of decision-making Taking charge of management task Percentage of new-products { Period of high growth { Period of low growth { Period of high growth { Period of low growth { Period of high growth { Period of low growth { Period of high growth { Period of low growth	Less than 55 years More than or equal to 58 years According to president's view According to executives' view Free from management task Many executives in charge of it More than or equal to 20% 10 ~ 20%

aim of the company, the company should be innovative enough to maintain the proportion of new products and new equipment at over 20 percent and 30 percent, respectively. >

Hypothesis 29: < In the transport equipment industry, higher level of corporate performance is always achieved by the company where decisions are made by the administratively skilled company-bred or Amakudari president who bases his decisions on executives' opinions. And the proportion of new products should be maintained over 20 percent. Meanwhile the introduction of new equipment should be adjusted in response to changes in the external economy. >

Hypothesis 30: < In the textile industry, the company where decisions are made by the founder-president with a superior entrepreneurial ability who attaches importance to development of new products or the expansion of market share as a business goal, always attains a high level of corporate performance. However, flexibility is required to raise the percentage of new equipment, as well as that of new products in high growth period, and to reduce them in low growth period. >

Hypothesis 31: < The desirable factors for the chemical industry are nearly the same as that of the textile industry, that is, decision-making by the enterprising founder-president and aggressive business goals such as the development of new products are always desirable. Just as in the textile industry, however, flexibility is necessary in adjusting the percentage of new equipment and new products, to the external economic environment. >

Hypothesis 32: < In the general machinery industry a founder-president with a strong entrepreneurial ability always achieves good performances. But flexible policies to adjust the percentage of new equipment and new products to the external economic condition should be adopted. >