

On the Solution of Design Management of Electric Equipment Manufacturing Company in Japan

- Productivity Of Design Section As A Tool Of Business Project Promotion-

Tsuyoshi OTANI*, Norikazu MORISAKI**, Seiji WADA***

**Shinshu University C/o Institute of Fiber & Fashion 3-15-1 Tokida Ueda-shi Nagano 386-8567
JAPAN, fwhx1173@infoweb.ne.jp*

***Doctoral Program in Art and Design, University of Tsukuba 305-0821
JAPAN morisaki@geijutsu.tsukuba.ac.jp*

****Shonan Institute of Technology C/o Institute of Mechanical Design Engineering
1-1-25 Nisikaigan Tujido Fujisawa-shi Kanagawa 251-8511
JAPAN wada@md.shonan-it.ac.jp*

Abstract: We selected the electric equipment manufacturing field. We investigated the hearing for Manager (Top or Middle) of the design section in the company included in the field and “Executive of the design consulting firm and the design journalism”. After having extracted some management problems from the investigation, we tried to make the idea which became a key concept to solve the problems. Two of authors are combination of business management theory and design section top management in the big electric appliance maker”. We made a survey of the theory thought our works were limited. After having arranged management concept shown by business management theory we thought that conscious behavior was a characteristic of the management. Next, the hearing search record was arranged. However, this is a qualitative arrangement. They said unanimously. There is a Japanese group mentality also in the electrical industry. “One best way” does not exist because the management problem changes by the situation. The difference of the condition of each company is included in this situation. Design section's administrator often instituted the following management problem on the assumption of it.

1 Product's attribute and requirement to design, 2 Standards of Good design, 3 Marketing and evaluation, 4 Relations between design section & Sekkei and production section, 5: Cost reduction and Alliance and spin-off, 6 Commanding system among sections, 7 Whereabouts of responsibility, 8 Relations of team work and Contribution of individual, 9 Hiring employees and Job-Rotation, 10 Promotion and performance evaluating, 11 Problem of motivation and leadership

The cost of the design section is considerably few in the big electric machine company compared with RD investment and advertising. A popular home electric product brings the company big earning. Popularity might be born by the design. The design section achieves big earning at sometimes at a little cost. It is design section's raison d'être (existence meaning). However, the argument does not necessarily advance toward the direction. Exactly, it is an interesting problem in the design management.

Key word : Corporate Bureaucracy, Acceptance, Conscious, Influence Power. Organization

1: What is the business management?

For instance, there are problems as follows: The executive of the design section demands various abilities of an in-house designer for a smooth negotiation with a related section. Design section's function might weaken if it becomes excessive. However, the board meeting might praise the idea as it is consistent from the beginning to the end from the viewpoint of the corporate bureaucracy.

We will take up the problem of the Design Management by using the frame of Business Management and

Organization. It is presented in the framework by so-called business management theory. However, it is considered that management is synonymous with administration in this thesis. After the design section in the company is observed, the problem in management is extracted. Whether can the problem be solved by business management theory framework or not? Is an original framework necessary for developing design management? We try it.

The performance of the organization gives priority privately and satisfactorily because of in-house. Organization's performance gives priority over an individual work satisfaction. Even if he/she is a very superior designer, the in-house designer is design section's member. He should do a job allocated by a corporate bureaucracy. The company might obtain more earning by reshuffling him besides the frame of a corporate bureaucracy. However, if he is given a lot of discretion, he might do only a little contribution.

Let's review the origin of the business management theory was visited. One is F.W.Taylor, and another one is H.Fayol. The former developed as Motivation or Leadership. This theory adopts the idea the organization member works well depending on emotion (sentiment). The latter developed as a research of administrator's function and was called a management process theory. The author thinks that the process school is based on the cogwheel theory. Although there are a lot of criticisms, it is nearly right. However, a lot of phenomena are not installed on the framework.

Then, they do the image. The member of the organization is not a cogwheel of a mere machine. Organization's member is a man who thinks, too. Each one's behavior is sure to have decided for himself. The organization is the one like the mosaic of behavior caused through member's decision making. This theory places independence of organization members at the bottom. The author interprets that the organization members will belong to the organization as a result of each one's decision-making. The organization member has "Cognitive limit" and "Subjective, relative rationality". The management is needed for the supplementation. It was introduced to Japan as an organization theory of the Carnegie school (Barnard=Simon theory), and it was researched actively in 1970's.

The theory complexity system appeared according to the maturation of the information system. H.A.Simon also appeared again. It is chaos, Agent, an artificial intelligence, and self-organizing network, etc. The complexity system reached the management study. Perhaps, the complexity system might have expected methods of the governance other than the bureaucracy. It is quite difficult though the possibility of such existence might have been pursued.

After all, the design organization exists in a corporate bureaucracy, too. The in-house designer has belonged to the organization named the company through his decision process. It is one module in the system of the job authority responsibility. However, it is a module with emotion and idea. It will be treated as a field of *Kansei* engineering sooner or later. However, it is put as a by talk in this thesis.

We can discuss productivity with a poor large-scale organization and small business with vitality. However, big-business has produced a lot of product and service. It is a stock production and mass production. Moreover, it is done in the competitive situation. We are anxious about the stock. It is necessary to ask the management if there is a huge stock even if there are necessary earning. Otherwise, it is necessary to reconsider the management problem. At least, did the design section achieve the purpose?

Let's summarize "management" for the development of this thesis. One is a conception the administrator works through others (subordinate) according to the management process theory. Another one is an aspect Subordinate's

acceptance is necessary for that according to Barnard=Simon. The former means “the administrator has the authority”, and the latter means “the authority functions”. The authority means “frame of discretion”. The administrator promotes “conscious” behavior while using this “frame of discretion”. The management is a premeditated (conscious and deliberation) action, and the influence power is exercised to premise of the decision process. There is one of the influence power in the authority. It is officially delegated by the superior. The function of the authority basically depends on administrator's ability. However, “Situation not treatable in administrator's ability” is caused by organization's situation. It should be said inevitability. This leads to an increase in the service, general and administration expense (SG) . We search for various problems of the design management while depending on these frameworks.

2:Design management

We prepared the examination material in this thesis by observing the design section of the electrical industry. Therefore, let's classify the episode though there is a limit in generalization.

1) Member's problem. 2) Problem of team. 3) Problem concerning dealings with other sections. 4) Problem concerning dealings with CEO.

1) and 2) are problems the design section inside. 3) and 4) are in-house problems.

The section besides 3) is a section who treats business concerning the commodity plan, the design, production, sales, and marketing. 4) relates closely to the role (so to speak obligation) expected of the design section. Perhaps, the design management which we observed is presumed to process these four kinds of problems.

By the way, we should investigate the range of obligation of which the design section takes charge. The meaning of the design of design section by the electric machine company perhaps means “Industrial design”. “Industrial design section” must be abbreviated to “Design section”. They used to discuss the industrial design. It might been some day enhanced to the argument of the entire design together with the maturity of the information system. It is necessary to understand the machine design because of the design section. Mathematics and strength of materials are needed to understand the machine design. The content spreads fast. It extends and is hardly controlled even by the talented men.

On the contrary, “Up-to-date designer” came to develop the argument which covers the general creative activity of the human race. It is easy to accept enhancement of such an argument because an English word of “Design” originally has such a meaning. Therefore, the design section in the electric machine company which we observed shows the tendency to enhance the range of the obligation of which the section takes charge. The obligations of the machine design section and the sales & marketing section comes to overlap each other. The design section participates as a regular member at the time of the start of the new product development project (They are not observers any longer). Such “Design-in” has already been done in industry of the semiconductor and automotive parts. The designer hotel and design-build are trials by a similar outline. Design survey overlaps with the market research and marketing. Therefore, the object scope of the management expands, too.

Industrial design management was originally necessary. It has some day become design management. The design comes in succession with the plan. The design section relates to a companywide management plan or the management strategy if the design management is discussed in big-business. It easily exceeds work of only drawing on. Work of drawing oppositely might retreat. Then, the in-house designer may not be a designer. The machine engineer takes charge of the design. The company promotes the machine engineer who can design. Or,

the machine engineer who can design is recruited.

If the businesses plan of the member golf club project is designed, authors might be good better than designers (for instance, course layout, clubhouse, and forest use). I have pride. However, even if the author learns very much now, he does not seem to master the course layout. It stays within the range of understanding, even if he can do it by watching others and following their examples. The business will reject it. The division of labor with the designer (course layout) becomes cheaper to make the author learn the design. The job enlargement is not always effective for the cost. It is a problem of the management or the design management.

As for it, the Japanese word “Design” seems to have been limited to the meaning compared with original English word “Design”. At least, the meaning of “Design” in “Design section” of big-business has been limited. In a narrow sense, there is “Design” in “The machine is designed”. Let's examine “Design” found in a daily national language dictionary. (See Figure: 1) It is said, “Plan in consideration of the function and the production process, etc.” Now we try to use the term of Ishou “Sekkei” “Zuan” used in a translation is addressed to English “Design” When you put the word of “Ishou” “Sekkei” “Zuan” in the automatic translation system. All the terms of “design” used in a translation return. However, according to a daily national language dictionary. When it explains the meaning of Japanese of “Ishou” “Zuan”, the word “Design” is used. However, when it explains the word of “Sekkei”, the word of design is not so used. In a word at the design “Figure” and “Picture” in Japanese, it seems to have emphasized the element like shape, the color, the handle, and the decoration, etc.

The above (Table2) is a meaning of “ISOU”, “SEKKEI”, and “ZUAN” by the national language dictionary. Japanese “Design” as the present age term is stressing the meaning “Framing, conception(KOUSOU), and creation activity”. Only the SEKKEI study is occasionally called design study. At this time, can the concept of design management be enhanced to “Framing, conception(KOUSOU), and creation activity”? It manages the entire creative activities in a certain company. Is this thought in a practical way? The author is assumes that “Design” of “Design section” to be a meaning close to that of “ISHOU”.

Does the topic of the design management have the difference compared with the business management? To apply an other guess, a business problem has been extracted (Table 1). Among words which talk about the episode competition, strategy, change resistance, niche, and department etc happens frequently by the business management. On the other hand, usability universal, human engineering, and elegance etc is perhaps peculiar to the design management.

デザイン₂ [design]
Design 2 [design]
(名) スル
(Name) SURU
行おうとすることや作ろうとするものの形態について機能や生産工程などを考えて構想すること。
意匠。設計。図案。
Consider and conceive of a function, a production process about what it is going to perform, or the form of a thing which it is going to make. Design. Design. Design.
「自分で—した服」 「生活を—する」
"- Live". ["the dress - carried out personally" and]
(Improvement of translation)
「自分で—した服」 「生活を—する」
"dress designed personally" "design a life "

Figure: 1

WebPages 「大辞林 (Daijirin)」

Source:

Translating automatically by “EXCITE translation” as for “Design” of national language dictionary “County woods(Daijirin)”.

Table 1 :Example of episode by which content of design management is characterized

Company	Goods	Example (Episode of Design Management)
AB Bahco Tools:	Tools	1)ergonomic screwdriver design 2)company's design strategy 3)dramatically change an old, conservative company's product development process 4) how that kind of change
British Kettles	innovative electric teakettle	1)design in a low-technology product 2) the interaction between the client, industrial designers, marketing people, suppliers, and manufacturers 3) under severe time restraints
Leviton	Leviton's products	1)as a niche market 2)on the "universal design" 3)social, legislative, demographic and economic issues 4)in design and marketing to new populations
MP Video	Endoscopic Video	1)to meet key needs of all three buyers/choosers (administrators, surgeons, and nurses), 2)later buoyed by an exploding laparoscopy market 3)a new distribution system,
olymer Solutions	Teapot	1)"from art to part 2)through "childhood illnesses," 3)Focuses on the interaction of these partners 4)under intense time pressure
TekScan	to measure the evenness of a patient's bite	1)a new technology 2)markets 3)the iterative process of designing
Braun	Automatic Coffeemakers	1)redesign 2)maintaining elegant design 3)reducing manufacturing costs 4)a minimum of retooling 5)The designers examine the use of a new plastic must determine a way to implement its use
CKD	The Selex C4000 Pneumatic FRL	1)entering the market with a proprietary product 2)in a market unaccustomed to drastic change 3) factors such as modularity, ease of installation and maintenance, 4)and product image 5)enhance a product's image of quality and durability
Canon	EOS 35mm Camera	1)In 1985, Minolta 2)quickly overtook 3)with a strong product developed within extreme time constraints 4)confronted with many design issues 5)a ground-breaking proprietary design 6)superior ergonomics, 7)best position the product

Source: http://www.dmi.org/dmi/html/publications/casestudy/index_dmi.htm

Table2:"ISOHU·SEKKEI·SUAN" and design section

「ISHOU」	Make the device come round. Idea. Devise shapes, colors and patters such as the art handicrafts and industrial products in various ways. Moreover, ISHOU is a decoration which can be made by these devices
「SEKKEI」	Produce, construct the machine construction and engineering works, and show shape and the structure of finish by the drawing etc. Schedule the life and life.
「ZUAN」	Describe it to figure as a rough sketch to produce a certain thing. ZUAN is "Pattern and blade" drawn decoratively.

Source: national language dictionary "County words (Daijirin)".

3 : Example of design management issues

We list the item which frequently appeared, and add some examples and the comments. Each matter is a problem that should be solved by the design management. To classify the episode, we set the item. The example of the episode was presented, and the comment was added. Each item is an area of the management which should be solved by the design management.

3.1 Product's attribute and requirement to design

A certain commodity "X" sells in the markets worldwide. By the way, there are an international tastes (audio and personal computer, etc.) and local tastes (refrigerator and TV, etc.). The word such as an eco-design and a universal design, etc. becomes common. How much earning does the product made based on those conceptions yield?

In a word, business is not always equal to the conception which the designer respects. The conception of the designer and the sales of the commodity are not necessarily the same in the in-house.

3.2 Standards of Good design

It is the commodity with a good design that customers are willing to buy. And, there is no complaint later. Such an idea is near the conception of marketing. We can judge whether the commodity sells well only after it is put into the market. The sale of the commodity is nothing but predicted at the stage of designing. The design section can not warrant "Market reaction to the commodity at all. There are no standards to judge beforehand. The statistical treatment occasionally shows effective date along with maturity of the information processing system. However, it stays as the reference level as the data is not occasionally right. The commodity displayed on the storefront unites color, shape, appearance, and performance. Which of plan or design did the customer assess and buy even though a large amount of the commodity is sold? It is difficult to know it. Actually, we do not understand it well.

3.3 Marketing and evaluation

Marketing might be following work. First of all, we know the commodity which the customer (strongly) wants. And, the commodities are actually produced and are sold. The marketing process named 3C4P relates closely relates to the design activity. The marketing process varies according to the commodity and the designer changes his action. How should the designer behave? The design management theory should suggest answers to the administrator.

3.4 Relations between design section & Sekkei and production section

For the product development to fulfill a necessary function. Maker and user's engineers cooperate from the first stage of designing. Does the design of the big electric machine company in Japan have the possibility to execute "Design-in"? The design section should become one of the user's engineers. Or, the design section should lead the new product development project as an engineer on the user side.

The top management idea differs greatly to say nothing of by the product and the company style. The big electric machine company has arranged all sections of planning, technology, production and sales all in in-house. This is a problem related to between sections in in-house. The factor which influences this might be as follows.

1) Founder's idea, and Company climate the founder established 2) Basic idea presented by CEO and top management. 3) Product's attribute.

Case: After all had been decided, the work of the design section generated in the of the usual commodity. It was necessary to be adjusted with related sections. However, design section's standpoint (job content assigned)

changes according to the project. The top management requested the design section to propose and discuss the project for the commodity Z before they freeze.

The design follows the strategy. This is a formula. However, there are aspects that the design makes the commodity and the design makes the brand” in the design management. The design section creates the commodity and the brand by themselves. It differs from the design of the commodity requested. In a word, the commodity must sell well. The design section has accountability about the sales results. Accountability is a duty to the results. It is different from responsibility (execute it as it is instructed).

The in-House designer can not complete his work only with his creativity. The design section should fulfill all functions from planning of the commodity to the production/sales/collection of receivables for a certain commodity. At this point, the design section becomes a generalist not a specialist.

3.5: Cost reduction and “Alliance and spin-off”

The cost is limited. There is a brake in cost and the number of work force. We have no idea of appropriate budgets and work force. However, the design management cannot predict the limit. The measurement of productivity is difficult. It is entrusted to the discretion of the top management. They judge it arbitrary in some degree.

Do you leave the design section in in-house or put it outside of the company? There is an exception in this matter despite of the Japanese group mentality. P company and Q company set up the design section outside of the headquarters. In a word, design section's obligation is done by subsidiary or affiliate company. Although it is spined off, its expenses are included in the consolidated financial statement. All other companies set up all the design sections in the headquarters. Why does it happen? We have not investigated yet though it is an interesting problem. The outsourcing is one of the methods to execute duties of the design section. There is not a big difference between companies either. The dependency ratio on outsourcing and temporary employee is in the same range among companies of similar size. Each company maintains the in-house method.

3.6 Commanding system among sections

Design section's head organizes the inside of the design section. The classic management theory proposed some organization principles (explanation omission). However, I omit general explanation. Organizing is a design of the communications route. The project is not concluded by one person. Any product development project is concluded by one person. Two or more members cooperate each other. There is a difference in the research and development in this respect. The same obligations are put together as much as possible. It was the principle of specialization.

Let's assume that there are “Product” and “Function” in the standards of specialization.

Specialization by product: One person or the same team takes charge of design obligations of a product from the start to the end.

Specialization by function: Product's design obligation is classified according to the function, and the team is set for each classification.

For instance, the team is established such as interface, assessment, marketing, and usability, etc. according to each function. There are two specialization standards such as products and functions. Which standards produce “High productivity”? The solution of this problem will be presented if there is a wonderful design management theory.

3.7 Whereabouts of responsibility

Accountability has already been mentioned. We must not forget big business of Japan made collectivism (Or,

life-time employment) an ideology for a long time. An obligation is not imposed on the individual but on the section. There was a climate in the Japanese companies where they could not press individuals to take responsibility. The Anglo-Saxon might wonder to see the Japanese companies argue accountability. The last director was only accused for a crime by overstatement of earning even if LCBJ (The Long-Term Credit Bank of Japan, Limited), one of the big banks, went bankrupt. Therefore, it is considerably difficult to argue.

There is no method of how the design section takes responsibility. A certain product P did not sell. An in-house design section designed the product P. A competitive product Q did not sell either. The product Q was designed by the outsourcing. Q company canceled the contract with the outsourcing company. However, no one takes the responsibility in the design section of P company. When P company assesses a bonus, the total bonus amount in the design section might not be increased as much as expected. An administrator who is nonunion worker (labor union) receives only a little less bonus. On the whole, it comes to the end by saying that there is no other way.

No one can prove that a cause for poor sales lies in the design section. And, the board member might judge it according to political balance (power politics) between members. There is a custom of not disclosing a designer's name whether it is successful or not. Because his name is not disclosed, he does not desperately accomplish the obligation. Or, the designer can do drastic work. Which is correct?

3.8 Relations of team work and “Contribution of individual”

It is a pair of the responsibility discussed in the preceding clause. In a case of the in-house designer in the big electric machine company, rewards paid to the individual does not reflect productivity of the individual. Even if a bonus is paid to the individual, it stays within the range of a usual wage system. In promotion, the company tries to process it to be put within the range of the usual rules of the company. Other sections are also treated in the same. The way of how Shimazu treated an employee of the Noble prize winner. We will understand by this way.

3.9 Hiring employees and Job-Rotation

Let's examine the ability suitable for the in-house designer from the hearing record. It is assumed “Business ability B”, “Design ability D”. B contains clerical work ability (negotiation with another section) and ability to sell the product to other companies. D includes “Ability to draw shapes” and “Ability to gather and understand data” It is necessary to collect and understand data to draw shapes. There will be four patterns by a cross-section of two factors “B” and “D”. The hearing shows that the majority of the topic concerning the personnel management are included. For instance, he has a good conception although he draws shapes poorly. How should I assess this?

Both “D” and “B” excellent talents seldom exist. We can hardly find an excellent person with talents of both “B” and “D” However, “B” and “D” are indispensable for the progress of the project.

How do you process it? The excellent person who has both talents and can work independently. As the company can hardly find such a person, they train their employees by OJT and Job-rotation. Is it actually possible? We also consider the factor of the employee's major to this topic. The technology is assumed as “E” and the art assumed as “A”.

Case: Let's discuss the new development commodity. E makes good use of the multivariate analysis. Everyone feels that he is not the right person. Mr. “A” relies on intuition and explains. No one gets deeply impressed. The assessment of talent was $E > A$ at the time when R company was established. It is $E < A$ now. A type gains power. Nevertheless, the head of the design section requests the A type to have ability to write the product

catalog and ability which the material used for manufacturing understands.

Case: Q company has expanded with the data processing equipment. From the time when Q company was founded, the E type has been consistently the main current. The design section also has A type. In the argument concerning talent's priority, "D·B·E·A" generates a light mess.

This argument is more difficult because of the enhancement of the information processing system. Because the computer can draw shape, the sketch is not needed. Shape drawn with a computer is essentially different from shape drawn by the hand. There are a lot of negotiations with the other sections in the obligation of the in-house designer. Therefore, they should be men of talent who have wide knowledge. As a result, it is difficult to hire such people. This influences the curriculum of the university and generates a mess. The curriculum is completely different in the E type and the A type. Which of "D·B·E·A" becomes a winner in the world of the industrial design? Such an argument was commonly seen.

3.10 Promotion and performance evaluating

Let's consider a personnel record (ability rating) item in man-rating (employee evaluation). Is there a peculiar answer to the design section if it is right or wrong?

1) He has the creativity ..., 2) He is doing difficult work..., 3) He designed the hit product..., 4) He has made no mistakes at all ..., 5) He completed the course of a famous

Each corresponds to "1) job performance and 2) obligation and 3)4) results and 5) belonging person's each element". This gives the ground to pay a higher salary. It is a problem of "Comparison between wages on job evaluation (payment based on ability) and service allowance (pay attached to a post)".

Case: The head P Head P of the design section judge if his subordinate has creativity by observing him. It is assumed that there was no work to demonstrate his creativity due to the circumstances at the time. The problem is assumed not to be rater's (P) nature in this case. If the subordinate Q has high creativity, how much should be paid?

Case: A new product X is in a short cycle. If a designer does not keep the delivery date, he is a good-for-nothing employee. The criterion has changed greatly.

Case: Company V gives new employees high leveled work before he gets infected with big enterprise disease. What is big enterprise disease in the design section? If he does not get infected with the big enterprise disease at all, he will then be assessed that he lacks cooperation.

Case: Argument about design section's ideal way in the new product development is made as follows. No matter how well the in-house designer can draw, if he lacks information, he is merely a subcontract designer. D type includes ability to draw the picture data gathering (understanding) power. Then, by what does you judge the ability of data gathering (understanding) in the design section?

3.11: Problem of motivation and leadership

The in-house designer has sentiment of whether he feels favorable toward the company and the section? Does the in-house designer show high productivity when he has favorable sentiment?

It might be that he does not merely retire from the company. What factor (motivator) increases gives productivity? Perhaps, it is presumed that the factor is something related to the work. In-house designers stimulate each other, however they need a project leader. There was no view Authoritarianism leadership is suitable in the design section. Design section's administrator shows the tendency to grope for "Not no over-inddlgen (noninterference) and nor non-interference but decentralization style".

4 : Temporary conclusion

The problem of the management is “Trouble” even if it limits it to the design department of the electrical industry. Because a conclusion cannot be easily drawn, a temporary conclusion is presented.

4.1 Ad hockery and opportunism

The feature of the design department is in an expediency aspect which functions even if any in-house position is occupied. staff or line, headquarters or site and instruction, Unitary or multi former so on . The design department can work even if in any case. Then, is the design section in the line section, or in the staff section? Let me summarize to make it sure.

Line section has the relation directly to the sales and sales cost. The staff section has the relation to the administrative expenses. Costs spent by the design section are included in the manufacturing costs in some companies. Or, the design section's expenses are not included in the manufacturing costs in other companies. The organization chart can explain this. Where is the design section placed in the organization chart? Let me summarize some basic concepts of the organization chart. Who directs the design section (line relation or line function)? Who advises to the design section (staff relation or staff function)? Needless to say, this is a unity of command . Of course, the matrix type is adopted. In that case, this classic proposition gives some suggestions to the management problem. The design department has dealings with the great number of other Who gives the “Last word” when the design department falls into the conflict situation with the other departments? After having arranged the record of the hearing, we noticed that these problems unexpectedly would become important.

4.2 Distance measured from top management

Let's discuss apriori location of the design department. The design department is strongly attributed to either general staff under immediate control of the top, research and development, marketing, or production. Which department directs the design subsidiary if the design department is spined off?

Case: There is a reputation that the design department of X company is contributing considerably in the industry. X company is the traditional “Heavy(heavy electric machinery) type” It sometimes becomes “Light(light electric appliance) type” for a long time. For instance, the household electronic equipment product sells well. The president of the heavy type is not interested in the design section and does not expect much from it. Usually, the design department is not in his noteworthy range (zorn of focus of attention) . However, if it shifts to the light type, attention will be drawn to the design section.

Thus, the design department changes considerably depending on the top. It is not required to adjust to the idea concerning the design of the in-house designer. Is the top management interested in “Design”? The standpoint of the design department in the organization might be decided by “Hobby”, “Conception of jus sanguinis (blood relation principle) style”, “CEO wife's joke”, and “Factor happening by accident”. Ouga(Sony) and Fukuhara (Shiseido) are famous as the top management who are interested in the design.

Case: The head of of the design section explained the obligation Matter to the COO (Chief operating officer) . The COO of P company spent three hours to her the explanation. The COO of Q company spent one hour. The COO of R company spent a half day to inspect the design section. What causes these differences? Although in a vague description, it is because of the difference in the corporate climate where the president is selected.

If the president is the light type and strategist to aim at the new commodity, the design section is all full of vigor. The Heavy type president . If he intends OEM, the design department loses vitality. The company gives different

standards to the department depending on the age(situation).

4.3 Danger expanded too much

When the design department changes to the generalist, it expands the obligation in excess. The in-house designer takes charge of obligations other than the design. Naturally, there must be a limit.

We should recollect the Orient maxim “Never too much of anything” for the argument of the design management. More should the design section become a generalist, it should bear more “routine work” other than “creative work” by becoming the generalist. This cannot be recommended as a means to secure high productivity. The truth to solve the management problem solving is in the middle zone according to my experiences. The boundary between the design section and other sections can be changed anytime though it is indeed an unscientific description. The change complies to the content of the project and the request of the top management. I think that there is nothing wrong with it.

Rather, it is a matter of course.

4.4 Possibility of Supporting tool to design management of information system

The design management in the design department is management concerning the action of design by the member of the department. A design activity and its management do not necessarily synchronize. Moreover, both are separating. Therefore, the design assessment is seen from the design activity and there is a time lag. However, the value of the things designed is not necessarily assessed always constantly. Moreover, the assessment is an intentional product not spontaneous. The user who is one of evaluators is greatly influenced by strategic action of design information. As a result, do not overlook user's sensibility working. If it is possible to do, the design management minutely observes and assesses the advancing process of the design work. It is preferable that the designer can be able to feed back it.

And it is preferable to be able to have the channel of interactive, and to move in parallel with the worker and the administrator of the design. In the sake, the evaluation system which can be quantitatively analyzed for a sensibility change into the design of the system which can calculate value to the design anytime and the user should exist on the design process for that. However, such quantification does not roughly succeed in the recollection of the tradition of the management theory. The quantification of a sensibility change might be also the same. However, a mature information system might enable this. It is necessary to specify sensitive change information on the design of the management strategy and the user who relates to the design. Moreover, it is demanded that the design change by user's sensibility change and dealings of the cost be shown numerical and clearly. It is presumed to be decided also of the standpoint of the in-house designer who shakes easily more clearly if such a mechanism can be done.

4.5 Japan treatment and design department

Again, the treatment of the Nobel prize winning employee is quoted. There was no large sum of money paid as long as it is reported. He did not become the member of the board meeting. Shimazu wanted him to become the board member, but he did not. Shimazu did not force him to become the board member. It seems that both he and the company make much more of friendly long-term relations. Is this because of collectivism characterized in the Japanese management? Or, are there any rational reasons? Moreover, it is necessary to be interested in the influence which this trend exerts on the design department.

4.6 Cost of in-house method

The in-house designer also has a lot of merit in the point of Security protection and know-how legend etc. The

author feels that the doubt to the in-house design system has budded by the average.

1) A doubt to train new employees over a long period of time. Changes are made quickly, for instance, in the information system. The company can not train men of talent necessary out of the beginner's level employees by OJT ...

2) Lifetime employment system begins to collapse in the entire big firm in Japan. The groupism begins to be boycotted. Design section's head puts superiority or inferiority to the designers who belongs to the design section. Both a rater and the rated are commonly employed. Superior's Mr.Q assessed Mr.P that his ability was scarce. Regardless of whether the assessment is right or not, Mr.P and Mr.Q are in service until they retire. The company should bear personnel expenses. Therefore, the in-house designer system is not so significant.

3) Inefficiency of dimension. The number of members in the design section increases if the company grows in the dimension. The Parkinson's law has acted here.

Well, the design department composed of the in-house designer is occupying the part of the large organization. Therefore, it is necessary to bear the cost of a peculiar inefficiency to the large organization. Not only the factory expense but also it is a problem extending over the period cost.

“In-house method continuation and cost load” is sure to have the relation. It will guess the limit of the in-house method.

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References

There is no reference quoted in creation of this paper. Much business management-related bibliography is fundamental. It is not necessary to introduce anew. Only one point of foundations is described.

1)J.G.March=H.A.Simon, “Organizations” WiLey&Sons.,1958

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2)E.N.Powell, 'Developing a Frameworks for Design Management' “Design Management Journal” 1998 pp9-13.

There is the following laborious work which observed the enterprise field and the Core Competence. The devised framework is consulted in another meaning. Here, it cannot touch.

3)Chul-Ho Kim, “Core Competence Study Of In-House Design Management” Chiba Univ. Doctoral Thesis,2002

The following report was consulted among Nikkei Design.

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