

# About the ability demanded by In-House designer and the management

*Through The Transition Of "Function Of The Design Section"*

*And "Obligation As An In-House Designer"*

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**Abstract:** As for the design of Japan, the ratio that has developed with the electric equipment industry is large. Recently, development economic in the country in the surrounding gives the influence to the in-house design section of the electric equipment industry in Japan. It was a little that the design management was discussed until the high growth age, and the thesis etc. were extremely few. Any design management functioned well in the high growth age. There was neither discussed necessity nor room, too. Hereafter, curettage doesn't go well. Hereafter, the design management becomes the key to the management of the in-house design section. To understand the reality of the design management, we interviewed the manager of the design organization of the electronic industry the design management. This investigation did radical to the hypothesis that there were implications in the ability and management skills of the design. This investigation was done by combining the experienced person of the design and the specialist of business administration, and usually tried to discover an inconsiderate fact. Any design management functioned well in the high growth age.

**Key words:** *Abduction, Top-Management, Design Management, Styling*

## **1: investigation method**

Following questions were asked to each executive. Organization, system, management, adoption, design tool, education, design cost and etc. We interview against the manager of the main design section of six electronics manufacturer companies. Every time, we went to other company, and have from two to three hours interview. After having executed the interview, we picked up the problem by the knowledge of each specialized field. An essential problem was discussed whenever there was a difference. The object person of the interview is as follows. Electronics manufacturer (5) car (1) free-lance designer (3), market company (1), and design consultant(1).

## **2:The ability of designer**

A necessary ability for the designer is reported by various expressions. Kuroda defines, "Conception power", "Figuration power", and "Coordination power" (note 1). This is one of the typical model. In other definition, it is common of the ability to invent new idea with other theories by making good use of the image and the word. The conception in the image equals a styling business. It is doubtless that the word is an important element for the conception ability. On the other hand, if the inference form in engineering is roughly classified, it becomes the form of three "Deduction, induction, and abduction" (note 2). Perth pointed out that the essence of induction infers a similar fact of another pair from a couple of fact. On the other hand, hypothesis formation (abduction) infers the fact of the variety which cannot be observed directly from a certain kind of fact. Ability of designer greatly depends on ability of abduction.

In "Business of marketing and the usability evaluation", an inductive inference has been used. However, the weight of the induction and the deduction is small in the activity of the design section. In the aspect of differentiation ability with another field, it may make a special mention of the abduction ability to construct the hypothesis. The essence of abduction exists in an original conception. The enterprise achieves a big profit by the conception led by the result of abduction. Such a possibility is possessed. But, there is a possibility to make a mistake in the conclusion, too. The excellent executive has ability of the abduction. However, they have decided the intention by the risk resolution. In-house designer's business includes the fixed form business and the proposal business. Even if it makes a mistake in the hypothesis, the fixed form business does not give a big, managerial shock. The proposal business is different. The scale exists from largeness to the smallness. A lot of products are designed the fixed form on business. Management inclines greatly if it relies on only such a product. Ability of abduction becomes the poison and a medicine. The feature of the design section is ability of abduction. It greatly contributes to the profit of the company if the top uses the design section. The number of such cases has increased. There is an example of not using the design section on the other hand according to the top at all, too. The design section begins to divide into "Win class and defeat class". We consider the design management based on such a tendency. In that case, the filter is ability of designer (abduction).

### **3:Tendency which can be derived from interview**

#### **3-1Designer and digital tool**

The design has been greatly changed by the development of a digital tool. Only very little know-how is passed on to the superior by the spread of a digital tool by the subordinate. The subordinate operates equipment better than high-ranking people. In addition, a present young designer did not draw the sketch. The know-how experienced when drawing on was not transmitted any longer. Slight know-how is transmitted by the knack and intuition. The design culture was not able to be handed down. Top and bottom of the office communications have decreased. The improvement of the ability of the design is skilled in the operation of a digital tool for young man's designer. The young person begins to think like that at least. Recently, the figuration power of a young designer dropped. Such a lot of opinions exist. The skill of a digital tool is a problem of the technology at most. It is necessary to correct this demerit sooner or later. A psychological ditch of a senior designer and the young man designer includes an important problem. It is not only a gap during a mere age. This brings a dangerous situation "Loss of the body sense" and "Expansion of the virtual reality". By the development of a digital tool. The designer of drawing the picture like the photograph became unnecessary. The expression power and the persuasive power are more important than "Ability drawn as shown in like the photograph". It is possible to transmit to the ability

that it can be conceived that it is new, the idea power of the idea, and the third person. We need a suitable "New talent" for digital age. "The university student of the art system is trained and make it to the designer" "The student of Department of Engineering is trained and make it to the designer" and which is effective? Which the art student or the engineering student grows into the designer? Which should the company adopt? At present, the result cannot be forecast.

### **3-2: The adoption of the designer**

A certain company imposes the skill test of about one week. Still, the judgment of an individual ability is difficult. They worry because of the evaluation of the examinee. In A company, a young designer is employed as a contract worker. And, after confirming the ability, only small number of people adopt it as a regular employee. Any company shows the tendency to lower the ratio of regular employees. In B company, a regular employee is the same as the number of contract workers. In C company, "Regular employee", "Contract employee", and "Period employee" are the same numbers. The employment form is changing dynamically. The company not only decreases the number of adoptions due to the recession but also widely requests ability. Of designer. Up to now, considerable energy has been spared to the talent promotion after it adopts it. The company will make an effort to find the designer who has an excellent ability in the future. And, they are useful at once employees. Evaluator's ability is asked further. There is a designer who cannot become excellent after 2-3 years. Can the designer become excellent in ten years? Such a case is few. In a certain company, it is said that the judgment of the ability is possible by the rotation once. This is confirmed by the experience. Therefore, it begins to cause the tendency from which the contract employee is employed in place of the regular member.

### **3-3: knowledge of designer**

The designer has needed wide & shallow knowledge for a long time. Designers are enclosed by a highly developed technology, a specialized technology, and a soft technology. The designer should equally discuss with the engineer. Moreover, Relation between the user and the product became complex by the environment. Not only operativeness but also the relation with the product and man is asked. We can do nothing but think from the whole aspect. The acquisition of special knowledge is impossible at all in a short term. The designer is involved to special field for a long term. They can seldom become producers. They have ability of abduction, but they are lacking of special knowledge.

- To deepen the specialty, student in the United State learns in the faculty and the graduate school of a different specialized field. It is said that such a case will be seen in the United States. 80 percent of the designer who works in the most major design office in the United States come from the field other than the design. 80 percent of the designer who works in the most major design office in the United States come from the field other than the design. (note 3) From now on, two or more specialized fields will be needed for design manager. An competition at the global market demands it. Moreover, a lot of executives of the design section severely criticized young designer's "Desire for the design and lack of the idea".

## **4 Tendency which can be derived from interview**

### **4-1: Scale, talent composition of design section.**

When the organization grows bigger, then the number of those who insists regarding the problem. Work increases naturally when the number of members of the organization increases. And, the problem that the

efficiency of the design drops occurs. About 100 people are limits when seeing from the design management. There is a persuasion in the explanation.

The designer and the engineer are distinguished in the design section in Japan. In our investigation, the ratio of the engineer of the design section is 10-20%. The engineer is chiefly assigned to the interface design team and the usability evaluation team. These are weak fields for the designer. The engineer takes charge of logical work of the analysis business etc.

- Design section's of B company engineering coming from was more than the art coming from. Recently, the ratio was reversed. It explains the engineering coming from by the multivariate analysis. It explains the art coming from in figure made by "Intuition". The result is always the same. We were interested in this explanation.

#### **4-2:Alliance of design industry and academic circles**

Any company does the university consignment research. However, the design section is not so interesting to the design university. "Alliance of the design industry and academic circles" is smaller than the imagination. The design section is paying attention to universities other than the design university. The design section in the company and the design section of the university are doing a similar idea. The person in the same field might fall into "Homogeneous relation". These tie-ups are the repetitions of the same thing. Therefore, a big effect might not be able to be expected. The design section requests the expert who has a quite different ability a coordinated research. The atmosphere of the design section refuses "Design academy" in the sense. The design section is faced with a big wall of "How to advance the design". There is a person who has the opinion that it wants to promote cooperation with the university positively. It does not necessarily mean the professor of the design section of the university. The problem of the alliance of design industry and academic circle should be related to the problem of the ability of designer and be discussed.

#### **4-3:sense of mission of designer**

- A senior designer of the design section has explained to the subordinate as follows. "The designer should be middle of engineer and salesman. ""The designer should design from the viewpoint of user. ""The designer should design from the standpoint of human-centered idea. ""The designer is neither an engineer nor an artist. "Both are vague expressions. To aim at this, concreteness is lacked. "The designer acquires the profit. The designer proposes the business model. Such an idea is natural for the company. However, even in the latter half of 1980's, the thinking of the acquisition of the profit was a little bit taboo for designer. Recently, it became an expression which everyone admitted. Sense of mission of in-house-designer is greater changed compared with past.

- Usability evaluation is not an evaluation technology which designer advanced It was developed in fields other than the design. Therefore, the method is logical The usability evaluation is sober work for the designer. Earnings by this work are steady. The customer is an in-house factory. The usability evaluation is good at outsourcing. The reason is that the method and the result thing are lucid. Although, recently, the usability evaluation is executed at an initial stage of development. Then the usability evaluation becomes a secret matter, it is not possible to order to outside the company.

- There were only Product design and Graphic design in the design section in 1970's. The current design section has various subordinate position sections. A lucid target should be shown becoming a big so much organization. The target should be a level which can reach. For instance, the target "Design for man". does not function, and the centripetal force does not result. A modern in-house designer is called convenient designer. Designers are chased,

and they do not have enough time in the development of a new product. Thus, the specialty as the professional is lost.

## **5 Tendency which can be derived from Interview**

### **5-1: The shape of the organization**

- The organization of the design section of each company need not be the same. The shape of the organization is related with the product that the enterprise manufactures each other. The correct answer is not one. The in-house design section intentionally established an organization similar in each industry in 1980's. The design section began to look for the shape of the organization that existed in the enterprise that belonged in the latter half of 1990's. In general, it has been believed correct to expand the area of the work of the design. However, the manager who doesn't think so either has come out. The reason is variously thought. Corporate that belongs being doing the selection and the concentration of the business might influence. A qualitative change in the design is valued more than design field expansion. The company should find designer's potentiality, and connect it with the business.

### **5-2: Product Planning**

- It is common sense that the designer participates from an initial stage of the product development in the project now including the car industry. The design section in the company that interviewed it this time is making efforts everything to the product plan. It has been received to develop from an initial stage of development in cooperation with the sales person and the engineer as a matter of course now. On the other hand, there is a company named F though it is not in the object of this interview. In F, the evaluation to the consumer's design and the brand power are top classes in the world. The designer in this company doesn't participate in the product plan, and be doing the design that centers on the styling. The designer concentrates on the styling, and the product plan and marketing are left to the specialist in each area. This case was able to be covered in this interview. Which is more efficient because designer's nature is made the best use of, and an excellent design is made to be created? E declares S to be exceptional existence in our country. This cannot be easily judged so. This is a very suggestive story to think about the designer's talent and management.

- The designer is excellent in the intuition power. However, the manager in the company demands the proposal with an objective, scientific grounds. The proposal doesn't pass if there is no objective evidence. This is effective to admit planning though the tendency to which the usability evaluation is done at the plan stage of development has come out. There are a lot of things that cannot be quantified like the consumer behavior etc. The system that evaluates the idea that has come out from designer's intuition power is important. At present, there is no appropriate quantification that designer began to think about method. The methodology of marketing and the methodology of the usability evaluation are the methodologies considered in other areas. The table that the table and the designer who had made it from the multivariate analysis intuitively prepared is always the same.

### **5-3: Problem concerning Top management**

- In the company which handles the designer well, there are energies. President (Carlos Ghosn) of Nissan handles the designer like one part of his life. To earn the profit, the president handles the designer. There are a lot of presidents with thin concern in the design in Japan. Generally, presidents do not utilize the design in the strategies. This is not necessarily president individual's problem. The climate of the enterprise elects the president who has no interest regarding design. This problem is related to "Corporate gene". As for "Salaried man president", the

design is decided by the council system. In the aspect of the design, the individuality of the enterprise becomes vague. The feature of the company is not clearly understood. Big Business of Japan does not choose the owner president. The top has no interest in the investment in the design. The owner president is in the small and medium-sized enterprise in Japan. However, they do not pay even a little sum of design fee. The problem is how the top of the enterprise thinks about the design. As a result, the position in the enterprise of the design section changes. The manager of the South Korea enterprise effectively utilized the designer. As for the top in Japan, it is necessary to think about the ability of designer more..

#### **6:Tendency which can be derived from hearing**

- Interview was tried to designers other than an in-house designer.. To search for information that related to an in-house designer, we heard free-lance designer's opinion. Free-lance designer has an view different from an in-house designer. Their typical opinions are as follows. The quality of the design of Japan has rapidly fallen. It begins already to be defeated at the designer in China and Korea. An in-house designer in Japan does not notice it. The designer in China is setting target to Europe. The designer in Japan should notice that Japan is not their bench mark.
- The free-lance designer cannot obtain information on the company. The design section shows the tendency not to give information to outside. The reason is not to consider about free-lance designer as an important resource. Therefore, free-lance designer cannot make an epoch-making conception. This is a structural problem for the business of the free-lance designer in Japan.
- The expansion of the design section does not necessarily give birth to a good result.
- The design research of the university is too unattractive for the company. The researcher often separates from the movement of the market. The design section does not expect the result as deeply researched.
- An in-house designer easily uses the word "Differentiation" and "Additional value" without deep consideration. The in-house designer should consider more regarding the essence of the design.
- The designer of G company is doing Good work.. However, nobody understands the design in the operation division then all the design proposals fall through. The designer becomes tired because of the repetition of the proposal not to achieve, and the motivation falls down.

#### **7 Summary**

The design section of each company has consistently taken the expansion route since the high growth age. Strengthening of the design section had been linked with the number of designers. The expansion of the design area became reinforced of the design power. The design part employed the engineer at a fixed rate, and did logical reinforcement. It is one of the actual example. The design section of each company reviews the organization now. The reason is that the company should make the organization slim. Does the relation between the expansion of the design area and designer's ability function well? An area which should be active of the designer exists widely if conforming to Value-Added of M. Porter. In fact, the design section of each company has taken the route. However, when thinking about designer's ability, we do not think that all function well. A try usually functioned well in the high growth age. However, when thinking about the future business environment, an optimistic expectation is dangerous. The product from neighboring countries flows into a Japanese market, and the pie of the market is being reduced. As for a past design management policy, the correction has been done through necessity. It is enumerated to be thought as a solution.

### 7-1,

It is necessary to make it to an appropriate organization that exists in the business structure. It need not be a similar organization against other companies in the same industry. The company tries already to secure sales and the profit in the skillful field. The design section should additionally revolutionize oneself to its own business field. Otherwise, it cannot be survived.

### 7-2:

**The design section has expanded the area of the design from the plan to the sales support from hardware to software. It is necessary to reconfirm "Product design" as a centripetal nucleus of the design section. The design section should be a group which values the styling. The ability of abduction should concentrate on the styling. Thoroughly pursuing "Shape" also has the possibility to revive the sensibility to a peculiar "Shape" to Japan which has been disregarding it up to now. It gives birth to identification with other business like the usability and marketing, etc. The centripetal force of the section can be expected to increase.**

### 7-3:

Whether the top of the enterprise can draw out designer's abduction ability well or not? This becomes the key to Enterprise Management in the future. But the abduction makes a mistake occasionally. Therefore, the top should control the design section. As already described an energetic enterprise is good at usage of designer. It is difficult to approach the top side from the design side under the present situation. However, the possibility is not opened without challenging. We think that the persuasion from the design section to the top is an important role of the design management.

### 7-4 :

The designer cannot find the possibility to enter the center of the Enterprise Management formation except a part of exception. The top manager might have the responsibility of ignorance to the design. However, there might be a cause also in effort shortage on the designer side. It is not possible only by thinking about a technical condition of the product. The executive promotion of the design section is necessary to become the member of Managing Board. The promotion of talent who has expertise of the field other than the design is necessary. It is a technical knowledge, managerial knowledge, cultural, social aspects.

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