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A METHOD OF DECISION MAKING FOR MANAGEMENT

-The technique for rationalized decision of behavior by comparison-

January 20, 1977

MICHIHIKO ESAKI

Aircraft Division
Kawasaki Heavy Industries Ltd.

Kakamigahara City, Gifu, Japan

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SUMMARY

In order to make an appropriate and rationalized decision of action in the management and industrial engineering field, the necessary conditions are to establish a view of value (= direction of value) and a plane of behavior in which behavioral actions are carried out. This paper reveals.

- (1) The easy and quick method to establish a direction of value and a plane of behavior "On paper".
- (2) The behavioral judgement/action mechanism which is caused by "Information of difference by comparison" and direction of value.

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2. Familiar example of behavioral action.
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7. Example of "purpose-means block diagram"
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1. Introduction

Purpose of this paper is to introduce a analyzed mechanism and elements contained in a rational behavioral action to obtain something and the several techniques which have been developed for practical use.

It can be safely said that rational management is to accomplish objective results by combining and operating various elements which are obtainable for management (the elements are such as people, material, money, time, technique and information), so that it can give utmost effect.

It needs scarcely be said that in order to operate these elements, to judge and make an action rationally is very important.

In order to judge and make an action rationally, this paper analytically reveals the "six conditions" and summarizes the essential points of arranging the technique.

Namely, I have (1) tried to describe in the mechanism of judgement and action being casually taken routinely, that the origination of judgement and action lies in the information of difference by comparison, (2) then explained in detail to grab and illustrate the direction of man's value by collating his judgement & action with the information of difference, (3) and finally described the technique and the way of thinking in the case of applying the said idea to management.

2. Familiar example of behavioral action

Suppose there are before your eyes, two "jelly doughnuts" which are just the same in their appearance. You'd hesitate for a moment on which one you'd choose. Then, in your imagination, you'd make a comparison between the two as to which has the most filling and then decide. Thus you'll realize that when you make some judgement or action, you do so after you have acquired some appropriate "information of difference".

Namely, even if you change your way of viewing or thinking toward subject matter, you'll be forever hesitant to reach for either one unless you acquire the "information of difference by comparison".

And at the same time, whether you choose the one with more jelly or the one with less jelly, depends upon your direction of purpose and means (hereafter called direction of true nature or direction of value), judgement will be made after the direction of either eating more or less sweets for the sake of health has been collated with the information of difference. In another word, those who have sweet tooth and are healthy enough to take sweets will choose doughnuts that seems to have more jelly in it, and those who have no sweet tooth & ill health will choose the one that seems to have less jelly in it. Thus, as you search for the mechanism of judgement and action out of the casual judgement and action you routinely make, you'll realize that there must be steps of establishing the information of difference before you make judgement or action.

And also you'll realize that there is no way to obtain the information of difference other than thru comparison, and in order to make comparison there must be either more than two plans to be compared or one plan and standard to be compared.

In another expression, we can say that the mechanism & direction with which we routinely make common judgement and action is based on the information of difference available, and at the same time when the information of difference is accorded with the direction of true nature of man who makes judgement, the direction moves towards the same direction of the information of difference, and when the information of difference is contrary to the direction of true nature of man who makes judgement, vice verse.

Namely, when we have something to do, in order to make it easy in terms of judgement and action, it is a basis to try to bring at least "direction

of information of difference (vector)" on the same line with "direction of true nature of man who makes judgement and action (vector)" even if they are plus or minus, and we can have a new understanding that the "information of difference" which goes crosswise with the direction of true nature, doesn't mean anything at all.

3. How to establish "purpose-means block diagram" on a paper

Suppose we are required to do some task or decide to do it for ourselves we know that if we try to grab the content of the task to some certain degree in an abstracted expression, it is easy to judge and act properly. In the event that several of us get together, however, we find it not so easy, to summarize the accorded opinion in this abstracted expression even if what we have in our minds is same.

The concrete example is, when we have a meeting, we find it not easy to determine a main subject or focal point of the meeting. In such a case I'd like to express here first of all the way which enables us to summarize various opinions and expression very quickly, and thus lead us to find a proper expression which should be the main subject of meeting. Then I'd like to explain about the relation of true nature with judgement and action.

The steps to prepare the purpose-means block diagram

1. At first, a subject is presented, which is to be given or to determine for ourselves, and which may be expressed either in noun or phrase.
2. Then we try to make several expressions mainly by using verb and noun, and modifiers if necessary, of the most appropriate and concrete action intended in the subject in form of "in brief to do so".

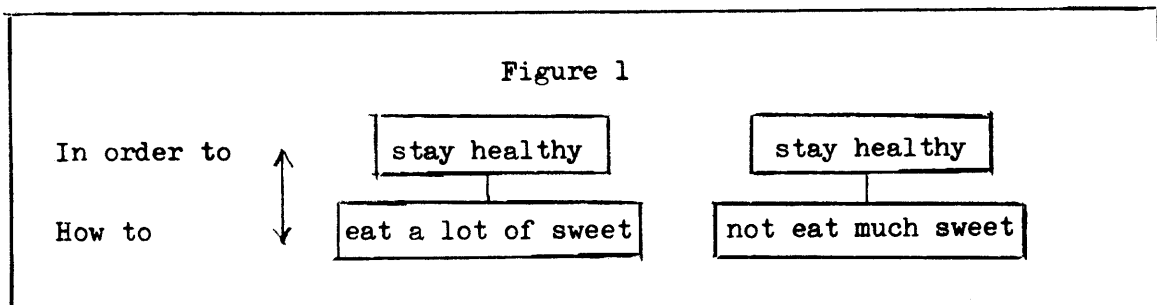
3. Write on a paper as many verbs and nouns shown in the form of "to do so" as possible until we can think of no more.
4. Cut each expression to a piece of paper so that it can be independent.
5. Put these cut-off expression in such order as to make "in order to" come before "how to", following is the way to put it into practice. At first, place on the desk two pieces which are chosen at random and then put them in such way as to place "in order to do A", "to do B" in a order of A up and B down. Then compare the next "cut-off expression" with the one which has previously been placed on the desk and decide which comes before. Keep repeating this action until all of those cut-off expressions can be placed in such order yet comprehensive ways in the order of top-down sequence "in order to do A, to do B," "in order to do B, to do C" "in order to do C, to do D"
6. At this time, there might be the case which some expressions can not be in order of up to down sense with any reason. In this case you will fix the expression in side by side and keep them in the order of top-down sense with another expressions.
7. When all of these cut-off expression have been properly placed, take a second look to see if there is any expression missing or need of addition and correction.
8. Then fix them with transparent adhesive tape on a paper.
9. Observing these expressions, try to find the most appropriate expression as an expression of subject. We usually find the appropriate expression in the middle part of them, which we call "sub-title". (This sub-title expression is the expression of plane of behavior.)

Note: Since the most important point of the above is the phrase of repeating "in brief in order to do A, to do B" "in brief in order to do B, to do C", it is the must to stick to the rule.

The above is the way to prepare the "purpose-means block diagram" and the established key expression in the sub-title as the level of behavioral action to materialize the subject most appropriately.

So, if we work out a subtitle at the beginning of a meeting or at the stage (phase) where we prepare to solve problem, we'll find the rest of the work can be carried out unbelievably faster than we expect. Since the level of expression of subtitle starts acting with both expressions that come before (up ward) and after (down ward) the subtitle, it will frame the key behavioral level which enables us to establish a subject effectively and efficiently. Let's call the line of these expressions arranged in this way as "purpose-means block diagram" or "abstracted ladder".

Now, the "abstracted ladder" regarding two people described in the example of "doughnut" is shown on the figure (1) below.



When we see the figure 1, we'll come to realize the abstracted ladder itself is the vector which the direction of the true nature of the man who makes judgement. In another word, giving order to the purpose and means involved in the "abstracted ladder" is the very expression to show the "direction of value" of the man who makes judgement.

Then the "abstracted ladder" will be applied on the subject called "to do management" as shown on the figure 2.

4. Mechanism of management and behavioral action

I've described in the previous chapter the way to prepare the "purpose-means block diagram" and the practical examples made to the theme of this paper itself have led me into preparing the "purpose-means block diagram" as shown in the Fig 2. In this block diagram you'll note that the subtitle as "abstracted ladder" is shown on the level of connection between the expression of level which emphasizes the upper abstractive side and the one which emphasizes the lower practical side, namely, the expression of level within the frame with thick line is the subtitle.

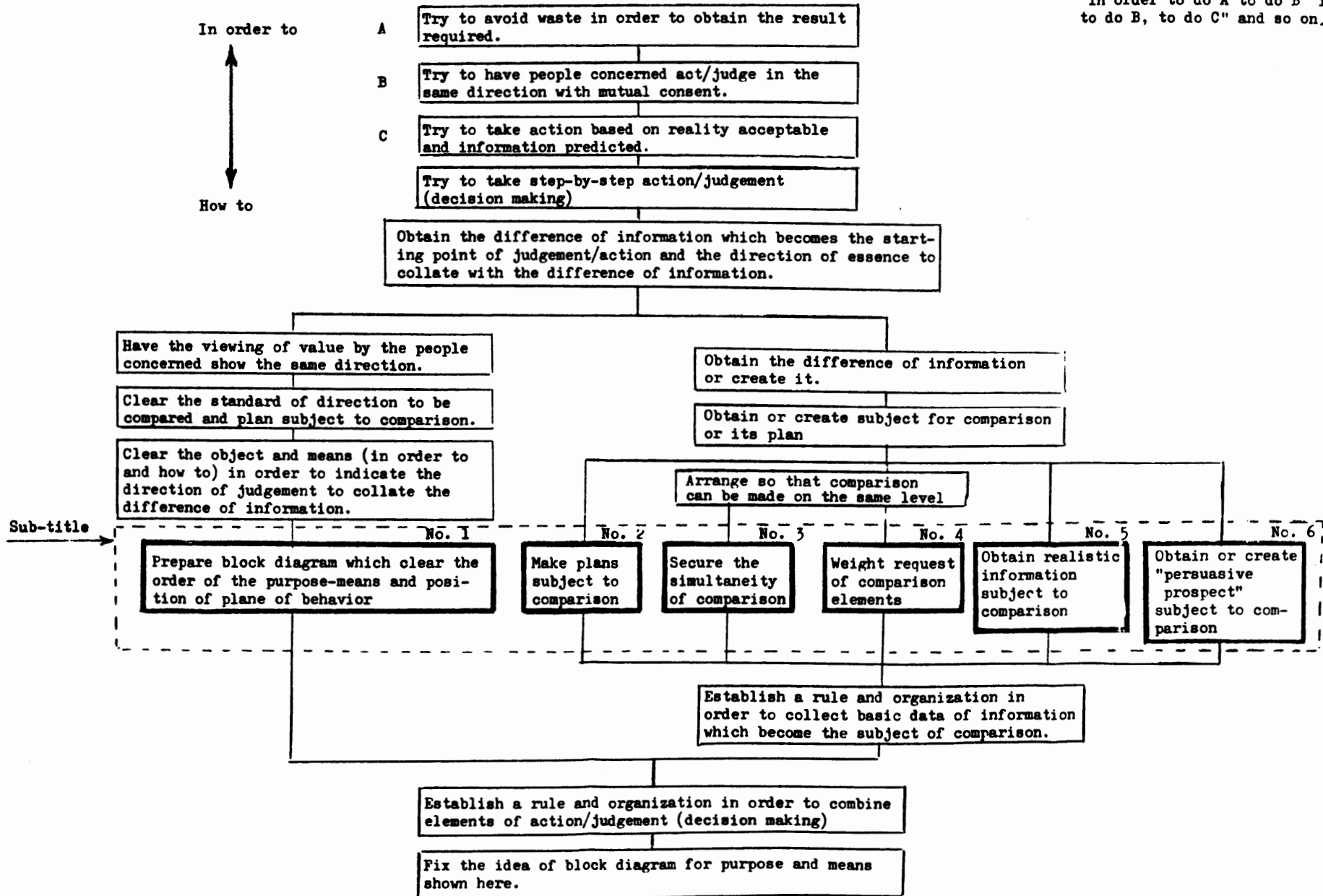
By explaining the contents of the subtitle, I'll show you how the judgement and action should be in the management. Let me begin by explaining the block on the left side of the level of subtitle. First of all, the block No. 1 shows to prepare the purpose-means block diagram to clear the direction of value which has so far been explained, for subject of management. Then No. 2 thru No. 6 describe the conditions of necessary elements to make "information on difference" to be collated with direction of value.

Namely, block No. 2 suggests to obtain two or more plan to be compared for the information of difference by comparison, or one plan and standard to be compared. And as to this two or more plan, it is absolutely necessary both plan are possible to put into practice, block No. 3 and 4 show that in order to make the comparison of two or more plan thus made or obtained at the same level, the simultaneity to compare should be secured and the elements to compare should be weighted. Namely, ¥100 we have now means quite different from ¥100 we may have next year. For instance, if we bring out the point to compare at present in order to secure the simultaneity of

Purpose-means block diagram

Subject: To perform management

Note: This table is to be read downwards as we repeat doing in such way as "in order to do A to do B" "in order to do B, to do C" and so on.



comparison, and its annual interest rate is 10%, the comparison must be made on ¥100 and ¥90 for ¥100 of next year. And as to weighting, for example when you chose partner to marry the elements of evaluation such as figure, cleverness, health and so forth should be made. Although the order and magnitude of this weighting differ according to people, we replace these weightings with coefficients. And if there are two persons to choose for marriage, grading for each factor will be made first and then it will be multiplied by the coefficient of weighting, and either of them who has gained larger points in grading will be chosen as better person for marriage.

Block No. 5 means to obtain realistic and correct information included in the plans subject to be compared. Namely, it can be safely said that the information we obtain by seeing something or touch it directly is convincing, while the one we obtain thru people has uncertainty in it. Also even in obtaining information, the one which has been obtained with objective and the one without objective are much difference. (You'll realize that in the process of obtaining this realistic information it is very effective if you collect information after "purpose-means block diagram" has been prepared.) Therefore, it suggests here that it is very important to make the way of obtaining certain and realistic information.

Here, I'll explain the instance of "the mechanism" that people believe the information is true by citing a story "three men could run a tiger into town" written by Kwang Hishi, a chinese author. Once upon a time there lived in China a king called "King Gi", and one day Hoe Kyo, one of his subject, asked the king the following question: "Supposing someone cries 'A tiger has come into the town' would you believe it?" "No, I don't" said the king. "Then if one more people cries 'A tiger has come into the town' what would do you think?" "I think there may be a tiger in the town." said the king. Then again if the third one cries "A tiger has come into

the town' what would you say." "I say there must be a tiger in the town" answered the king.

We can say the same thing even from the statistic point of view. While we could say the above is true, it also implies that if people who make judgement are not well equipped with their own firm judgement they are apt to be easily carried away by poor judgement.

I'm going to add to the story the explanation of mechanism when we take information from statistic point of view as follows:

Only one information for only one subject gives us very thin credibility, but when there are two similar information, the information between these two information can be guessed within the range of width of errors regarding these two informations, and with three similar informations it can be guessed as much as the width of the errors. And these informations help each other in providing high credibility. And if there are four similar informations it can be safely said that there must be more and more high credibility.

In another word, the information obtained by seeing directly and touching with our own hands, unless we are blind as referred in the story of "Blind and an Elephant", has the maximum credibility as it has been obtained thru a great number of acts.

Block No. 6 tells about the obtaining the information of persuasive forecast. There are many cases where judgement are made based on the forecasts such as "what would happen if this is done" or "let's take some steps previously because this is likely to happen." I'll explain this persuasive forecast in the next chapter as it takes fairly long explanation.

I'll summarize this chapter by stating that in order to make rational and quick judgement and action in management, we should first of all prepare several purpose-means block diagram for many aspects and subjects to attain objective of management, and in case of making judgement and action it is

necessary, for making it easy, to obtain or create the contents of requirement indicated in Block No. 2 thru No. 6. And I'll call these elements "the six conditions for making judgement and action".

5. Persuasive forecast

At the end of the previous chapter, I explained the necessity of persuasive forecast when judgement/action and decision making are made, which should be construed as follows.

To begin with, when we think about the value in forecast or forecasting value (hereafter called forecasting value), we'll find that it can not become worthwhile until we use it as a standard of judgement/action or decision making for management. And also we can not tell if the forecasting value is correct or not until real value corresponding to its forecasting value becomes available. At the time of forecasting or at the time when judgement/action is made by using forecasting value, only God knows if the forecast is correct or not.

When we come to think this way, we find it for sure that, when we use forecasting value for judgement/action, we do not utilize it as a standard of judgement/action until we feel it may work, namely, whether the forecasting value is correct or not is the most important matter. But at the time we make judgement/action by using it, we are not sure of it, and so we use it as a standard of judgement/action after we are convinced that its forecasting value seems to be correct or seems right by conventional experience, knowledge and the explanation of why it is so.

For example, let's think about the year 1973 when we had "oil shock". It happened at the end of that year. But nobody would have believed it and taken any judgement/action against it if somebody happened to say at the beginning of that year, "We'll have 'oil shock' in November this year."

If he had come up with a forecast which were convincing to people, however, they must have taken some judgement/action against it based on his forecast at the beginning of that year.

Thus, a forecasting value, even if it may be correct in the end, will not be appreciated unless it is convincing at the time of taking judgement/action, and will be of no use at all.

The above is a brief explanation of "persuasive forecasting value". The following is a brief explanation as to what kind of method can be used in order to make a matter convincing. The explanation as to acquirement of persuasiveness has already been made in the acquirement of practically correct information. One of the methods which can be used is in the mechanism of the "three men setting a tiger in a town." And then there is another method where forecasting value is divided into (A) the portion which can never make a wrong forecast, (B) the portion which can make a forecast by changing its premise and (C) the portion which is considered as an aberration normally called "noise", and add explanation to each of them. (Refer to note of Fig. 3)

Another important thing is to protect those people who are employed in enterprises and government from losing their face when they adopt a forecasting value and fail. For example, if he is employed in the government, he would use a forecasting value on "economic view by Government for 197X" which is decided by the Cabinet and announced by the government at the beginning of each year to back up the budget. Namely he would use an authoritative forecasting value or take an judgement/action which keeps him in the safe side if its forecasting value is wrong.

6. Method to catch the information of difference with ease.

Now, since the "essay on information of difference" which becomes the basic point of judgement/action has been explained in the preceeding chapter, a few examples of how to catch the information of difference with ease will be explained as follows.

(1) Method of comparing similar articles by photograph

In this method, a picture of more than two articles which have similar or the same function will be taken side by side in the same picture from such a direction as to show well the function peculiar to them. When the picture has come out, we fill in directly by black pen on the picture some information such as value of capacity and price which we want to compare. In this way we can obtain the information of difference which is very easy to understand. Following is an example of explaining the above statement in easier way.

At first, we put our right and left index fingers side by side and see with both eyes which is bigger or what difference in shape, then look at them with one eye closed, and we can see more clearly the difference in the shape of both fingers in comparison than the case in which we look at them with both eyes open. This is the principle of the method of comparing similar articles by photograph, and the purpose of filling information directly in the picture is based on a principle of collecting information accurately.

(2) Improving visibility

When reading newspapers and books, we often cut out or reproduce important pages and file them side by side. By doing so we feel as if we have understood the matter well, which comes from the fact that we have collected similar matters carried in the newspapers and made it easy to compare them. Therefore, it is this principle that in order to make judgement/action on management easy it is good to accompany management data with

visibility; that is, to arrange matters so as to compare at the same level and to make it easy to compare similar matters is to increase the visibility.

(3) Carding of data subject to comparison

This method is a conventional one, but I would like to review its principle in order to have a new understanding of it; that is, if data are kept on cards it is easy to change the order and combination of them, which eventually makes it easy to obtain information of difference by comparison and to obtain the original point for many judgements/actions and decision makings. At that time, in order to make good use of our eyes and heads, it is necessary to repeat the method of comparing two cards because it is obvious that while it is easy to get a result of comparison when comparing two cards, it is more difficult to compare three cards at a time. And if there is no difference of information between two cards this means either those informations completely agree or have no relation at all. The purpose means block diagram as to "in order to" and "how to" carried in this paper had been made by utilizing the method of comparing two sets of cards in turn and filling them in the block diagram. Better comprehension of the above mechanism will make the better use of the methods such as K. J. method (Ref: 1) carding and so on.

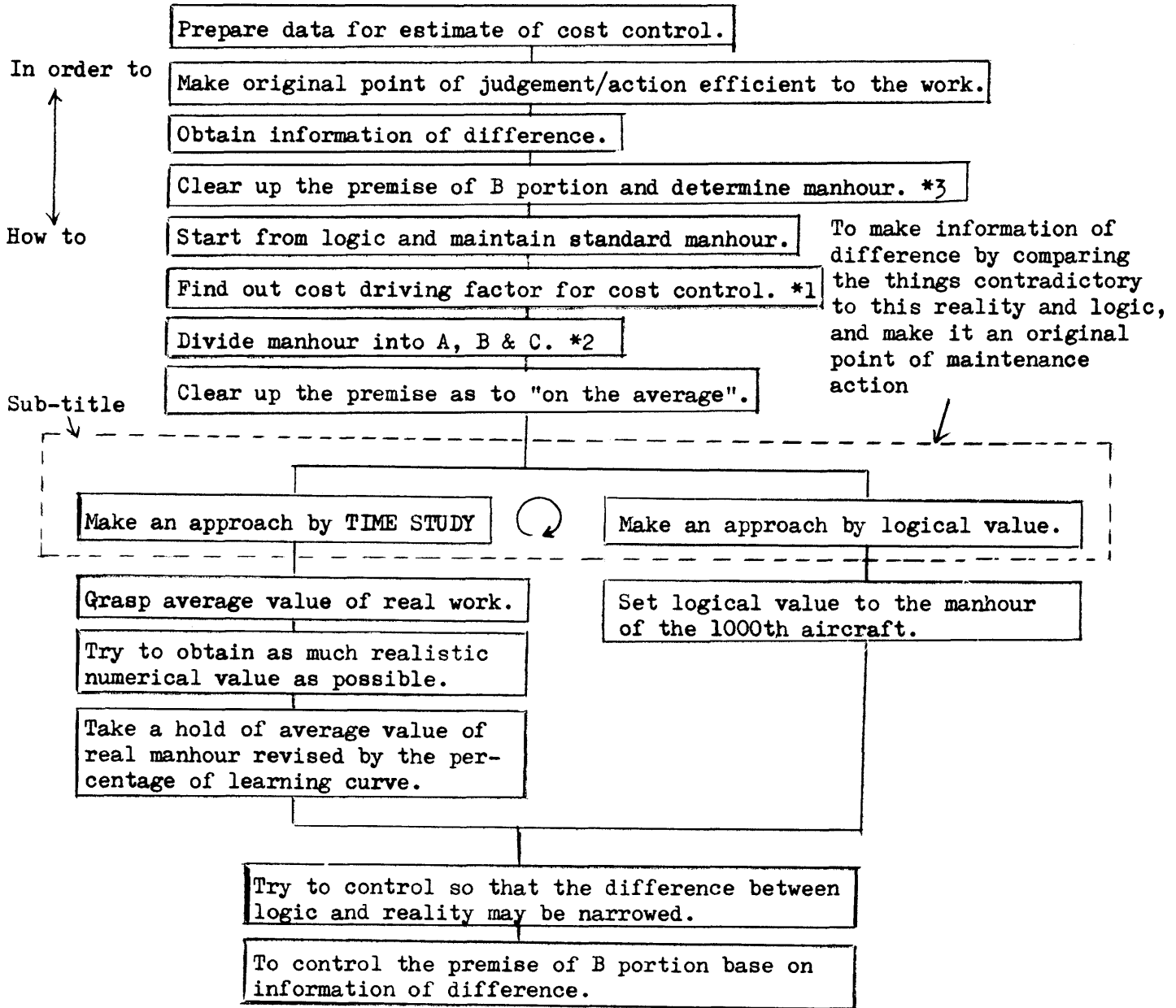
7. Example of "purpose-means block diagram"

According to the logic stated in the previous chapter, many purpose-means block diagram, which may be utilized in many ways for management, can be prepared. (Fig. 3 is one of the examples) In this chapter I would like to introduce another merit which may be gained when a purpose-means block diagram is prepared.

The principle of preparing a purpose-means block diagram is to keep on arranging expression on cards only in one direction, but there will be a

Fig. 3

Title: Maintenance of Standard Manhour



NOTE:

- *1. Cost driving factor means the element of premise cost of which changes when the premise is changed.
- *2. Divide manhour into three portion of amount, namely, A, B and C: A portion means the one which can never go wrong by any chance, B portion means the one which varies by changing the premise (e.g. selection between press forming and hand forming), C portion means aberration or noise.
- *3. Therefore, cost control can be made if only we concentrate ourselves to the information of difference regarding the B portion.

case in which it is a must to place them in the same level otherwise they make no sense.

And in case the contents of them contradict each other, it is suggested to think of the means of integrating them in the block right below, namely in the process of framing up a purpose-means block diagram we can create a situation in which we are quite likely to come across such means. And "the very place" we can find at that time is the place of thought where we find such a integrated means as to be able to integrate contradicting interest of laborers and employers as we see in the Taylor's Scientific Management.

In my case, by making use of such method as above I have been able to come up with a method called "steplist Management" (Ref: 2), which is systematic, creative, faultless and technique of management plan that can afford you easier management.

8. Significance of this method

(1) After all, we should take a future-oriented type of management which starts from "in order to do what", not the one which starts from "why?". I'll be happy if you realize the fact that if we make "why?" an "offered word", we come to have a structure of conception which only goes back to the past and in some case we take conventional way in which we inquire who is to blame for the work done, while if we make "in order to do what" as an "offered word" and "why?" as an "accepted word", we, by making good use of the things past, can change the structure of conception into the one in which we conceive the things future. It is, however, difficult to understand things with only the word of the first coming "in order to do what", and so if we try to cover up the expressions in between by the proposed "purpose-means block diagram", we will be able to come up with new conception and motivation.

(2) There are much difference between this technique and "work design technic" by Dr. G. Nadler, because this technic is the method of finding out and defining the plane of behavior in which the managements are performed to reach the desired result.

9. Conclusion

I have introduced to you as above the result of my study as to the mechanism and technique which may be a help of making judgement/action on management, but looking back at it I think I have only caught analytically the matters we are doing casually in our daily life and have justified them. But again I think that to keep holding its content/element becomes an original point of new technique for judgement/action. And the mechanism and principle explained here is the very mechanism and principle which have been used in the conventional techniques of IE, VA, QC, etc., and so I think they can be utilized as a supplement to these techniques and a method to save much time of complicated meeting.

Finally, I would like to conclude by wishing that this paper will be the one to suggest a new point of view which combines future management science with the behavioral science.

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