

THE TIME-PERIOD SPECULATION METHOD IN THE CHOICE OF VE RESEARCH PROJECTS

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ABSTRACT

In this paper, a new method is first given in the choice of VE projects. This method is called Time-Period Speculation Method. By using this method, we can choose the VE projects easily and efficiently in VE activities.

VE projects should be that VE activities choose the projects whose function and cost are the most unmatchable, or the more unmatchable the function and the cost of chosen projects are, the more beneficial the VE activities are.

SOME LIMITATIONS OF NOWADAYS METHODS IN THE CHOICE OF VE RESEARCH PROJECTS

INTRODUCTION

By the systematic analysis for function and cost of its VE research projects, the joint consideration of all the relative fields, and the continuous improvement of ideas and methods, VE is the method of thought of VE research projects. So the choice of VE research projects is very important, because if projects are chosen whose function and cost are matchable, then VE projects will lead to a fanciful result for which not only the cost of VE group is wasted, but also the projects cause an unprofitable activity; if the VE projects are chosen whose function and cost are not matchable, but not the most unmatchable one in those being considered, then although it will lead to a beneficial result that can decrease the cost of the project and can match the function and cost of the chosen project, the VE activities are not the most beneficial ones; if the VE projects are chosen whose function and cost are exactly the most unmatchable, then VE activities truly realize their complete value and reach the most beneficial result. So the principles of the choice of

Nowadays, there are many methods of choosing the VE projects, we can divide the methods into two kinds of the nature determined and the quantity determined in detail, the above methods can be decribed as:

Percentage Method and ABC Method that are based on the analysis of the cost of VE projects. Function Proportion Methods, Fuzzy Statistics Method and Determination Forced Method that are based on the analysis of the function of VE projects; Function-Cost Double Proportion Method and Value Measuring choice of VE projects; Experience Analysis Method and Relationship Method that are based on the nature determined; and so on.

By using the above methods, we can choose the VE projects. Although the chosen projects have the most cost, or have the largest value of operator combined by the coefficient of cost and function importance, the matching of their function and cost can not be determined really, so we can not say whether their function and cost are the most matchable in the above, meaning the present methods in the choice of VE projects have some limitations.

A NEW WAY TO CHOOSE THE VE
PROJECTS: TIME-PERIOD SPECULATION
METHOD

The main aim of VE is to use the least cost to perform a certain function. So the replacement of the function carrier is a very important kernel because if the carrier of a function is the only one that can realize the function, then the way to realize the function is fixed, the cost of the function is the cost of the carrier, any changes of whose cost is impossible, that is to say that the function and cost of VE projects are naturally matchable, and the characteristic results in that any work on VE projects for such a function is not beneficial. So the more the selective carriers which can perform the function, the more benefits the VE activities can get. To choose the projects the VE activities, we should consider the quantity of the carriers which can realize the demanded functions. Based on such a tenet, the Time-Period Speculation Method is put forward.

It is well known that with time elapsing, techniques are developing fast, the replacement of old techniques by new techniques is more and more, new materials and products are created continuously and copiously. So the carriers which realize the same function are more and more, one of replacing old materials with new materials is becoming very possible.

From the date of its invention to now, if a project is not improved, then the longer the period is, the more unmatchable its function and cost are and the lower the value is. Because with the elapse of time new techniques, new materials, new processes, and new methods are becoming more and more under the above condition, the carriers which can realize the same function are increasing.

By the same theory, from the date of the last improvement to now, if a project is no longer improved, then the longer the period is, the more unmatchable the value is.

We call the period from the date of the invention of a project to now, in the period the project is not improved, or the date of the last improvement to

now, Time Distance.

According to the above describe, the longer the time distance is, the more unmatchable to function and costs of the project are, if we choose the projects which have the longest time distance as the projects of our VE activities, it becomes possible that our VE activities will reach the most benefits. Time-Period Speculation Method is to choose the project which has the longest time distance as the first target of VE activities.

HOW TO USE THE TIME-
PERIOD SPECULATION METHOD

For example, a product has five parts. By investigation, we find out that Time-Distance for every part as shown in the table

Part	Invented(the last improved) Time	Present Time	Time Distance(years)
A1	Mar., 1977	Jun., 1995	18.3
A2	Jan., 1985	Jun., 1995	10.4
A3	Oct., 1967	Jun., 1995	27.7
A4	Jun., 1972	Jun., 1995	23.0
A5	Apr., 1979	Jun., 1995	16.2

If we use the method of Time-Period Speculation to choose the VE projects, the sequence of the choice is : A3,A4,A1,A5,A2.

Obviously, using the Time-Period Speculation Method to calculate the time distance, choosing the projects in the order of time-distance from large to small is reasonable and reliable. Applying this method, we need not calculate the cost of parts of the projects and the coefficient of the function importance of parts of the projects. Since the operation of the method is easy, and the choice by the Time-Period Speculation Method is practical, the Time-Distance way to choose the VE projects is applicable and has popular value.