

**EXPLORING ALTERNATIVES**  
**-- RETHINKING ON ALTERNATIVE-FOCUSED THINKING (AFT) --**

**Norimasa Kobayashi<sup>1</sup> and Atsuo Seki**  
Department of Value and Decision Science  
Tokyo Institute of Technology<sup>1</sup>.  
2-12-1 Ookayama, Meguro-ku,  
Tokyo 152-8552 JAPAN  
nkoba@valdes.titech.ac.jp

**ABSTRACT**

There are various aspects in strategy management. This paper particularly focuses on complex and dynamic contexts within which strategic decisions are made. We confine ourselves to group and individual decisions in which the decision makers can share the fundamental objectives. We consider that our work can be applied in a complementary manner along with other methodologies.

Our framework provides a mixture of inductive and deductive approach regarding Weltanschauung construction. Much emphasis is put on the construction of Weltanschauung in the literature regarding systems approaches classified as soft systems approaches or problem structuring methods (PSMs). The methodologies often utilize sessions such as rich picture drawing in SSM that require deep contemplations. There exist cases however in which “seeing is believing” or “learning by doing” work better than thinking too much in the head. Without exploring into actual alternatives, it may be difficult to even know what is important in quite a wide class of problem settings.

The aim of this paper is thus to discuss precisely the conditions under which exploration may work better than contemplation. In other words, the paper aims at providing a meta-methodological framework for choosing between contemplation and exploration. We also propose a method for actually implementing the exploration.

Keywords: decision analysis, problem structuring, value-focused thinking, value of information, Weltanschauung

**INTRODUCTION**

Since the expected reader of this paper involves a vastly wide range of audiences related in some way to such an actively interdisciplinary society of ISSS, we should first discuss very carefully where we stand. Where we can contribute and where we cannot.

The aim of our methodology is shared with various systems approaches in the literature. It assists strategic decisions of managers in exploring strategic purposes.

Our paper deals with individual or group decision settings. Particularly for the latter, we should clarify that “group decision” in our paper refers to Keeney’s jargon (Keeney, 2007).

Let us start with individual decision making.

Some readers may first think that individual decision making is irrelevant to strategy management. In the literature of systems approaches (summarized in Jackson (2003) or Rosenhead and Mingers ed. (2001) for example), we see not too much of individual decision making methodologies. At best, it looks kind of old fashioned in a way.

## Explore Alternatives in order to Explore Purposes

The first reason for old-fashioned impression is that the general reader may have the impression that individual decision making only has much to do with goal seeking. For example, Jackson (2003) devotes considerable space to the systems methodologies useful for “improving goal seeking and viability” (Type A). However, we, the formal systems thinkers, think that even in the individual decision making contexts, goal seeking is secondary to “exploring purposes” (Type B). Our methodology provides a formal framework for exploring purposes. This feature distinguishes our framework from various other formal models such as decision analysis or game theory that essentially take the goals for granted and that thus belong to Type A in the classification of Jackson (2003).

The second reason may be the commonsense that management is all about relationships among people. That is true to a great extent. OK, if we are consultants, we no doubt never ignore relationship aspects. However, we are scientists and we submit this paper for purpose of improving a tiny aspect of managerial strategic decision making. This stance is in a clear contrast with various methodologies in systems thinking literature. To us, the methodologies often look too “big”. Some methodologies for instance try to deal with problem structuring as well as dialogue facilitation at the same time. We take Jackson (2003)’s stance of complementarism to the extreme, which actually is the culture of traditional science. Each scientist argues carefully what she is good at arguing. Having said that, yes relationship is important, but of course individual contemplation is important as well. Can the two be separated? Not in a strict manner. The decision maker, such as a CEO, should no doubt consider the minds of other relevant members when she contemplates on strategic plans. However, it is not necessary that everything is decided “on the table”. She may have a dialogue with employees and goes back home and may think hard about what was said in the bathtub. We deal with such individual thinking stages.

Thus, at least for those types of individuals in the organization who have considerable level of power, individual decision making continues to be important in strategy management.

Our framework is also applicable to “group decisions”. Our usage of the term is in line with that in Keeney (2007). Keeney (2007)’s usage of the term is quite specific, much narrower than multi-agent decision situations in general. We should first emphasize that it is useful to confine the applicability of a framework modestly in order to avoid mis-usage.

What then is a group decision? In a group decision, a group of two or more members has the responsibility for making the decision. This may look too tautological at first sight, but it can exclude such multi-agent decision situations as voting. Voting consists one of the very important category of what is referred to as collective decision making in economics. However, in voting, discussion among the group members is not essential. Each voter makes her individual decision to choose a vote. Next, the group members collectively must select among a single set of alternatives. This excludes the situations such as negotiations in which the players will have their respective jobs to deal with after the negotiation. Third, all the group members experience the same consequences from the chosen alternative. This excludes risk sharing among multiple stakeholders for example.

Using the technical term which we discuss later, the group most often shares the *fundamental objectives*. Different individuals in the group may have different weights among the objectives, but the list of fundamental objectives tends to be common among the individuals. Our framework assists the group decision makers to explore the fundamental objectives.

As Keeney (2007) argues, a group decision is a natural extension of an individual decision particularly for the specification of fundamental objectives. Hence, we do not

## Explore Alternatives in order to Explore Purposes

make a clear distinction between the application of our framework to group decision contexts or individual decision contexts. When there remain sharp disagreements regarding the fundamental objectives among the decision makers, we take the simple approach as Keeney (2007) to take the union of all the fundamental objectives proposed by the group members.

Particularly for group decisions however, dialogue among the group members may become coercive. Some member may try to dominate the dialogue. Unfortunately our framework does not help resolving such an issue directly. However, we believe that if there exists an external entity such as the whole society in relation to a company or the entire company in relation to a department, then the rational seeking of fundamental objectives of the group using our framework may help the ethical dialogue indirectly. To be more precise, if a group member tries to dominate the dialogue with unjust power, then the evidence of that can be appealed to the external society, utilizing our framework as a structural communication tool. Now, if the aggressive group member can predict the appeal in advance, he may stop being coercive threatened by the potential appeal. This is what we refer to as the indirect promotion of rational dialogue.

Now, how does our framework assist a strategic decision maker to explore fundamental objectives? Our framework, in a most abstract sense, provides the methodology for including an empiricist flavor in the search of fundamental objectives. There is always a debate regarding which of the two comes first, theory or experience? If there is sufficient time allowed for learning, the order is not too essential. A theory can be strengthened by an experience and an interpretation of experience can be sophisticated by a theory. More important than which of hens or eggs appeared first is the fact that they have both evolved. Our framework captures such a learning process very well.

The rest of the paper proceeds as follows. We first briefly discuss the dominant stance in the literature that deals with the exploration of purposes. Keeping the discussion in mind, we introduce the model. Then, considering the model, we provide a meta-methodological framework that gives the decision maker the heuristics for the exploration of purposes – whether to explore alternatives or to contemplate. We then discuss the applications of the model. We close the paper with the concluding remarks.

### DOMINANT METHODOLOGIES FOR EXPLORING PURPOSES

In this section, we discuss how our framework is related to other methodologies in the systems thinking literature.

We begin with the argument that we have already proposed in Kobayashi and Kijima (2005a). As Jackson himself admits, the classification of systems methodologies in Jackson (2003) is not MECE (mutually exclusive and collectively exhaustive). However, the classification is very helpful *given the current structure of the literature*. The criticism thus should not be cast to Jackson (2003) but also to the fact that there has been little work dealing with the cases not dealt with by Jackson (2003). At the epistemological level, the contribution of our work along with our preceding works (Kobayashi and Kijima (2006) and others) is that we precisely deal with such niche problem settings. For example, Jackson (2003)'s classification has two types Type A (objective and well-structured) and Type B (subjective and ill-structured) out of four possible types, the remaining of which are 'subjective and well-structured' and 'objective and ill-structured'. Kobayashi and Kijima (2005a) deals with subjective but well-structured decision situations.

The current paper at least partially deals with objective and ill-structured decision situations. The basic idea is this. It is true that a decision maker can have her own lens through which she looks at the world. However, once the lens is fixed, the image she gets from the world is objective. Of course, how she interprets the image is quite

## **Explore Alternatives in order to Explore Purposes**

subjective. However, again, the interpretation is not purely fictitious. It is the image she got from the world plus her own interpretation. This paper argues that unless your aim is to make a fictitious story in your head, you should sometimes start exploring into the real world without hesitation. There is a Japanese saying regarding the play of board game of GO, “Thinking by a bad player is like resting.” The simpler relevant sayings may be “seeing is believing” or “learning by doing”.

Having this in mind, when we look at methodologies like soft systems methodology (SSM), we find out an interesting paradox. Checkland (2001) argues that the real problem situations are not repetitive and ill-structured. Now, if it is not repetitive, then, how do you expect the decision makers to draw rich pictures of good quality? How can you make sure that the picture actually captures the relevant components? Do the decision makers really know enough about the world to this extent? Well, we find the key answer to these questions in two ways. One is that Checkland himself is too smart. That even applies to interactive planning by Ackoff. Checkland is such a good consultant himself that he may probably do a great job without a rigid formal framework. When we consider cases that appear in Checkland’s works, it seems as though really smart consultants like Checkland himself seem to be playing the key role. In such cases, it is very hard to discuss the marginal contribution of the framework alone. The second answer is that the decision issues tend to deal with the intervention to the extant mess. Most often, the cases deal with the situations that demanded the consultants to resolve the problematic issues that are already partially perceived. Now, the issues are usually perceived as important when they have been problematic for a sufficiently long time. Thus, in such cases, almost by definition, the decision makers know quite a lot about the situation, at least by heart. Thus, it may be true that the decision situations are unique in the sense that they do not seem to have much in common. However, that does not imply that in each situation, the situation has not occurred repetitively for the relevant people.

Now, our focus is on the more innovative decision situations, or if not innovative, on the decision situations with which the decision makers are not experienced. An easy example may be to introduce an entirely new product to the market. If no member of the group has a clear idea about the important features of the product, how can you draw a good rich picture just by imagination sitting at the table? Another familiar example which we will briefly discuss later in the application is the learning by the young employees. We do not expect the young employees to be able to draw good rich pictures for almost any decision issues either since they have little knowledge about the business. Thus, first we let them learn through experience. After sufficient experiences, it may very well be that they can start drawing a nice relevant rich picture.

Closing the section, we should emphasize that our framework allows subjectivity. Recall the analogy of lens. In which direction you put your lens as a photographer is entirely your own subjective choice. In that sense, our framework is interpretive. Our point is that interpretivism becomes fictitious if we think too much in our head and neglect looking carefully into the world around us. An effective interpretive model for decision situations should also make sure that it depicts the aspect of the real world in the subjective concern of the decision maker.

## **THE MODEL**

The basic framework (like a language) on which we develop our methodology is a well-established methodology in the field of decision analysis called value-focused thinking (VFT) (Keeney, 1992).

The reason why we chose this particular framework is its nature as an interpretive tool to assist the decision makers to construct an adequate interface between decision analytic models and the real world. We believe that the intuition behind our model summarized in a natural verbal language is applicable with other methodologies as well. However,

## Explore Alternatives in order to Explore Purposes

VFT is convenient when we want to formulate our discussion formally, by which we can be quite precise whether our contentions really logically make sense.

### Value-Focused Thinking (VFT)

The subtitle of this paper is “Rethinking on Alternative-Focused Thinking (VFT)”. AFT is supposed to be at the opposite end of a spectrum from VFT if we refer to Keeney (1992). However, our aim is not to rediscover AFT on its own. Our aim is to add alternative- focusing flavour on VFT.

We very briefly introduce the aspects of VFT relevant to our framework.

The key concept behind VFT is PrOACT (Hammond, et al, 1999). PrOACT stands for the important elements of decision analysis, namely: Problem, Objectives, Alternatives, Consequences and Tradeoffs. At the same time, VFT embedded in the minds of decision makers enable them to become *proactive*. People most often are reactive to deal with the exogenously given problems like applying patches on your wounds. VFT along with other systems thinking approaches may possibly make you become proactive to look for opportunities rather than problems. Such a proactive attitude is particularly important when we want to deal with innovative strategic decisions. Unlike the consulting cases that appear in the literature, there are often no given problems for opportunity search kinds of decisions. This applies even more so for successful companies. Our framework assists such decision makers that take a step forward into a frontier in which they have never had experiences.

VFT puts very high importance on the objectives. Objectives give you the direction in which you want to set your lens. It is correspondent to *Weltanschauung* in SSM. Only when objectives are clarified, you know what information to look for. What is more important is that objectives can be the key driving factors by which the decision makers can be creative to redefine the problem definition, such that effectiveness of the model improves. Our framework augments the standard VFT in the effective search of objectives. Hammond et al (1999) gives the practical list which they call “the art of identifying objectives”:

- Step 1 -- Write down all the concerns you hope to address through your decision.
- Step 2 -- Convert your concerns into succinct objectives.
- Step 3 -- Separate ends from means to establish your *fundamental objectives*.
- Step 4 -- Clarify what you mean by each objective.
- Step 5 -- Test your objectives to see if they capture your interests.

As the reader can notice, there is no notion of the experiences of the decision maker. The concrete explanation of Step 5 implies some usage of exploration into the alternatives in the real world by saying “Use your list to evaluate your *potential* alternatives.” However, they do not clarify whether they mean potential alternative by the alternatives the decision makers actually experience out there in the real world or by the potential alternatives in their head<sup>1</sup>. Our framework precisely augments this point.

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<sup>1</sup> The only clear notions of experience on the search of fundamental objectives in VFT of which we are aware are the following two descriptions in Hammond et al (1999):

- *If a prospective decision sits uncomfortably in your mind, you may have overlooked an important objective.* (a practical advice for nailing down objectives)
- *Visit and evaluate some homes currently on the market before finalizing the objectives.* (lessons from the Application)

## Explore Alternatives in order to Explore Purposes

We construct our framework on the tool called means-ends objective network (Keeney, 1992) which formalizes Step 3 of the list above.

### *Means-Ends Objective Network*

To put it simply, the network resembles the “so what? - why so? hierarchy” in logical thinking. You with the original list of objectives obtained in Step 2. The basic idea is that you simply continue asking “*why* do I want to achieve this objective?” as many times as possible until you reach the fundamental objectives for which you cannot give a more fundamental reason for achieving them.

Another method of searching for fundamental objectives is to use strategic objectives. Strategic objectives are the very fundamental objectives of life for an individual or the missions of a company. This time, you start asking “*how* can I achieve these objectives?” until you reach the stage in which the objectives look operational within the decision context.

Thus, means-ends objective network consists of the hierarchy of objectives related with each other via the dual question of “why? – how?”

Using fundamental objectives, the set of relevant alternatives can be generated by asking “how?” until the variables seem controllable.

The contention of VFT is as follows. The set of creative relevant alternatives should be much wider than your initial alternatives if you utilize means-ends objective network method.

### *Our Method – Embedding AFT into means-ends objective network*

Our method suggests in addition to the method above that once you create a potential set of alternatives, you actually experience the physical alternatives. By exploring the alternatives, you may find the attributes of which you were not aware in the initial stage.

The new attributes you obtained in the exploration compose the second-time set of initial objectives. You start searching for fundamental objectives again and follow the same process of standard VFT. And thus the process recurs.

## **Theoretical Background and the Stopping Rule**

The theoretical background underlying our model has much to do with bounded rationality (Simon 1955, 1996). This theoretical framework provides us with the stopping rule of the recurring process.

Quite typically, the cost of decision making itself is too huge. We thus often start with only very few alternatives. Typically, in quite a few drastic cases, we start with a single alternative that can be referred to as a master plan. Other fine tuning sort of decisions may involve kaizen, which again may typically consist of a single alternative as *an idea*.

Simon’s (1955) search model with satisficing principle starts with such an initial alternative and then proceeds with search until the satisficing level is reached. Satisficing level is determined as the point at which the expected marginal benefit undermines the search cost.

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The former is retrospective and thus is not of our interest. The latter is almost exactly what we have in mind. Somehow, Hammond et al (1999) has not put this method into a formal advice.

## **Explore Alternatives in order to Explore Purposes**

Our framework replaces the simple search process in Simon (1955) with a structured search process utilizing means-ends objective network of VFT. The stopping rule however is basically the same.

### **THE METAMETHODOLOGICAL PERSPECTIVE**

Our next task is to clarify under what conditions our methodology is possible and effective.

#### **Existence of Extant *Tangible* Alternatives**

In many innovative decision situations, it almost looks by definition that you do not have tangible alternatives in front of you. Of course, in such cases, you cannot *experience* alternatives. However, it is not always the case that innovative decisions always are deprived of tangible component alternatives.

Suppose for instance you want to build an entirely new system using an extant hardware in the market. You may think you know the fundamental objectives of your new project. However, quite often you do not know too much about what the hardware can do for you. By touching the actual hardware, your inspiration raises and you might come up with new ideas.

Another example. We are writing a paper for submission to ISSS. Hopefully, we are creating a new innovative work. We of course have our initial objectives for the paper – namely to assist decision makers to find fundamental objectives. However, by utilizing the SIG “strategy management” alternative already available in the society and by utilizing the dialogue with the SIG chair Amanda Gregory, we have obtained a new fundamental objective of discussing the relevance of our model within the context of strategy management.

The important point in the two examples above is this. An alternative in decision making is like a bundle of many small components. Innovative decisions by definition create new alternatives as a whole. However, some of the components may be extant in the real world and may stimulate you to find new objectives.

#### **Possibility of *Exploration***

Another obvious bottom line is that it is possible to explore the alternatives.

The counterexamples include:

- Costly exploration. — e.g.) you cannot kill a person to test a new drug!
- Irreversible decision a single tangible alternative (to choose or not)
- Quick decision – e.g.) you have to choose until tomorrow!

A good example may be social experiments. Public policies often involve legal changes that are quite irreversible. Thus, before actually changing the formal institutions, it is useful to actually see what the real important issues regarding the policy are.

#### **Lack of Knowledge**

Our framework is only particularly effective when the decision maker lacks the knowledge regarding the situation in concern.

As was already mentioned, if the decision maker is familiar with the status quo and what she is dealing with, then she may very well focus on the contemplation. Various systems methodologies may be utilized for such a purpose along with VFT itself.

## **Explore Alternatives in order to Explore Purposes**

Another counterexample may be the use of experts or any equivalent knowledgeable individuals. Kobayashi and Kijima (2005b) discusses how the decision maker can manage the relationship with the experts for such a purpose. Often, the use of a knowledgeable individual greatly enhances your decision ability as well as decreases the cost of decision. However, there are side-effects for hiring an expert which will be discussed in the next section.

### **APPLICATIONS**

Here, we discuss the strategic merits for our exploratory approach.

#### **Education (Coaching)**

A major trend of modern organizations is to improve the motivation of the members. Theory of coaching suggests that conviction is an essential key for the motivation of the members. In order to obtain conviction, it is almost essential that they think hard and explore on their own power. It is often easy to tell the young employees what the essential fundamental objectives for various tasks are. However, it may be quite effective that you let them find out the fundamental objectives for themselves.

If the members have the sufficient ability, then the contemplation method may suit more. One of the major applications of our approach assumes young and inexperienced members. Young members like children tend to be curious and energetic. It is quite natural that you let them experience the world around them.

Of course, even when we insist on experiences, we also have objectives in mind. Exploration without the sense of objectives is highly ineffective in general. The episodes will not necessarily turn into experiences unless you can make sense out of the episodes. Thus, we have utilized VFT as the vehicle on which the exploration takes place.

#### **Avoiding Exploitation by the Experts**

We referred to the use of experts in the previous section.

One obvious disadvantage of the expert is that they may not be really very much knowledgeable about your particular issue and tend to be alternative-driven. What is paradoxically bad is that those experts tend to be quite smart and good at talking you into their way.

The important fact that we should bear in mind is that the experts are not necessarily neutral. They tend to bias your knowledge into a certain direction.

Consider a computer systems design for example. Quite naturally, a system consultant is tied up with a specific computer firm. Of course the deal you can get may become quite expensive. Even worse is that there may be a better alternative out there; the experts may be hiding what can be really done with the products from other vendors. If you want to get the best offer out of several vendors, then you should have the minimal knowledge yourself.

### **CONCLUDING REMARKS**

In this paper, we proposed a structural framework for the exploration of alternatives. We argued why exploration can be more effective than contemplation in various settings. We further showed how our framework can assist the learning process of decision makers with insufficient knowledge.



## Explore Alternatives in order to Explore Purposes

The current work was possible by the collaboration between the first author who mainly contributed on the theoretical design and the second author who provided the original ideas along with some examples. The work is still in progress. The second author is searching for an illustrative example in strategic management in his business scene as of the date of submission.

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