

Insights in the Habitual Nature of Creative Decision Making

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Selart, M., & Boe, O. Insights in the habitual nature of creative decision making. *Göteborg Psychological Reports*, 1998, 28, No 4. A questionnaire study was conducted in order to test the idea that creative decision making may be looked upon as a conscious and controlled habit which appears in everyday life. The results of the questionnaire revealed that everyday decision makers perceived themselves to be quite often engaged in the different aspects of value-focused thinking, which is a basis for creative decision making. The results also indicated that the decision makers perceived themselves to be using a high degree of involvement in the different aspects of value-focused thinking. Hence, both these results supported our claim stating that creative decision making is to be regarded as one among several everyday behaviors that are performed habitually.

Keywords: creativity, decision making, habit, value-focused thinking, involvement.

Introduction

In some scientific quarters, habits have for long been regarded as barriers to creativity together with certain perceptions and emotions. For instance, it has often been argued that although habits can be useful when we need to solve problems similar to those that we have been confronted with before, they nevertheless often misguide us when we are facing new problems. The reason for this is due to a lack of appropriateness. The metaphor is also

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often used that a habit may be looked upon as an algorithm, always working in the same way leading to the same conclusion. Supporters of this view do not seldom also hold the view that "all habits have to be removed" in order for people to become more creative and make better decisions. The perspectives that will be presented in this study reveal that this picture to some extent has to be modified. It will therefore be pointed out in the study that it is difficult to discuss the nature of creative decision making in everyday life not taking into account that it indeed has habitual aspects. For instance, recent research suggests that the concept of habit is broad and covers both responses guided by automatic processing and conscious reasoning processes (Oulette & Wood, 1998). This requires a more complex discussion of how habit relates to creative behavior. On the one hand, the literature suggests that many habits are automatic in the sense that repetition and practice of a skill may lead to that the cognitive control of it becomes mechanical. In such a case the behavior can be performed quickly in parallel with other activities, and requires minimal focal attention. For these responses, frequency of past behavior reflects habit strength and may serve to predict future performance (Posner & Snyder, 1975; Schneider & Shiffrin, 1977; Shiffrin & Schneider, 1977). On the other hand, when behaviors are not well learned or occur in unstable contexts, intentions may also direct behavior consciously through controlled reasoning processes. Such processes are often subject to an extensive, thoughtful, and systematic analysis (Eagly & Chaiken, 1993).

In this study, it is argued that it seems hard to deny that both intention and motivation play crucial parts for the act of creative decision making in everyday life. From this point of view, it is suggested that although creative decision making may be considered less habitual than automatic repetition of past acts, it still may be regarded as a behavior that occurs repeatedly in everyday life at a conscious and controlled level. Taking this as a point of departure, two perspectives of the habitual nature of creative decision making will be presented in the study. The first perspective is descriptive, and takes into account the fact that motivation is the key for many people in everyday life to discover their involvement when they are engaged in creative decision making. The second perspective is prescriptive in nature, emphasizing how creative decision making should be driven by motivation and value-focused thinking in order for people to be able to create as many good alternatives as possible to reach a solution. The study continues with an empirical investigation of how the prescribed thinking for creating alternatives in fact are used habitually by managers in their everyday lives. It ends by a conclusion of the main findings.

1. What cognitive science has taught us about the social creation of habits

Scientists all over the world have for long been engaged in understanding the habitual side of creative decision making. In this endeavor the Carnegie

School has perhaps been the most prominent and active proponent. A central characteristic of the school has been to focus on routine, taken-for-granted aspects of organizational life. Another characteristic has been to use cognitive science to be able to generate organizational theories with scientific rigor (Simon, 1945; March and Simon, 1958; Cyert and March, 1963). Many of the insights developed by members of the school are nowadays considered to be foundational elements in the study of organization. These insights include several findings; a. that uncertainty may be reduced by organizational routines; b. that attention is central for decisions; c. that ambiguity about preferences, technology, and interpretation influences decision making; and d. that decision making is to be considered a political process involving multiple actors with inconsistent preferences. From these insights follow the perspective that all learning takes place in the heads of individuals, and that organizations only learn in two ways: (a) by the learning of its members, or (b) by ingesting new members new members who have knowledge the organization didn't previously have (Simon, 1991). Nevertheless, there are relations between what is stored in different heads in an organization, and these relations can be more or less developed. Hereby, what is learnt by an individual in an organization is to a high degree dependent on what is already known to other individuals (or believed to be known by them). It is also to a high degree dependent on what kind of information is present in an organizational environment.

According to Powell and DiMaggio, (1991), the Carnegie school has been influential also on other schools of organization. For instance, it is considered that they have stimulated a change from a normative to a cognitive approach to action in several circles of management science. The focus has hereby changed from commitment to routine, from values to premises, and from motivation to rule following. It is furthermore argued that these shifts of perspective to a large degree are in line with modern management theory. There are several indications of this. For instance, from such a perspective the institutionalization of knowledge is fundamentally to be considered as a cognitive process. Moreover, normative obligations must be considered as any other facts of human lives that have to be taken into account. It is also considered that scripts², rules, and classifications are more central features of an organization than norms and values (Powell & DiMaggio, 1991). This is partly because they have the ability of providing readily available value-related labels, which make quick categorizations easy (Fiske & Taylor, 1991). An example of this is that one critical aspect of managers' sensemaking activities today is believed to be the classification schemes they utilize to impose structure on environmental cues (Bayster & Ford, 1997). The need for norms and standards has therefore grown and have lead to the standardization of different codes, such as language, technology and ideas (Giddens, 1990; Gergen, 1991). Members of organizations therefore often seek solutions to their problems in standardized ideas circulating in their particular organization field.

It seems evident that these new trends in management science in many respects build on the insights developed by the Carnegie School. For

instance, in line with previous results (Simon, 1945) proponents of these new approaches claim that habit is not to be regarded by and large as something passive in behavior. Rather it should be looked upon as a means of directing attention to certain aspects of a situation on behalf of other aspects. Hereby, the decision is actively guided in a specific direction. Furthermore, the importance of premises in structuring the activities and perceptions of organizational participants is also emphasized by many management scientists (Simon, 1945). Correspondingly, it is acknowledged by these scientists that March and Simon (1958) have taught them that organizational behavior in many instances involves rule following more than the calculation of consequences (this seems to be particularly true for decision making). In addition, there seems to be some consensus between the claims of modern management theory and later research results provided by the Carnegie School in that action is regarded as the key for organization members to discover their motives. Furthermore, these results also suggest that problems and solutions are typically decoupled, and that both oversight or quasi-mating of problems and solutions often influence decisions (March and Olsen, 1976; March and Weissinger-Baylon, 1986).

2. The habitual nature of creative decision making - a descriptive perspective

In the previous section of the study it was argued that the constraints set by the human information processing capabilities on organizations in many respects make them adaptive and ecological to their nature rather than strategic and value-focused. However, the adaptive and ecological production of knowledge quite often is supplemented with other forms of knowledge generation in everyday life, which are build not entirely on scripts but also on plans and goals (Schank & Abelson, 1977). From this perspective, it seems useful to apply a broader conceptual framework in order to be able to describe the habitual nature of creative decision making. The theory of reasoned action may provide such a framework (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1977, 1980). This theory is considered to be one of the most influential of the attitude-behavior relationship and has been applied frequently in the research on human habits. Basically, the theory prescribes that *attitudes* and *subjective norms* are quite good predictors of the *intention to act*, which in turn is a quite good predictor of *behavior*. The theory may therefore be used to study the habitual nature of creative decision making. There are of course many ways to define creative decision behavior. We suggest that an important feature of such a definition is to what extent people actually do create decision alternatives with high quality.

Attitude formation and creative decision making

These forms of alternatives do not seldom entail involvement with an emphasis on values. It has therefore been suggested by Verplanken and Svenson (1997) that both motivation and involvement play crucial parts in the creation of decision alternatives. They argue that only limited research has been focused on how these psychological states influence the decision process. As a point of departure, Verplanken and Svenson make a distinction between three types of involvement that are of special relevance to the decision process (see also Johnson and Eagly, 1989, for a review). The first type is labeled value-relevant involvement and relates to the fact that many decision makers are psychologically influenced by their values and attitudes in their acceptance and rejection of different state of affairs. For instance, it has been shown that people generally are more keen to make rejections when they have a high ego involvement compared to when they have a low involvement. The second type of involvement is defined as impression-relevant and refers to situations in which a person perceives that expressing an attitude has direct consequences for the impressions that others will have of her/him. The third type is labeled outcome-relevant involvement and denotes situations that are unfamiliar and which are unlikely to be linked to important values or to the prospect of being socially evaluated. Instead, this form of involvement is supposed to lead to message-relevant thinking by a strict focus on presented arguments. It is mentioned by Ekvall (1983) that definitions of creativity in a social context may focus on the creative process, the creative product or the creative person. From this view, it seems reasonable to argue that value-relevant involvement may be more important for attitudes toward the creative process whereas impression-relevant involvement may be more fundamental for attitudes toward a creative person. Similarly, outcome-relevant involvement seem to be very important for attitudes toward the creative product.

Focusing on the decision process, Verplanken and Svenson (1997) state that the identification of the decision problem is useful for the understanding of the role of involvement in creative decision making. It is therefore suggested that involvement is vital in the very beginning of the decision process, in which the problem is identified. In order to achieve this, the decision maker is scanning for attributes and alternatives which are of relevance for the decision goal. Each type of involvement is believed to be connected to a particular such goal. According to Verplanken and Svenson, value-relevant involvement is connected to the goal of making decisions that are in line with the activated values. Hereby, the values are assumed to guide the search for relevant attributes and alternatives. A drawback with this type of processing is that alternatives that are not value-relevant simply doesn't appear on the table. However, it is assumed that decision makers that are driven either by high outcome-relevant involvement or high impression-relevant involvement, by different motives, will be more eager to search for a larger degree of attributes and alternatives. It may therefore be argued that these forms of involvement may be considered as more beneficial for the creation of decision alternatives.

Subjective norms and creative decision making

Not only the forces behind attitude change are important for the understanding of the occurrence of creative decision behavior. Also subjective norms are informative in this respect (Ajzen, 1985). Some of these norms indicate how people generally act in a given situation and may therefore be regarded as heuristic rules as to what constitutes appropriate behavior. It is not seldom the case that people in general think that if everybody else is acting in a certain way, it must be appropriate. Cialdini (1993) makes the suggestion that this kind of search for social proof quite often constitute decisional shortcuts when uncertainty is felt in the decision situation. The reasoning for this is that imitation of other's behavior usually lead to appropriate decisions. Consequently, people often try to imitate creative decision behavior when they think such a behavior is appropriate. Hence, what is learnt by an individual in an organization is to a high degree dependent on what is already known to other individuals (or believed to be known by them). What is learnt is extensively also dependent on what kind of information is present in an organizational environment (Simon, 1991).

Social pressure may perhaps be regarded as an even more forceful determinant of creative decision behavior than pure imitation. In a group, there exist shared expectations about how we should act. These expectations are not seldom backed by the threat of group sanctions or the promise of rewards. They hereby become fundamental to the organizational learning of creative decision making, since in everyday life, the creativity of the person, process and product are all subject to social evaluation and reinforcement. It is therefore important to note that habits do not only promote conformity with social norms, they are also to a high degree involved in the genesis of these norms (see also Weber, 1922).

Intentions and creative decision making

One of the most important implications of the theory of reasoned action is that intention should be able to quite well predict behavior. Especially, this should be the case if intention is measured in such a way that it matches the behavioral criterion with regard to action, target, context, and time (Eagly & Chaiken, 1993). At a close look, a distinction may be made between goal intention and implementation intention (Gollwitzer, 1993). What signifies the goal intention is that it specifies a desired end state or goal for which the individual becomes committed. By this reason, practical matters which are related to the implementation of the intention are not considered. This is partly due to that the construction of a goal intention not seldom is characterized by conflicts between different desires. It has therefore been suggested by Gollwitzer that the degree of commitment associated with the goal intention may serve as a measure of how important the goal is.

An implementation intention is on the other hand dealing with the issues of when, where, and how the goal-directed actions are to be carried out. Quite often, it is formed subsequently when the conflicts created by the goal intention have been resolved. For this reason, the implementation of intentions is highly connected with the act of planning (Gollwitzer, 1996; see also Gillholm, Ettema, Selart, & Gärling, 1996, for a review).

We argue that both goal intention and implementation intention are vital for the prediction of creative decision behavior, since it has been established that intentions are believed to be generally quite good at predicting behavior. This is particularly true for creative decision making. The reason for this is that in behaviors that are not well learned or appear in new contexts, intentions often direct the behavior consciously through controlled reasoning processes. Such processes are often subject to an extensive, thoughtful, and systematic analysis (Eagly & Chaiken, 1993).

Hence, it may be assumed that the creation of useful decision alternatives is dependent on both clarification of the decision objectives as well as on an analysis of the planning procedure.

A summary of the section

In conclusion, the habitual nature of creative decision making has been described as being influenced by scripts as well as by goals and plans. This fully engaged thinking therefore involves a choice of cognitive strategy which is highly influenced by different forms of goals, motives, and needs. Considered as a habit, creative decision making has furthermore been suggested to be conscious and controlled to its nature as well as extensive, thoughtful, and systematic. Thus, it seldom becomes automatic in everyday life.

It has furthermore been suggested that the framework outlined by Ajzen & Fishbein (1977, 1980) may be used to make predictions about the occurrence of creative decision behavior in the social world. Especially goal and implementation intentions may be considered as useful for predicting creative decision behavior.

3. The habitual nature of creative decision making - a prescriptive perspective

In the previous section, it was outlined that we to a high extent are guided by different forms of involvement when we make our decisions. In fact, it has been pointed out that human involvement may serve as a key for understanding a broad range of decision behaviors that are influenced by habit, emotion, and moral values (Showers & Cantor, 1985; Zey, 1992). Such a suggested wide range and complexity of human decision making unavoidably make a threat to highly conservative rational choice theories. This is since emotions in everyday life for many situations have shown to make decision makers depart from the stated axioms of rational decision

theory. Taking this fact as a point of departure, some decision theorists suggest that the application of rational thinking to decision making must be context dependent and case-based. From this perspective, the role of a decision analysis is to provide prescriptive advice to a presumptive decision maker (it could be an individual or an organization). In order to do so, apart from suggesting general cures, the decision maker's individual values and objectives must be taken into account. As a means of prevention, the decision makers may also use simplifications of the prescribed routines themselves in order to avoid serious problems and to improve the quality of everyday decision making habits.

Some general advice

A useful overview of the most frequently cited creative heuristics is provided by Amabile (1996). She argues that these heuristics can be identified, learned, and used effectively by most humans. It is furthermore pointed out that since the heuristics are quite general in nature, they are useful as rules of thumb in a broad range of everyday situations³. As a reader, one may ask oneself how these creativity heuristics may be operationalized in everyday life in order to structure decision problems and to generate options. Keller and Ho (1988) give an answer to this question by presenting an integrative framework of procedures for generating options, which share many of the fundamental aspects of the creativity heuristics. These procedures are divided into two main categories: 1. *Attribute-based procedures*. Here, it is argued that a strength of the human information processing system is the complex associative memory which permits small cues or attributes to stimulate the retrieval of complex associations. These may in turn have a bearing on the option-generating process. By this process, attention to different subsets of an attribute may result in the creation of options (see also Pitz, Sachs, & Heerboth, 1980; Jungermann, von Ulardt, & Hausmann, 1983; von Winterfeldt, 1980 for illustrations). A note of warning is provided by Keller and Ho to be considered when applying attribute-based procedures. To be able to increase creativity by using these procedures it is advised that idea generation should be kept apart from evaluation, in order to avoid premature censoring of ideas before they are formally stated. 2. *Alternative-based procedures*. Another way of creating options is to start the process by analyzing already existing options. For instance, one may present examples of options with the aim that they will help to elicit more options. Sometimes this procedure is quite effective. However, the empirical evidence for the efficiency of it is mixed, since it has been revealed that anchoring effects may lead to the generation of more similar than distinct options (Pitz et al. 1980). Apart from anchoring, the framing of the options may also interfere with this procedure (Fischhoff, 1983). Results also show that in some instances the procedure may even lead to the creation of less alternatives (Gettys, Pliske, Manning, and Casey, 1987). For the cases when the effect is in the predicted direction,

concretizing and instantiating from general information (general to specific) seem to be crucial (Isenberg, 1986).

The importance of value-focused thinking as a path to creative decision making

In his recently published book, Ralph Keeney (1992) informs us about how we may create better alternatives for most of our decision situations, by stressing the importance of emphasizing decision opportunities rather than problems, and by using fundamental values to guide the decision making. From the book we learn that people generally are too keen to identify only a few alternatives for a given decision situation. Keeney provides us with several explanations for this. He states that much problem solving is characterized by a quick move away from the ill-defined to the well-defined. Thus, people are often apt to move from the constraint-free thinking to the constrained thinking. The underlying reason for this is according to Keeney the need to feel a progress towards reaching a solution. In order to be able to feel this progress, a couple of promising alternatives are often rapidly classified. Subsequently, they are often evaluated without any efforts of searching for additional alternatives. Nevertheless, should there be such a search, it is not seldom the case that the few alternatives that are on the table (or perhaps only one, such as the status quo) serve to anchor the thinking about others.

As an alternative way to proceed, Keeney suggests that we should make use of our values and let them guide the decisions. If we do this, creativity and productivity will most likely be present in the search for new alternatives. An advantage with using value focused thinking in this respect is that it will remove the anchor on the already defined alternatives and allow clear progress toward solving the problem. However, a problem with this approach is that involvement that is more value- than outcome-relevant to its nature has a tendency to lead to a more stereotyped search of attributes and alternatives in the identification of the decision problem (Verplanken and Svenson, 1997). This problem may be solved by defining value-focused thinking as influenced both by value- and outcome-relevant involvement.

To be able to work optimally with value-focused thinking, lots of positions will have to be taken on the way. The introduction of values has many important consequences for the decision making process which requires that you know your goals. It is therefore suggested that you should start with considering what consequences you would like to achieve and create alternatives that will let you achieve them. You should also try to create alternatives that make others as well as yourself better off. In order to acquire this, the values of others must also be taken into account as well as your own. According to Keeney, one should always try to create a win-win situation for all parties. Furthermore, a procedure including three steps must be followed in order to create alternatives: a. As a first step, it is suggested that you begin with the fundamental objectives that indicate

what you really care about in the problem. b. Then you follow simple logical reasoning processes to identify the mechanisms by which these objectives may be achieved. c. As a third step, for each mechanism, you create alternatives or classes of alternatives by asking what control you have over that mechanism. Finally, the meaning behind the fundamental objective must be revealed and the factors contributing to it. This is essential since it may suggest alternatives. The introduction of classifications is one way of achieving this (Keeney, 1992).

There are several things that are important for the *individual decisionmaker* to keep in mind in order to be able to create alternatives, according to Keeney. To begin with, it is suggested that thinking about your objectives is helpful to create alternatives. It may be helpful to start with creating a hierarchy of the objectives that are important to you. A subsequent step is to concentrate on one objective at a time and look for alternatives that could be considered to be very attractive in relation to each objective. This procedure should provide a broad range of alternatives. The next step is to try to combine any of the alternatives into one single alternative. For instance, two alternatives that taken each separately are helpful to fulfill one of two separate objectives may perhaps be combined in time, although they may not have much in common. From a larger perspective, this may be looked upon as one alternative which is composed of two distinct components. Hereby, it becomes less important whether the achievement of a certain objective is produced by a single alternative or by a chain of multiple alternatives coordinated in time. It is argued by Keeney that value-focused thinking make it a lot easier to identify coordinated alternatives than alternative-based thinking. For example, if you are planning to do a business trip for a certain purpose, you may add on alternatives by asking yourself if other aspirations could also be addressed on the trip. It is also noted that many constraints that are set in a decision situation are unnecessary and may be removed in order to create more alternatives. Such constraints may consist of prior arranged rewards/incentives, deadline-induced pressures, expected evaluations or monitoring (Amabile, 1983).

In a recent book, also de Bono (1993) points to the fact that classifications may be helpful in order to create alternatives (in his chapter on the concept fan). In practical life, a problem such as how to deal with a shortage of water may lead to the immediate test of an idea (e.g., raise charge for water use). If the idea turns out to be difficult to implement it may serve as a basis for generating concepts (e.g., increased efficiency of use, less wastage, discourage use, education). These concepts may in turn lead to new ideas or to even broader concepts, or directions, which will lead us to the objective (e.g., reduce consumption, increase supply, do without). Hence, we go from an idea to a concept, which becomes a fixed point for other ideas. But there is also a movement from the concept itself to the "broader concept", which then becomes the fixed point for alternative concepts. In this way, two layers of concepts are used in order to cascade alternative ideas.

In everyday life, several decision situations are characterized by that more than one party have an interest in the consequences of a decision and

how it is made. In other words, there exist *multiple decisionmakers*. Within the decision analytic tradition, different interest parties are often referred to as stakeholders, whether they consist of individuals, groups, or organizations. According to Keeney, there is a lot to be gained by systematically focusing time and effort on the creation of alternatives in decision situations involving multiple stakeholders. In this process, the values of the different stakeholders should be especially focused upon, since these could be regarded as manifestations of the stakeholders interests in the decision. This procedure is necessary to be able to please all the stakeholders and will most probably result in an increased creation of alternatives. Also the decision context framed by the decisionmaker is of great importance. For instance, imagine that the state is constructing a dam with the aim to increase agricultural productivity. This may nevertheless result in that the farmers remain at the same productivity level but instead chose to raise their leisure time (Ackoff, 1978). In such a situation, better alternatives might retrospectively have been considered in order to increase the agricultural productivity. From the other point of view, better alternatives might also have been created in order to increase the leisure time for the farmers compared with the dam alternative.

4. Value-focused thinking in everyday life - An empirical study of the habitual aspects of managerial reasoning

Taking into account that value-focused thinking has been prescribed to facilitate the creation of decision alternatives (Keeney, 1992), we want to investigate to what degree everyday decision makers actually use this form of thinking habitually in everyday life. We also ask ourselves if value-focused thinking could be regarded as a pre-decisional habit which is interacting with different classification schemes (Bayster and Ford, 1997). The question is based on the fact that it has been suggested that scripts have the ability of providing readily available value-related labels, which make quick categorizations easy (Fiske & Taylor, 1991).

To be able to answer these questions we developed an electronic questionnaire which was distributed to managers of information technology companies in Sweden. In the questionnaire two classification schemes of relevant decision situations were presented. These schemes have been suggested to be fundamental to managers in their everyday decision making (Bayster and Ford, 1997). The first scheme involves decisions that rely on well understood and accepted rules, for instance net present value, rate of return and tax schedules. These decisions are often process-based and technical in nature. The second scheme involves decisions that include reorganizations, for instance the rating and ranking of employees, or the hiring, promoting or termination of the same. The two schemes are presented in Table 1.

With regard to each classification scheme, seven aspects of value-focused thinking were presented to the managers (see Table 2). Five of these aspects concerned situations for which the outcomes of the decision situations were

of interest mainly to *individual decisionmakers* (aspects # 1, 5, 6, 7). The other two aspects dealt with situations for which the outcomes of the decision situations were relevant to *multiple decisionmakers* (aspects # 2, 3, 4). For each aspect, the managers were instructed to make a judgment on a rating scale and thereby stating how often they were involved in each aspect of the thinking. The managers were first instructed to relate the seven aspects of value-focused thinking to the classification scheme entailing procedural issues of financial routines. Subsequently, they were instructed to do the same with the scheme entailing the personnel decisions. The judgmental instruction could read as follows (aspect # 1): "How often do you consider explicitly what valued consequences you would like to achieve, and create alternatives that will allow you to achieve them in your everyday decision making? Please make a rating on a scale ranging from -6 to +6 where (-6) stands for very seldom, (-3) for rather seldom, (0) for neither seldom nor often, (+3) for rather often and (+ 6) for very often".

The managers were subsequently instructed to indicate on another scale how involved they generally perceived themselves to be when dealing with each kind of aspect. In this case, the judgmental instruction was slightly differed. For all aspects, it read as follows: "In average, how involved are you when performing this activity? Please make a rating on a scale ranging from -6 to +6 where (-6) stands for very little involved, (-3) for rather little involved, (0) for neither little nor much involved, (+3) for rather much involved and (+ 6) for very much involved".

Several predictions were made about the results. First, we assumed that the managers overall should indicate that they, at least according to their own standards, quite often would perceive themselves to be quite engaged in the different aspects of value-focused thinking. The reason for this assumption was that we believed that taking values into account in everyday reasoning must be quite usual in managerial decision making. Second, a high degree of reported involvement in connection to each aspect of the value-focused thinking was also awaited. The basis for this assumption was that creative decision making was considered to be a highly conscious and controlled habit, and thus, as such, should require a large degree of involvement. Third, different effects of the classification schemes were also predicted. With regard to the perceived frequency, no clear effects were expected. But concerning the involvement, we assumed that managers should be more involved in decisions related to personnel issues than to procedural issues of financial routines, since the former decisions schematically were to be considered as less rule-based. Forth, it was moreover assumed that also an interaction between classification scheme and aspect category should be at hand. It was thus predicted that the scheme entailing procedural issues of financial routines should lead to a higher perceived frequency of the *individual decisionmaking aspects* than of the *multiple decisionmaking aspects* by the managers. However, the reverse was predicted for the classification scheme involving the scheme entailing personnel decisions.

Table 1

The Classification Schemes of Decision Situations Presented to Managers

Classification scheme 1

Goals: Organizationally focused, congruent across decision makers

Problem definition: Global, stable view of problem among decision makers

Decision importance: Determines willingness to expend resources to search for decision relevant information.

Availability of analytic methodology: Available and accepted by all decision makers. Relied upon to make the decision.

Nature of information: Complete, accurate, relevant, unbiased, and available. Used to make optimal decision.

Description: Very usual in for instance economic or "money-based" issues. The decision making process relies on well understood and accepted rules, for instance net present value, rate of return and tax schedules. The decisions are often process-based and technical in nature.

Classification scheme II

Goals: Reflect self-interests of decision makers as individuals or coalitions.

Problem definition: Negotiated. Decision makers define problem to their advantage.

Decision importance: Determines willingness to expend political "capital" to influence the decision

Availability of analytic methodology: Not available and/or not accepted by all decision makers. Control over analysis process represents a source of power.

Nature of information: Incomplete, inconclusive, irrelevant distorted, or not available. Manipulated to support positions.

Description: Very usual in for instance in personnel issues like organization, labor and staffing. Issues include reorganizations; rating and ranking of employees, hiring, promoting or terminating employees

Table 2
Questions Asked to the Managers

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1. How often do you consider explicitly what valued consequences you would like to achieve, and create alternatives that will allow you to achieve them in Classification scheme I/Classification scheme II decision making? In average, how involved are you when performing this activity?
 2. How often do you try to create an alternative that gets you what you want and at the same time makes others better off when you are engaged in Classification scheme I/Classification scheme II decision making? In average, how involved are you when performing this activity?
 3. How often are you thinking of others values at the same time as you think of your own when you are making Classification scheme I/Classification scheme II decisions? In average, how involved are you when performing this activity?
 4. How often do you try to create a win-win situation for yourself and for the others, when you are making Classification scheme I/Classification scheme II decisions? In average, how involved are you when performing this activity?
 5. How often do you begin with the fundamental objectives that indicate what you really care about in the problem, when you are making Classification scheme I/Classification scheme II decisions? In average, how involved are you when performing this activity?
 6. How often do you use simple logical reasoning processes to identify the mechanisms by which your objectives may be achieved, when you are making Classification scheme I/Classification scheme II decisions? In average, how involved are you when performing this activity?
 7. How often do you create alternatives or classes of alternatives by asking what control you have over that mechanism, when you make Classification scheme I/Classifications scheme II decisions? In average, how involved are you when performing this activity?
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Results in favor of treating creative decision making as a conscious and controlled habit

Our results were based on the responses deducted from 22 managers (about 150 were approached), of which 17 were male and 5 were female. A

clear majority of those managers had earned a complete university degree (19 out of 22). They all held leading positions at information technology companies in Sweden, which in average engaged 25 employees. Normally, the managers had been serving for 5 years in their companies. The results revealed that the managers in general perceived themselves to be quite often engaged in the different aspects of value-focused thinking, as a basis for their everyday decision making, (see Table 3; the mean value reliably differed from zero, $p < .01$). This measure is quite subjective to its nature with limited abilities to estimate the actual frequency of the behavior. Still, it indicates that the act of creative decision making was perceived to be used habitually by the managers, according to their own standards.

Another interesting feature of the results was that the managers reliably perceived themselves to be using a high degree of involvement in the different aspects of value-focused thinking, (the mean value reliably differed from zero, $p < .01$). This finding underlines the fact that considered as a habit, creative decision making could very well be regarded as a conscious and controlled process which is extensive, thoughtful, and systematic to its character. Hence, both these general results support our general predictions stating that creative decision making is to be viewed as one among several everyday behaviors that are performed habitually in the management of organizations. Hereby, our results challenge assumptions of the kind that "all habits have to be removed" in order for people to become more creative and to make better decisions.

Effects of classification scheme on managerial judgment

With regard to the classification schemes, in line with our predictions, there were no effects of the schemes on the perceived frequency of the different aspects of value-focused thinking. However, much to our surprise, it was revealed that the managers perceived a higher degree of involvement when dealing with the classification scheme entailing procedural issues of financial routines than when concerned with the scheme entailing personnel decisions, $t_{(21)} = 2.32$, $p < .05$. There are several explanations for this. One is that although the former scheme is to be considered more rule-based than the latter, procedural issues of financial routines still may be regarded as something which is not automatic to its nature. Hereby, these issues may deserve involved supervision on a daily basis from the managers. Another explanation is that issues related to the conversion of the organizational structure in smaller companies may follow prescribed routines and thus be more rule-based and deserving less involvement than in larger companies. If this is the case, a possible reason could be that the political importance of these issues are not as high in smaller companies as in the larger ones.

When looking at the effects of classification scheme on the judged frequency of the different aspects of value-focused thinking (aspects related to decisions implying single vs. multiple decisionmakers), there were also some interesting findings. When applying the classification scheme entailing procedural issues of financial routines, the managers reported a

higher judged frequency of the social aspects than of the individual ones, $t_{(21)} = 4.50$, $p < .01$. This finding was contrary to what we had expected. Similarly, when applying the classification scheme entailing personnel decisions, the managers also reported a higher judged frequency of the social aspects than of the individual ones $t_{(21)} = 4.24$, $p < .01$. This result was in line with our predictions. Taken together, our results indicate that the application of different classification schemes in managerial decision making may not lead to that different aspects of value-focused thinking are highlighted in the decision making process.

5. Conclusion

The basic idea of this study has been to provide arguments in favor of the view that creative decision making may be looked upon as a conscious and controlled habit which appears in everyday life. From this perspective, it has been argued that the behaviour may be influenced by scripts as well as by goals and plans. Considered as a habit, creative decision making has furthermore been suggested to be conscious and controlled to its nature as well as extensive, thoughtful, and systematic. Thus, it seldom becomes automatic in everyday life. It has furthermore been advised that the framework outlined by Ajzen & Fishbein (1977, 1980) may be used to make predictions about the occurrence of creative decision behavior in the social world. This approach is considered to be especially valuable for scientists who wish to apply structural models to the matter, applying a descriptive perspective. Propositions were also provided about how to make prescriptions in order to improve decision making routines. From this point of view, it was proposed that value-focused thinking is an important prerequisite for creative decision making (Keeney, 1992). The essence of value-focused thinking is that decisionmakers should focus on the decision objectives in favor of decision alternatives in order to be able to enlarge the set of decision alternatives. Accordingly, if we learn how to apply this kind of thinking to our everyday decision problems we may also improve our decision making habits over time.

Taking into account that value-focused thinking has been prescribed to facilitate the creation of decision alternatives, we wanted to investigate to what degree decision makers actually use this form of thinking habitually in everyday life. We also asked ourselves if value-focused thinking could be regarded as a pre-decisional habit which is interacting with different classification schemes (Bayster and Ford, 1997). The results revealed that decision makers perceived themselves to be quite often engaged in the different aspects of value-focused thinking, as a basis for their everyday decision making. The results also indicated that the decision makers perceived themselves to be using a high degree of involvement in the different aspects of value-focused thinking. Hence, both these general results supported our claim stating that creative decision making is to be regarded as one among several everyday behaviors that are performed habitually. Furthermore, it was revealed that the managers perceived a

Table 3

Mean Values of Managers Judgments Concerning Their Perceived Frequency of and Involvement in Several Aspects of Everyday Value-Focused Thinking

	<u>Mean</u>	<u>SD</u>	<u>N</u>
Classification Scheme I			
<i>Perceived frequency of</i>			
All aspects (#1-7)	3.95	1.63	22
Aspects mainly concerning individual decision makers (#1, 5, 6, 7)	3.54	1.72	22
Aspects mainly concerning multiple decision makers (#2, 3, 4)	4.48	1.67	22
<i>Perceived involvement in</i>			
All aspects (#1-7)	3.88	2.06	22
Aspects mainly concerning individual decision makers (#1, 5, 6, 7)	3.76	2.15	22
Aspects mainly concerning multiple decision makers (#2, 3, 4)	4.05	2.07	22
Classification Scheme II			
<i>Perceived frequency of</i>			
All aspects (#1-7)	3.51	1.96	22
Aspects mainly concerning individual decision makers (#1, 5, 6, 7)	3.18	1.93	22
Aspects mainly concerning multiple decision makers (#2, 3, 4)	3.95	2.10	22
<i>Perceived involvement in</i>			
All aspects (#1-7)	3.33	2.19	22
Aspects mainly concerning individual decision makers (#1, 5, 6, 7)	3.19	2.30	22
Aspects mainly concerning multiple decision makers (#2, 3, 4)	3.52	2.19	22

Frequency was measured on a scale ranging from -6 to +6 where (-6) stands for very seldom, (-3) for rather seldom, (0) for neither seldom nor often, (+3) for rather often and (+6) for very often. Involvement was measured on a scale ranging from -6 to +6 where (-6) stands for very little involved, (-3) for rather little involved, (0) for neither little nor much involved, (+3) for rather much involved and (+6) for very much involved".

higher degree of involvement when dealing with the classification scheme entailing procedural issues of financial routines than when concerned with the scheme entailing personnel decisions. However, it was also established that the application of different classification schemes in everyday decision making may not lead to that different aspects of value-focused thinking are highlighted in the decision making process.

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Notes

¹ For instance, according to Max Weber, there exists an inner psychological disposition in the human mind, which is labeled *Eingestelltheit*. It implies a continuation along as one has regularly done, and contains in itself tangible inhibitions against innovations (Weber, 1922; see also Camic, 1992, for a review).

² Essentially, a script may be regarded as a sequence of related behavioral events that helps us to organize our knowledge of the world so that we may understand events and situations (Schank and Abelson, 1977; Abelson, 1981). It comprises a set of action rules which have a direct reference to the situation for which it apply. A script specifies what actions will happen (in a general sense) and in what order. It also leaves open slots to be filled in at the time when the specific action will take place. For instance, a script does not specify what a manager will say at a meeting. This is something that varies from one occasion on which the script is used to another. Hereby, a script becomes a kind of knowledge structure that we use as guidance in the social world.

³

1. Play with ideas (Wickelgren, 1979).
2. Try to generate hypotheses by analyzing case studies, using analogies, accounting for exceptions, and investigating paradoxical incidents (McGuire, 1973; see also 1997).
3. Make the familiar strange and the strange familiar (Gordon, 1961).
4. Try something counterintuitive (Newell et al. 1962).
5. Use concentrated work sessions rather than scattered, distributed work sessions; start by playing with the same idea in a number of different ways before entering the idea-generating sessions; don't rely too much on overlearning of response algorithms (Mednick, 1962).
6. Try to rearrange the elements of a problem; take a break; start to consider a solution involving the most important elements before elaborating a solution in detail; Try to consider classes of elements on behalf of particular elements; given that the way to reach a goal from your position seems too far, it may help to look for shorter ways (Anderson, 1980).
7. Apply "intermediate impossibles"; determine the value of an idea by its potential to setting off further ideas rather than on its validity (de Bono, 1971).