HEURISTICS IN DECISION MAKING

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ABSTRAK

Prinsip heuristics tidak dapat dikatakan sebagai sebuah pendekatan pengambilan keputusan yang non-rasional, karena penerapan atau penggunaan yang unconscious atau subtle mind tidak dapat dianggap sebagai tindakan yang irrational. Dengan alasan tersebut, terdapat cukup alasan untuk menyatakan bahwa pengklasifikasian pendekatan-pendekatan keputusan semestinya menggunakan terminologi analytical dan experiential, dan bukan memakai istilah rational dan non-rational seperti yang umumnya diikuti. Penerapan pendekatan heuristics dapat ditemukan pada berbagai disiplin, termasuk bisnis dan akuntansi. Topik heuristics semestinya mendapat perhatian yang cukup luas dari para periset di bidang akuntansi. Bidang behavioral research in accounting menawarkan banyak kemungkinan untuk dikaji, karena prinsip heuristics bertautan erat dengan aspek manusia sebagai pelaku dalam pengambilan keputusan.

***Keywords**: heuristics, decision making, rational choice theory*

I. INTRODUCTION

Rational choice theory, or analytical system (Slovic, Finucane, Peters, & MacGregor, 2002), argues that decision should be made after considering all available alternatives. The best decision can be made only if all possible solutions taken into consideration. However, opinions and evidences do not always support that argument [see for example (Simon, 1955), (Tversky & Kahneman, 1974), (Busenitz & Barney, 1997), (Krabuanrat & Phelps, 1998), (Stoner & Freeman, 1992, p. 259), (Slovic et al., 2002), and (Bonnefon, Dubois, Fargier, & Leblois, 2008)]. Herbert Simon was among experts questioning

practical application of the rational theory. Simon's bounded rationality principle in decision making was developed after his doubt on the acceptability of that theory. He stated that (Simon, 1955):

> "My first empirical proposition is that there is a complete lack of evidence that, in actual human choice situations of any complexity, these computations can be, or are in fact, performed".

In line with Simon's proposition, Stoner & Freeman (1992, p. 259) mentioned that in most situations decision makers actually use simpler methods. Human beings are not like super calculating machines. In making decisions, they tend to ignore the complicated methods and adopt less complex methods to speed up the process.

As replacement for the rational model, decision makers practically make their decision by applying alternative approaches, such as bounded rationality and rules of thumb called heuristics. By adopting alternative approaches, decision makers know, assume, and accept if their decisions are influenced by biases (Stoner & Freeman, 1992, p. 259). Research by Tversky and Kahneman (1974) has extended Simon's ideas on bounded rationality. They have demonstrated that people rely on heuristic principle to simplify decision making. Heuristic principle is a method of decision making that proceeds along an empirical lines, using rules of thumb, to find solutions or answers.

This paper aims to discuss heuristic principle as an alternative approach to decision making. It is expected to give some understanding on how this

principle can be a very useful method under certain circumstances. Certain articles investigating the principle are posited for further exploration. The rest of the paper is organized as follows: approaches in decision making, challenges to rational-economic (analytical) model of decision making, and heuristics principle and related researches. These theoretical elaborations direct the discussion part of the paper. The paper ends up with conclusion.

II. THEORITICAL REVIEW

Approaches to Decision Making

Greenberg & Baron (2000, pp. 343-345) identified several different approaches to how individuals make decision. Three of the most important are:

(1) The rational-economic model: that is theoretically considered as the best approach in search of ideal decision. An economically rational decision-maker attempts to maximize profit by searching for the optimum solution to a problem. For this to occur, the decision maker must have perfect information and then process it in an unbiased fashion.

(2) The administrative model: that is reckoning for the limits of human rationality, or what is called as bounded rationality. This model recognizes that a decision-maker may have a limited view of the problem confronting it. Thus, in that situation, he or she might selects a solution that may be good enough but not optimal, termed as satisficing decisions.

(3) Image theory: an intuitive approach to decision making. This theory assumes that selecting the best alternative by weighing all options is not always a major concern when making a decision. In image theory, the decision making process is both rapid and simple. People make adoption decisions based on a simple, two steps process: the compatibility test and the profitability test.

Good decision making is undoubtedly very important to the strategic success of an enterprise. In a dynamic environment, decision processes not only need to be well designed but they must also adapt rapidly to changes in the environment. As noted by Krabuanrat & Phelps (1998), although the existing researches on decision making have centered around the concepts of rational and bounded rationality decision processes, recent works have indicated the acceptance of the third model of decision, based on the use of heuristics.

Approaches to decision making might be associated with aspects of human thinking that has been well discussed in other disciplines. Researches in cognitive and social psychology and in cognitive neuroscience informed us that there are two basic modes of thinking: experiential and analytic (Slovic et al., 2002). The experiential mode is characterized by its affective basis. It is assumed to be related with experience of affect, the subtle feelings of which people are often unaware. The analytic mode can be tied to the rational choice theory. Table 1 compares the two modes of thinking.

Table 1 Two modes of thinking: comparison of the experiential and analytic systems

Experiential system	Analytic system
1. Holistic 2. Affective: pleasure–pain oriented 3. Associationistic connections 4. Behavior mediated by "vibes" from past experiences 5. Encodes reality in concrete images, metaphors, and narratives 6. More rapid processing: oriented toward immediate action 7. Self-evidently valid: "experiencing is believing"	1. Analytic 2. Logical: reason oriented (what is sensible) 3. Logical connections 4. Behavior mediated by conscious appraisal of events 5. Encodes reality in abstract symbols, words, and numbers 6. Slower processing: oriented toward delayed action 7. Requires justification via logic and evidence

(Slovic et al., 2002)

Challenges to the Rational-Economic (Analytical) Model

The most important characteristic of the rational-economic model is careful evaluation of each possible alternative. If implemented, step-by-step processes in the model should be well documented. While the exact number of stages and their contents vary somewhat from author to author, the general steps may be summarized as follows (Krabuanrat & Phelps, 1998):

(1) A precise formulation of the problem

(2) Information search

(3) Listing of alternative solutions

(4) Evaluation of alternatives according to predetermined criteria

(5) Choice of solution

Unfortunately for this model, extensive testings, both in laboratory situations and in the field, have revealed that very few business decisions are taken in this way [(Jamal & Sunder, 1996), (Busenitz & Barney, 1997), (Krabuanrat & Phelps, 1998), (Glockner & Betsch, 2008)]. Although analysis is certainly important in some decision-making circumstances, reliance on affect and emotion is a quicker, easier, and more efficient way to navigate in a complex, uncertain, and sometimes dangerous world.(Slovic et al., 2002)

In conducting their duties, decision makers are affected by biases, make their decisions become less ideal. Some major factors contributing to the imperfect nature of individual decisions, (Greenberg & Baron, 2000, pp. 346-352), are:

(1) Framing effects

(2) Reliance on heuristics

(3) Bias toward implicit favorites

(4) Escalation of commitments phenomenon

The work of Krabuanrat & Phelps (1998) identified that analysis of decision protocols provides evidence that heuristics are commonly used both individually, in combination with others, and in combination with more formal elements. They pointed out two lessons for strategic decision makers can be drawn. First, that the options or decision process designed to avoid "garbage can" processes and optimize decision characteristics in response to needs. Second, that contrary to a widely held belief, the "rational" model of decision

making may not be an ideal at which to aim (even in the sense of bounded rationality) for dynamic strategic decisions; instead the development of heuristics and mental models may present a more relevant aim.

Heuristic Principle and Related Researches

Heuristic principle is a method of decision making that proceeds along an empirical lines, using rules of thumb, to find solutions or answers (Stoner & Freeman, 1992, p. 259). In politics, heuristics defined as shortcuts voters use to decide between candidates (Allen & Wilson, 2009)**.** Heuristics can speed up decision making, but they are fallible if individuals rely too heavily or taint them with their own biases. There are two advantages of employing heuristics in decision making: (1) heuristics have reasonable rationales, so they generally produce correct results, (2) they save enormous amounts of time for the decision makers (Stoner & Freeman, 1992, p. 262). This heuristic enables us to be rational actors in many situations. However, it fails miserably when the consequences turn out to be much different from what we anticipated. In the latter circumstances, the rational actor may well become the rational fool (Slovic et al., 2002).

Stoner & Freeman (1992, p. 259) identified three heuristics in human decision making: availability, representativeness, and anchoring and adjustment. Availability heuristic based on assumption that people judge an event's likelihood by testing it against their memories. Since it is easier to recall frequently occurring events, thus, events that are more readily available in

memory are assumed to be more likely to occur in the future. Representativeness heuristic assumes people tend to assess the likelihood of an occurrence by trying to match it with a preexisting category, the representative, or stereotype. Anchoring and adjustment heuristic argues that when people make decisions, they start with some initial value, the anchor, and then make adjustments to that value in order to arrive at a final decision.

As noted by Krabuanrat & Phelps (1998), heuristic principle has recently gained attention from researchers in the area of business decision making. However, Bonnefon et al. (2008) admitted that this principle still have received scarce attention. Among those limited number of researches in heuristics, the area of coverage includes: qualitative heuristics in decision on two alternative choices (Bonnefon et al., 2008); biases and heuristic adoption between entrepreneurs and managers (Busenitz & Barney, 1997); disclosure bias (Fischera & Verrecchia, 2004); empirical test of the priority heuristic against cumulative prospect theory (Glockner & Betsch, 2008); affect heuristic as a function of regulatory focus (Pham & Avnet, 2009); biased heuristics and Bayesian equilibrium (Jamal & Sunder, 1996); heuristics and rationality in decision making (Krabuanrat & Phelps, 1998); and implications of the affect heuristic for behavioral economics (Slovic et al., 2002).

III. DISCUSSION

Decision making is the work of many people in many positions. Without any doubt, one shall agree that good decision making is very important to the

strategic success of an enterprise. In a dynamic environment, however, decision processes need not only to be well designed but they must adapt rapidly to the changes in the environment. For that reason, one can not apply the best model in every situation faced. A decision maker should be very flexible in adopting approaches to decision making. There is no best approach for every problem confronted by decision maker. The best model is the one that is suitable in decision environment faced by decision makers.

Similar to other approaches to decision making, heuristics principle could become an appropriate approach in certain circumstances. Some researches discussed in previous section underlined the acceptance of the approach in many fields. Although characterized by its speed and simplicity, heuristic principle cannot be considered as non-rational way of making a decision. There are strong elements of rationality in all three models of decision making. When implementing heuristic approach, a decision maker is utilizing her/his unconscious or subtle mind which has been understood as an information bank. Slovic (2002) stated:

> "It was the experiential system, after all, that enabled human beings to survive during their long period of evolution. Long before, there was probability theory, risk assessment, and decision analysis, there was intuition, instinct, and gut feeling to tell us whether an animal was safe to approach or the water was safe to drink."

Since decision making is the work of many people in many positions, heuristic related researches could be expanded to many areas, including

accounting, as long as the topics under consideration are related to the human aspect of decision in accounting fields, the area that is covered in behavioral research in accounting (Arnold, 1997, p. 52). In auditing, decision on client acceptance might become a subject under examination, since a public accountant might possibly not employing analytical steps as required by the professional standards. Many areas of decision in management accounting should offer a rich occasion to quest the adoption of heuristic principle. In this area, characterized by dynamic environment and tight competition, decision processes not only need to be well designed but they must adapt rapidly to changes in the environment. Of course, the application of heuristic principle in behavioral research in accounting is not limited only in the areas just discussed. Beyond that, there are a lot of possibilities waiting to be uncovered.

IV. CONCLUSION

Heuristic principle is not a non-rational approach to decision making, since utilizing unconscious or subtle mind cannot be considered as irrational. It should be arguable if the classification of the approach should be in favor of analytical and experiential terms than rational and non-rational notions. Adoption of heuristic approach can be observed in many areas of discipline, including business and accounting. The topic should be of accounting researchers interest as well. The area of behavioral research in accounting offers a vast array of possibility to be examined, since heuristic principle is tightly related to human aspect of decision making.

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