

NEW TRENDS IN THE DECISION MAKING PROCESS

Introduction

Generalised uncertainty, a phenomenon that managers of today deal with as part of their professional life, makes it impossible to project how the environment will develop or what consequences potential decisions may have. As such, it creates a challenge for managers who are trying to ensure that their organisations can survive and grow. Decisions are made under the pressure of time, with either too much or not enough information, and they are usually considerably complex and unique. For this reason, classical (rational) models of decision making, as presented in the literature on the subject, prove to be insufficient and outdated, while traditional techniques to support decision making turn out to be useless. According to empirical research, effective managers are moving away from the traditional decision-making process (i.e. one that involves primarily rational analysis) and compensate for any limitations in time and information by relying on intuition. Both the literature on the subject and management practice testify to a growing interest in intuition, a concept that as recently as a few years ago was treated as unscientific, even mystical. Nowadays it is increasingly the subject of empirical studies.

The purpose of this paper is to identify and analyse critically those of the new tendencies in decision making that are connected with an increased significance of intuition. Firstly, the notion of quasi-rationality, utilized in the Cognitive Continuum Theory, will be presented, following which there will be a discussion of the concept of non-rational thinking and its relevance in decision making process. In the last part, this paper will describe what is called a model for ethical decision making which combines rational analysis with intuition. Lastly, some conclusions will

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be offered concerning future applications of intuition in decision making, and proposed directions for research.

Intuition v. rational analysis in decision making

The Oxford Dictionary of English defines intuition as immediate apprehension by the mind without the intervention of reasoning. Intuition is an immediate process and as such is not perceived as a conscious process of reflective thinking. It is mistakenly identified with processes that are of solely subconscious nature. To understand the concept of intuition, one could try to consider it in combination with what is its opposite, i.e. reasoning. Ever more often, the literature on decision making refers to the so-called dual process of decision making which is a combination of the two contrastive ways of thinking and perceiving: rational analysis and intuition. Intuition is seen as a fast and high-capacity process that requires relatively small workload; reasoning, on the other hand, is a process that is time-consuming, reflective, goal-oriented and rather low-capacity. By applying intuition, managers can handle a large amount of information and processes in parallel. Even though they are unaware of how the process itself works, this does not mean that it only occurs outside of consciousness. Researchers link rational thinking and perception to the so-called working memory which is measured by the number of pieces of transitory information that are stored while performing a cognitive task. In contrast to reasoning, it is assumed that the use of intuition does not require any working memory to be employed; as a result, intuitive cognition is fast and of high capacity and is less related to consciousness [4, pp. 313–314].

Recent years have witnessed a growing interest in the concept of intuition among both theoreticians and management practitioners. Following the initial elation, a time has come for reflection and critical analysis of intuition as a kind of thinking. More and more authors have been suggesting that thinking, perceiving and decision making must be informed by both intuition and rational analysis in order to make the decision-making process more effective. The Cognitive Continuum Theory posits that cognition lies in a continuum anchored by pure intuition at one end and rational analysis at the other, with all possible combinations of intuition and analysis termed as quasi-rationality. According to specialists in the area of decision making, the majority of our cognitive acts, including decision making, are quasi-rational in character. How much of the mix is rational analysis and how much is intuition changes depending on the decisional context, i.e. depending on how complex a problem is, how much information is available and how much time there is to make a decision. The combination of intuition and analysis may vary over the course of time a specific decision is being made in, depending on the characteristics of the task to be

performed and available information. That is why the specific attributes of intuition and analysis that are linked to judgment and decision making will always depend on the current location along the cognitive continuum. The permanent changeability of combinations of analysis and intuition and, in consequence, the changing attributes of cognition make the decision-making process ever more complex. The dynamic nature of quasi-rationality makes it very difficult to measure and analyse. Quasi-rationality represents rationality in its focus on adaptiveness and, because of this, is a positive form of cognition. The “quasi” – part of the term denotes the process which is imperfect in terms of the logic involved, lacking up-to-date knowledge because the decision-maker is either forced to rely upon unreliable information or fails to make a necessary effort to carry out a rational analysis. Even though the existence of the quasi-rational process of cognition is hard to prove empirically, it cannot be dismissed as the outcome of irrational and emotional cognition. The dual-process models, a subject of extensive discussion in the literature on the subject, are proof that the assumption of quasi-rationality is justified. Quasi-rationality provides a compromise between competing opinions of individual members of a decision-making team [5, pp. 327–337].

Empirical research shows that, in their professional practice, managers rarely resort to complex decision-making models as postulated in the literature on the subject. These models, whether quantitative or qualitative, are used to enhance the expert studies conducted. What is relied on in the decision-making process, including especially the stage at which alternative variants are developed and final choices are made, are intuition, experience, imagination and management of emotions. According to A. Burciu and C. Haperciuc, efficient decision making requires certain skills and abilities spanning conscious and unconscious thinking and reasoning (what they call non-rational thinking or second bounded rationality) [2, p. 155].

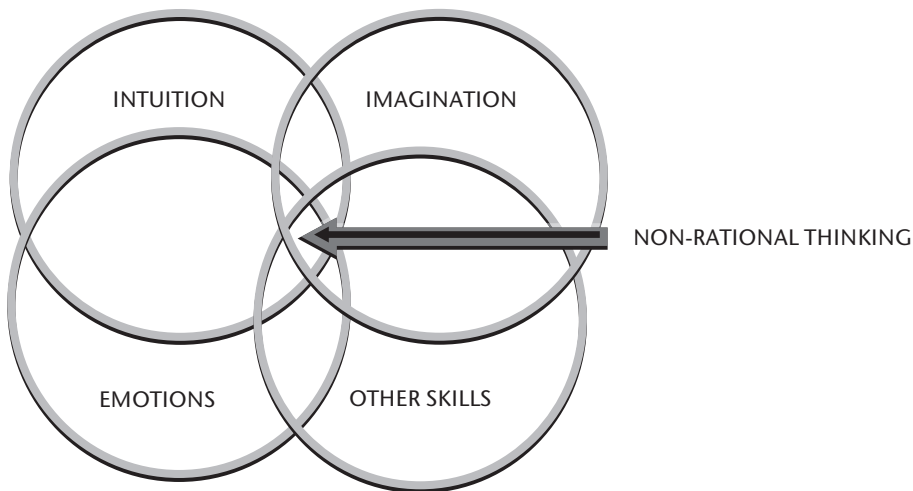
Two kinds of human thinking can be distinguished: rational and non-rational. Thinking and behaviour are considered rational if they take account of socially accumulated values (rationality at the social level). Rationality, on the other hand, is defined as a set of aptitudes (skills) whereby a course of action can be identified that will allow us to achieve a goal. Non-rational thinking can be understood as an extension of rational thinking, i.e. an ability to mix thinking into patterns related to logic structures in order to reach an objective. Non-rational thinking and actions do not mean that logical thinking is not applied. What they do mean is that thinking is informed by principles that deviate from classical, rational reasoning.

Intuition, imagination and management of emotions are based on a person's accumulated experience. Experience, in turn, is a combination of explicit and implicit (or tacit) knowledge that a person has gathered. It is defined as a set of skills and abilities that an individual accumulates while formally and informally learning through practice and observation.

Some authors believe that intuition is a form of rationality rather than its opposite. It reflects the person's ability to identify a solution deriving from his or her unique experience and a combination of such a person's explicit and tacit knowledge. Primarily, intuition is used for strategic decisions. Rather than being an irrational process, it is based on a deep understanding of a problem situation. Intuition is a complex phenomenon drawing upon experience and the store of knowledge that are primarily rooted in the subconscious [6].

Imagination is defined as the capacity to create new ideas based on knowledge accumulated in the past. It is developed through practice and by iteration. As a trait of the human mind, it is similar to intuition. In its turn, management of emotions is a similar concept to both intuition and imagination. It is assumed that it can be improved and, as demonstrated by neurobiological research, it is directly connected with the working mechanism of the brain.

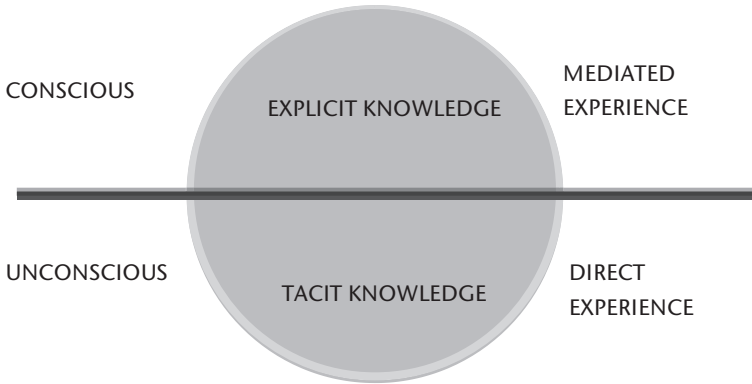
Figure 1. Components of non-rational thinking



Source: [2, p. 156].

Knowledge can be divided into two categories: explicit and tacit. Explicit knowledge is stored in the conscious and is the result of learning. Accumulation of explicit knowledge results in the so-called mediated experience. Explicit knowledge may be accumulated as books, encyclopaedias, databases, and innovations both on sociological and technical levels. Explicit knowledge cannot be monopolised: it spreads rapidly in organisations and continuously evolves with the accumulated experience of the organisation's members. Tacit knowledge, on the other hand, derives directly from a given person's experience and is primarily stored in the subconscious; for this latter reason, it is harder to quantify.

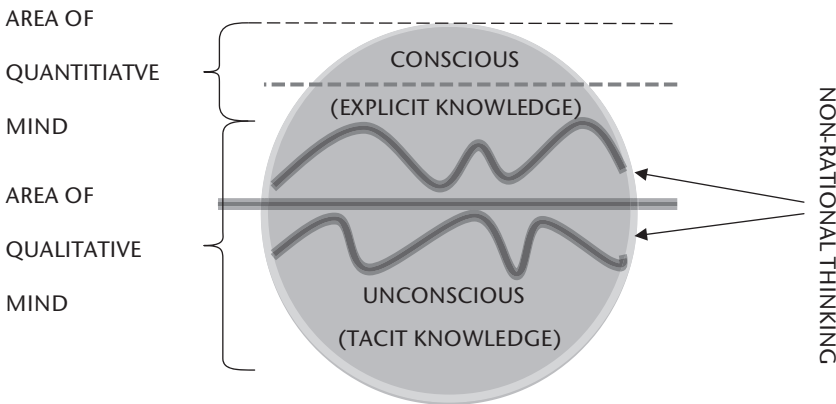
Figure 2. Structure of knowledge sources



Source: [1, pp. 75–82].

In an attempt to localize non-rational thinking as part of the conscious and unconscious, the authors have placed it at the boundary between those two states of mind. Notably, non-rational thinking is related solely to the area of qualitative mind (non-linear, flexible and very hard to quantify).

Figure 3. Localisation of non-rational thinking between conscious and unconscious



Source: [2, p. 157].

The literature on the subject makes a distinction between rational thinking and the application of intuition. The distinction cannot be made with precision with respect to the decision-making process because, to a considerable extent, reasoning is based on the decision maker’s experience and knowledge and, in the course of the mental processes involved, relates to emotions, intuition and imagination.

Accordingly, it can be said that the logical-rational structure of any effective decision-making process is enhanced by a mixture of experience, imagination, intuition and emotions (all of them being components of non-rational thinking). It is believed that the proportions of the rational and the non-rational in this mixture depend on the decision maker's personality and the type of the problem and the decisional situation involved. We could therefore assume that the manager may apply different combinations of the rational and the non-rational thinking when dealing with different decisional situations.

The literature on the subject offers the following guidelines for efficient decision making [3]:

- group-based decision making increases the efficiency of the entire process,
- decisions should stem from conflicting opinions of team members and not by consensus,
- efficient decisions require that non-traditional approaches are used, unorthodox questions are asked, and solutions are accepted that are not always logical.

When looking at these guidelines, an observation may be made that more effective decision making boils down to adding non-rational thinking components (such as intuition, emotions, and imagination) to the rational way of cognition. The traditional model of decision making involves stages which, more than others, require application of non-rational thinking. These are: identifying a decisional problem and choosing a decision from among a large number of alternative solutions. For these stages to proceed correctly, all available sources of information should be tapped into, including intuition, imaginations or emotions.

To recapitulate, managers who strive to ensure a more efficient decision-making process should add the non-rational element to their rational thinking, draw on the conscious and the unconscious, and tap into both explicit and tacit knowledge. Now, turning to the notions of bounded and "double" bounded rationality, we will observe that:

- bounded rationality is primarily the result of organizational rules, insufficient resources, time pressure and lack of necessary information;
- „double" bounded rationality is the result of the managers' thinking mechanisms (mixture of the rational and non-rational in their thinking).

Decision making which combines rational analysis with intuition is also postulated by J. Woiceshyn, the author of a model for ethical decision making in which interplay between intuition and analysis is facilitated by certain moral principles that are formulated, relied on and applied in order to achieve a long-term success [9, pp. 311–323]. Ethical decisions in business involve many transactions and relationships with shareholders, employees, suppliers, and customers. A model for ethical decision was created on the basis of an empirical study the focus of which was strategic decision making by effective executives. The executives in the study employed

the so-called dual process involving reasoning and intuition. The crucial elements of the process included “integration by essentials”, which yielded principles applied in any decision making, and the spiralling process.

Intuition is often understood as the effect of subconscious processing, one that arises from integrating present observations and confronting them with past experience. Empirical research shows that the use of intuition is related to subconscious processing. Acting in a fully conscious manner requires a vast amount of knowledge. Holding this knowledge in focal awareness all the time so that it can be freely used is impossible. Some knowledge is therefore stored in the subconscious. The use of intuition boils down to segregating the knowledge held in the subconscious and recalling it in a specific situation. The kind of knowledge we store in the subconscious is affected by past experience; for this reason, experienced managers employ intuition more effectively. It is not only experience but also the way in which knowledge is segregated in the subconscious and how often it is retrieved from there that affect how intuition is used and, as a result, the quality of decisions and how quickly they are made. If new knowledge is not segregated and linked to past knowledge, it will likely not be used properly in future. How the conscious mind integrates new knowledge depends to a large extent on the subconscious and there is not one universal way to integrate knowledge that we all rely on automatically. The knowledge of objects, phenomena or processes should be filed into specific groups, classes or categories. It is then easier to recall and use in practice. Effective managers integrate by essentials, which means that they first identify the essence of the object, phenomenon or process they are dealing with. This facilitates retrieval of the related knowledge that is stored in the subconscious. In the next stage, the knowledge of essentials is integrated into wider concepts and then principles are formed based on those concepts. Integration of knowledge through identification of the essence of any given phenomenon not only facilitates and speeds up the retrieval of information from the subconscious but also provides decision makers with a decision-making tool in the form of principles. Principles are created as a result of a broader integration of knowledge; they are based on the essences of phenomena, processes or objects and uncover causal relationships between them that are applicable to specific situations. Principles are a sort of generalizations that are drawn from observation or past experience. They guide decision makers in their decision making processes. Managers need principles because our ability to retain knowledge in the conscious is limited; at the same time, full information is one of the conditions that are necessary if we want to make a right decision. Principles allow us to condense extensive knowledge into statements which are easy to remember and retrieve when making decisions. The following are some principles that are most often relied on in decision making [8, pp. 305–308]:

1. rationality – this principle involves systematic observation and logical assessment of facts and advocates that:

- decisions should be made based on facts rather than emotions,
 - greater objectivity should be striven for by seeking opinions of outside experts and the use of advisory teams whose members have backgrounds spanning diverse areas or specializations,
 - rush should be avoided when making decisions,
 - the quality of information should be checked;
2. productivity – this principle, focused on the creation of added value, postulates that:
 - risk should be reduced because it threatens value creation,
 - the focus should be on competitive advantage (what we can do better than our competitors),
 - resources and skills should be aligned with strategy;
 3. first-handedness – this principle, which recommends reliance on one's own judgment rather than that of others, postulates that:
 - decisions should be consulted with others but made on one's own,
 - one should have confidence in one's ability to solve problems;
 4. justice – this principle is about evaluating and treating other people objectively through, among others:
 - honest criticism,
 - fair treatment of subordinates and associates,
 - terminating people who show little commitment;
 5. honesty – this principle involves honest assessment of reality, not faking the facts or conditions in order to fake value creation.

When these principles are adhered to, the most common mistakes in decision making can be avoided, including those in which too much value is placed on information that one gets hold of first or where only selected positive aspects of a solution are presented, and the negative ones are ignored. They prompt decision makers to analyse significant facts and evaluate them objectively; to acquire information all the time; to have confidence in their own skills, and, at the same, to remain receptive to suggestions from others. Additionally, these principles help to avoid what is called reasoning by analogy where in any decisional context managers rely on situations they have dealt with in the past and try to apply the same solution regardless of the fact that the decisional conditions are different. As already mentioned, decision making in which intuition and rational analysis are combined is made up of two processes. The first one was discussed above and involves integration of essentials; the other one is called spiralling. The notion of spiralling takes its name from the fact that the process involves an iterative pattern of actions (looping). Three stages can be distinguished:

- stage one: here, the decision maker performs a quick analysis of a decisional context and then focuses his or her attention on essentials and facts; as a result,

feasible solutions are selected and those which are unrealistic are discarded. As part of this stage, information resulting from observation is integrated with intuition which draws upon the knowledge from past experience;

- stage two: here, available decisional options are assessed against the adopted principles in order to arrive at an initial decision;
- stage three: here, the initial decision is compared with and tested against the alternatives that have been rejected. This is done with a view to finding out which of these alternatives satisfies the requirements and principles to the largest degree. The outcome of this stage is new knowledge resulting from the integration of essentials and facts.

The spiralling process ends with a selection of one decision or a logical combination of decisions. The three-stage process is not a rigid sequence of actions. Empirical research shows that managers who are effective decision makers move from one stage to another but often return to earlier sequences in order to improve their decisions. Even though they focus their attention on solutions which are initially identified as feasible, those managers do not discard other decisional alternatives completely. Decision makers try to explain why they chose to discard them and select others instead [7, pp. 334–351].

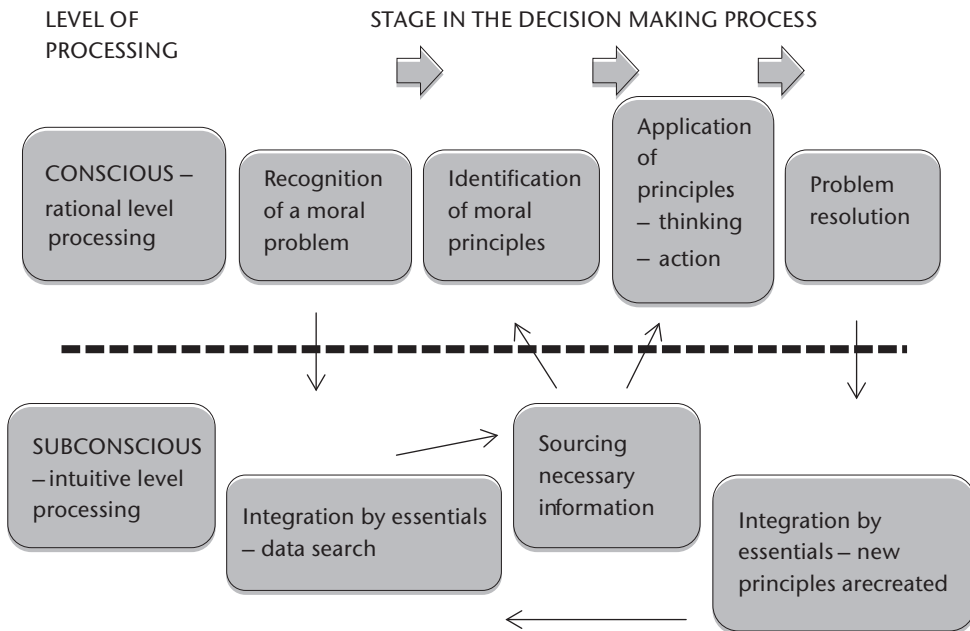
When making their decisions, managers identify and use not only those principles that pertain to strategy but they also apply ethical principles in an iterative spiralling process that combines both the conscious and the subconscious. Research findings show that managers use the same decision process in relation to ethical issues as the one used in making long-term business decisions. Notably, the moral principles which the managers in the study applied seemed to be consistent with a relatively new ethical theory, namely that of rational egoism. The following are the main principles of this theory:

- self-interest (every person should see himself or herself as the primary value and be a beneficiary of his or her own actions);
- human life as the overriding value (choices and actions should have impact on human survival and flourishing);
- rationality (recognition of reasoning as the only source of knowledge);
- productiveness (process of creating material values by adjusting nature to man);
- honesty (reality cannot be faked);
- justice (action should be objective, rewards should be adequate);
- independence (orientation to reality, not to other people);
- integrity (loyalty to rational principles);
- pride (commitment to achieve moral perfection).

The figure above shows a model of ethical decision making. Central to the model are two information processing levels and the interaction between the two (integration by essentials). The interaction involves spiralling between the conscious and the

subconscious levels. The first step in ethical decision making is to identify a moral problem. A decision maker then identifies applicable moral principles, which is done at the rational processing level. At this stage, the decision maker's conscious mind relies on the subconscious to find necessary information to solve the problem. If the manager has integrated his or her knowledge by essentials, necessary information would come up in his or her conscious mind. The next stage is to apply the identified principles (which are adequate in the situation) to the problem, both in thinking and action. By applying relevant principles, the problem is solved and the solution itself should, through integration by essentials, result in new principles being formulated that conclude the decision making process. Importantly, the principles which J. Woicieszyn identified in her empirical study are, to a large extent, consistent with the characteristics and principles of the rational egoism theory.

Figure 4. Dual model for ethical decision making



Source: [9, p. 318].

Summary

In summary, new trends in decision making are mostly related to the so-called dual process model of decision making in which rational analysis is combined with intuition. A variety of terms is used by numerous management theoreticians and

practitioners, including quasi-rationality, the conscious, the subconscious, or rational and non-rational thinking. Terminological differences notwithstanding, the essence of changes in current-day decision making remains unchanged and involves comprehensive decision making in which reasoning is mixed with a manager's intuition. Rational analysis has been extensively researched in empirical studies and is well documented in the literature on the subject. Therefore, it seems warranted to try and look for answers to the question about the role of intuition in decision making, and especially about the determinants of its effective application.

Empirical research shows that, in their professional practice, managers rarely resort to complex decision-making models. Instead, they are more prone to rely on experience, intuition, imagination and management of emotions. It seems reasonable, then, to hone those abilities to ensure more efficient decision making processes, particularly given the fact that the educational focus of future managers is primarily on the development of analytical skills which are related to the rational area of thinking.

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Abstract

The purpose of this paper is to identify and analyse critically those of the new tendencies in decision making that are connected with an increased significance of intuition. Firstly, the notion of quasi-rationality, utilized in the Cognitive Continuum Theory, will be presented, following which there will be a discussion of the concept of non-rational thinking and its relevance in the decision making process. In the last part, this paper will describe what is called a model for ethical decision making which combines rational analysis with intuition. Lastly, some conclusions will be offered concerning future applications of intuition in decision making, and proposed directions for research.

KEY WORDS: DECISION MAKING PROCESS, INTUITION, ANALYSIS

NOWE TRENDY W PROCESIE PODEJMOWANIA DECYZJI

Streszczenie

Celem artykułu jest identyfikacja i krytyczna analiza nowych tendencji w procesie podejmowania decyzji związanych ze wzrostem znaczenia intuicji. W pierwszej części przedstawiono pojęcie quasi-racjonalności występujące w ramach Kognitywnej Teorii Kontinuum, następnie scharakteryzowano kategorię myślenia nieracjonalnego i jego znaczenia w procesie podejmowania decyzji. W ostatniej części zaprezentowano tzw. model etycznego podejmowania decyzji łączący racjonalną analizę z wykorzystaniem intuicji. Artykuł kończą wnioski dotyczące perspektyw wykorzystania intuicji w procesie decyzyjnym oraz proponowane kierunki badań.

SŁOWA KLUCZOWE: PROCES PODEJMOWANIA DECYZJI, INTUICJA, RACJONALNA ANALIZA