

# Intuition in decision making –theoretical and empirical aspects<sup>1</sup>

Kamila Malewska

Poznan University of Economics, Poznań, Poland

---

## Keywords

Intuition, rational analysis, decision making process

## Abstract

*In an economy dominated by information and knowledge, analysis ceases to be the sole and sufficient source of knowledge. Managers seek alternative ways of obtaining and interpreting information and knowledge. Here, managerial intuitive potential begins to play an important role.*

*The aim of this paper is to present the issue of intuition in decision making in both theoretical and empirical terms. The first part presents the essence of intuition and its role in management, especially in decision making. Then, the empirical part attempts to identify the intuitive potential of managers and the extent of its use in practical decision making. The case study method was used in order to achieve this goal. The analysis involved a Polish food company “Fawor” that employs more than 300 workers.*

---

## 1. Introduction

Intuition is considered to be one of the least defined and operationalized elements of human capital (Fields, 2000). However, it has long been the subject of unabated interest as one of the key factors influencing the effectiveness of decision making. Its importance in management was already stressed by such researchers as C. Jung (Jung, 1934), Ch. Barnard [Barnard, 1938] and A. Maslow (Maslow, 1954). In recent years, there has been an increased interest in intuition. This is due to the characteristics of the environment in which modern managers are forced to work. This environment is characterized by complexity, significant dynamics and unpredictability. Therefore, organizations find it increasingly difficult to survive in the competitive market, and even harder to ensure their development. To achieve this goal, managers must stay ahead of trends and customer expectations, as well as identify and seize new occasions, and this in turn is possible through the use of intuition in decision making. Intuition enables decision making in situations of lack or excess of information, in conditions of risk and uncertainty, under time pressure and in the case of individual problems. It can be noted that contemporary decision-makers, especially at the strategic level, deal with exactly such situations and conditions.

The aim of this paper is to present the issue of intuition in decision making in both theoretical and practical terms. The first part presents the essence of intuition and its role in management, especially in decision making. Then, the empirical part attempts to identify the intuitive potential of managers and the extent of its use in practical decision making. The case study method was used in order to achieve this goal. The analysis involved a Polish food company “Fawor” that employs more than 300 workers.

---

<sup>1</sup> These literature and empirical studies in the area of intuition were conducted within the research project „The impact of managerial intuitive potential on the effectiveness of decision making processes”, financed by the National Science Centre, Poland (funds allocated on the basis of decision No. DEC-2014/13/D/HS4/01750).

## 2. The nature and role of intuition

In the past, the word "intuition" was often associated with the word "irrationality". This could result from the definition of "intuition" proposed by Bergson who interpreted it as a "mystical force" that cannot be explained by rational arguments (Bergson, 1911). Since then, numerous empirical studies of intuition have been conducted, especially in the area of psychology, neuroscience and management, which have changed the way it is perceived. It is no longer regarded as something mystical and irrational, but as important and desirable competence of modern managers (Jędrzejczyk, 2013). Modern literature suggests that there is no basis for associating intuition and irrationality since it results from many years of practice, experience, learning process, which translates into huge amounts of facts, patterns and concepts that take the form of tacit and explicit knowledge. This knowledge is stored in both the consciousness and the subconscious of the human mind. Managers have begun to accept such an interpretation of the concept of intuition and treat it as part of their business knowledge. It should be emphasized, however, that this is not a common phenomenon yet (Paprika, 2006).

Based on the literature, it can be stated that intuition is most often defined as the act of cognition without rational inference. Optionally, it is recognized as a way of learning that takes place beyond consciousness, in which a decision-maker acquires knowledge, but is unable to identify the source of this knowledge. According to M. Westcott, however, intuition is a rational process of thinking, in which a decision-maker creates a solution for a decision problem based on their tacit knowledge (Westcott, 1968). Thus, it can be noticed that the authors do not agree on whether the intuitive process of thinking takes place in consciousness (Westcott, Simon, Agor) or in the subconscious (Betsch, Sadler-Smith, Sinclair, Ashkanasy, Hogarth, Khatri, Alvin). Striving to find a universal definition that links the views of these authors, we can suggest a definition according to which intuition is a non-sequential process of obtaining and processing information, which takes into account both rational and emotional elements, and the result is direct knowledge without the participation of rational inference.

Intuition can be considered a cognitive ability of the human mind that is distinct from traditional forms of objective knowledge. This process is very difficult or sometimes even impossible to reproduce, because it is often unconscious. It differs from the classical rational cognition in that the process itself does not satisfy inter subjective verifiability. In contrast, the result of this process can be logically justified. Therefore, one can conclude that intuition is not an irrational process related to premonitions or revelations, but a process of thinking whose mechanisms differ from the classical rational inference and are difficult to reproduce. However, the results of this process are verifiable and communicable. Therefore, intuition is often referred to as thinking without consciousness or knowledge without consciousness (Mikołajewski, 2007, p. 21).

Intuition is used in every decision-making process, but with varying intensity. The extent to which intuition is used depends on many internal determinants (e.g., a decision maker's personality traits, abilities, attitude to life, experience) and external determinants (conditions of decision making, the type and structure of a decision problem, effective organizational culture within an organization). Despite the fact that decision-makers are often not aware that they use intuition, it can significantly increase the accuracy and effectiveness of the decision-making process. However, the conscious use of intuition enhances its benefits. Firstly, it allows for the identification of key information relevant to a decision. It may also be additional information in the event of an information gap. It acts as a kind of "signpost" that directs a decision-maker towards a favourable solution. It often speeds up and simplifies the decision-making process by reducing the range of available alternative actions (Cooper, Sawaf 2000, p. 99).

The discussed characteristics of intuition are summarized in Table 1.

Characteristics of intuition
• It is a cyclical process of thinking associated with the overall cognition of reality
• It is not the opposite of logic
• It is not an irrational action
• It refers to the use of "deeper" knowledge resources collected over a lifetime
• Every person has intuitive potential (but at different levels)
• It is a capability that can be trained and developed
• It participates in any decision-making process
• It uses induction (the conclusion precedes the premises, the whole picture precedes getting to know its parts)
• It is a fast, sometimes even automatic process

**Table 1: Characteristics of intuition**

Source: own study.

Empirical studies indicate that managers ascribe a significant role to intuition in the process of effective decision making. W.H. Agor shows that top-level managers consciously use intuition in making key decisions. In their opinion, it plays a creative role and enables them to generate more inventive solutions to a decision problem. Besides it helps them make the final choice. According to respondents, it also appears in the "background" allowing for a smooth transition through various stages of the decision-making process (Agor, 1998, pp. 206-207).

The cognitive results of empirical research conducted by L. Buchanan and A. O'Connell indicate, however, that managers equally use their intuitive and analytical abilities, but they attribute up to 80% of success to intuition (Buchanan, O'Connell, 2006). According to H. Mintzberg, this can be explained by the fact that strategic decision making requires both creative and synthetic thinking, and such a combination is more characteristic of the intuitive rather than the rational approach (Mintzberg, Westley, 2001).

According to active top-level managers, intuitive potential is one of the most important abilities that are used in decision making and influence the improvement of managerial efficiency. Managers often make wrong decisions because they underestimate or deliberately block their intuitive potential (Agor, 1998). Studies show that people have a natural, innate tendency to synthesize and select information quickly and efficiently. This process, however, can be affected by too much use of time-consuming, rational and often not very useful analytical work and related formal procedures of data processing, which in turn may adversely affect the efficiency of decision-making processes (Data, Pratt, 2007, p. 33). Restrictions on the use of intuitive potential can be eliminated by improving the potential and raising the level of its use, but this requires awareness and acceptance of the existence of intuition (Bernais, 2001, p. 220).

The literature indicates that the use of intuitive potential in decision-making processes plays an important role mainly at the strategic level (Clarke, Mackaness, 2001, p. 148; Shapiro, Spence, 1997, p. 63). Trying to determine the role of intuition in strategic thinking, it appears advisable to define the term "strategic thinking". According to H. Mintzberg, strategic thinking is a process of synthesis that uses intuition and creativity, and the result is an integrated vision of a company's future. According to the author, data and the process of analysis are not sufficient to effectively investigate a decision problem. It is necessary to use intuition, which creates opportunities for a more comprehensive solution (Mintzberg, 1994). The previously mentioned empirical studies show that managers are willing to make greater use of intuition when dealing with difficult and complex problems. Therefore, it can be concluded that intuition is used in making strategic decisions that are characterized by a high degree of complexity and are taken by top-level managers.

The assumption about the legitimacy of resorting to intuitive potential in decision-making processes does not constitute grounds to deny the purposefulness of rational analysis. Intuition should be an important component of any decision-making process, complementary to rational analysis. It can thus be assumed in line with the Cognitive Continuum Theory that in management practice both rational and intuitive approaches should be jointly used in decision making. Pointing to the advantages of the mixed modes of cognition (a combination of intuition and analysis) over the “pure” forms of rational analysis and intuition, this theory suggests that they should not be opposed to each other (Hodkinson, Sadler-Smith, 2003, pp. 234-268). Intuition is an indispensable component of a comprehensive decision-making process. It can be used in different ways and at different stages of the decision-making process, but its role is crucial.

### **3. Characteristics of the research subject-Baking and Confectionery Cooperative “Fawor”**

The subject of the empirical study was a Polish food company –Baking and Confectionery Cooperative “Fawor,” located in Poznań, Poland. The company specializes in the production of bakery and confectionery products and ice cream. This organization is proud of its more than 100-year tradition. It was launched on 30 November 1908, and has been operating under its present name since 1997. The company enjoys a leading position in the production of bread in Poznań. The company's products are manufactured in their own bakeries and pastry shops by highly-qualified employees.

“Fawor” offers a wide range of bakery (about 100) and confectionery products (over 200) of different shapes and weight, with and without additives, packaged and unpackaged). The company offers:

- bread (rye, wheat, mixed, organic and on special request).
- cakes (tortes, tortes for special occasions, pies, cakes and biscuits, pound cakes, rolls, poppy seed cakes, cheesecakes, gingerbread)
- ice cream (six types)
- durable products (packaged products, prolonged shelf life).
- bread to be baked in the shop (eight types).

“Fawor” has an extensive network of its own retail outlets which sell fresh bakery and confectionery products and ice-cream manufactured in the company's production facilities. In addition, its brand stores offer bread “straight from the oven”, meaning baked directly in the store, as well as a wide range of food products and press (<http://www.fawor.com.pl>).

### **4. The use of intuition in the decision-making process – the results of the empirical study**

The empirical study was conducted using the case study method in order to determine the intuitive potential of decision-makers and the extent of its use in decision-making processes, which is the objective formulated in this article. The study involved the use of a questionnaire and a direct interview. The questionnaire consisted of three main parts:

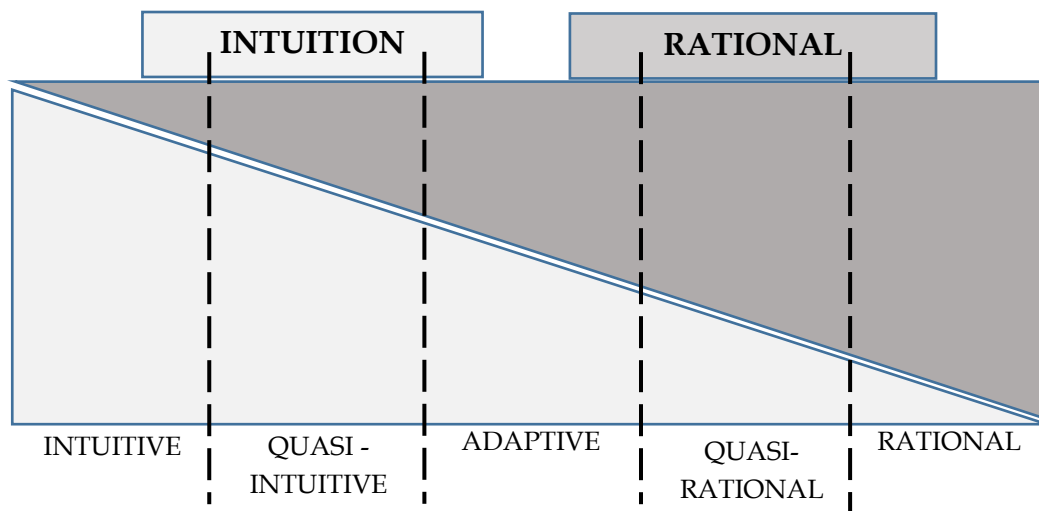
- respondent's particulars also containing some questions about respondents' opinions on the use of intuition in the decision-making process (there were three closed-ended questions and two cafeteria questions)
- a part diagnosing the intuitive potential of decision-makers (12 closed-ended questions).
- a part defining the actual use of intuition in the decision-making process (14 closed-ended questions).

In Parts 1 and 2 of the questionnaire, respondents were able to choose one of two possible answers.

The part of the questionnaire that identified the intuitive potential of managers was formulated based on the characteristics of an intuitive manager presented in the literature, and it contained questions related to characteristics, abilities and aptitudes attributed to an intuitive manager.

The starting point for the part of the questionnaire that specified the extent to which intuition is used in decision making was the characteristics of two extreme approaches used in decision making: analytical and intuitive. These approaches were characterized based on the following criteria: the location of a decision problem, the way to solve the problem, the evaluation of alternative variants of the decision, attitudes to risk and uncertainty, sources of information, the use of information processing procedures, documenting the decision-making process, the involvement of a decision-maker, the logic of thinking, consciousness in action, the possibility of presenting the decision-making process (its communicability).

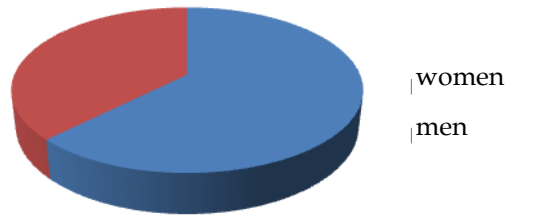
According to the objectives of the Cognitive Continuum Theory, mentioned in the theoretical part of this article, the study was based on the assumption that analytical and intuitive approaches to decision making coexist in management practice. Decision-makers rarely represent the “pure” analytical or intuitive orientations in the decision-making process; most often it is a combination of these two styles of cognition and thinking (referred to as the quasi-intuitive style in which the intuitive approach has an advantage over the rational approach, the adaptive style which implies a balanced blend of the two cognitive modes and the quasi-rational style which denotes a tendency towards the analytical approach) (Hayes, 2012, pp. 4-5).



**Diagram 1: Modes of cognition according to the Cognitive Continuum Theory**

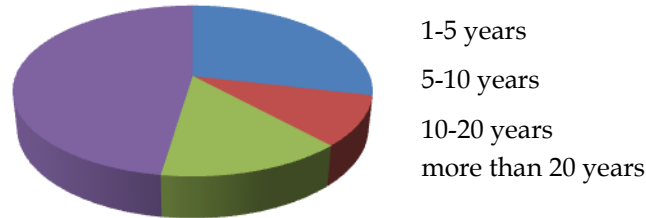
Source: [Hayes 2012, p. 4].

The study involved all managers at all levels of management in the number of 48 people. Women, who accounted for 63% of all respondents, were the prevailing group. As for experience, the largest group consisted of managers with more than 20 years of seniority. Then there were young workers with an experience ranging from 1 to 5 years. The third largest group included former employees with a work experience ranging from 10 to 20 years. The group of workers with a work experience ranging from 5 to 10 years was the smallest. Lower-level managers were dominant in the research sample (they accounted for 63% of all respondents). The second largest group included middle-level managers who constituted 30% of respondents. The smallest group of respondents consisted of top-level managers who accounted for 7% of the research sample.



**Figure 1: Characteristics of the research sample with respect to age**

Source: Own study based on the conducted survey.



**Figure 2: Characteristics of the research sample with respect to experience**

Source: Own study based on the conducted survey.



**Figure 3: Characteristics of the research sample with respect to the management level**

Source: Own study based on the conducted survey.

In the part of the questionnaire that contained respondent’s particulars, the surveyed were asked to answer the question of whether they use intuition in decision making in the professional sphere. All respondents answered in the affirmative to this question, which means that they treat intuition as an important part of any decision-making process.

Further, respondents were asked to clarify the concept of intuition or give a synonym of this term. The diagram below shows the most frequent answers.

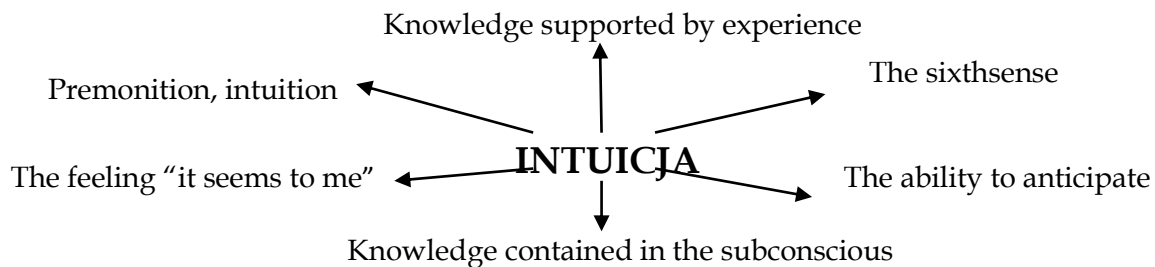


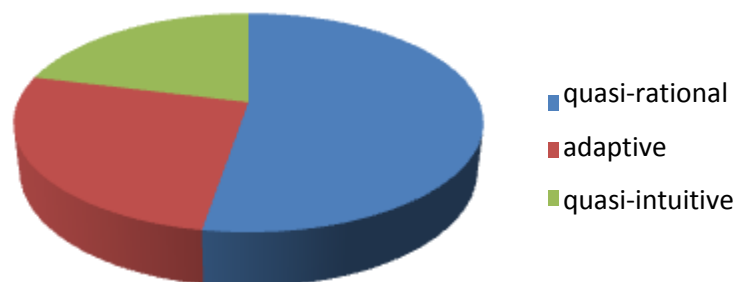
Diagram 2: Synonyms of the concept of intuition (according to respondents)

Source: Own study based on the conducted survey.

One of the primary purposes of this empirical study was to determine the level of intuitive potential of the surveyed managers. The research objective was to verify whether the identified intuitive potential is used indecision-making practice or whether it is suppressed or stimulated by both internal and external factors. The study procedure was based on the assumption formulated by W.H. Agor who claimed that intuitive potential and the level of its use are not always identical (Agor, 1998). The cognitive results show that this assumption does not clearly apply to managers of the company in question, as in most cases higher rational potential translated into the use of the quasi-rational approach in the management practice, and significant intuitive potential entailed the use of the adaptive approach or the quasi-intuitive approach in decision making (58% of respondents). Twenty-one percent of respondents were characterized by considerable intuitive potential, but in practice they used the quasi-rational approach signifying the advantage of the rational approach over the intuitive approach. The same number of respondents was characterized by low intuitive potential, yet in decision-making processes they used the quasi-intuitive approach characterized by the predominance of the intuitive approach over the rational mode. Factors that limit or stimulate the use of intuitive potential by decision-makers will be the subject of further empirical research conducted by the author.

The study shows that most of the managers of the organization in question (53% of respondents) adopted the quasi-rational approach, which is characterized by the predominance of the rational approach over the intuitive style, in their decision-making practice. The second most numerous group of managers used the adaptive approach which implies a balanced blend of the rational and intuitive modes (an equal number of respondents (26%) pointed to the characteristics of both the analytical and intuitive orientations). The smallest group turned out to be managers who used the intuitive approach rather than the rational style. They accounted for 21% of the total research sample. It should be emphasized, however, that the quasi-intuitive approach prevailed among top-level managers. In contrast, the quasi-rational and adaptive approaches were dominant among middle-and low-level managers.

In summary, it can be stated that all respondents use intuition in decision making by adopting approaches that integrate intuition and rational analysis. They differ only in the extent to which they use it compared to rational analysis.



**Figure 4: The use of intuition in decision-making processes**

Source: Own study based on the conducted survey.

## 5. Summary

Summing up the empirical study results, it should be emphasized that the obtained cognitive results are contributory, rather than general as the study was carried out using the case study method.

Based on the analysis of responses given by the managers of the cooperative "Fawor", it can be stated that not only do they rely on rational plans and reliable information, but they also

resort to intuition in the decision-making process (all respondents claimed that they used intuition in the decision-making practice). This means that they consciously use it to obtain and acquire information. Although the quasi-rational approach, which implies the advantage of the rational style over the intuitive mode, was dominant in the studied sample, it should be emphasized that the quasi-intuitive approach prevailed among top-level managers. This is consistent with the opinions formulated in the literature, according to which intuition plays an important role precisely in the strategic area. The quasi-rational and adaptive approaches (a balanced blend of the rational and intuitive orientations) predominated among middle- and top-level managers. This can be explained by the fact that at lower levels of management decision problems are often predictable, repeatable and have a clear and complete structure. This promotes the use of the rational approach that requires fuller information, and is often based on previously tested solutions.

The study results also allowed for a positive verification of the assumption that styles which integrate the intuitive and rational approaches are dominant in the decision-making practice. On the other hand, decision-makers do not use extreme styles, i.e., "pure" intuitive or "pure" rational.

To recapitulate the above conclusions, the case study of the cooperative "Fawor" confirms the growing role of intuition in decision making. It may be noted that managers more often treat the intuitive and rational approaches as complementary, rather than exclusive styles. This is presumably a growing trend. This stems largely from the environment in which modern enterprises operate. It is characterized by strong competition, unpredictability, volatility and complexity. As the traditional decision support techniques become less useful, managers look for new ways to enhance the effectiveness of decisions. Therefore, they resort to intuition which enables them to acquire and synthesize a large amount of information necessary to make the right decision.

## References

- Agor W.H., 1998. *Intuicja w organizacji. Jak twórczo przewodzić i zarządzać*, Wydawnictwo Personalnej Szkoły Biznesu, Kraków.
- Barnard C., 1938. *Functions of executive*, Harvard University Press, Cambridge.
- Buchanan L., O'Connell A., 2006. A Brief History of Decision Making, *Harvard Business Review*, January, pp.32-42.
- Clarke I., Mackaness W., 2001. Management intuition; An Interpretative Account of Structure and Content of Decision Schemas Using Cognitive Maps, *Journal of Management Studies*, Vol. 38.Issue 2, March.
- Cooper R.K., Sawaf A., 2000. *EQ inteligencja emocjonalna w organizacji i zarządzaniu*, Studio Emka, Warszawa.
- Dane E., Pratt M.G., 2007. Exploring intuition and its role in managerial decision making, *Academy of Management Review*, 32(1).
- Fields A.F., 2000. *Intuition engineering*, Organizational Engineering Institute.
- Hayes Cognitive Style Index, 2003. *Journal of Occupational and Organizational Psychology*, (76).
- Hodgkinson G.P., Sadler-Smith E. 2003. Complex or unitary? A critique and empirical reassessment of the Allinson-Hayes Cognitive Style Index, *Journal of Occupational and Organizational Psychology*, (76).
- Jędrzejczyk, W., 2013. *Intuicja jako kompetencja menedżerska w teorii i praktyce zarządzania przedsiębiorstwem*, Wydawnictwo "Dom Organizatora".
- Jung C.G., 1934. *Modern man in search of a soul*, Harcourt Brace, New York.
- Maslow A., 1954. *Motivation and Personality*, Harper & Row, New York.



- 
- Mikołajewski P., 2007. Intuicja i realizm. Intuicja oprzyrzędowana, *Organizacja i Kierowanie*, nr 3(129).
- Mintzberg H., 1994. The rise and fall of strategic planning, The Free Press, New York.
- Mintzberg H, Westley F., 2001. Decision Making: It's not What You Think, *MIT Sloan Management Review*, Vol. 42, No. 3.
- Paprika Z.Z., 2006. Analysis and Intuition In Strategic Decision making. The Case of California, BudapestiCorvinusEgyetem, Budapest.
- Shapiro S., Spence M.T., 1997. Managerial Intuition: A conceptual and Operational Framework, *Business Horizons*, January-February.
- Westcott M., 1968. Toward a contemporary psychology of intuition. A historical and empirical inquiry, Holt Rinehart & Winston Inc., New York.
-