

## **Rational and irrational aspects of decision-making by business executives (CEOs) in various cultural environment**

**Anita Lasmane**<sup>1</sup> Dr. psych.; **Ilmārs Briksnis**<sup>2</sup> Mg. sc. soc.

University College of Economics and Culture, Latvia<sup>1</sup>; Enterprise “Vispool”, Latvia<sup>2</sup>

anital@lanet.lv<sup>1</sup>; il\_mar@inbox.lv<sup>2</sup>

**Abstract:** As shown by the financial crises experienced in the 20th and 21st centuries, in situations with a high degree of uncertainty CEOs often make inexact decisions. For this reason, scientists discuss CEOs decision-making processes by emphasising the important role of business intuition and simultaneously asking the question about how correct such intuitively taken decision can be. As identified in studies, the practice confirms the importance of intuition in decision-making in business. The methodology applied by the authors in the study is based on Daniel Kahneman’s concept of bounded rationality in decision-making in certain conditions and studies conducted into intuition, insight and creativity of CEOs in business in the last few years (2007 – 2012). The **aim of the study was:** to investigate the relations between the decision-making process and cultural environment, rational and irrational aspects of CEOs decisions, and to develop recommendations for sustained development of enterprises business. Results of a interviews and survey on the decision-making process in business, which included CEOs (n=77) from various countries (Latvia, Estonia, Russia, Italy, Brazil, Czech Republic), are presented to show the benefits and restrictions of rationally and irrationally carried decisions. The results reveal the role of precise intuition and impact of cultural environment in decision-making and sustained business development.

**Keywords:** rational and irrational decisions, bounded rationality, intuition, cultural environment.

### **Introduction**

When sharing experience on the coefficient and restrictive factors of the business environment, various researchers and CEOs (Chief Executive Officers) stress decision-making skills as an important factor that affects the efficiency of a business enterprise. It has been concluded that inaccurate and irrational decisions made by CEOs cause and magnify situations of crisis in economics, as well as in the sustainable and competitive development of business enterprises.

At the second part of the 20th century an in-depth search for the explanations of such situations began, and at the beginning of the 21st century the Nobel Prize in Economic Sciences was awarded to a scientist named Daniel Kahneman for the development of a conception that justifies the role of various psychological and economical aspects in the decision-making process, revealing that a bounded rationality is in place if a CEO lacks confidence in the process of the decision-making. A conclusion was made that also in economics and business environment psychological irrational factors affect judgment, decisions and behavior. Therefore it is possible to notice an increasing interest from the researchers to study the rational and irrational factors behind the decisions of CEOs, and one of the most important questions, both from the scientists and CEOs, is on the integration of rational and intuitive decisions in a successful approach to lead a business entity and ensure its sustainable development.

The above-mentioned question justifies the general notion among CEOs on the importance to research how the intuition is connected with decision-making process in a business environment.

The aim of the research was: to investigate the relations between the decision-making process and cultural environment, the rational and irrational aspects of CEO’s decisions, and to develop recommendations for sustainable development of business enterprises.

## Methodology

When stress to the decision-making skills as one of the basic competences of CEOs is made in terms of managing situations of crisis and reducing the business risks (Bolt, 2005), the importance of irrationally made decisions in terms of heightening a situation of crisis is also admitted (Wang, 2008). The research of D. Kahneman and his colleagues (Kahneman, Tversky, 1984; Kahneman, 2003) revealed the role what a phenomenon, termed bounded rationality, has in the decision-making process, substantiating the assumption of the official economic theories as proving deficient explanations for the human behavior, when treating human behavior as rational in an economic environment. Various paradoxes of economic behavior are analyzed, and the analysis reveals the existence of the bounded rationality: 1) decision-making in the influence of a social group; 2) asymmetrical reaction to gains and losses; 3) anchor effect – the use of analogical situations and actions (Kahneman, 2003).

The bounded rationality as a concept was used already at the end of 20th century also in the analysis of decision-making process of CEOs, signifying that the rationality of CEOs in the process of decision-making is bounded by deficient information, time and cost limits, and the cognitive processes of CEOs in terms of the perception and analysis of the information (Harrison, 1999; Fabac, 2010; Villadsen, Rosenberg, 2010).

When researching the bounded rationality, a conclusion has been made that various irrational psychological factors, which cause and affect the bounded rationality, are cogitative schemes that affect the way of thinking and subjective logic, which not always is rational. For making a quick decision, people tend to use simplistic judgment manners, which Kahneman called heuristics (Kahneman, Tversky, 1984; Kahneman, 2003). Heuristics is defined as unconscious approach to streamline a complex situation and an analysis of probabilities: in the prior-consciousness of a person's psyches, assumptions are made on solving a given task, with the use of streamlining a complex situation (Kahneman, 2003).

The importance to research the bounded-ness of rationality is signified by the recent research, which turns to the significance of rational decisions in economics, business environment and management (Fabac, 2010; Cahchere, Haymaker, 2011). In the research on rationale clarity, several preconditions have been formulated in order to achieve it; they are termed to statements, made in the process of decision-making, for an example: inner coordination, accuracy, relevance, consistency, credibility, and correctness of statements, and whether they are convincing (Chachere, Haymaker, 2011).

The research of bounded rationality, in order to find out psychological irrational factors, turns to the research of emotional factors in the process of economic, business and management decision-making (Klein, 2003, Berezin, 2009; Miron-Shatz, Stone, 2009); the role of sensitiveness in the process of decision-making (Sadler-Smith, 2007; Mikolajczak, Balon, 2012). The research on the role of sensitiveness in the process of decision-making is one that has turned the attention to the question of the importance of intuition in the process of decision-making.

D. Kahneman and others, turning to the analysis of the intuitive decisions have pointed out their limitations: reasoning of an intuitive decision more often than not is stereotypes that have found a permanent place in one's experience, excluding other information that might be of importance; vivid, easy to remember situations; repetitive situations. Overly obvious is the presence of irrational and inappropriate elements, and therefore the research of these processes becomes a challenging goal (Miron-Shatz, Stone, 2009).

However in business conceptions (Sadler-Smith, 2007) and insight managing processes (Adler, 2010) a question is put forward: how great is the impact of a CEO's inside intuition in the business decisions that are made; that is often viewed as an irrational occurrence, though in practice, as researchers have revealed, it approves the role intuition plays in the decision-making process in the commercial setting. For an example, intuition influences effective business decision-making, creative thinking of entrepreneurs, and flexible behavior (Mitchell, Friga, 2005), which in turn aids to the quick recognition of the business opportunities (Klein, 2003). The intuition of entrepreneurs, as researchers have argued, is based on experience, emotions, experience of particular tasks, experience of making decisions, however, meeting a new challenge, for a successful entrepreneur the argument of the

decision is a subjective sense on what actions should be taken in a particular situation (Mitchell, Friga, 2005).

When paying attention to the inside intuition, researchers put forward a question on how informative the instinct is when business decisions are made, as it is traditionally viewed as irrational and quantitatively non-measurable phenomenon; what is a gut feeling, how to use it when making decisions (Sadler-Smith, 2007). Realization on the gut feeling in the research of decision-making process has been derived from cognitive neurosciences, evolutionary psychology, where this phenomenon is defined as a feeling based on instincts, base feeling or reaction, intellect of unconsciousness, that has a descriptive characteristic of being able to connect subliminal – beyond the level of consciousness, that is not directly under the control of consciousness – signals with consciousness and behavior. The gut feeling is an instinctive feeling, intuitively positive or negative reaction to an outside stimulus that indicates whether the decision-making process corresponds or mismatches to the decision maker (Klein, 2003; Sadler-Smith, 2007; Gigerenzer, 2008). It has been stressed that intuition is deeper feeling, which human beings have been developing for thousands of years, it is a reaction based on neurological processes, which in turn aid in controversial situations or in situations, when information is incomplete, quickly making an optimal decision (Gigerenzer, 2008). Researchers' stress that everyone has an experience in making intuitive decisions, however, the problem lies in accurate and effective use of the intuition (Sadler-Smith, 2007; Gigerenzer, 2008).

In the times of commercial globalization it is of importance to research CEOs from various countries and their notions on intuition and its influence on decision-making process in commercial environment, as that may assist in finding out the ways of effective use of intuition. Various researches reveal the link between problem-solving, decision-making and cultural environment of CEOs (Partapuoli, 1998; Chhokar, Brodbeck, 2007; Cimdiņa, 2012). In the aspect of comparing the rational and irrational decisions of particular research-developing interest is the conclusion on local market, where entrepreneurs are more often affected by affective factors, unlike global market, where instrumental factors (e.g. factors connected with actions and results) factors are of greater impact.

The research was conducted from July, 2012 until December, 2012; it is based on data from 67 CEOs from different countries: Latvia – 26; Estonia – 10; Russia – 12; Italy – 16; Czech Republic – 1; Brazil – 2. The research participants represented profitable small and average business entities that operate for more than four years, signifying, according to researchers' conclusions (Mitchell, Friga, 2005; Klein, 2003), competitiveness of their CEOs.

In order to research CEOs' notions on the role of intuition in the decision-making in a commercial environment, following methodology was used: 1) direct, semi-structured interviews that discussed aspects on intuition in the process of decision-making, rational and irrational factors, impact of the cultural environment; 2) a questionnaire made by the authors of the article on the decision-making process of the CEOs, from which in the article following questions have been analyzed: the degree that CEOs use different approaches to make decisions in practice; the factors which influence that decisions are not often rational and precise; the level of CEOs' acceptance to different opinions on intuition, and to what degree each opinion assists them in making of successful decisions. Interviews were conducted before the questionnaire in order to update the questions included in it, and the interviews were conducted with ten CEOs (5 from Italy, 3 from Latvia, 2 from Russia). The interview participants did not take part in questionnaires. Questionnaires were taken by 57 CEOs.

For grouping of the research results, the content analysis was used, differentiating between following categories: understanding of the term 'intuition'; notions on the accuracy of an intuitive decision; notions on factors that influence the accuracy of an initiative decision; notions on the meaning of intuition in terms of making an optimal decision; notions on the influence of a cultural environment for CEOs in the decision-making process. From the interview transcripts content units were extracted, and later – coded and the frequencies of the code categories were calculated. The results of the questionnaire were achieved by using descriptive statistics (in the article for the purpose of data analysis using the average arithmetical unit (M)); by correlation of the research results; by using Pearson's correlation coefficient. The aim of the correlation analysis was to determine how the notions of CEOs are connected on what intuition is, how it assists in the decision-making process, with the

decision-making modes, and notions on it, why decisions are not made rational and accurate. Using the  $\chi^2$  test, the correlation between CEOs' nationality and ethnicity was determined. In the data processing and analysis a computer program SPSS version 19 was used.

## Results and discussion

In the interview content analysis of the category **understanding of the term 'intuition'** the most apparent codes were: 'inner realization, gleam', which can be defined as insight (5 cases out of 10); 'voice of the instinct', which can be detected through physical feelings and in the following insight consciousness (4 of 10); 'one of the main forms of the cognitive power', which is connected with the laws of nature (3 of 10); 'the ability to see opportunities as an answer to a particular problem' (3 of 10). It needs to be marked out, that in 3 cases interviewed CEOs view intuition as an explanation of insight connected with notions, that intuition is one of the main forms of the cognitive power, which is connected with the laws of nature, and in 2 cases with the explanation 'the ability to see opportunities as an answer to a particular problem'. In the category **notions on accuracy of an intuitive decision** the most apparent codes were: 'an intuitive decision is accurate' (7 cases of 10), because, as interviewees added, 'intuition is accurate'; 'intuitive decision is partly accurate' (3 of 10), because, as interviewees explained, 'intuition is accurate, though not always one is able to precisely fulfill it'.

In the category **notions of the factors that influence accuracy of an intuitive decision** the most apparent codes were: 'influence of the emotions' (6 cases of 10), for an example, 'when making a decision it is possible to be influenced by various kinship, affective ties, and as the result, the implementation of a strong intuitional decision will face powerful deviations'; 'the lifestyle of a CEO' (5 of 10), for an example, inability to manage time that causes exhaustion and inaccuracy of feelings; 'the ability to implement the initiative idea in social context' (5 of 10), for example 'one can have a great intuitive idea, though if it fails to be materialized, it has no value'; 'person's ability to reflect his or her intuition' (3 of 10). The code 'person's ability to reflect on his or her intuition' in some cases (3 of 10) is linked with the code 'the lifestyle of a CEO', for an example, 'because the lifestyle is more correct and authentic (for a CEO it is more physically, psychologically and mentally appropriate), and because the chance is greater for the consciousness to reflect the signals of the intuition'.

In the category **notions on the meaning of intuition in making an optimal decision** the most apparent codes were: 'intuition ensures the making of an optimal decision' (5 cases of 10); 'intuition partly ensures the making of an optimal decision' (5 of 10), because, as interviewees explained, 'with only an intuition it is sometimes not enough, high degree of professionalism is also a must, as well as knowledge of culture and laws'. In the category **notions on the influence of CEO's cultural environment in the decision-making process** the most often used code was: 'the cultural environment does not have a substantial influence on a CEO's decision-making' (8 cases out of 10), because, as interviewees explained, the ability to be flexible in linking rationality with intuition is more important, and rationality, as it was implied by interviewed CEOs, also implies the knowledge on various cultural particularities. For an example: *"I have to sell leather goods to an Arabian business partner; I will sell them, only those not from pigskin. A river has to make its way to the sea, the way it takes, that is relative."*

In the research question **what factors influence that decisions are often not made rationally and precisely**, the mean deviations of the results (M), according to the scale: 1 – I disagree with the given statement, 7 – I completely agree, reveal that a pronounced factor is 'the personal experience of a decision maker: beliefs, values, likes and dislikes' (M=5,17), comparatively less pronounced factor is 'the limited abilities of a decision maker' (M=4,75), average was the agreement to the factors: 'a lot of information, it is complicated, it is not possible to profoundly research it' (M=3,43) and 'insufficient information and knowledge (M=3,33). It is possible to observe the domination of an opinion on CEOs personality as one of the key factors that influence the accuracy of rationality and create its limitations in the decision-making process.

The mean result indicators (M) of **the questionnaire's question: to what degree CEOs use various decision-making approaches in practice**, in the scale: 1 – do not use, 7 – use always, revealed equal value of the decision-making approaches (Table 1).

Table 1

**Results of the decision-making ways of CEOs' decisions (N=57)**

No.	Description of the decision-making approach	M
1.	Reliance on rules and principles; accustomed reactions; unified traditionally accepted process	3,33
2.	Reliance on personal judgment, intuition, creativity, inspiration, rules developed in personal experience	3,33
3.	The possible gains are valued and the value of every alternative is calculated	3,33
4.	The goal is formulated and the alternatives are researched until one that corresponds to the goal is found	3,33

The results (Table 1) indicate a tendency that every decision-making approach, correspondingly to the mean deviation, is used in every second case of making a decision on average, and no preference is given to any of the approaches named.

The questionnaire's question: **to what degree CEOs agree to different notions on what intuition is, and to what degree each of the notions assists to them in successful decision-making**, mean deviations of the results (M), according to the scale: 1 – I disagree with the given statement, 7 – I completely agree and 1 – does not assist in the decision-making, 7 – significantly aids in the decision-making process, reveal the pronounced nature of CEOs' notions (Table 2).

Table 2

**Results of CEOs' evaluation on the notions on intuition and its role in the decision-making process (N=57)**

No.	Notion on intuition	Agree with the statement	Assists in the decision-making process
1.	Intuition is an alternative way to problem-solving	4,83	5,33
2.	A basis that guarantees success, even if the person does not know the principles on which intuition operates	5,67	5,67
3.	Behind every success/ profit lies a CEO's intuition	5,83	6,08
4.	Intuition assists in using the outside conditions in a functional manner	5,75	6,08
5.	Intuition assists in sensing the point where the events are seen in the best possible way for the implementation of the chances	6,25	6,25
6.	Intuition reveals: what at first seems hostile, dangerous, turns out to be a profitable business	5,83	5,92
7.	Intuition is the first thing that comes in mind	4,58	4,83
8.	Intuition is the identification of the primary sources, because at once there are no two sources and no two options, therefore intuition hands the best results	6,58	6,25
9.	Intuition is a surge of the enlightenment, and then the decisions are made, listening into one's own gut feeling	5,83	6,08

The results (Table 2) reveal that agreement to the questions of the questionnaire is average high (M=4,58; M=4,83) and high (M=5,67 – M=6,58). A more pronounced is the view on intuition as an identification of primary sources (M=6,58) that corresponds to the argument of the researchers (Sadler-Smith, 2007; Gigerenzer, 2008) on the substance of intuition. Such a view assists in the economy of time, financial and energetic resources that are used in a long evaluation of alternatives and doubts. An analysis of the correlation reveals that important ( $p < .001$  –  $p < .05$ ) and positively close correlations are between all the arguments on the evaluation of intuition and observations on the degree to which a particular notion assists in the decision-making process ( $r = .75$  –  $r = .97$ ). Less direct was the correlation between the views on intuition as a surge of enlightenment and making appropriate

decisions, listening to the gut feeling, and the degree on which such a decision assists in the decision-making process ( $r = .69$ ).

Analysis of the correlation revealed important ( $p < .001 - p < .05$ ), though negative, average close and close correlations ( $r = -.54 - r = -.70$ ) between traditionally approved rational decision-making approaches: the reliance on rules and principles, accustomed reactions; unified traditionally accepted process; the evaluation of possible gains and the value calculation of every alternative; the formulation of goals and the research of alternatives until one that corresponds to the goal is found – and the view on intuition as the grounds that guarantee success, even if the person does not understand the working principles of intuition; the view on intuition as something that assists in a functional use of outside sources; the view on intuition as a surge of the enlightenment, and then making a decision, listening to the gut feeling. Results also revealed a negative, important ( $p < .001 - p < .05$ ) link between previously mentioned rational decision-making approaches and the views that a high degree of assistance to CEOs' – research participants' – decision-making is for the following views on intuition: intuition assists in functional use of outside sources ( $M = 5,75$ ); in sensing the point where events are seen in the best possible light for the implementation of the opportunities ( $M = 6,25$ ); it is a surge of the enlightenment, and then the decisions are made, listening into one's own gut feeling ( $M = 5,83$ ).

Controversial are the results that reveal that decision-making approach: reliance on personal judgment, intuition, creativity, inspiration, rules developed in personal experiences, that is defined as in intuitive, individual experience based decision-making approach (Harrison, 1999; Adler, 2010) – is noticeably ( $p < .05$ ) negative correlated with the view that intuition assists in functional use of outside sources ( $r = -.70$ ) and the degree on which the decision-making is aided by the view that: intuition assists in sensing the point where events are seen in the best possible light for the implementation of the opportunities ( $r = -.61$ ).

The analysis of the correlations also revealed important ( $p < .05$ ) correlations between the views of CEOs on why decisions are not often made in a rational and precise manner and views on what intuition is and how it assists in the decision-making process. For an example, an important factor that bounds rational decision-making was 'lack of information and knowledge', and it has an important negative correlation with the view that 'an intuition is the identification of the primary sources, because at once there are no two sources and no two options, therefore intuition hands the best results'. Such view signifies that such understanding of the intuition for CEOs – research participants – means a smaller tendency to blame the lack of information and knowledge for inappropriate decisions.

A factor that bounds the decision-making process "a lot of information, it is complex, it is not possible to research it in details" has an important negative correlation with the view that 'intuition is a surge of the enlightenment, and then the decisions are made, listening into the gut feeling' that aids in higher degree of the decision-making. Such result signifies that, in cases where a CEO in his or her personal experience has made sure of a precise intuition's (it defines the previously mentioned view on intuition (Sadler-Smith, 2007; Gigerenzer, 2008) usefulness, less common is the inability to deal with large amounts of complex information.

A factor that bounds rational decision-making 'decision makers bounded abilities and skills' has an important ( $p < .05$ ), average close ( $r > .40 < .60$ ) positive correlation with the view that 'intuition assists in functional use of outside sources'. Meaning that if CEOs highly ( $M = 5,75$ ) admit the importance of the intuition in functional use of outside sources, then they highly ( $M = 4,75$ ) value subjective factor as a factor that bounds the decision-making skills: 'decision-makers bounded abilities and skills'. The analysis of the correlation also revealed that if higher valued is the agreement to such views and its use in the decision-making process 'intuition assists in functional use of outside sources'; intuition is a surge of the enlightenment, and then the decisions are made, listening into the gut feeling; intuition is the identification of the primary sources, because at once there are no two sources and no two options, therefore intuition hands the best results – then closer ( $r > .50 < .70$ ) correlation is with highly valued ( $M = 5,17$ ) rational and precise decision-making bounding factor: 'decision-making based on personal experience: views, values, likes and dislikes'.

The use of the  $\chi^2$  test in the results revealed that CEOs' in practice use various decision-making approaches; factors that determine the fact that the decisions often are not made rationally and precisely; notions on what 'intuition' is, and to what degree each view assists in a successful decision-making; the evaluation is no direct link ( $p < .05$ ) is link with CEOs' nationality and ethnicity.

## Conclusions

Competitive CEOs – the best description for the research participants – evaluate a particular situation as a factor of personal importance in the decision-making process that assists in the making of optimal decisions. Research participants' notions on the meaning of intuition in the decision-making process of commercial environment to a rather high degree correspond to the views of scientists on the intuition as an instinctive base feeling that provokes a relatively high positive or negative reaction to outside stimuli, which indicates to adequacy or inadequacy to the decision maker in a particular situation of making a decision, and determines an optimal decision.

The interview data prove competitive CEOs' rationale clarity skill, which demonstrates an understanding of the individual cognitive and emotional factor bounding meaning in intuitively taken decisions. As factors that bound various intuitive decisions often name are: emotional influence; unbalanced, for a CEO physically, psychologically and emotionally improper lifestyle; inability to quickly reproduce an intuitionally sensed idea in the commercial environment; a particular decision maker's consciousness's limited ability to reflect his or her intuition. Factors, revealed in the questionnaire, that determine the reason of the decisions not being made rationally and precisely, the results of the evaluation also revealed importance of individual factors in the decision-making process: personal experience that includes opinion, values, likes and dislikes; bounded abilities and skills.

The analysis of correlations revealed that a more highly valued limiting factor of rational and precise decision-making was 'the personal experience of a decision maker: his or her opinion, his or her values, likes and dislikes' are greatly linked with notions on intuition and its use in the decision-making process, such as: intuition assists in a functional use of outside sources; intuition is a surge of the enlightenment, and then the decisions are made, listening into one's own gut feeling; intuition is the identification of the primary sources. Such result signifies that the acceptance of importance intuition has in the decision-making process assists in gaining an understanding on limiting factors of subjective decision-making, and such understanding, as literature analysis reveals, can assist on improving decision-making abilities.

CEOs' notions on intuition, as the correlation analysis revealed, has an important link with evaluations on how a particular notion assists in the decision-making process. Since the research participants are competitive CEOs, such results reveal the meaning of intuition in the decision-making process of commercial environment. When viewing data from the questionnaire, similar conclusion could be drawn from the important negative link of rational decision-making approaches' evaluation with the evaluation of a view that in a decision-making process intuition assists in a functional use of outside conditions, in sensing the point where the events are seen in the best possible way for the implementation of the chances, in making a decision based on the gut feeling.

The research revealed no particular differences between CEOs of different countries and their notions on the meaning of intuition in the making of important decisions in a commercial environment. Interview results acknowledge a conclusion gained in the literature research that in the global market entrepreneurs' decisions are mostly affected by instrumental factors (ones' linked with actions and results), and valuable is CEOs' ability to flexibly connect rationality and intuition, since rationality embeds also notions on various cultural particularities, aiding in the commercial environment.

There is a need for further research that uses empirical methodology to find out how competitive CEOs in their practice use intuition precisely and effectively, how do they integrate rationality and intuition in the decision-making process. The research results reveal a necessity to analyze current and future CEOs' integrative approaches to the decision-making process: rational and intuitive possibilities in the formal and informal education.

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