1. Introduction

No doubt, conditions present at the birth of strategic decisions have an impact on the quality of these decisions (Dean – Sharfman 1993). It is crucial who makes such decisions, what skills, competencies they have and what kind of decision-making philosophy they adhere to. My current research started fourteen years ago. In the course of this research that has culminated in this international comparative study on California and Hungary, I intend to describe determining factors in the quality of decision-making. First, I will concentrate on the orientations of decision-making, the various forms of rational and intuitive thinking, and on the role of decision-makers’ management skills.

The starting point of the current research finds its roots in a competitiveness research project. In the framework of this project I analysed decision-making processes and the development of management skills in Hungary four times (in 1996, 1999, 2004 and in 2009). Each time I used a questionnaire with a sample of more than 1200 individuals (Chikán – Czakó – Zoltayné 2002; Chikán – Czakó 2009, Zoltayné – Szántó, 2011).

Following the third survey in 2004, in particular, my attention turned towards analytical and intuitive decision-making orientations and the separation of such skills. The reason for that was that I had witnessed the appearance of rationality as an elementary force in all three surveys so far. I had the opportunity to develop my research in a new environment and with a novel method (with interviews and a new focus). The first half of the international comparative study was completed in California between September 2005 and June 2006. I was able to conduct a similar type of research by questioning Hungarian managers in 2007-2008. This latter investigation has offered me the chance to compare the American and Hungarian results.

The human factor is overvalued in relation to competitiveness in the current era of the knowledge-based economy. Therefore, one of the most fundamental questions of the competitiveness study was the following: what qualities, or individual skills, does the management have to possess in order to stay competitive? To answer this question I relied on the methodology of international research in which the questionnaire aimed at exploring the respondents’ management skills (Hickson et al, 1986).

In the list of skills, the traditional leadership skills and abilities were complemented by dynamic attributes that are indispensable for businesses in the current economy, an economy which has taken a new developmental path. Later on I have come to the conclusion that the 2009 results on managerial skills and preparedness entirely justified the previous research results (1996, 1999 and 2004). Respondents evaluated themselves on a five-point scale in all four occasions responding to the same questions on managerial skills and orientations. The similarity of results was remarkable as the composition of samples largely differed. Less than one-third of
the companies were questioned in all surveys due to many of the businesses closing, which was characteristic of the changing economic landscape. The 1996 survey was dominated by bigger export-oriented companies, while in the 1999 survey there was a dominance of small and medium size firms that were producing for the domestic market. There were many foreign companies in the 2004 sample while the 2009 sample covered mainly SMSs with Hungarian private owners. The change of the sample is a true reflection of the transformations in the Hungarian economy of the last two decades. In light of this, the considerable stability of results seemed truly surprising. The (slight) improvement in skills is likely to be the consequence of natural progress.

Figure 1. Development in management skills in Hungary based on questionnaires of 1996, 1999, 2004 and 2009 (N = 1200)

Top spots were occupied by the same skills in all four groups, namely practice-minded behaviour, expertise, problem-solving skills and a sense for business. These are characteristics of a well-prepared, pragmatic manager who adapts well to a market economy. These managers lacked a risk-taking inclination and an ability to represent their interests, which are indispensable traits of active leadership. Managers were still lagging behind in computer skills in 2004, however, we can recognise a .5 increase by 2009 in this respect. Neither in 1999 nor in 2004 and 2009 did managers self-assess themselves below three on a five-point scale. The explanation for this is that managers overvalued themselves in all skills (Wimmer – Zoltayné 2009).

I have scrutinised the distribution of prevalent decision-making approaches in the course of all four research projects as well. Respondents replied on a 1-5 point scale, 1 meaning no relevance for them, while 5 meaning that the given approach was a highly decisive factor in their decision. I have prepared a comparative evaluation of all four projects and concluded that optimisation and the central role of rationality were prevalent throughout. In addition, this result was compounded by a diminution, though a slight one, of the other three tested approaches: the political, the bounded rationality (satisficing) and the intuitive. As a conclusion, the companies of the survey showed that decision-making was determined by the deliberate, rationality-driven
model during the almost fourteen years of research, while choices driven by intuition were evaded (Zoltay – Wimmer – Szanto 2008).

Figure 2. Changes in decision making approaches in Hungary based on questionnaires of 1996, 1999, 2004 and 2009 (N = 1200)

2. Literature Review - The Rise in the Interest of Intuition

Contrary to my findings, the management literature was showing an increased interest in intuition in the past decades. As a follow-up to my research on competitiveness, I placed intuition into the focus of decision-making research as this topic corresponded with my previous research. I wished to grasp the way in which the formerly predominant rational theory was complemented by the managers’ intuitions in concrete decision-making situations. In order to achieve this objective, I had to resort to a different methodology and research model. The pivotal point of research was whether those companies in which the leadership relied on intuition became more successful and competitive.

This question was first raised, albeit not in exactly the same way, by Henry Mintzberg in 1976 in his now classical article Planning on the left side and managing on the right published in Harvard Business Review. Scientific research of that era had already shown that the two sides of our brain specialise in different fields: logical (rational) on the left hemisphere, while holistic, relative (intuitive) functions on the right hemisphere. Mintzberg asserted that these results would have a huge impact on management science and he proved himself right. He stated that top managers of an organisation have to possess a well-developed right side of the brain, while designers should have a well-developed left side. Still, his most important conclusion was that the functions and capabilities of both sides have to be taken into account, that is, the top management has to comprise both logical and intuitive thinkers (Mintzberg 1976).

Thirty years later, also in the Harvard Business Review, Buchanan and O’Connell stated that we pay great attention to intuition as we see that decision-makers are increasingly courageous to admit relying on their feelings and intuition. In a study responding leaders stated that they used
their analytical and intuitive skills in roughly the same proportion, but their success was in eighty percent of the cases attributable to intuition (Buchanan – O’Connell 2006). This opinion is consistent with the notion, accepted widely now, that the basis of intuition is knowledge accumulated in the long–term in which experience has a decisive role.

The question of rationality/intuition is further investigated by Milkman, Chugh and Bazerman in their working paper entitled ‘How Can Decision Making Be Improved?’ published in 2008 (Milkman – Chugh – Bazerman 2008). They claim in their study that the question is becoming relevant as decision-making mistakes are increasingly costly. It is enough to refer to the global impact of decisions and the financial crisis that started in the autumn of 2008. Decision-makers have become more open and do not simply expect that researchers identify their mistakes, but they wish to see how the mistakes can be avoided. Bazerman and his co-authors introduce a thinking framework, originally invented by Stanovich and West, that may prove to be a useful tool for improving the level of decision-making (Stanovich – West 2000). They defined intuitive and rational thinking as System 1 and System 2 types of thinking, respectively. In their wording, System 1 type of thinking is related to intuition, which is typically fast, automatic, implicit, emotional, and does not necessitate a great effort. The System 2 type of thinking is slower, deliberate, necessitates an effort, it is explicit and logical. The authors claim that we lack necessary information in the course of decision-making, moreover, we do not even use what is available, and store only a small amount in our useful memory. The busier the decision-maker is, the greater stress he/she is exposed to, the likelier it is that he/she will follow the System 1 type of thinking. The great mistakes are attributable to this phenomenon. Stanovich and West claim that the key to success is a move towards the System 2 type of thinking, which predicts a renaissance of logical, analytical thinking.

Today the question is: why is the omnipotent power of intuition questioned ever more often? Before answering this dilemma, it is worth clarifying the notion itself. According to Ashley F. Fields, intuition is one of the most mystical concepts related to human capital (Fields 2000). Classical thinkers from Carl Jung through Chester Barnard to Abraham Maslow all paid great attention to the question of intuition. Carl Jung commented: ‘intuition does not denote something contrary to reason, but something outside of the province of reason’ (Jung 1934). Intuition is in fact very real and does not solely exist in our mind, what is more we cannot influence it with our mind. Harold Leavitt found that intuition was a principal weapon as opposed to analytical practice, which is famously labelled by him as ’analysis paralysis’ (Leavitt 1975).

Intuition is often defined as the recognition of something without rational processes involved. Alternatively, it could be described as the subconscious sensation of reality. In the course of this process, we gain knowledge of something, but we do not know how it happened. Westcott redefined the concept of intuition as a rational process in which the conclusion is reached by the individual through considerably less explicit information than is ordinarily necessary to reach that decision (Westcott 1968). Weston Agor argues that intuition is nothing else than a built-in capability that some of us have and others do not (Agor 1997).

My research follows the definition of intuition developed by Martha Sinclair and Neal Ashkanasy. In their interpretation, intuition is not necessarily a step-by-step information processing state that builds on both intellectual and emotional elements and in fact leads to a
concrete understanding without deliberate reasoning (Sinclair – Ashkanasy 2005). In practice, intuition appears as the subconscious of decision-making, the basis of which is experience and accumulated judgment.

Empirical research on intuition has produced interesting results. Looking at the heads of companies on the 500-list of Fortune magazine, Isenberg found that these leaders used both rational and intuitive methods (Isenberg, 1984). Surveying more than 1,300 managers Parikh stated that intuition can be grasped in an international context (Parikh 1994). A study prepared by Catford in which he questioned 57 businessmen confirmed that intuition is widely treated as a business tool (Catford 1987).

The single common feature that links the authors mentioned above is that they cannot put forward a coherent and justifiable theory that would unravel the essence of intuition. Scientists claim in unison that there is ‘something’ but cannot agree on ‘what’ it is exactly, and ‘why’ it functions as it does. The latest findings in cognitive science show that there is nothing mystical or magical in the intuitive process, that is, intuition is not paranormal or irrational. Intuition is not the accidental product of imagination as it had been thought before. It has been proved, however, that intuitive processes build upon experience and knowledge built in the long-run and consist of a considerable number of facts, patterns, theories, abstraction and all sorts of things that could in short be labelled as the totality of presumptions (Simon 1987). Importantly, a connected advantage is that intuition is capable of condensing experience and knowledge into seconds, as I have myself experienced it with some of my interviewees.

3. Research Methods

3.1. Comparative International Research

The idea behind an international comparative research study was that one can investigate the occurrence of rationality and intuition in management work more precisely with the post-facto analysis of concrete decision-making situations. Research focused on strategic decisions that have a long term impact on a company’s future. Strategic decisions are typically made by the senior executives of a company: executive directors, their deputies and presidents. That is the argument behind questioning CEOs both in California and Hungary: twelve practicing CEOs, presidents and vice-presidents were questioned in each sample (referred to as ‘Executives’ for the purpose of this report), while eight of them were founders and majority owners of their own enterprises (referred to as ’Entrepreneurs’).

Sixteen respondents were men and four were women in the California sample. The average respondent had been working for 28.7 years in general, out of which 13.8 years were for the actual firm, and 8.4 years were spent on their current position. Sixty percent graduated in business studies, seven of them having an MBA or a Ph.D., while two of them having both degrees. One respondent was working on his Ph.D. at the time of the interview (Zoltay 2008).

The Hungarian sample is worthy of attention as well. Two respondents were among the top one hundred richest people in Hungary in 2007. Two companies took part in the sample that represented a whole industry in Hungary, while one respondent was among the top 25 most influential businessmen in 2008. There was not a single woman in the Hungarian sample.
Structured interviews were carried out (with the same interview sketch) at both places. These took two and a half hours each on average. The shortest took one-and-a-half hours (and took place in Hungary) and the longest lasted five hours (in California). All respondents were asked to analyse four of their former strategic decisions. They could choose their examples. This method led to the creation of a database consisting of 160 concrete strategic decision cases. This was a statistically acceptable quantity of data for a comparative study.

3.2. The Basic Concept of the Research Model

Decision-making orientations and management skills were the pivotal points of my research. I intended to grasp rational vs. intuitive orientation by looking at the mutual impact of these orientations on each other. (See following paragraph). As the post-facto analysis of decisions primarily focused on the process of decision-making, I could gather information on procedural rationality. I asked three questions: 1) how careful the gathering and analysis of information had been prior to decisions, 2) whether they had been able to gather all relevant information and detailed analysis prevailed, or they had relied on their intuition, 3) to what extent quantitative analytical techniques had played a role. I looked at certain factors in particular. These included uncertainty, complexity, lack of time, the influence of external actors, and conflicts between decision-makers.

3.3. Rational vs. Intuitive orientation

The main focus of the comparative international research was the investigation of rational vs. intuitive orientation. The basic idea was that the process of strategic decision-making can be best mapped by using real-life cases as examples. These can offer an answer to the following questions:

1. How do senior managers reach a decision in real-life decision-making situations?

2. What differentiates ‘Executives’ and ‘Entrepreneurs’, if they differ at all, when they combine rationality with intuition?

3. What kinds of similarities or differences might there be in the perception, skills and decision-making habits of the managers coming from different countries, and specific to our case, from California and Hungary?

Rational vs. intuitive orientation is not a well researched area within decision-making theory. Therefore, it does not have widely accepted measuring tools or indicators. The basic assumptions of the theory led me to two possible indicators: decision-making approaches and management skills, whose applicability was validated in the course of the former competitiveness research.

Rational vs. intuitive thinking can be linked to the dominance of left and right hemisphere thinking. Individuals whose left hemisphere is dominant are described as rational, evaluating, and thinking logically. Decision-makers belonging to this type concentrate on facts, data and the temporality of things. This type of thinking could be well applied in identifying problems and at the phase of evaluating alternatives. However, not all problems can be solved rationally (i.e. scientifically). In these instances the right-hemisphere dominant thinking can help out in
accepting uncertainty and risk, while it can also support the intuitive type of problem solving that is based on imagination. It follows that right-side dominant decision-makers can find an answer to more convoluted problems.

Many people believe in the analytical methods of decision-making: in data processing, using various algorithms and system-oriented thinking. Analytical thinking is a sequential process in which the decision-makers strive to choose the most promising solution. They evaluate each step through which they filter out all unnecessary features. Problem-solving ends when the right solution comes into the picture. The decision-maker evaluates the possible solutions one-by-one and compares the results, advantages and disadvantages, accordingly putting them in order.

Naturally, good analytical skills are a prerequisite for all kinds of business activities. Analysis uncovers the relationship between the details of a problem to each other, and to the totality of the problem itself. The rational thinker is continuously searching for what the cause of a problem is and is trying to find an explanation, a law, a connection that describes – and through which one can understand – the problem situation (Adair 1985).

A number of decisions are trivial since the analysis of facts directly leads to the solution. There are, however, decision-making situations that do not fit into a rational framework. In these situations there are usually too many conflicts or emotions, or there are long-term consequences. Due to these characteristics, rational analysis should not be trusted exclusively. Intuition gets a role in these kinds of ’what to do’ situations. Decisions that affect a whole organisation usually belong to this category. The conflicts between fact and intuitive judgment demonstrate that it is worthwhile to take into account differing views.

4. Research Hypotheses

The literature on decision-making theory covers various models of organisational decision-making. In the present study two approaches, namely, rational and intuitive ways of thinking have been given special attention. In addition, concerning the eleven managerial skills that had already been tested in the research on competitiveness, I have asked whether the eleven skills supported rational or intuitive thinking. I analysed whether the strengths in skills were in congruence with the decision-making orientation favoured by the managers. The main hypotheses can be summed up as follows:

**H1**: Intuition plays a crucial role in the strategic decisions of top managers as these types of decisions are ill-structured and therefore cannot be solved with pure reason and logic. Top managers combine rational and intuitive orientations, but rely more strongly on intuition.

**H2**: Intuitive decision-making is more acceptable among the more independent Entrepreneurs as they more frequently act as the final decision-makers. They are typically intuitive at the very moment that they make the decision.

**H3**: There is no significant difference in the orientation, skills and decision-making habits of the managers in the research sample taken from the two continents.
I have tested these hypotheses in the samples from both regions, and have also made comparative studies in relation to the Executives and Entrepreneurs in general. It is worthy to note that the first hypothesis reflected my expectation that I would get a much more realistic picture of decision-makers through the interviews than what I got through the use of questionnaires previously in the competitiveness research series.

5. Research Results

5.1. Procedural Rationality

The essence of the research was the analysis of four specific decisions both in California and in Hungary. Characteristically, respondents first chose ill-structured examples (Simon 1982). A few typical examples mentioned in the research were: the creation of a new technological foundation, the creation of an affiliate, an acquisition, the selling of a company, the closure of a business branch, a multi-million investment, the creation of a new organisational structure to spur motivation, the relocation of the company headquarters, etc.

Looking at the degree of procedural rationality, I could not find a great difference between the collection of information and analysis in terms of management groups (Entrepreneurs or Executives) or countries (US, Hungary). It can be stated that decision-makers of both countries were extremely careful when making their decisions of great significance. A number of respondents told me that certain types of information were unavailable in business life and one had to live with that. Californian Entrepreneurs complained particularly about the lack of access to information, while, interestingly, their Executive colleagues were the most satisfied in this regard.

As we have seen reflected in the H₂ hypothesis, the Entrepreneurs were more open about admitting relying on intuition than their Executive colleagues. The American respondents were a bit more forward than their Hungarian colleagues in this respect. The responses of the Executives were similar in both samples. This suggests that the status of the decision-maker, namely, whether he works for his own company or brings decisions as an employee affects the choice of decision-making orientation (Zoltayné 2008).

A number of Californian Entrepreneurs referred to the fact they had often used quantitative analyses, but they primarily relied on these in the preparatory phase, and they believed in their intuition while they decided. This reflects a particular decision-making philosophy that many expressed in so many words as: it is worthwhile to gather information meticulously, to analyse it with quantitative methods, but as many types of information are inaccessible, one has to rely on intuition instead. Hungarian Executives disagreed with this philosophy and they 'protected' themselves by making a great number of substantive analyses before trying to come up with a rational decision. These observations confirmed the previous results gained in the competitiveness research (Chikán – Czakó 2009).

Hungarian Entrepreneurs complained the least about the lack of time and conflicts between decision-makers. This can be a reflection of the fact that they are used to the pressure of time and the need to gain acceptance for their decisions from even those who do not necessarily agree with them. The same factors caused a bigger dilemma for Hungarian Executives, while their
Californian counterparts, be they owners or employees, deemed this an acceptable nuisance of medium-degree.

5.2. Rational vs. Intuitive Orientation

Typically, respondents mentioned one ill-structured problem and three semi-structured ones. The semi-structured problems were usually not as really unique as the clearly ill-structured problems, but had a common feature: they all had a long-term impact on the organisation. The replies that recounted semi-structured problems were categorised together with the respondents themselves. We applied the following classifications: acquiring resources, acquisition, investment, HR, marketing, product and service development, production, quality control, relocation, reorganisation and other decisions. Americans most often mentioned product and service development, investment, marketing and relocation related decisions. As it turned out, at least one decision fell into each category. Hungarian respondents primarily mentioned investment, product and service development, and reorganisation types of decisions. Nevertheless, there was not a single production-related decision in the semi-structured Hungarian sample.

As shown from the responses, it has been confirmed that the questioned American and Hungarian managers mixed analytical and intuitive orientations in their decisions. A number of them even alluded to the fact that following a purely rational orientation would have caused a problem for them, and thus they had to resort to intuitive thinking. The following was a typical scenario: the decision had been reached and then a rational explanation was searched to justify it. It seemed that they found it particularly important to be seen as rational a posteriori. However, some of them (mainly Americans), were extremely proud of relying on intuition. In congruence with the theory of bounded rationality (Simon 1982) they understood that their decisions, at least partly, were based on intuition. This was particularly true for marketing decisions that necessitated more experience and clear judgment than sequential logic and explicit argumentation. They stated that they had chosen what they thought were correct alternatives in their marketing decisions and not the ones that had been underpinned by facts. In other instances, e.g. in product/service development, in questions of investment and relocation, they regarded the intuitive kind of argument insufficient.

There was a significant difference between Executives and Entrepreneurs in regards to rational vs. intuitive orientation when they had to make semi-structured decisions. One of the most significant differences was that Executives showed much more rationality than Entrepreneurs did. This also confirmed the $H_2$ hypothesis. Nevertheless, it is likewise worthy to note that Entrepreneurs were a lot more circumspect in reaching investment decisions and expressly insisted on thorough analysis. The logical explanation for this may be that when they risked their own money, they wished to know precisely what they were investing in. In subsequent conversations, they confirmed this to be true.

In connection with rational vs. intuitive orientation, it can be stated that the American respondents’ rationality was the most distinct in production-related cases. Unfortunately, I did not have a comparative sample in this field as Hungarian managers did not mention these sorts of decisions. Hungarians proved to be the most rational in quality control, acquisition and resource acquiring decisions.
I had expected a great degree of intuition in marketing decisions, and the results met my expectations. At the same time, they proved my hypothesis in the sense that the degree of intuition was also the highest in both samples in marketing decisions. As the mixture of rationality and intuition were both present in the decisions, the results confirmed both Isenberg’s research findings (Isenberg 1984) and the H1 hypothesis.

5.3. Management skills

The quality of decision-making, that is the success of a company, is largely influenced by who the decision-makers are. It is not purely the applied approach (rational vs. intuitive orientation) that affects the decision. Similarly important factors are the level of professional preparedness, the skills, and the capabilities of the decision-makers.

With the aid of the list already applied several times within the competitiveness survey, interviewees were asked to make a self-assessment. Before that, however, they had to prioritize the skills and capabilities that served as the basis of self-assessment. The following two lists of skills emerged:

Table 1. Ranking of Management Skills in View of Their Importance in California and Hungary*

<table>
<thead>
<tr>
<th>Californian sample</th>
<th>Hungarian sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. communication skills</td>
<td>1. sense for business</td>
</tr>
<tr>
<td>2. sense for business</td>
<td>2. problem solving skills</td>
</tr>
<tr>
<td>3. problem solving skills</td>
<td>3. executive skills</td>
</tr>
<tr>
<td>4. practice minded behaviour</td>
<td>4. risk taking nature</td>
</tr>
<tr>
<td>5. ability to represent ideas</td>
<td>5. communication skills</td>
</tr>
<tr>
<td>6. risk taking nature</td>
<td>6. organising skills</td>
</tr>
<tr>
<td>7. expertise</td>
<td>7. expertise</td>
</tr>
<tr>
<td>8. organising skills</td>
<td>8. ability to represent ideas</td>
</tr>
<tr>
<td>9. executive skills</td>
<td>9. analytical skills</td>
</tr>
<tr>
<td>10. analytical skills</td>
<td>10. practice minded behaviour</td>
</tr>
<tr>
<td>11. computer skills</td>
<td>11. computer skills</td>
</tr>
</tbody>
</table>

* Table 1 shows intuitive skills in italics.

Naturally, the top and bottom end of the lists are worth attention as these skills and capabilities describe positively or negatively the manager ideal of the given culture. According to the American respondents, the chief task of a manager is communication within and outside of the company. They emphasized that they do most of the marketing activity themselves as they are the ‘faces’ of the company. Computer skills, however, they considered unimportant as, due to their position, they could get all the help they needed. As one Californian respondent put it aptly: those capabilities and skills are the most crucial ones that cannot be purchased (those are on the top of the list) and those skills that are available otherwise (for instance, by consultants who provide organising, analytical or computer skills) are less important and are placed in the second part of the list.
Despite the significant similarities, it is worth looking at the Hungarian list since there are differences as well. It is striking that communication skills, that are deemed so significant for Americans and are ranked first by them, are rated only fifth by Hungarian respondents. What does this denote? I learned from the experience of our interviews that Hungarian respondents wanted to indicate by all means how crucial a sense for business is in Hungary, therefore, they ranked it first.

It is a well-known fact that certain capabilities and skills are more supportive of intuitive thinking, while others are indispensable for analytical problem-solving. I executed a mini-survey based on the literature and with the inclusion of ten American and Hungarian professors as part of my research. I asked whether the eleven skills are supportive of analytical or intuitive problem-solving. They had to associate each skill with only one category, either analytical or intuitive. All respondents were well-read in management studies and I accepted their opinion as well-founded.

With the help of this method, the list of skills and capabilities were divided into two groups. Professors thought (in congruence with the literature) that intuitive problem-solving was supported by the following skills from the list: risk-taking nature, sense for business, the ability to represent ideas, practice minded behaviour, excellent communication skills (Italic in Table 1). When a problem requires an analytical solution other skills become important. These are: problem solving skills, analytical skills, computer skills, expertise and organising skills. Executive skills are placed somewhere between the two groups. This shows that effective leadership requires a combination of analytical and intuitive skills.

Subsequently, I had to revise this distinction at two points. Most of the authors who specialise in intuition agree that it is nothing else than experience put into practice. This demystified definition of intuition illustrates how one can become an expert at one’s profession through cumulative experience or knowledge. Klein argues that intuition is a developed sense helping to put experience into recognisable patterns for future use (Klein 2004). As it is well-known, developed communication skills often go hand in hand with good analytical skills for individuals with a left-dominant hemisphere. The explanation for that is that the coordination of both functions is executed by the left hemisphere (Browning 2005). As a consequence, I subsequently put communication skills into the analytical category.

Similarly to analytical vs. intuitive orientations, it was worth comparing the self-assessment of Entrepreneurs’ and Executives’ analytical vs. intuitive skills. One could witness relatively great and particularly interesting differences between the two responding categories (Entrepreneurs and Executives) in terms of self-assessment of their skills. Entrepreneurs had a much more developed sense for business and were more comfortable in taking risks. These are the areas in which they really outperformed the Executives. They had a better evaluation of their problem-solving capacity than Executives did. However, Californian Executives were on par with Hungarian Entrepreneurs in problem-solving skills. Executives showed their strength in representing ideas, analytical and executive skills. Nonetheless, the best result was produced by Hungarian Entrepreneurs in how they represented their ideas. I got a more balanced picture when I compared practice minded behaviour, communicational skills and professional expertise. It is quite interesting that based on communication skills and according to their self-assessment, the Hungarian Entrepreneurs proved best despite the fact that they ranked it fifth on their list.
In Figure 3 ‘I’ stands for intuitive, ‘A’ for analytical skills. The picture we get from the answers is that Entrepreneurs had more developed intuitive skills, while Executives approach this standard only in some analytical skill areas. For instance, in terms of a sense for business, the superiority of Entrepreneurs was unequivocal. Both American and Hungarian Entrepreneurs beat their Executive counterparts. In addition, the Hungarian Entrepreneurs outperformed the American Executives. As to practice-oriented nature, Californian Entrepreneurs had the highest scores on self-assessment, and the American Executives clearly had a better result than Hungarian Entrepreneurs did. As to professional expertise, we get a more balanced picture. The only surprise is that the Hungarian Entrepreneurs assessed themselves the lowest. They, however, ‘compensated’ for this result in the representation of ideas category in which they headed the list. The results of the American and Hungarian Executives were exactly the same in terms of expertise. In the examination of risk-taking nature, Entrepreneurs gained an easy victory over Executives in both samples. This is not surprising as this may be the likely reason for choosing the riskier entrepreneurial job instead of the more predictable work of an employee.

Comparing analytical skills, problem-solving skills did not differentiate the respondents significantly, still the Californian participants proved the best. As seen before, one of the most striking findings was how high Hungarian Entrepreneurs evaluated their communication skills. Hungarian Executives, however, were the least satisfied with their communication skills. As to analytical skills, the Hungarian Entrepreneurs and American Executives were neck and neck and overtook the Hungarian Executives and American Entrepreneurs of the same level. A competition in organising skills would be won by Hungarian Entrepreneurs, while Hungarian Executives would come last. Computer skills show quite a weak result in which Californian Executives fared a bit better, but even they did not reach 3.5 points on the scale.
It is worth noting that self-assessment based on intuition (especially, in terms of a sense for business, representation of ideas, and risk-taking nature) got much higher scores than analytical ones (analytical and computer skills).

Besides, it was striking that Hungarian Executives significantly underestimated themselves compared to their American colleagues in, practically, almost all skills except for the representation of ideas, analytical skills and risk-taking nature. In these areas, similarly to the Americans, they massively underperformed the Entrepreneurs. Hungarian Executives showed a particularly high degree of skill-deficit in communication, sense for business, problem-solving and practice-minded behaviour.

Despite all distortive factors, the similarity in the data trends is truly remarkable. It is interesting that Hungarian managers constantly produced a greater deficit in analytical skills. It is likely that one could find a cultural explanation for the Hungarian results that were sometimes even a half point lower than the American scores. This may indicate the typical Hungarian pessimism, low self-esteem and obligatory self-depreciation.

It was more characteristic of the American sample that respondents achieved a better result in skills they regarded as important. Altogether only two respondents had a worse result in areas they found significant. I have compared, for all respondents, the order of skills with their self-assessment and I have also checked the correspondence between them with the use of the correlation coefficient. I have found a shining example of cognitive dissonance! Usually what happened was that respondents categorised their weaknesses as less important skills and defined their strengths as more significant ones. More concretely, in the case of the Hungarian sample, fifteen respondents overvalued themselves in skills they deemed important from the list. Four (one Executive and three Entrepreneurs) gave a lower grade of themselves in skills they regarded as important.

When scrutinizing these findings, it must be remembered that these results are derived from self-assessment. Rarely do self-assessment and independent research yield the same results. Unfortunately, we do not possess the independent techniques and indicators that can gauge management skills or even rational vs. intuitive orientation yet. The difference between the (immeasurable) reality and self-assessment, if it could be determined at all, would be called the coefficient of self-delusion. This coefficient can be positive if the given person is too humble and undervalues himself, for instance, in management skills as it is most likely to have happened (among the most successful ones). Negative self-delusion usually occurs with people who have an inflated sense of self and over-rate themselves. In either case we get a distorted picture. The question is how we can use it. Herbert Simon gave an answer to this dilemma with his theory of bounded rationality: people do not act on the basis of rationality but on the basis of 'perceived reality'. It means that, managers’ actions, for instance, are based on their own personal view of reality as created by them. Depending on this picture, therefore, they will become risk-takers or risk-avoiders (Simon, 1982). The present research was intended to be a contribution to the understanding of the 'perceived reality of managers.'
6. Conclusions

In sum, it can be concluded that my hypotheses have been confirmed. I have found that Entrepreneurs had a much higher sense of intuition than Executives, and the former were remarkably superior (H3 hypothesis) in risk-taking and in the sense for business. This is not surprising at all as this very trait makes them entrepreneurs. Executives who follow a 'safer' strategy in the business sphere constantly outperformed the Entrepreneurs in terms of analytical skills and classical executive skills (organising, executive skills).

There is a big debate at present whether the analytical or the intuitive way of thinking is more successful in the business arena. Thomas Davenport argued that some companies have built their very businesses on their ability to collect, analyse and act on data. He asserts that every company should learn from what these firms do (Davenport 2006). Previously, the absolute dominance of the rational-analytical way of thinking, as opposed to the intuitive one, characterised the management literature. It was however, problematic to extend rational orientation to strategic decisions, mostly for the reason that knowledge necessary for reaching such decisions is often incomplete. Consequently, it is impossible to identify quantitative values and formulas applicable overall. This is why the use of intuition in strategic decisions is increasingly widespread. As a conclusion to the debate, more or less an agreement has now emerged. The shared understanding is that intuition is not irrational, but more of a complex phenomenon that draws from accumulated knowledge and experience.

My present research has confirmed through concrete decision situations that even in an international context, managers typically use intuition. In these cases managers are most likely to draw from those experiences that assist them in recognising known patterns.

Bergson is responsible for the suspicion that surrounds intuition (Bergson 1999). He attached great importance to intuition but claimed that inquiry cannot be based upon it (Wierzbicki 1997). However, almost a hundred years of research is gradually leading to the refutation of this interpretation.

Amitai Etzioni called rational ritualism the phenomenon when top managers and their teams join in an 'information dance'. They are aware, however, that the information is of poor quality, random and over-explained. Usually, they are also conscious of the fact that the data that the information is based on is unreliable, and that the analysis is divorced from reality. However, they do not dare to admit that the Emperor does not have new clothes, and that actually he is not wearing anything. Therefore, they prepare ritual prognoses that can be later cast aside when they have enough knowledge at hand (Etzioni 2001).

Analysed cases have confirmed that intuition is given more emphasis in decisions in which fastness, flexibility and creativity are important criteria (Aczél 2008). In these cases the risk the decision-maker takes is whether he/she chooses the almost right or 'right enough' decision as opposed to the 'precisely bad' decision that is based on statistical models. One could observe that decision-makers relied on their intuition when they had little amount of information (in practice, in new and unknown situations) or when they relied on knowledge built on decades of experience. Analysis was given relatively more weight in cases between these two models.
The present research has also demonstrated that intuition plays a crucial role in strategic decision-making (H₁ hypothesis) as top managers combine rational and intuitive orientations, and that they rely heavily on intuition. This latter statement was especially typical of Entrepreneurs. I observed that managers reach their decisions in the most peculiar ways. The most intriguing finding was that Executives and Entrepreneurs decide differently. Typically, Executives had to calculate with a fixed budget and resources. Therefore, they were most preoccupied with how they can ‘make out’ their limited budget. Entrepreneurs start by thinking: ‘I want to make this’ and then they muse on the acquisition of resources. Entrepreneurs are not much bothered by the lack of resources. They mentioned numerous cases when they had had a bright idea, the intuition that they relied on in their quick decision, and how it brought great success afterwards (H₂ hypothesis).

The present research has brought new results to the international comparison of Executives’ and Entrepreneurs’ decision patterns. Hopefully, this will contribute to a better understanding of managerial thinking. I have succeeded in demonstrating that both groups intensively use analysis, which they resort to the analytical approach. However, they use it at various stages of the decision-making process and for a different reason. Executives order or make an analysis themselves at the preparatory phase and rely on it at the very moment of the decision. They expect that analysis will justify their decisions. Entrepreneurs who often order or make more thorough analysis at the preparatory phase ultimately decide more intuitively. In short, it can be concluded that, in the case that we separate the preparatory phase from the actual step of decision-making, the Executives’ model is rational-rational in our sample, while that of the Entrepreneurs is more of a rational-intuitive kind.

The ‘roller-coaster’ of opinions shows that that the initial question of research cannot be answered conclusively. It is evident that neither rationality nor intuition alone guarantee success. While the present day developments in the world economy make the coming of a new renaissance of rationality more probable, the power of intuition in the decision-making process of the businesspeople must never be forgotten.

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