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The Pros and Cons of Business Intuition In Strategic Decision Making

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EXECUTIVE SUMMARY

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| Title | Business Intuition in Strategic Decision Making |
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| Research questions | what are the pros and cons of using intuition in the businesses from the strategic decision making approach, in a changing and complex business environment? |
| Purposes | To inform business people, especially managers and executives who are facing strategic decision making the benefits and risks of relying on intuition, therefore, they can have a clear mind about to what extend they can trust their intuitive decisions. |
| Methods | Literature review, comparison. |
| Findings | The pros and cons of using business intuition in strategic decision making is a subjective topic which depends on the different understanding of each individual. In this research, our two authors have tried to be as objective as possible to analyze pros and cons from ten aspects and make a complete summary concerning this issue to orient business people. |
| Keywords | Business intuition, intuition, strategic decision making, strategic decision, pros and cons, |

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-- 于彦君 (Yanjun Yu)

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--Carlos Alberto Rodríguez Peña

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“The intuition mind is a sacred gift and the rational mind is a faithful servant. We have created a society that honors the servant and has forgotten the gift.”

----Albert Einstein (1973)

1 CHAPTER ONE: INTRODUCTION

1.1 The Importance of intuition research work

Entering 21st century, we start experiencing series of fast changes: economics tends to globalize; companies are multinational; computers are entering every field; sophisticated software are competing with human brains; machines are replacing manual labors. These changes form a management climate where is dynamic, unpredictable, and requiring decisions are made rapidly and in limited time. In this situation, decision-making which follows the common procedure: data collecting, analyzing, listing options, comparing options and making final decisions, seems to be far from inefficient and time consuming. Therefore, Intuition which used to be thought “irrational” or “non-rational” turns out to be a unique managerial tool and catches academic attention. Can intuition be used in decision-making? Can intuitive decisions be relied and trusted and in which grade? Intuition, a topic seeming easy to discuss, however hard to fully understand, provides art of management and decision making science a lot of debate space.

Thus, what is intuition and why is it so important to study it? Here Albert Einstein believed intuition was “a sacred gift”, and emphasized the important role of intuition in the decision-making. According to him, intuitions are “the solutions come to you, and you don’t know how or why.” However, Herbert Simon (Simon, 1997, p139, 2003) believes “that intuition is actually analytical thinking frozen into habit and into the capacity for rapid response through recognition of familiar kinds of situations”.

Goldberg (1990, p73) claims that intuition is central to all decisions. He says rational-analytic methods can “seldom be used exclusively; by its very nature prediction deals with the unknown, and we can calculate or measure only what is known...At the very least, a forecaster has to use intuition in gathering and interpreting data and in deciding which unusual future events might influence the outcome. Hence in virtually every [decision] there are always some intuitive components.” Concerning business or strategic decision making, intuition plays such an important role that B. Jajko, an intuitive consultant and the director of New Vision Institute (newvisioninstitute.com), even states “Some businesses live on the bleeding edge, others have the competitive edge. The difference is an intuitive choice.”

In management studies, decision-making by intuition has gained an increasing amount of interest (Klein, 1999; Mintzberg, 1976; Sjöstrand, 1997). It is easy to list many

reasons. The business environment has changed dramatically in the last decades due to de-regulation of markets and globalization, new and rapid technological development, newly emerged risks, and unpredicted future environment. Intense competition causes problems in decision-making through 'rational' reasoning (Erat & von Krogh, 2000). Since intuition in many texts and in different articles is referring to 'instinctive knowledge, immediate cognition or feeling' about something related to daily life and forthcoming events, or part of common sense heuristics in making decisions in different ambiguous situations, it seems that intuition can deal better with fast-changing, uncertain and complex business decision-making situations and intuition is about arriving at good decisions without the classic "reasoning power" (Mintzberg, 1976; Sjöstrand, 1997)

1.2 Previous work

Intuition has been recognized in many areas. Researchers in different areas: from neuroscientist as Lieberman, medical doctors like Cappon who does "the anatomy of intuition", crisis researchers such as Mitroff (from problem solving approach within the strategic area), to psychologist Myers & Briggs have devoted a lot of energies and enthusiasm into this topic from different perspectives.

Some claim that using intuition in decision making enables to accurate and shorten the decision paths. Authors such as Agor (1986, 1989) and Parikh et al (1994) mention that intuition is the tool which helps managers to make good decisions. Others such as Bonabeau (2003) argue that intuition can only be used when is complemented with simulators and decision support systems. But for Mintzberg (1994), intuition is the base of good decisions having a strategic thinking since the claimed strategic planning, which is analytic, takes a long time for delivering a result, and just in 10% of the cases is accurate. Gladwell (2005) is in the same line arguing that intuition makes an accurate observation in 2 seconds. There are some authors who believe in practicing intuition with simulators, like Peter Senge (1994) and Sterman (2006), say that intuition can be enhanced with the interaction of micro worlds, which enables to simulate the reality before it happens and be ready at the moment of doing real decisions. That takes us to the tacit knowledge, which is that knowledge inherent to the persons and which can be related with experience and previous learning. Polanyi (1966) claims that tacit knowledge is that kind of knowledge a person has even without knowing what (s)he really knows. It is on this point where Nonaka (1994) founded his learning theories.

1.3 Personal motivations and purpose of the research

So far we only know vaguely that intuition is acquired by experience, learning, micro worlds, meditation and related ways, but we do not have a lot of knowledge about how it works and how to measure it. Even almost every one has the experience of using intuition to make decisions, with limited knowledge about intuition it is hard for

everyone involved in decision-making to be persuaded to use their intuition confidently. Like any other decision making tools, intuition may not work well in every situation and its results may vary because of other uncontrollable factors. But with clear knowledge about pros and cons about the tools, people can use them with confidence. It is just like choosing a road to go among several others. Having eyes open to observe the surroundings, one can feel confident to go even if they are choosing the wrong way; but if one has to choose one with eyes close, he is going to feel uncomfortable even if by chance he chooses a correct one.

Due to the lack of literatures about pros and cons of intuition in strategic decision making, we decided to advance the research around this issue. Moreover, we found out after a brief literature review that there is a use of the intuition in business decision at all levels from strategic, management, in networks, to operational one, as well as a certain amount in the strategic management decision making. However, intuition in strategic decision making has not been studied with all the attention (Khatri & Ng., 2000). Hence, we specified our research topic to “pros and cons of business intuition strategic decision makings.”

We want to inform business people, especially managers and executives who are facing strategic decision making the benefits and risks of relying on intuition, therefore, they can have a clear mind about to what extend they can trust their intuitions. We do hope that our work can be an eye-opener for decision makers, especially mangers and executives involving in strategic issues, and help them to make clear decisions with open eyes and a clear mind about the potential benefits and risks of their intuitive decisions.

1.4 Research area and research question

Our research area is about business intuition, more specifically, the intuition from the strategic decision making perspective. Even in the area of intuition in strategic decision making, it can be further divided into a lot of specific areas to conduct researches, such as the recent researches “Intuition and its Role in Strategic Thinking” (Henden, 2004), “Intuition and Strategic Rationalities in Strategic Decision Making” (Erat, Von Grogh, 2000). To make a qualitative research within limited time, we decided to more specify our research topic to the direction of “pros and cons”. Therefore, we came out this research topic, namely, “Pros and Cons of Business Intuition in Strategic Decision Makings”.

Our research problem is as below:

What are the pros and cons of using intuition in the businesses from the strategic decision making approach, focusing on the academic point of view?

1.5 Methodology

Our research question is concerning pros and cons, or benefits and risks of business intuition in strategic decision making. Then we needed to collect information about the different opinions concerning this issue. Intuition by itself is not quantitative (Orme & Maggs, 1993; King & Appleton, 1997). Therefore, the common quantitative research was not applicable here. Instead, qualitative research and explore research are suitable here.

At the beginning of our research, we were planning to make in-depth-interviews with managers and executives about their opinions about intuition. However, we found out later it was not proper to make this kind of interview because of the shortage of time, money and other research resources. As for the other qualitative research methods such as field studies and experiments which are usually used to test the hypothesis or support findings were not included in our research due to the same aforementioned reasons. Then we changed our focus on the academic opinions instead of empirical or practitioner’s ideas. Therefore, literature review turned out to be a proper method for our research.

1.5.1 Model to structure the dissertation

Since intuition plays an important role both in strategic thinking and decision making, strategic decision making as the harmonized combination of strategic thinking and decision making should also being discussed from intuition perspective.

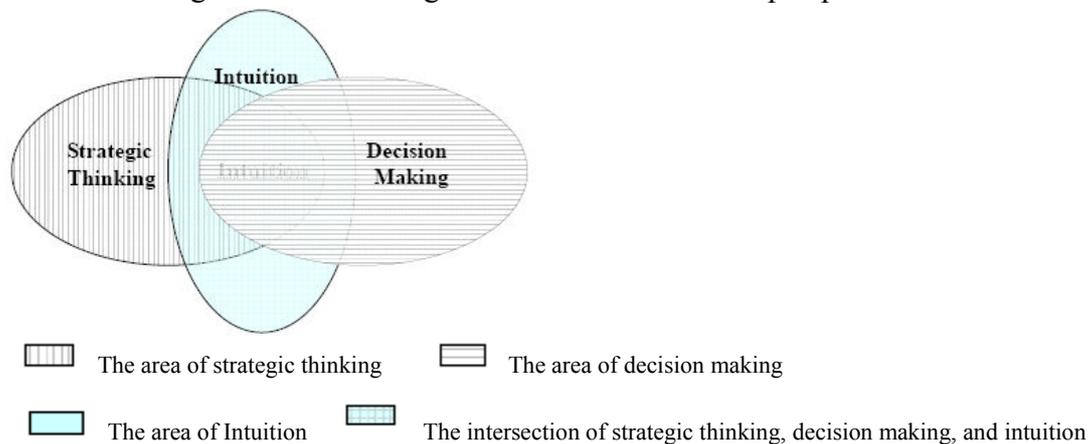


Figure 1.5.1 Intuition has a role in strategic decision making

(Note: There are three different intersections in this diagram: intersection between intuition and strategic thinking, intersection between intuition and decision making, and intersection between strategic thinking and decision making, which refers to the strategic decision making. In the middle of the graph it shows accumulatively intuition also has a role to play in Strategic decision making.)

According to the above model, this work was going to start discussion from strategy and

strategic thinking. Concepts such as strategy, strategic planning and thinking were going to be presented. Next, theories of decision making were introduced as relevant background information. Then, intuition as the key character of the intersection of strategy and decision making would be the focus of the whole chapter three. Then, pros and cons of intuition in strategic decision making were discussed from 10 aspects. In the end, a conclusion would be given, as well as the limitation and suggestion for future research.

1.5.2 Criteria to choose references

We find out that since the origins of academic articles can be easily traced out, they are reliable academic sources. Moreover, the publish periods of articles are comparatively shorter than those of books; therefore, by studying academic articles we can get to know the most recent trends in intuition study. Because of those above mentioned reasons, we decide to focus our research on article study, as well as book reviews of some important books.

Searching engines such as Google and proquest.com (ABI/inform global) as the main tools were used for searching articles. Also, the library of Blekinge Institute of Technology (BTH) was our important source for searching books and articles, and Amazon.com for book reviews.

We used key words such as intuition, gut feeling, business intuition, strategic, decision making, strategic decision making, intuitive thoughts, and intuitive judgement to search for relevant literature. Moreover, the references listed in the works by authors, such as Agor, Nonaka were important guidelines for our literature review.

1.5.3 Methods to discuss pros & cons

To conduct thorough research about our topic, we decided to discuss pros and cons from ten aspects: *availability, timing, efficiency, flexibility, synthesis, accuracy or effectiveness, reliability, security, storage, and transferring*. Those aspects were chosen based on the following considerations. First of all, since this research was to analyze intuition from the business decision making perspective the characteristics of decision making tools were included in the discussion. Secondly, the two writers of this research believed that the nature of intuition to some degree is similar to that of tacit knowledge, so the characteristics of tacit knowledge were borrowed. Thirdly, the unique characteristics of intuition were taken as important components of the discussion.

2 CHAPTER TWO: STRATEGIC DECISION MAKING

Decisions are something everybody has to deal with on each day. From small things like what to eat for the lunch to big issues concerning state securities, it ranges in the fields of social life, society, cultures, politics, and etc. As the persons who are influencing and controlling the future and destinies of companies, managers /executives are facing more and more complicated situations where they need to make decisions. The globalization requires them to take more factors into their decision making considerations such as culture and languages differences, fast changes, uncertainties, political issues, and fierce domestic and international competitions. Even worse, they are allowed less and less time to make big decisions concerning strategies of the companies. So what and how should they do? Before we discuss about the solutions, in this chapter we are going to provide some background information concerning the concepts of strategy, strategic thinking, decision making and strategic decision making.

2.1 Strategy and Strategic Thinking

What is strategy? “A strategy can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals” (Chandler, 1962, p13).

“The essence of strategy formulation is coping with competition.” (Porter, 1979; in Montgomery & Porter, 1991, p11) This means that behind every strategy, a need of being successful in market share, with the suppliers, with the customers, with new entrants, and with the products or services, must prevail in order to achieve the goals that permit the leadership or at least the survival of the company. For doing this, the company's strengths and weaknesses of each part (company owned and competitors) must be identified, so a plan of action can be done (Porter 1979; in Montgomery & Porter, 1991, p21).

According to Bruce D. Henderson, “strategy is a deliberate search for a plan of action that will develop a business's competitive advantage and compound it. For any company, the search is an iterative process that begins with a recognition of where you are and what you have now” (Montgomery & Porter, 1991, p5). Mintzberg (1994) says that strategy has been defined as a plan “or something equivalent -a direction, a guide or course of action into the future, a path to get from here to there, etc.” and that is also a pattern “that is, consistency in behaviour over time. A company that perpetually markets the most expensive products in its industry pursues what is commonly called a high-end strategy, just as a person who always accepts the most challenging of jobs may be described as pursuing a high-risk strategy”.

Andrews (1987, p15) declares that “The essence of the definition of strategy is

pattern. ... It is the *unity, coherence, and internal consistency* of a company's strategic decisions that position the company in its environment and give the firm its identity, its power to mobilize its strengths, and its likelihood of success in the marketplace." Mintzberg (1994, 1998), Quinn (1998) have similar statement when they talk about strategy. The key point is "pattern".

Goodstein, Nolan and Pfeiffer define strategic planning as "the process by which the guiding members of an organization envision its future and develop the necessary procedures and operations to achieve that future (Goodstein, 1993: 3)" (Hughes, 2001).

Mintzberg (1994) claims that a strategy can only be used when the future is known, but no future and its details can be known in advance, only a big picture of the possible scenario can be seen. "This should make us wary of abandoning the older notion of strategy as being formulated, planned and then implemented" (Hendry, 1993, p320). This is based on the notion that strategy is good for situations where the future can be forecasted, in this ways strategic plans can be accurate; but since future is unpredictable, it is impossible to have plans which will determine in advance an efficient performance. Also, "because analysis is not synthesis, strategic planning is not strategy formation" (Mintzberg, 1994, p321), analysis cannot substitute synthesis, analysis may precede it or follow it, but no matter which procedure, discontinuities cannot be forecasted; this makes the strategic planning a fallacy (Mintzberg, 1994).

Based on those understandings about strategy, Mintzberg (1994) states that planning, analysis, and strategy work well under relatively stable conditions, but it is dying when the situations keep on changing and are full of uncertainties.

As an option, strategic thinking emerges (Ibid., 1994). "When the necessary strategic thinking is not forthcoming in an organization, more fundamental questions have to be raised- about the structure of the organization, the expectations of who is supposed to make its strategy, the capabilities of those people, and the status of the organization itself". This way of thinking is important since intuition is inherent to it and is not based in hope, is based in facts -as they should, as it is the strategic planning.

Strategic thinking enables to have an integrated perspective of the enterprise by a process of synthesis, based on intuition (Henden, 2004). It is done at entire level and with self-control.

| Strategic Thinking | Intuition | Analysis |
|---------------------------|--------------------------|--------------------------|
| Synthesis | Synthesis | Analysis |
| Integration | Integration | Separation |
| Unification | Unification | Fragmentation |
| Pattern | Pattern | Pieces |
| Whole precedes the parts | Whole precedes the parts | Parts precedes the whole |

Table 2.1. The comparison among the key aspects of strategic thinking, intuition and analysis

Source: Intuition and its role in strategic thinking (Henden, 2004)

By comparing the key aspects of strategic decision making, intuition and analysis as in the above table, it is obvious that strategic thinking and intuition have too much in common that intuition can be the main tool to access strategic thinking; while analysis can never represent or substitute intuition to play a key role in strategic thinking.

2.2 Decision making

“A simple form of realistic thinking that lends itself to controlled experimentation is inferred from one’s ability to discriminate discrete objects or items of information. The outcome is a judgment and the process may be called Decision Making. The availability of information, the rate at which it is presented, the set (expectancy) of the judge, and the number of alternatives available to him influence the efficiency of his judgment”. (Encyclopedia Britannica, 1992).

Klein (1999) summarizes that there are basically two traditional theories about making decisions: one believes that decision making is an analytical process and is computational and methodical; the other approach is so called intuitive decision making. Analytical approach is trying to find all the potential options based on some criteria, then comparing all of them and choosing the optimal and best solutions. It is methodical but time consuming. While intuitive approach mainly relies on decision makers’ experiences and intuition to recognize the key elements to problems. Intuitive decision making is making efforts to find the first solution which will solve the problem satisfactorily (Simon, 2003).

2.3 Strategic Decision Making

The strategic decision making according to our two writers, refers to the making decisions with strategic thinking. More specifically, it means to view the decision problems in a big picture where relevant factors are synthesized, and make decisions in a dynamic context. As we discussed in the previous two sections that intuition plays an important role both in strategic thinking and decision making, strategic decision making as the harmonized combination of strategic thinking and decision making should also rely on intuition heavily.

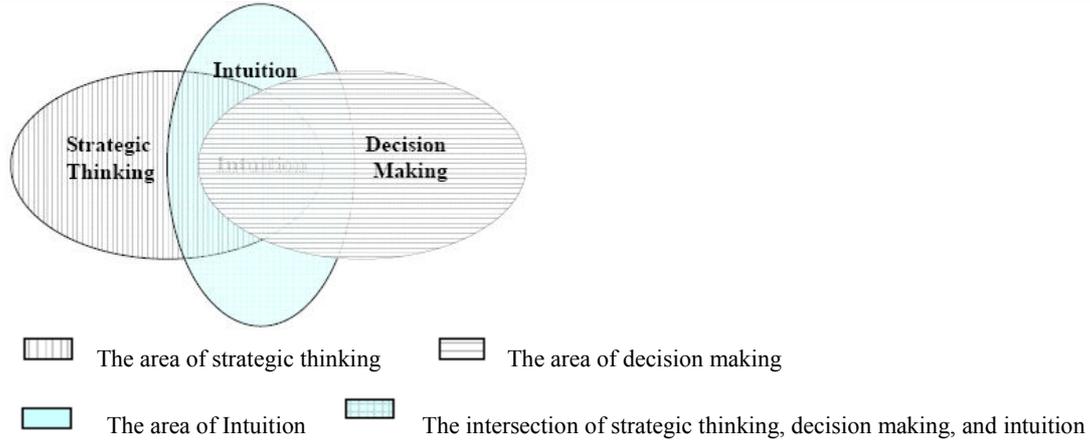


Figure 1.5.1. Intuition has a role in strategic decision making

(Note: There are three different intersections in this diagram: intersection between intuition and strategic thinking, intersection between intuition and decision making, and intersection between strategic thinking and decision making, which refers to the strategic decision making. In the middle of the graph it shows accumulatively intuition also has a role to play in Strategic decision making)

3 CHAPTER THREE: CONCEPTS OF INTUITION

3.1 Brief history of intuition concepts (since Plato to 1900)

Intuition, in philosophy, is “immediate apprehension”. “Apprehension” is used to cover such disparate states as sensation, knowledge, and mystical rapport. “Immediate” has many senses as there are kinds of mediation: it may be used to signify the absence of inference, the absence of causes, the absence of the ability to define a term, the absence of justification, the absence of symbols, the absence of thought”. (Edwards, 1967).

The Greeks understood intuition to be the grasp of universal principles by the intelligence (*nous*), as distinguished from the fleeting impressions of the senses. The distinction used by the Greeks implied the superiority of intellectual intuitions over information received by the senses” (The Columbia Encyclopedia, 2001-05).

However, different definitions of *nous* where are treated by different philosophers: Anaxagoras, for example, says that *Nous* was an automatic force which orders the world from its pristine chaos. This statement starts the process of cosmic development (Edwards, 1967). “*Nous* is not explicitly called divine, but has the qualities of a creating god; *Nous* does not create matter, but rather creates the forms that matter assumes” (Hooker, 1996). Plato (428-348 B.C.), talks about it as the immortal and rational characteristic which compounds the soul, this one is extended into a whole. This component brings a reasoned order to the universe. (Edwards, 1967) Because of the *nous*, direct conclusions can be made without previous premises. For Aristotle (384–322 B.C.), the *nous* is the intellect which is different from perception of the senses. To the Stoics, it was the equivalent to logos, “so that for them it was both cosmic reason and the rational element in man” (Edwards, 1967).

Plotinus (205-270), the foremost Neoplatonist, describes *nous* (Greek “mind”), as “a realm of ideas of Platonic forms, serves as the intermediary between God and the world, and the theme of immanence is sustained by positing the existence of a World-Soul that both contains and animates the world” (Encyclopedia Britannica, 1992). “Plotinus assumes the existence of several levels of Being, the highest being that of the one, or the good, which are identical but indescribable and indefinable in human language. The next lower level is that of the *nous*, or pure intellect or reason; the third is that of the soul or souls. There then follows the world perceivable by the sense and, finally, at the lowest level there is matter, which is the cause of all evil” (Encyclopedia Britannica, 1992).

“At the level of the *Nous*, the individual still has his own identity, but his contemplation embraces the whole intelligible world and everything in it. And since on this level

subject and object are identical, each member of the intelligible order is identifiable with the whole of that order, and every other member thereof. So Universal Intelligence is a sort of unity-in-plurality. This is an idea advocated earlier by the Neopythagorean philosopher Numenius, the "all is in all". (Kazlek, 1998)

"Intelligence (Nous) is the level of intuition, where discursive thought is bypassed and the mind attains a direct and instantaneous vision of truth. The distinction between Soul and Intelligence corresponds to the difference between discursive and intuitive thought. Discursive thought means reasoning from premise to conclusion, or being aware of first one thing, then another" (Kazlek, 1998).

Because of the different translations in the literature, *Nous* for Plato is "mind" or "reason" or "intellect" and that the activity in which *nous* "engages, namely, *noesis*", is "intellection" or "intuition" or "thinking" or "understanding" or "knowing," and so on (Gerson, 2004).

For Plato, intuition is important since all his theory of ideas is based in the fact of a pre-existence, and the "soul's pre-natal intuition of Ideas" helps to explain his hypothesis (Catholic Encyclopedia, 2003). In Alcott.net Plato exalted "intuition as a source of knowledge superior to sense experience". For him, the Ideas are just an abstraction non real of the truth; the intuition is the way how we can experience that whole truth. That untaught knowledge makes people know what is right and beauty without judge (Ibid., 2003).

Plato talks about a world in a higher level to the terrenal where the intuition helps to remember the old superior experience: "Plato, then, supposes a world of Ideas apart from the world of our experience, and immeasurably superior to it. He imagines that all human souls dwelt at one time in that higher world. When, therefore, we behold in the shadow-world around us a phenomenon or appearance of anything, the mind is moved to a remembrance of the Idea (of that same phenomenal thing) which it formerly contemplated. In its delight it wonders at the contrast, and by wonder is led to recall as perfectly as possible the intuition it enjoyed in a previous existence. This is the task of philosophy. Philosophy, therefore, consists in the effort to rise from the knowledge of phenomena, or appearances, to the *noumena*, or realities" (Catholic Encyclopedia, 2003). Then, for him and his followers, truth cannot for him be reached by sense-knowledge, but by intuitive contemplation. Intuition is a tool of philosophy for this fact. Intuition is the key for the unreachable knowledge.

Christian thinkers make a distinction between intuitive and discursive knowledge: God and angels know directly (intuitively) what men reach by reasoning (The Columbia Encyclopedia, 2001-05). This separation from the terrenal and the celestial derives from philosophy since intuition in philosophy is for the elevated minds; above the rational.

Thomas Aquinas (1225-1274) takes the Augustinianism theory of illumination as an intuitive knowledge of the first principles of being and thought, and he relates the idea of divine 'light' to the intellectual activity (Towarzystwo, 2005). Quoting him in an article of C. Dawson (1994): "St. Thomas says (that) As the enquiry of reason starts from a simple intuition of the intelligence, so also it ends in the certainty of intelligence, when the conclusions that have been discovered are brought back to the principles from which they derive their certitude." So, the discovery of new ideas starts with a previous big picture of the process, and then the result is the projection of that big picture with similar characteristics and truthfulness. In the same idea, Amos Bronson Alcott (1799-1888) perceives intuition as part of an intrinsic wholeness (Alcott.net).

"As yet we deal with mind with far less certainty than with matter; the realm of intellect having been less explored than the world of the senses, and both are treated conjecturally rather than absolutely. When we come to perceive that intuition is the primary postulate of all intelligence, most questions now perplexing and obscure will become transparent; the lower imperfect methods then take rank where they belong, and are available. The soul leads the senses; the reason the understanding; imagination the memory; instinct and intuition include and prompt the Personality entire" (Alcott.net).

For Spinoza (1632-1677), opinion or imagination is the first kind of knowledge; reason is the second and intuition as the third kind of knowledge. Intuition "proceeds from an adequate idea of the absolute essence of certain attributes of God to the adequate knowledge of the essence of things" (Spinoza, 1677; II. P.40). "The characterization of this kind of knowledge as intuitive indicates that the connection between the individual essence and the essence of God is grasped in a single act of apprehension and is not arrived at by any kind of deductive process (Dutton, 2006). This intuitive knowledge is situated above the reason (Spinoza, 1677, V. P.36)

Not far from intuition as part of a knowledge superior to the analytical and conscious, authors like Spinoza mention that intuition is part of knowledge interconnected which is translated as a deity like God and the different representations that he has in the religions and believing (Alcott.net).

According to him, there are four types of perception: perception by the senses (external body acting upon a sensory organ of one's body), perception by the experience (acquired in a certain time and space, not delimited by it but only acquired by presence and assimilation), perception by deductive reasoning (Aristotelian, the conclusions are delimited and guided by the premises of the inference), and perception by intuition (which is a closer attribute to God than the others). He states that the first two are individual processes and the last two are collective processes (Guidère & Howard, 2006).

The third kind of knowledge, which goes further than the experience and ratiocination,

sees things not in time and space aspects, but in the aspect of eternity. This means that this knowledge is a purely intellectual intuition of the essences of things: “We conceive things as actual in two ways: either insofar as we conceive them to exist in relation to a certain time and place, or insofar as we conceive them to be contained in God and to follow from the necessity of the divine nature. But the things we conceive in this second way as true, or real, we conceive under a species of eternity, and to that extent they involve the eternal and infinite essence of God. (Vp39s)”. So, intuition makes us being connected in mind with the superior knowledge existent which is the truth above the universe and which dictates the order of all the things (Stanford Encyclopedia of Philosophy, 2006).

This kind of knowledge is free of passions and affects (although impossible, at least it is possible to moderate and restrain them), which disallow human beings to be autonomous and active. Having gone beyond these passions and affects, human beings cannot be affected by outside happenings, but by their own nature, so they can reach the superior knowledge in a more direct way; which at the same time will be reciprocate and affect in an intuitive manner the life of the person (Ibid., 2006). Spinoza relates that superior knowledge or intuitive with the essence of God and the belonging to it, with the virtue.

Also, Spinoza mention that since this superior knowledge is part of the One, the pristine essence of all life (Vaknin, ?), then, all the knowledge of the people is interconnected, which makes people intrinsically pertain to a level of knowledge which is related with all the “baggage” they have but in a higher sense. In that way, people can “borrow” the knowledge according to the level of ideas they have when they are required to make decisions or conclusions without analysis. This works in the same way at a lower level, where people are affected by the environment in which they are immersed so their ideas are in essence part of that surrounding, including the passions, dependencies, affects, all the attributes it is compound of (Spinoza, 1677).

Descartes (1596-1650) pointed the superiority of intuition over deduction: “Because [intuition] is simpler, it is more certain than deduction, though deduction ... is not something man can perform wrongly”. However, he mentions that intuition is necessary for the performance of deduction demonstration: “But this distinction had to be made [between intuition and deduction], since very many facts which are not self-evident are known with certainty, provided they are inferred from true and known principles through a continuous and uninterrupted movement of thought in which each individual proposition is clearly intuited” (Owen, 2006).

Descartes says that intellectual and sensual are not the faculties of intuition, but only the faculty of intellect. The sensual is not essential to knowledge. Locke (1632-1704) contrasts this position and argues that both are intuitive faculties necessary for genuine knowledge (The Columbia Encyclopedia, 2001-05).

Locke also talks about the accuracy of intuition: “Such kind of Truths, the Mind perceives at *the first* sight of the Ideas together, by bare Intuition, without the intervention of *any other* Idea; and this kind of Knowledge is the clearest, and *most* certain, that humane Frailty is capable of”(Owen, 2006).

This has the standing that intuition is even deeper and more accurate than analytical knowledge and processes are. Because of the complexity of real life, and because real life can be understood in different ways due to the differences of thought, these authors declare that intuition as a superior knowledge to the common known.

Kant (1724–1804) mentions intuition as contrast between the ‘intellectual’ with the ‘sensible’ intuition (*Anschauung*) on the basis of the active-passive role of the object. Thus, objects are *presented* in a passive or sensible intuition, and objects are *created* by an active or intellectual intuition. Based on this, to Kant, only God has an intellectual intuition. He also mentions that all perceptions (which are produced by preconscious activity) are intuitive and concepts are by intellectual. Kant mathematical and geometry axioms are based on visualization, which is the characteristic of the intuition and the intuitionism. “In Kantian philosophy, any kind of mysticism is going to be a kind of immediate knowledge that is an intuitive *understanding*, i.e. the opposite of a *discursive understanding*, where an intuitive understanding is immediate and unarticulated, while a discursive understanding is mediate and articulated” (Ross, 2000).

Husserl (1859-1938), father of the phenomenology, claims that “any logically consistent meaning can in principle be subjectively fulfilled by a unified intuition, such as an act of continuous perception or intuitive imagination, where the structure and other essential features of the meaning in question can be read off from the respective mode of intuitive fulfillment. Inconsistent meanings can be singled out and studied by means of (reflection upon) corresponding experiences of intuitive conflict, like for instance the discrete switching back and forth between a duck-head-imagination and a rabbit-head-imagination in the case of an attempted intuitive imagination of a duck-head that is at the same time a rabbit-head. Some meanings are inconsistent for formal-logical reasons. According to Husserl, all analytically false propositions belong to this category. Other meanings are inconsistent because they conflict with some general material a priori truth, also called 'essential law'. The proposition expressed by the sentence 'There are perceptual objects whose surface is both (visibly) completely green and completely red at the same time' is a case in point” (Stanford Encyclopedia of Philosophy, 2006).

Summary

In summary, till 19 century philosophers had started to describe the position of intuition and its qualities. Most of them do not treat intuition as something mundane as the rational thinking, so they exclude the common mind in the place it takes part. Others,

believing in the divine intrinsic characteristic to which humans can pertain, argue that intuition and rational thoughts can be part of the mental mind which is complemented with the intuitive processes. After denying that intuition was a human common characteristic and the kind of knowledge it was, philosophers started to give attributes to the literature of intuition, although sometimes connected it with a deity or superior knowledge.

3.2 Intuition in the modern time (since 1900)

Henry Bergson

For H. Bergson (1859-1941) “there are 2 profoundly different ways of knowing”. “The one, which reaches its furthest development in science, is analytic, spatializing, and conceptualizing, tending to see things as solid and discontinuous. The other is an intuition that is global, immediate, reaching into the heart of a thing by sympathy. The first is useful for getting things done, for acting on the world, but it fails to reach the essential reality of things precisely because it leaves out duration and its perpetual flux, which is inexpressible and to be grasped only by intuition” (Encyclopedia Britannica, 1992). Bergson treats intuition as instinct evolved and conscious, related with the experience of the external world or of the self (The Columbia Encyclopedia, 2001-05). This modern view of intuition separates itself from the mystical and divine characteristics of intuition.

Bergson borrows Spinoza's types of perception, and makes further contributions to the intuition literature. Similar to Spinoza, Bergson mentions that all the knowledge of the people is interconnected, and with intuition a generalization can be made based on induction. (Vaknin, ?). This generalization depends on the quality of information and on how is interpreted (Guidère & Howard, 2006). This is “contrasted with the piecemeal, 'abstract' knowledge obtained by science and observation” (Encyclopedia Britannica, 1992). If it is interconnected, then its borders are not so delimited and it is universal.

Therefore, analysis is short and not enough for universal and accurate matters, and intuition is more than abstract knowledge. In that sense, “Bergson's entire work may be considered as an extended exploration of the meaning and implications of his intuition of duration as constituting the innermost reality of everything” (Encyclopedia Britannica, 1992)

According to Bergson, intelligence gathers knowledge by synthesizing the things, which gives us a concept; “thus, intuition reverses the normal working of intelligence, which is interested and analytic (synthesis being only a development of analysis)”. This reverse is called “the turn of experience” where experience becomes concerned with utility, where it becomes human experience (Stanford Encyclopedia of Philosophy, 2006)”. So, intuition is a kind of experience for him. This means that “intuition is entering into

ourselves – he (Bergson) says we seize ourselves from within – but this self-sympathy develops heterogeneously into others. In other words, when one sympathizes with oneself, one installs oneself within duration and then feels a 'certain well defined tension, whose very determinateness seems like a choice between an infinity of possible durations' (*The Creative Mind*, p185)” (Ibid., 2006).

Bergson differs with other authors in the sense that he explains his intuitive method: “Because intuition in Bergson is 'integral experience' (*The Creative Mind*, p200), it is made up of an indefinite series of acts, which correspond to the degrees of *duration*. It is because of this series of acts that Bergson calls intuition a method. The first act is a kind of leap, and the idea of a leap is opposed to the idea of a re-constitution after analysis. One should make the effort to reverse the habitual mode of intelligence and set oneself up immediately in the duration. But then, second, one should make the effort to dilate one's duration into a continuous heterogeneity. Third, one should make the effort to differentiate the extremes of this heterogeneity. With the second and third steps, one can see a similarity to Plato's idea of dialectic understood as collection and division. The method resembles that of the good butcher who knows how to cut at the articulations or the good tailor who knows how to sew pieces of cloth together into clothes that fit. On the basis of the division into extremes or into a duality, one can then confront our everyday 'mixtures' of the two extremes. Within the mixture, one makes a division or 'cut' into differences in kind: into matter and spirit, for instance. Then one shows how the duality is actually a monism, how the two extremes are 'sewn' together, through memory, in the continuous heterogeneity of duration. Indeed, for Bergson, intuition is memory; it is not perception” (Ibid., 2006).

Although philosophy may not be regarded as a reliable source in decision making and not be recognized as pristine focus, it takes a complementary roll in the study of intuition even intuition is part of it and coincides with its nature: “However, a fringe of intuition remains, dormant most of the time yet capable of awakening when certain vital interests are at stake. The role of the philosopher is to seize those rare and discontinuous intuitions in order to support them, then dilate them and connect them to one another. In this process, philosophy realizes that intuition coincides with spirit, and eventually with life itself. Intuition and intelligence thus each correspond to tendencies within the human *psyche*, which, as whole, thereby coincides immediately — if only partially — with the vital impulse” (Ibid., 2006).

Intuition, for H. Bergson, is more related with memory than with perception (Ibid., 2006). That makes intuition closer to the tacit knowledge than to the analysis. Also, for him, only processes based on intuition, like arts, can be a representation of the truth.

Bertrand Russell

According to B. Russell (1872-1970), all knowledge is dependent upon experience. Russell does a distinction between knowledge by description (indirect) and knowledge

by acquaintance (direct) (Scott, 2003). The knowledge by description is an epistemological concept. “Knowledge by acquaintance of truths is knowledge made possible by direct acquaintance with truth makers and (more controversially) the correspondence between truth bearers and truth makers. Facts are not the only entities with which one can be acquainted. Facts have constituents (properties, objects, whatever it is that we express with quantifiers) and one may be directly acquainted with the kind of things that can compose facts as well as the complex facts that they constitute. Just as knowledge is secured by acquaintance, so, more fundamentally still, some philosophers would hold that thought itself is made possible only by virtue of our being able to hold 'before' our minds various kinds of entities with which we are acquainted” (Stanford Encyclopedia of Philosophy, 2006). Nonaka’s theory of knowledge transfer has similarity with the idea of knowledge by acquaintance in relation with the apprentice-master interaction (Nonaka, 1994).

Michael Polanyi

Polanyi (1891-1976) argues that hunches, imagination, guessing, are motivated by the passions that sometimes can be aimed to discovering the “truth”. He mentions that scientists use their hunches and spurs to pointer their search in the truth (Polanyi, 1966). However, these creative acts are charged with strong personal feelings and personal missions, making the intuition something autopoietic. His premises describe his work of tacit knowledge: “we can know more than we can tell” (Infed.org).

In his words, “tacit knowing achieves comprehension by indwelling, and ... all knowledge consists of or is rooted in such acts of comprehension” (Polanyi, 1966). The structure of tacit knowing determines the structures of comprehensive entities.

Intuition discovers a hidden reality, a reality which may be revealed in unexpected manifestations in the future (Milavec, ?). This is expressed in the following words by Polanyi: “The pursuit of discovery is conducted from the start in these terms; all the time we are guided by sensing the presence of a hidden reality toward which our clues are pointing; and the discovery which terminates and satisfies this pursuit is still sustained by the same vision. It claims to have made contact with reality: a reality which, being real, may reveal itself to future eyes in an indefinite range of unexpected manifestations” (Milavec, ?).

Polanyi, says also that “in the process of inquiry we have always the same story. An idea appears, given by intuition to be pondered by the imagination. Second, the imagination is let loose to hammer out a path of possible clues, guided by intuitive feelings. And thirdly, an idea offers itself intuitively as a proposed conclusion to be pondered in its true light of the imagination” (Baumgarten, 1994).

He also mentions the importance of the artist in the description of the truth: “The artist makes imaginative tacit integrations which are wholly non-specifiable, visible. What art

creates is not illusion but intuitive embodiments of the creative imagination. The achievement of artistic integrations is a heuristic leap that incarnate what cannot be communicated otherwise. Art does not communicate facts of ordinary experienced reality that can be observed, but novel, tacit integrations or facts of the imagination that can only be indwelled” (Baumgarten, 1994).

His process of emergence of tacit knowing is explained: “By studying the way tacit knowing comprehends human performances’, we (can see) that what is comprehend has the same structure as the act that comprehends it. The relation of a comprehensive entity to its particulars was then seen to be the relation between two levels of reality, the higher one controlling the marginal conditions left indeterminate by the principles governing the lower one. Such levels were then stacked on top of each other to form a hierarchy, and this stacking opened up the panorama of stratified living beings. This stratification offered a framework for defining emergence as the action which produces the next higher level, first from the inanimate to the living and then from each biotic level to the one above it. This holds both for the development of an individual and for the evolution of living things” (Polanyi, 1966).

Henden

Intuition has been treated by psychology as “some sort of unconscious, biased and automatic processing, inferior to controlled analysis” (Henden, 2004, p7). Therefore, according to Westcott, the only theory in psychology which is more valid about intuition is in the works made by Jung. This one, although it doesn't make a good definition of intuition, he makes it clear that it is not a feeling but unconscious thinking (Henden, 2004).

Carl Jung

There are four primary modes of experiencing the world in Jung’s model: two rational functions (thinking and feeling), and two perceptive functions (sensation and intuition). *Sensation* is the perception of facts. *Intuition* is the perception of the unseen. *Thinking* is analytical, deductive cognition. *Feeling* is synthetic, all-inclusive cognition. In any person, the degree of introversion/extroversion of one function can be quite different to that of another function. In Jung's original usage, the extrovert finds meaning in the surrounding world, whereas the introvert finds it within him. “The Extroverted-Intuition type, who has psychic experiences or revelations, and is able to easily convey them out to others at the social or interpersonal level. Most professional clairvoyants and psychics, and the founders and Gurus of various religious sects, would seem to fall into this category. One could call this the 'prophetic personality'. As opposed to this would be the Introverted-Intuition type, who is caught in the psychic experiences, and not able to share them very well with others. Many creatively original schizophrenics would belong to this group” (Kazlek, 1999).

“INTUITION is like sensation in that it is an experience which is immediately given to consciousness rather than arising through mental activity (e.g. thinking or feeling). But it differs in that it has no physical cause. It constitutes an intuition or hunch, a "gut"-level feeling, or an "ESP" experience. It is the source of inspiration, creativity, novel ideas, etc. According to Jung, the Intuitive type jumps from image, is interested in a while, but soon loses interest” (Kazlek, 1999).

Carl Jung dictates the characteristics of the intuitive type: “see possibilities, look far ahead, furnish new ideas, spark things that seem impossible, supply ingenuity on problems, and deal with a complexity having too many imponderables” (Agor, 1984, p9). Broadly speaking, we tend to work from our most developed function, while we need to widen our personality by developing the others. Related to this, Jung noted that the unconscious often tends to reveal itself most easily through a person's least developed function. The encounter with the unconscious and development of the underdeveloped function(s) thus tend to progress together.” (Wikipedia.org)

Based on Jung's work, the Myers Briggs Type Indicator© describes the types of personality in extraversion-introversion, sensing or intuition, thinking or feeling, judging or perceiving. The MBTI makes a combination of the groups, and forms 16 types of personality. This Indicator collaborates with the acceptance that intuition or an intuitive person is a kind of personality, the same as an analytical one can be. (myersbriggs.org).

Philip Goldberg

P. Goldberg (1983), the same as Polanyi (??), argues that western thinking emulates the model of thinking as scientific in our ideals. This happens also with problem solving and decision making. He mentions that intuition is in our pristine human condition, but the lack of use or its suppression when child and cultural matters, constrain it. He gives room to intuition giving credit to Maslow: “If your only tool is a hammer, you begin to see everything in terms of nails” (Goldberg, 1983, p25), meaning that if only the cognitive tools are rational-empirical, then, the vision will be limited only to analytical and measurable things.

Intuition is not only a hunch which tells something is hidden there but also a guide which leads the paths of those who search something, just as Einstein said: (intuition) “often more essential than its solution” (Goldberg, 1983, 22p). But, arguing not only in favor of intuition, Goldberg also claims for a balance between intuition and rationality. Authors mention that intuition precedes ratiocination and visceversa. He even says that intuition is part of the rational thinking, since every day common decisions made by intuition are done. But also, “intuition can elevate rational knowledge to a higher level

of both appreciation and conviction through some ineffable combination of feeling and experience. H. Bergson described it as 'entering into' the object of knowledge and knowing its 'essence' (Ibid., 1983, p39).

Goldberg typifies intuition in 5 mutual interacting functions: discovery, creativity, evaluation, operation and prediction; and a mystical experience called illumination. And he differs with the other authors about a strict division of the hemispheres and the task of intuition in the right one (Goldberg, 1983, p120). The integration of the two hemispheres might be more significant in complex intuition than each specialty taken separately (Ibid., 1983, p123). He aims to the possibility (or maybe just temporal) of the holographic brain, theory of K. Pribram, saying that if the mind works like an hologram, then knowledge not depends only on neuronal connections. Storing few rules instead of amounts of details perhaps "would explain how the mind, outside awareness, apprehends principles, laws, single truths, or forthcoming events from a constellation of impressions or from many sets of constellations. Holography is a very efficient method of encoding; its principles might well apply to something as efficient as the intuitive mind" (Ibid., 1983, p132). Because of the deep thoughts it contains, "intuition can be understood as the mind turning in on itself and apprehending the result of a processes that have taken place outside awareness" (Ibid., 1983, p137).

Weston Agor

W. Agor (1986, 1989), prolific writer and researcher about intuition in business, says that women and Asiatics score higher on intuition tests (1986). He claims (1989) that intuition can improve strategic planning and decision making by implementing a brain-skill management which locates talent, integrates this talent in the strategic planning process, develops the intuitive talent for strategic problem solving, and creates an adequate environment for implementing the program.

Agor bases his theories with the support of the Myers Briggs Type Indicator, arguing that the intuitive type tends to be more innovative in strategic planning and decision making. However, he (1989) argues that organizations don't know which of their employees are intuitive. He locates a moment in which intuition works: "intuitive skills are particularly effective when there is little precedent on which course of action to take, where facts are few, where time is limited by market conditions, and where there is pressure to be 'right'" (Agor, 1989, p25).

He says, also, that the right part of the brain is in charge of the intuitive functions: "being intuitive, inductive; relying more in feelings to make decisions; preferring collegial and participatory authority structures and management situations that are unstructured, fluid and spontaneous; preferring solving problems by looking at the whole, then approaching the problem through patterns using hunches" (Agor, 1984, p2). The traditional contrast is analytical, deductive, factual, hierarchical, structural, and

logical (Ibid., 1984).

Agor describes the quoted levels of intuitive awareness. “physical, emotional, mental, and spiritual. At the physical level, intuitive awareness comes in the form of bodily sensations. ... our intuition is telling us what our body already knows to be true”. At the second, it comes in form of feeling sensations. In the mental level, “intuitive cues can come to you on a mental level. This is when mentally you see a pattern or order to seemingly unrelated facts that may not be obvious to your colleagues just yet either”. At the spiritual level, “an executive will come in touch with how his or her organization's acts are interlinked with all of humanity” (Agor, 1984, p7-8).

For Agor, steps for learning about intuitive abilities are starting from quieting the mind, concentrating and being receptive (Ibid., 1984). These characteristics are more related with oriental cultures than with western's, which is also one cause of the success of the former (1984).

Roy Rowan

R. Rowan (1986) talks about intuition in the management, which describes the importance of the hunch when making decisions, especially in times of change. He describes the process of intuition in 5 steps: the hunch, which tells you something is there hidden; preparing and enriching the intuition with past experiences; opening the mind for using it and looking for paths to prove it being effective; don't stop trusting in it, since intuition is more a process chemical or mental than something mystical; and verifying the intuition in the path. He believes in the importance of the intuition of the business that even he foresees the master of business intuition as a possibility in the business world.

Henry Mintzberg

H. Mintzberg (1994) says that strategic planning is only the reflection of a necessity of control, and is more related with a group obsession than a reality. He argues that “planning is so oriented to stability so obsessed with having everything under control, that any perturbation at all sets off a wave o panic and perceptions of turbulence” (Mintzberg, 1994, p208). Strategic planning has useless components like predetermination and forecasting that cannot be real since future doesn't exist yet (Ibid., 1994, p229). So intuition is the only reality during uncertainty moments and periods of instability. Also, planning is not as formal as it is believed, since many decisions are made informally by phone or chatting, where the hard data loses importance. Then, “because analysis is not synthesis, strategic planning is not strategy formation” (Ibid., 1994, p321).

Mintzberg (1994, p311) quotes some words from Simon: “it is fallacy to contrast 'analytic' and 'intuitive' styles of management. Intuition and judgment -at least good judgment- are simply *analyses frozen into habit* and into the capacity for rapid response

through recognition”. He argues that intuition and analytical thought are close.

Intuition in the 90’s was considered as the result of many mental activities like “a paranormal power or sixth sense; as a personality trait; as an unconscious process; as a set of actions; as distilled experience; and as a residual category” (Behling & Eckel, 1995). Glaser (1995) says that “intuition unconsciously integrates one’s attributes of knowledge, intelligence, experience, and respect for the unknown into responsive and productive decision making and, ultimately, into action”.

Peter Senge

Also, in the human approach, P. Senge (1994) mentions that the creative tension is the driver which develops creativity in an environment with vision and focused to learning (1994). Is all the skills and capabilities we develop so we can go from the reality to the vision we have. He mentions also the micro worlds for experimenting and learning.

John Sterman

J. Sterman develops simulators for making decisions at management level in a complex corporate and economical environment. He argues that “when experimentations in real systems are infeasible, simulation is the only way we can discover for ourselves how complex systems work” (2006). His theory is based on the assumption that without experimentation by simulation, people are exposed to biases, and personal ideas.

Eric Bonabeau

E. Bonabeau, on the other hand, establishes that intuition can be useless in complex situations and prefers the use of agent-based model software to leverage the intuition and predict the possible scenarios (Bonabeau, 2003).

Malcolm Gladwell

But not so far from philosophy, which has its basis in more “real” knowledge but not so practical knowledge for analytical minds, M. Gladwell argues in a scientific way that there is the possibility to know something without even thinking analytically on it (Gladwell, 2005). By using several examples, he tries to explain why sometimes by just 1 second of perceptions and subliminal messages the decisions can be made more accurately than with long time of reflection; also, how also in one second, wrong decisions can be made. This can be explained as the unconscious actions made by previous certain way of learning. So the intuition is conditioned by the previous learning.

Michael Polanyi

That takes us back to Polanyi, who started the notion of tacit knowledge is that knowledge acquired by being mentored and having received guide examples by mentors and teachers (Milavec, ?). However, that kind of knowledge is personal and has a necessity to be motivated to be acquired:

“To hold such knowledge is an act deeply committed to the conviction that there is something there to be discovered. It is personal, in the sense of involving the personality of him who holds it, and also in the sense of being, as a rule, solitary; but there is no trace in it of self-indulgence. The discoverer is filled with a compelling sense of responsibility for the pursuit of a hidden truth, which demands his services for revealing it. His act of knowing exercises a personal judgment in relating evidence to an external reality, an aspect of which he is seeking to apprehend. (Polanyi 1967: 24-5)” (infed.org).

Nonaka

Nonaka (1994) talks about the tacit knowledge as intrinsic and acquired knowledge, which is based on Polanyi's theories but with a more grounded theory on knowledge creation and transferring. His dynamic theory of organizational knowledge creation takes place in organizations, where the knowledge internalized or tacit, tries to have more practical and “automated” functions. Intuition has room in this context since it is based on experience, thus it is related with tacit knowledge.

Nonaka (1994) mentioned that experience and knowledge develops a tacit knowledge, which makes persons internalize the knowledge into a subconscious level. Intuition goes with the hand of tacit knowledge. This distant vision from philosophy, mentions the way knowledge is acquired. Even is transmitted from one person to other, the learner has a new way of interpreting the information according to his back experience and values. That makes the knowledge, even personal and unique, interconnected by the different persons that carry it (Nonaka, 1994).

Venzin, von Krogh and Roos

Venzin, von Krogh and Roos (1998) state that tacit knowledge is in three epistemologies: cognitivist, connectionist and autopoietic. The first one is related with the stored knowledge, the second with the knowledge that can be obtained by contacting experts, and the third one is the personal knowledge each individual has in his/her own. The connectionist epistemology mentions that “Knowledge can be tacit if the search rules for knowledge that hide somewhere in the organization are not fully transparent”, this has similarity with the interconnection of the philosophical point of view of intuition, but in an organizational level. Intuition or tacit knowledge is hidden and can not be used or understood if the links between the persons which contains them are not developed.

In times of change, and uncertainty, new “tools” are necessary for “surviving”, especially in the business environment. But before that, authors like Polanyi and Jung anticipated the necessity to learn about intuition. Now, since brain skills and tools for achieving better results are needed, several authors such as Agor, are doing research about intuition from the business point of view, others like Mintzberg mention it as part of their theories. However, intuition concepts, ways of using it, ways of achieving it, are not so well developed because the requirements needed in most business environment

do not facilitate it. The required business tools must be convenient, practical, and analytical. These requirements are in opposition with the unshaped form of intuition and the special environment it may need to develop properly.

Ian Mitroff

Based on the Jungian Theories, I Mitroff (2004) mentions that when solving problems, there are people who think in terms of the big picture. For this kind of people, the parts of a component are only meaningless if they fit together into a large whole or pattern. For this kind of intuitive people, Mitroff says that is easier to overpass an unanticipated crisis. "Big picture planning allows a company to prepare for such crisis. it is not only the crises that one has planned and prepared for that constitute a threat, but it is especially the crises that one has never even considered or thought about that constitute an even worse threat. This is precisely why Big Picture thinking is so important" (Mitroff, 2004, p62).

Here intuition then is tried to be explained in several ways. One of them is to understand it as the tacit knowledge, which is the knowledge already internalized and unconscious. Other way is to connect it with unconscious learned knowledge.

Pere Joret

It is quoted from P. Joret, in a Christopher Dawson (1994) article: "Let us not forget ... that the human intelligence, also, is intuitive by nature and predisposition. No-doubt, as it is united substantially with matter, it cannot thenceforth know except by proceeding from sensible realities and by means of images. But, apart from this, our intelligence is intuitive. Its first act at the dawn of its life, at its awakening, is an intuition, the intuition of being, or, more concretely, of 'a thing which is,' and, at the same time, as though it already unconsciously carried them in itself, there suddenly appear with an ineluctable certainty the first principles" (identity, contradiction, causality, and the like).

The importance of the last quarter of the century in intuition topic is that in the business and other areas, becomes more practical and objective than the abstractness of the philosophy and previous research. However, still is not totally explained how intuition can be developed and allowed for everyone as was mentioned by Plato and the archaic philosophers.

Summary

In this section, several theories were introduced concerning the concept of intuition since 1900. Experiential epistemologies try to explain it from experience view-point. It is also tried to be explained in terms of knowledge theories. Furthermore, some claim that intuition is determined by the analytical structure (since it is analysis frozen). Because of the relation it has with experience, intuition is considered as tacit knowledge as well. Generally speaking, in the modern times, intuition is not such philosophically studied as in the past; instead, it tends to be studied from diversified perspectives.

3.3 Debate about psychological characteristic or born-gift

Wondering if intuition is acquired or a born-gift, several authors talk about the experiential quality of intuition. P. Raskin (1998) mentions that intuition “is based on facts stored in our mind, intuition skips and appears suddenly as a gut feeling”. This excludes intuition as a particular characteristic of gifted persons and relates it with knowledge or information; intuition appears in a particular moment. Also, the background determines the perception, which at the same time triggers intuition in indefinable but accurate moments.

Parikh (1994) says, it is still not possible to know the way of “being able to understand consciously how we get the answers” according to how intuition is processed. In the same way, Parikh (1994), Klein (1999, p31) recognize that intuition comes from experience. The latter mentions also that “key patterns indicate the dynamics of a situation”, meaning that with some clues intuition can jump suddenly in a new situation.

Characterizing intuition, C. Jung (Wikipedia.org) says that it is a kind of personality, the same as rational, sensing, etc. In this idea, individual personalities are determined by genetic, which can explain also why some persons are more susceptible to intuitive and fast processes and others to stepped decisions and more rational.

Contrary to this point of view, generalization permits to see intuition not as a personal experience, but as a culture carried which in a certain way comes from the experience of previous generations in a general way. Agor (1986) claims that women and Asian people have, in a plural sense, intuition higher than others.

In conclusion, intuition can be a product of personal background; of predisposition or “default” process; or of the environment and culture. Because of that, intuition can be studied from different perspective and aimed to different objectives.

4 CHAPTER FOUR: ANALYSIS

Intuition as we discussed in the previous chapter can be defined differently according to different criteria. Intuition has a lot of applications nowadays in many fields, especially in the business context.

Even though the technology improvement may indicate a tendency that sophisticated software is going to play an important role in decision making, an ironic reality is that “in the midst of the computer age, human talent may still be a scarce commodity... In addition to the usual managerial skills, they possess intuitive skills that provide them with different perspectives and different approaches for management in these turbulent times.” (Harper, 1988) The development of technology seems giving managers more time to concentrate on areas that require their intuitive skill. One critical finding in the research of Parikh et al. (1994) supports the statement and says that intuition is playing an important role in the professional lives of the responding managers. It is said that about 56% of them use both intuition and logic/reasoning equally, and a further 7.5% claim that they use more of intuition than logic/ reasoning. Moreover, almost 80 % of the 1300 respondents believe that intuition is relevant to corporate strategy and planning. (Ibid., p81) Burke and Miller’s study shows a similar result. (1999, p91)

Concerning the role of intuition, Kahneman et al. states (1985, p414) “Any significant activity of forecasting involves a large component of judgment, intuition, and educated guesswork. Intuitions play an important part, even where the forecasts are obtained by a mathematical model or simulation. Intuitive judgments enter in the choice of the variables that are considered in such models, the impact factors that are assigned to them, and the initial values that are assumed to hold. The critical role of intuition in all varieties of forecasting calls for an analysis of the factors that limit the accuracy of expert judgments and for the development of procedures designed to improve the quality of these judgments.”

As the key characteristic of strategic decision-making as we mentioned in the chapter two, intuition is more and more important for the executives and top managers to make decisions concerning strategies. The purpose of this chapter is to make in-depth analysis about the pro and con, or advantages and disadvantages of applying intuition to strategic decision-making. The analysis will be conducted according to some characteristics of intuition. Since the two authors believe that the nature of intuition to some degree is similar to that of tacit knowledge, the characteristics or issues concerning tacit knowledge have been taken as reference to form the ones intuition. Additional to them, more unique issues of intuition are included to form the below ten aspects of intuition as our framework of analysis, namely availability, timing, efficiency, flexibility, synthesis, accuracy or effectiveness, reliability, security, storage, and transferring. In each of the ten aspects, pros and cons concerning intuition in strategic decision-making will be

discussed respectively. Then in the end, a list of pro and cons will be summarized.

4.1 Availability

As we mentioned in the previous chapter, intuition can be studied from different perspectives. So here, the availability of intuition will be discussed from three different opinions: taking intuition as gift, as ability, or as the mixture of gift and ability. Therefore, there can be different pros and cons under each view.

Intuition as gift

Availability here refers to the characteristic of intuition, which, as ability, is available to certain people or to everybody. Einstein is one of the scientists who support the idea that intuition is “a sacred gift” which is only available to certain people. This means, not everybody can acquire this ability, or intuition cannot be developed. Since intuition is not available to everybody, it is a sacred resource for human society, especially for management. Therefore, managers with the gift or ability of “intuition” are more valuable and competitive. To obtain or maintain competitive advantages in business fields, companies should acquire or keep managers with the gift of intuition in their organizations by all means. Therefore, the method of getting competitive advantages in management can be simplified to choosing intuition-gifted managers or executives.

Intuition as ability

However, some claim that intuition can be developed by exercises. Jung discovered that intuition gives access to what he termed the “personal and collective” unconscious. The former contains all the material stored by individual consciousness, experiences and impressions gathered by all the possible means. The latter contains “inherited powers of human imagination as it was from time immemorial”. In this collective unconscious, all the universal images or “archetypes” are contained, and these “archetypes” are “predispositions or potentialities for experiencing and responding to the world” (Goldberg, 1983)

Herbert Simon says that intuition “...is no deeper than the explanation of your ability, in a matter of seconds, to recognize one of your friends whom you meet on the path tomorrow as you are going to class” (Simon, 1983, p. 26, 2003). M.D. Liberman (2000) says that “intuition is a phenomenological and behavioral correlate of the knowledge obtained through implicit things.”

For instance, Henden (2004), after making an investigation to 105 Norwegian top managers from the private sector about “*how they perceive intuition and its role in strategy*”, points out “... That apparently there is a stronger positive correlation between experience and intuition than what is the case with experience and analysis. This conclusion is the same regardless of decision situation.” Thus, experience and knowledge, especially implicit knowledge, are the keys to intuition. With years of experience and accumulated knowledge, everybody can get the “priceless” treasure of

intuition to some degree. Furthermore, some exercises can help to increase the availability of intuition to ordinary people, or to develop intuition to a deeper degree for people who already have this ability. Since theoretically, any ability or skill can be acquired by any individual who make efforts and practices to get it, intuition is available to everyone who wants to get it, but how much and to which degree one can master it depends on individuals.

Intuition partly as gift partly as ability

The third party has another mixed idea. They believe that intuition is composed of both the part which you can get by learning and the part inborn. J. R. Patton (2003) in his paper “Intuition in Decisions” provides three sources of intuition. 1. Innate response is the instinct that bring subconscious but usually still appropriate reactions to situations. They are not learned but inborn. 2. General experience. 3. Focused learning. It is the “learning that stems from deliberate efforts to develop habits and achieve intuitive reactions (and decisions) to certain situation. Due to this mixed characteristics of intuition, for these people, intuition is partly available to all the human being. The part of “innate response” is “sacred gift”, which can bring competitive advantages at management-level decision-makings.

At Individual Level

All of these views can leads to different pros and cons from both individual and organization’s point of view. For individuals who have intuition, it as a gift can be available without extra costs. Of course, for those who do not acquire it since their birth, intuition is something unavailable at whatever price. For an organization, taking intuition as a gift means that it is difficult to find this kind of gifted person in the first place. They may have to spend lots of energy, time and/or money to look for the right persons. Also it can be expensive to obtain and maintain them in the management post since those persons have intuition, the “sacred gift” of human being. However, all those efforts are worthy to be taken because as soon as those “gifted” persons are found, they can provide the company competitive advantages in management level.

Viewing intuition as an ability or skill that is available to everyone can be interpreted differently at different levels as well. Intuition as ability should be available to each person, and then should be cheaper to get as well. But people holding this point of view may find that it is not so easy and cheap for individuals to get this “available-to-everyone” ability /skill. It is assumed that one cannot be intuitive, unless one has intimate knowledge of the subject in question. (Baylor, 2001) As we discussed before, intuition as ability is achieved by years of experiences, exercise, and accumulated knowledge. This process is time, energy and probably money consuming and may be full of painstake. So it can be conclude that Intuition as ability may be available to everyone, but not everybody can develop their intuition to the degree that can be used to make strategic decisions. That is to say, its “real” availability is limited and hard to be realized for everyone. It is actually difficult and expensive for individuals

to get it.

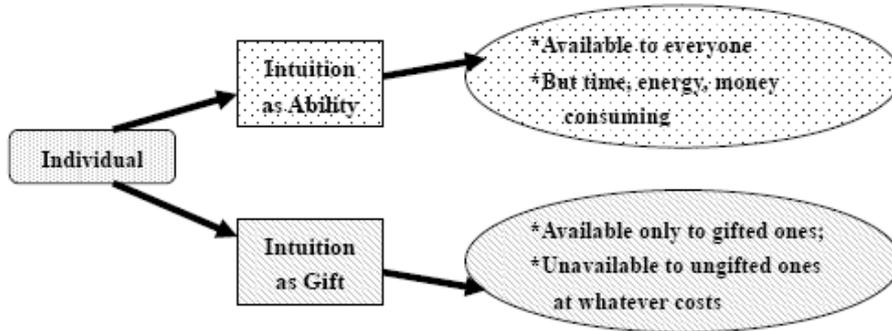


Figure 4.1.1. Pros and Cons at individual level, if intuition is considered an ability, then is available to everyone; if it considered a gift, then its availability is impossible for those who hasn't born without it.

At Organization Level

From organization's point of view, the availability of intuition to companies can be easier comparing with the view of taking it as born-gift. Companies do not spend extra energy to look for intuitive persons for the management position. They believe what they need to do is just to provide necessary "intuition" training or facilities to top managers, and enable them to use it in their decision makings. Then, what is important for them is to find out the bases where one can develop intuition. S. Choquette (2004) suggests that intuition mainly works on the following four bases. 1. Intuition works best off a solid foundation of knowledge. 2. Intuition is driven by enthusiasm. 3. Intuition requires a clear and organized mind. 4. Intuition is the 6th sense and it is as physical as the other five senses. The main methods as mentioned by Choquette (2004) and others, which can be used to activate, improve or develop the intuition, may include relaxing, trusting your intuition, or gut feeling, visualizing your goal or success, noting your gut feelings, etc. As those methods appear, they are very simple, and most of time they do not have extra costs except attentions. Therefore, organizations may think whenever they need intuitive managers or executives trainings to the potential personnel will be enough. Patton (2003) points out that Hayashi even declares that "the greatest power of intuitive decision making is that the process can be learned and enhanced into an effective management style for quick action." But due to the variety of individual's background, the same methods or training may lead to different levels of intuition mastering. It would be very hard for every top manager to reach the degree of intuition that may facilitate strategic decision making in a given period.

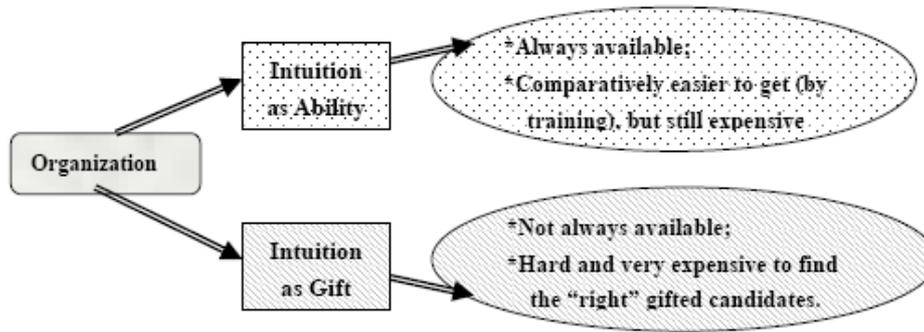


Figure 4.1.2. Pros and Cons at organization level, if intuition is considered ability, then it is available and can be acquired by training; if it considered a gift, then its uncommonness makes it a valuable resource.

A noticeable phenomenon nowadays, however, can be found, that most companies would like to invest lot of money and years of time in potential top manager candidates and help them develop necessary managerial skills, including business intuitions, in hope that they can get superior competitive advantages to their competitors in the future. Even though the process may be expensive and time consuming, it is worthy to be carried out because those personnel might be more loyal and stable in the position, which is more important for the growth of a company than money and other things.

| | Pros | Cons |
|------------|---|---|
| As ability | <ul style="list-style-type: none"> *Available to individuals *Always available to organizations *Comparatively easier to get (by training) | <ul style="list-style-type: none"> *The ability to master it for different persons may be various *Time, energy, money consuming to obtain or develop it |
| As gift | <ul style="list-style-type: none"> *Available only to gifted ones; *Not always available at organization level | <ul style="list-style-type: none"> *Unavailable to ungifted individuals at whatever costs *Hard and very expensive for organizations to find the "right" gifted individuals |

Table 4.1. Summary of Pros and Cons of intuition as ability or as a gift.

4.2 Timing and Time

Timing is defined as the “selection or the ability to select for maximum effect, the precise moment for beginning or doing something” (merriam-webster.com). Timing is a situational time-concept, which relates to a discernible event in a stream of other events in time-space in order to achieve intentional outcomes. In a business context, timing is defined as *confluent event trajectories in a network of interrelated events* (Törnroos & Hedaa, 2005).

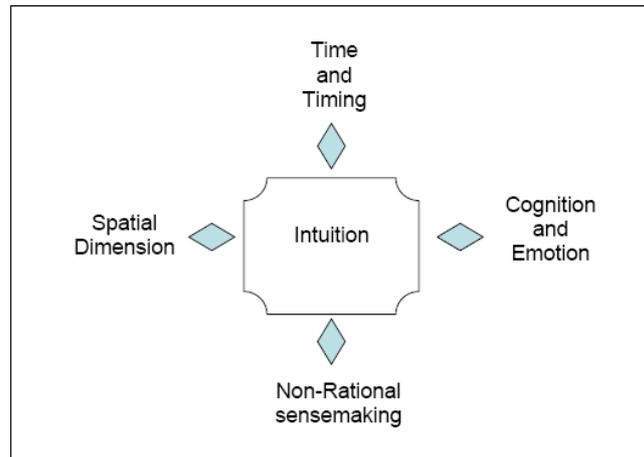


Figure 4.2. Key aspects of intuition and decision-making in an organization.

(Source: Törnroos & Hedaa, 2005)

“Intuitive decision-making deals with a sense-making precognitive process at a specific moment in time based on previous experiential knowledge, pattern recognition, acquired skills and an ability and courage to act. It is contrasted with classical rational decision-making models (RDM) of problem identification and definition of objective functions, and stepwise evaluation of possible alternatives, aiming at utility maximizing choices. Since it is believed that intuition is based on facts stored in our mind, and it skips the conscious steps, it can appear very suddenly and fast. Intuition is also characterized by ‘immediate knowing without reason’ in concrete settings” (Törnroos & Hedaa, 2005), or a kind of “thinking without thinking” (Gladwell, 2005). Gladwell, (2005) mentions that Gigerenzer, Todd, & ABC Research Group (1999) are referring to intuition as ‘fast and frugal heuristics’ or ecological rationality, which employ a minimum of time, knowledge and computation to make adaptive choices in real environments. Thus, making decision by intuition could be very fast, usually in seconds and accurate.

Goffee and Jones (2000) announce that one of unexpected qualities of inspirational leaders is that “*They rely heavily on intuition to gauge the appropriate timing and course of their actions. Their ability to collect and interpret soft data helps them know just when and how to act.*” By using intuition, top managers and executives can sense the right moment to react to new situations with fast speed, since they do not need to wait to make decision until getting the complicated analysis report.

For those who do not trust intuition in making decisions, intuition may some times save time and bring out good decisions at right timing, but in most chances it can be time-consuming and the worst, it may make you lose the timing and cause lost. They argue that so far, nobody knows exactly how intuition works. The process of intuition decision making is still a mystery. Therefore, there is no guarantee that intuition can always appear to help making decisions when it is needed, even though many people

claim that they have methods to assist developing or enhancing intuition. Even for the most intuitive managers or executives, they can not call and get their intuition as they wish. Intuition for most of us is just like a dream in the night, we know it exists somehow, but can not know when it will happen and in which form it can appear.

For the ability like intuition which is out of human mind control, they continue arguing, how can this ability be relied to make decision, especially concerning the important strategic ones?

| Timing and Time | |
|------------------------|---|
| Pros | *Be able to sense the right moment to react; **Fast and frugal heuristics'(Gigerenzer et al., 1999) **Immediate knowing without reason'(Törnrosl & Hedaa, 2005) |
| Cons | *Since its process is mystery, it can be time consuming; *Missing the right timing and causing lost |

Table 4.2. Summary of Pros and Cons of intuition in the timing and time aspects.

4.3 Efficiency

When intuition is discussed in the field of decision making, its effectiveness has to be mentioned as one of the key characteristics.

To argue whether intuition is efficient or not, first of all we will discuss the rationality of intuition. Rationality is bounded and limited for accessing information (Simon, 1987, 2003). But this does not mean with more information, and more time, best or optimal solutions can always be achieved. Therefore, the quantity of the information is not necessarily determining the quality of the decisions made.

'Enterprises have invested millions to gather and store potentially valuable data, but they are increasingly challenged to analyze and process this data quickly and turn it into a competitive advantage. Being able to identify and process the right amount of data is really what the struggle is' says Christopher Buss, director of business intelligence for Hewlett-Packard" (Kozlowski, 2006). Intuition is believed a right tool to meet this challenge of "identify and process the right amount of data". People who trust intuition claim that given both limited and overwhelmed information, intuition can function well and efficiency in making decisions (Kozlowski, 2006). _

Nowadays, highly developed techniques provide us all kinds of data and information we may need or not, and we are overwhelmed. It seems that information is the only business resource that is unlimited. However, to compete in this business world, time and business intellectual resources as the key resources are still limited. So a stopping rule such as "when to stop looking for more information" should be applied to business or strategic decision making process.

Intuition is good at using this stopping rule in making decisions. First of all, it can act as an *external information filter* which only chooses the right information from the outside world to proceed. The ex-president of Heinz, Anthony J. F.O'Reilly once in an interview says "the information explosion crosses and criss-crosses executive desks with a great deal of data. Much of this is only partly digested and much of it irrelevant." (Halbrecht, 1977). Facing "unlimited" information and a given problem, computer seems to be an efficient instrument to depend on. But in fact, computers have its own relative limitations to handle so much information. According to T. Roznak (Reichak, 1986) "computer boosters confuse data with ideas and mistake information with knowledge." Intuition is something different than computer analysis. It can help to point out those we need to spend more time and energy on, so it is not necessary for managers to make selections among all the information they have to look through. Therefore, the information selecting process is shortened and becoming efficient, and so is the decision making procedure.

Secondly, intuition is able to act as an *internal information filter* to select relevant information stored in the mind. We have stored a lot of information since we were born. Most of the time, we can not realize their existing. But they are related to each other, and form synergy in intuitive retrieval. When we have a decision to make, "an automatic reflex triggers the right information instantly, without our thinking." (Raskin, 1988).

Thirdly, intuition can react to limited information instantly. Today the business field is full of competition and more changes than ever. All this requires fast reactions. However, to be the first-mover is not an easy thing. In early phases there is often not enough data for an analysis; therefore, making decision based on analysis is not a good choice. In this situation, intuition shows its superiority to computer-like analysis in decision making. Because intuition needs only little information to make decisions, it is able to give organizations the advantage of taking action in the early stage of the market. "Like the brain surgeon, the top executives may not have to use intuition very often. But when the data do not provide a clear answer, these executives have the uncanny ability to sense what should be done and the courage of their convictions to act decisively." (Harper, 1988) That is why some top managers claim that "without intuition we do not get ahead in matters of strategic choice and processes."

Therefore, no matter there is too little or too much information, intuition can always function efficiently (figure 4.3.). When there is not enough information, intuition fills in the blank first, and then reacts to it; when there is too much information, it filters unrelated information and comes up with decisions accordingly.

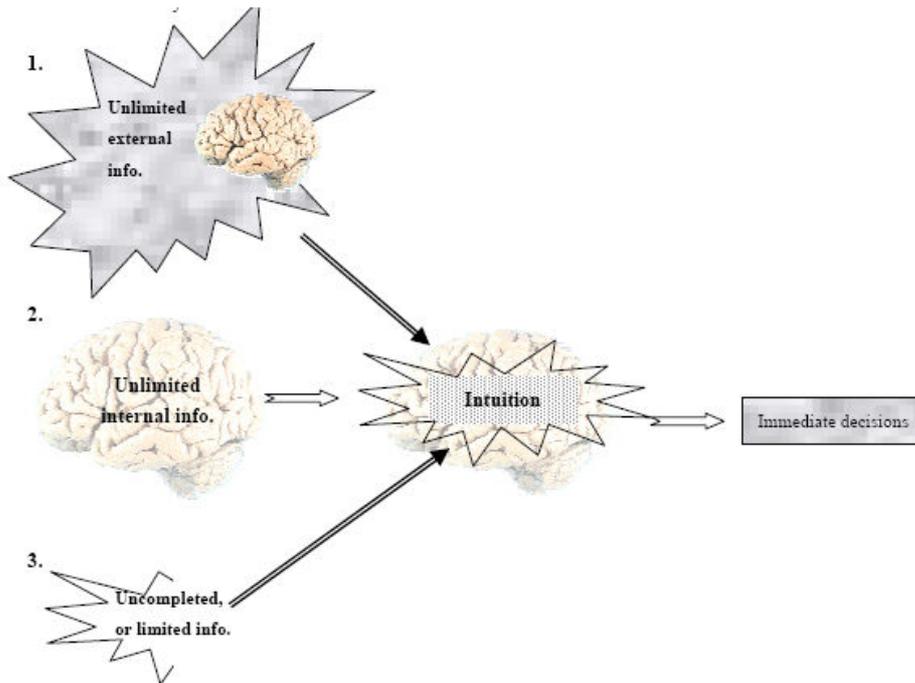


Figure 4.3. *No matter if there is too little or too much information, intuition can always function efficiently.*

However, even intuition supporters can provide aforementioned reasons to prove that intuition is very efficient in making decisions especially, strategic decisions, still some people believe that it is not as efficient as what the supporters claim.

The main reason they doubt the efficiency of intuition in decision making is that “limited” information intuition may need. They question that this “limited” not only refer to the amount, but also to the types of information. To make an intuitive decision, decision maker only needs to collect *a small amount* of information. However, we also know that not all kinds of information can trigger the “automatic” function of intuition. Without knowing which kind of information belongs to the “small amount”, decision makers still have to spend time and energy to try more information and find out the “right” ones. Then it will not be too much more efficient than analysis.

Moreover, even with “right” information, the function of intuition still requires certain situation, both internal and external. Although it is still a mystery about when and how intuition works, there are quite a lot of articles suggesting some ways which may help to develop or access intuitions. Normally they include the following steps: finding a quiet place, being quite physically and mentally, deep breathing, relaxing, letting you mind wander...etc. (Harricharan, 2002). If decision makers have no access to those conditions, even with “right” information, it is hard for them to make decisions intuitively.

Therefore, only when decision makers face the small amount of “right” information and

in certain condition, there is high possibility that intuition will be activated by this “limited” information. Here, we use “possibility” to emphasis the uncertainty of the activation of intuition. It is because of this uncertainty that those people conclude that no high efficiency will be achieved in decision making.

| Efficiency | |
|-------------------|--|
| Pros | Efficient to: *deal with unlimited external or internal information; *as well as limited or uncompleted information; *and be able to produce immediate decisions |
| Cons | Inefficient: *hard to find out exact right information which can trigger off the intuitive decision making process. |

Table 4.3. Summary of Pros and Cons of the efficiency of intuition

4.4 Flexibility

People supporting the idea that intuition is essential in decision making, especially strategic decision making, is mainly due to the belief that intuition is more flexible than computer like analysis and reasoning do. According to S. C. Harper (1988) “Intuition draws on our subconscious mental processes and incorporates previous experiences to foster new insights. ...The subconscious is not only faster than conscious thoughts, it is also more flexible. ...The subconscious is capable of lateral think, when the mind runs freely through the infinite amount of information stored in the brain. With lateral thinking the mind may combine seemly unrelated facts and come up with innovative approaches for addressing problems that conscious thought had not solved. The conscious mind is regimented; it tends to go through the front door. The subconscious is not inhibited; it will come through the back door, the windows, or even down the chimney in its pursuit of a better way to do things and better things to do.”

Here they argue that the flexibility of intuition can be represented in its ability to deal with qualitative data, uncertainty, conflicts and crisis. Also, it is flexible to be used as a tool to recognize potential opportunities.

Firstly, intuition is good at dealing with qualitative information flexibly. Henden (2004) in his “Intuition and its role in strategic thinking” says that when talking about the issue of “its relationship with analysis” in his interview with top managers, some respondent claims that “numbers and analysis are easy to get hold of. However, there are more to this game than numbers on costs. Utility, service, etc, and their consequences are indeed difficult to quantify.” intuition as a flexible tool is more suitable to react to this non-quantitative information.

Unlike quantitative analysis, to make intuitive decisions, one does not need to search for complete and accurate quantitative information. No need for specific pattern and formulas to calculate, or other sophisticated software as well. All he needs is the available “incomplete” information and his intuition, which no matter we take as a skill or “sacred gift”. Managers or executives who have intuitive decision making skills can “...use their intuition to help size up the situation and come up with solutions when quantitative information is not available.” (Harper, 1988)

Secondly, intuition can handle uncertainty very well. The ever-changing world shows us more chances as well as more uncertainties than it does in the past. Particularly in business field, political, social and economical and other factors have great influences on the future development of an organization. During the past decades, many systems, formulas have been built up to understand those key factors. Managers have been taught to use them to analyze current situations and make decisions accordingly. However, all of them are subject to change at a very high speed. It is common to see that new changes happen in market place before the latest analysis report is ready. The dynamic world requires fast reactions in every field. Companies which want to survive and get competitive advantages, must be flexible and ready to adapt to those changes all the time. This, in turn, pushes top managers to be sensitive to changes and be able to well-handle uncertainties in the future. It is intuition that enables its owner to adapt to the changeable situations in a very short time.

Thirdly, intuition is flexible to solve *conflicts and crisis*. In the business context, conflicts and crisis are common phenomena. Different individual, groups, organizations seek various goals in market place. Their inconsistent goals and incompatible market powers lead to their conflicts in various areas. Dynamic financial, economical, political or social environment combining with fierce competitions cause one and another kind of crisis now and then. As the “brain” of an organization, top managers must have the ability to solve those conflicts and crisis one by one. Commonly, conflicts and crisis are very complex and emergent, which can not provide enough information to be studied within a short time. Therefore, the computer-like analysis is not applicable. In this situation, intuition can fully use its advantage in dealing with incomplete information to make decisions rapidly (Mitroff, 2004).

Finally, it can be indicated that intuition is a flexible tool to recognize potential opportunities or problems. Except making routine decisions, solve emergent problems and crises, one of the key duties for the top managers or executives is to find out whether there exists some space for the future development of their organizations or whether there are some neglected risks which may cause huge losses in the future. As a benefit recognition process, recognizing the former task is to allow the company to well prepare for its future extension and compete with competitive advantages; as a risk or loss recognition process, the later task enables the company to take measures to avoid, or at least to reduce the future loss. Since those chances and risks are potential, which

means they may or may not happen in the future and they are hardly to be recognized, it is impossible to collect complete information to analyze. However, as we mentioned before, intuition is good at dealing with uncertainties and incomplete information. Because intuition is always connected with creative thoughts, with pieces of information available, intuitive managers can foresee the future of the company creatively, where they would find out those neglected chances or risks by others.

For the aforementioned advantages of flexibility of intuition, opponents show their doubts from the following two aspects. Firstly, they question that how intuition can help to deal with a lot of uncertainties if it is very stable. As we discussed before, intuitive decision making process has not been well understood; and also the situations under which it can work are not clear known. Even nowadays scientists from various fields have provided evidences to show the rationality of intuitive thinking, those opponents can still hardly believe an equation like *uncertainties + incomplete information* can lead to a reliable solution to the conflicts or crisis, or to a foresight into the future chances and potential risks.

Furthermore, they state that since intuition is not an ability which is available to everybody, and even it is, people do not have it in the same level, then the ability to use intuition to make decisions can be various. Therefore, the flexibility of intuition in decision can be discounted accordingly. They point out that the development of the high technique has gradually been improving the flexibility of analytic decision-making processes. For people having different intuition levels, with the help of high technique, most of them can make similar decisions in the same period time. That is to say, for the decision-maker-choice issue, it is argued that high-technology based analysis software is more flexible than intuition in decision-making.

| | Flexibility |
|-------------|--|
| Pros | <ul style="list-style-type: none"> *good at handling with qualitative information *deal with uncertainty very well *solve conflicts and crisis *recognize potential opportunities or problems. |
| Cons | <ul style="list-style-type: none"> *hard to solve uncertain problems if its function itself is not stable. *maybe flexible, but in a “discounted” way since people’s ability to apply intuition to decision making at various levels |

Table 4.4. Summary of Pros and Cons of the flexibility of intuition.

4.5 Synthesis

Synthesis is referring to the combination of parts in order to form a more complex system. Now the question here is whether intuition is more synthetic than analysis or not.

It has been claimed that “Intuition is informal and synthetic....Synthetic means that the

thinker does not aim at unraveling phenomena into their constituent parts, but rather maintains a more holistic view of reality” (Ibid. p72). Mintzberg (1994, p321.) states that “analysis may precede and support synthesis, by defining the parts that can be combined into wholes. Analysis may follow and elaborate synthesis, by decomposing and formalizing its consequences. But analysis cannot substitute for synthesis. No amount of elaboration will ever enable formal procedures to forecast discontinuities, to inform managers who are detached from their operations, to create novel strategies.” He concludes that strategy cannot be planned because strategy is about synthesis, an intuitive characteristic, and planning is about analysis. You cannot plan the future when it has discontinuities. That is to say, intuition is able to support strategic decision making because of its ability of synthesis.

Usually in the high positions in a company, jobs are more involving conceptual and general issues in a long-term horizon, such as the mission or vision of the company, rather than concrete and specific problems and short-term issues. Thus, it requires that top managers to see the big pictures. Intuition gives top managers the power to view from the above and get a whole picture of the problem, and to see the forest without getting lost in the trees. It enables experienced top managers /executives to understand a situation, synthesize large amount of data /information, complete or incomplete, with knowledge and experience accumulated in their head, and deal with uncertain and fast changed situations. Quinn (1980) even points out that intuitive synthesis is probably superior to any other carefully-made model because of the subtle and qualitative balance it can hold.

Scholars who underestimate intuitions doubt the synthesis of intuition in decision, especially strategic decision making. Those who believe in scientific analysis and mathematical calculation can hardly trust the result of intuition. Intuition for them is biased and not synthetic judgment mainly because of the fact that intuitive decision making is usually based on limited evidences or information, and in a speedy way. For them, fast decisions are always the results of using less thorough strategic decision making process which involves less information, analysis, and participation. (Fredrickson & Mitchell, 1984; Fredrickson & Iaquinto, 1989, cited in Khatri, 2000). Then they conclude that intuition is not synthetic and reliable, and it is biased.

4.6 Accuracy/Effectiveness

When a strategy is brought out, its effectiveness is always a crucial issue in deciding whether it can be adopted and carried out. Business strategic decisions, most of the time, connect with huge investments and the future fate of a company, therefore, their effectiveness is more important to be discussed carefully.

As a management tool, the effectiveness of intuition influences that of strategic decisions. “A stream of research in cognitive psychology suggests that intuitive

(subjective or use of head) decision making is fraught with cognitive biases.” (Khatri, 2000). They question the grounds which intuitive decisions are based on, such as unconscious thinking process which can not be validated and tested, limited or incomplete information/data, short thinking time, etc. Because of those evidences and some failures of intuitive decisions observed in the reality, they conclude that intuition is biased process and can not be accurate and effective enough in making strategic decisions.

Another groups argue that intuition is not necessary biased given above seeming 'invalid' grounds. In “Role of intuition in strategic decision making” (Khatri, 2000), Ilgen & Feddman (1983), Kleinmuntz (1990), Harung (1993), Seebo (1993), conclude that intuition can be “uncannily accurate”. Furthermore, they argue that “the cognitive process by which valid judgment are made is exactly the same as the one that generated biased one, just as the forces determining an arrow’s flight are the same whether or not the arrow is on target.” (Khatri, 2000). So he concludes with saying that if intuition “suffers from biases or errors so does rational analysis (Seebo, 1993, p27)”; if intuition leads to inaccurate or fraught decisions so does rational analysis.

Comparatively, in strategic issues, it seems that intuitive decisions have superior performances to analysis. Since strategic problems are usually ill-structured, it can hardly be programmed (Mintzberg et al., 1976). Hence analytic decision can not work well in this field. We have discussed before that intuition is synthetic and can well deal with uncertainties given incomplete information and time constrain. Actually, intuition enables decision makers to use more information and develop more alternatives to react quickly and accurately to the changing business environment, thus it leads to better performance. (Eisenhardt, 1989)

Henden (2004), after interviewing a sample of 105 Norwegian top managers from the private sector about *how they perceive intuition and its role in strategy*, concludes that for “intuition is recognized as a mode of cognition that is of special relevance in strategic thinking and decision-making.”

4.7 Reliability

How reliable intuition could be? People have different ideas about it. We are educated with cognitive proverb like “look before you leap” and “think before you act”, which in Chinese version is “think three times before you act”. All these suggest that intuition or impulses are tending to be unreliable and to mislead one’s action. Logical and scientific educations give people the impression that intuition is neither regarded as a product of education and science nor mature thoughts. “Intuition seems to lack the logical structure of information processing. When one relies on intuition, one has no sense of alternatives being weighted algebraically or a cost-benefit analysis being undertaken” (Lieberman, 2000).

In Lieberman (2000), it is mentioned that most scholars put so much emphasis on rational thinking and analysis that they try to ignore the notion of intuition. For instance, to reason a fact, without the backup of analysis and data, findings or decisions made by intuition can not be taken seriously. “Give me the facts, not a lot of talking about feeling.” They may say. Journals have tried to show that the “intuitions systematically ignore important sources of information” (Nisbett & Ross, 1980; Tversky & Kahneman, 1974). It is said that if we reason more carefully, our judgments or decisions can be improved. (Chaiken, Liberman, & Eagly, 1989; Denes-Raj & Epstein, 1994; Fiske & Neuberg, 1990; Gilbert, 1989; Langer, 1989; but see Bargh, 1997; Wilson & Brekke, 1994). Henden (2004) summarizes this idea of the modern psychology: “the tendency is to treat intuition as some sort of unconscious, biased and automatic processing.”

Is that intuition as unreliable as Nisbett, Ross and others believe? It is probably not. Generally speaking, in the academic field, philosophers hold totally different opinions with psychologists about the reliability or rationality of intuition. Philosophers such as Plato, Spinoza, Descartes, Kant, Bergson distinguish between intuitive and discursive thinking. “Without exception the intuitive state of mind is perceived as superior to the discursive, analytic, dualistic state of mind. Slightly different arguments are provided, but essentially, they all agree in that intuition gives access to the intelligible world of pure reason. Thus, they all define it as rational and intellectual while discursive thought is seen as relative, incomplete and fragmented. Philosophers do so primarily because intuition is anchored in Ideas, Forms and Archetypes, which are perceived as *a priori* laws governing and conditioning all existence.” (Henden, 2004)

Many people believe that intuition is as rational and reliable as logic analysis is. “Although intuition may manifest itself in feelings and sensations, it doesn’t come out of nowhere. It is firmly rooted in facts. Since birth, we have accepted and stored information in our brain, in much the same way that a computer accepts input...Although it is based on facts stored in our mind, intuition skips the conscious steps and appears suddenly as a gut feeling.” (Raskin, 1988)

After many researches, Agor (1986) finds out that intuition is not only the activities from the right brain, it is in fact the “capacity to integrate and make use of information coming both from the left and the right sides of the brain”. It means that both sides of the brain, namely, the rational part (left brain) and the more synthetic part (right brain) are involved in making accurate decisions (Mintzberg, 1976).

Jung (1971) also argues since intuition is from accumulated experience and knowledge, intuition can “supply certain data which may be of the utmost importance for understanding what is going on in the world”. It can even *foresee new possibilities* in more or less clear outline, as well as events, which later actually do happen”. (Goldberg, 1983, p143). Parikh (1994) declares that intuition is “a process consisting of accessing

the internal reservoir of cumulative experience and expertise developed over a period of years, and distilling out of that response, or an urge to do or not to do something, or choose from some alternatives – again, without being able to understand consciously how we get the answers.”

For Klein (1999, p31), “intuition depends on the use of experience to recognize key patterns that indicate the dynamics of a situation.” While Henden (2004) even says that intuition is the ontological foundation for any normative theory of rationality.

Also the development of cognitive science and artificial intelligence starts making efforts to explain how intuition works, and showing that there is no mystical in intuition and they are not paranormal and irrational (Simon, 1987; Prietula & Simon, 1989). It is believed that intuition, to some degree, is based on accumulated experience, experimentation, implicit learning, and pattern recognition. It is “synthetic”, which apprehends the total given situation (Vaughan, 1990, in Khatri, 2000), and synthesize pieces of data, information, and experience into a whole picture. “An automatic reflex triggers the right information instantly, without our thinking.” (Raskin, 1988)

With these beliefs, some people insist that intuition in the business is at least the same rational and reliable to logic thinking. For most top managers and executives, they may find intuition is more reliable than logic analysis when they face decision-makings concerning seeking and exploiting opportunities, or setting up strategic issues such as mission or vision of the company.

| | Reliability |
|-------------|--|
| Pros | <p>Because it is based on:</p> <ul style="list-style-type: none"> *the information stored in our brain since we were born (Patricia Raskin, 1988); *or the accumulated knowledge or/and experiences (Jung, 1971) *or “the use of experience to recognize key patterns” (Klein, 1999) *gradual understanding about its working process, with the help of cognitive science and artificial intelligence |
| Cons | <ul style="list-style-type: none"> *intuitive decisions are made too fast without thorough and logical thinking; **“intuitions systematically ignore important sources of information”(Nisbett & Ross, 1980; Tversky & Kahneman, 1974); **“intuition seems to lack the logical structure of information processing.”(Lieberman, 2000) |

Table 4.7. Summary of Pros and Cons of the reliability of intuition.

4.8 Security

In knowledge management, security of keeping knowledge is an important issue a company should care about. No matter treated as a kind of tacit knowledge, accumulated experience or born-gift, intuition should be taken seriously in this issue as well. Especially, in business context, decisions made by intuition can gain a company the competitive advantages at the management level, thus this special property should be kept safely within it. But how easy or hard it could be to make sure the security of the decisions made by intuition?

For people who hold different ideas about what intuition is see this issue differently. Those who regard intuition as a sacred gift may think that intuition is a very secure asset of the company. Why? First, let's look at the how secure the decisions made totally by logical and scientific analysis. Anyone who acquires relevant data and information can make similar decisions as others. With the help of sophisticated decision making software and other expertise analysis technique, one can even predicted its competitor's reactions to some situation or possible strategies in the future. One old Chinese saying says "you will never be defeated if you know your opponent thoroughly". However, the decisions mainly based on analysis will give your competitors the chance to know you, study you and understand you well, thus you can be defeated easily and without chance to fight back.

It is obvious that those kinds of analytical decisions are not suitable in this highly competitive business world. Therefore, intuitions and intuitive decisions in an organization are comparatively more secure. Once the company obtains the intuitive persons in management or executive positions, this asset can be very safe from copying. Since intuition is a "sacred gift", it can hardly be diversified or predicted by others, the intuitive decisions will be unpredicted as well. Therefore, the security of the intuitive decisions is actually about the security of the intuitive personnel. If the one who has this special gift is safe and agrees not to release out those decisions, there will be no way for competitors to figure out the strategies or decisions an company is going to make, and those intuition and intuitive decisions will survive from imitating, predicting or decoding.

For those who believe that intuition is a kind of skill or ability which can be developed may feel that intuition and intuitive decisions are more secure than analytical decisions, but less than what the previous "sacred-gift" believer think. Intuition can be developed by exercises, experiments, and accumulated knowledge. With the help of those skills which are said to be able to develop intuitions, people who have similar experience and knowledge with the intuitive decision makers can be trained to predict or imitate the decision maker's next reaction to certain circumstance. Of course, those decisions can hardly be figured out or predicted as accurately as those by analytical skills and software.

Thus, the security of the intuition and intuitive decisions in a company turns out as we

mentioned before, to be the stability of intuitive persons working in it. Moreover, the knowledge and past experiences of those intuitive decision makers are the other things which need to be kept secretly.

In sum, intuition and intuitive decisions are more secure and more difficult to be imitated and predicted than decisions made by analysis, given the decision makers themselves are reliable and being in the position stably, no matter if intuition is taken as “sacred gift” or personal skills which can be developed during some training. Or the security level can be illustrated in the following equation:

Analytical decisions < Intuitive decisions (intuition as ability < as gift)

4.9 Storage

4.9.1 Similarity between Tacit knowledge and Intuition

We have discussed that intuition may be thought either as a kind of ability or a gift since long time ago. Then, relevant characteristics of skill or gift can be applied to intuition accordingly. For instance, as a gift, intuition can be difficult to be transferred to others and obtained after birth; as ability/skill, intuition is believed to be possible to be mastered and developed during a period of time. Among all kinds of skills or ability, tacit knowledge is the most similar one to intuition: both of them intangible, hard to measure, difficult to explain by words, and both of them can be acquired somehow to some degree but not total, by practicing and accumulating knowledge and/or exercises. Some scholars even claim that intuition is actually a kind of tacit knowledge.

Due to the similarity between tacit knowledge and intuition, in the following two chapters we are going to borrow some concepts which have been used in the discussion concerning tacit knowledge management, such as storage and transferring of tacit knowledge within an organization. The pros and cons concerning storage of intuition are discussed at both individual and organizational levels; while those of transferring of intuition will be talked about according to different transferring methods.

4.9.2 Storage (some of the intuition can be stored in by AI software)

In knowledge management study, knowledge (including information) storage is a very important concept. Davenport (1998) in his book “Working Knowledge: How organization manage what they know” points out that knowledge can be stored at both individual and organizational levels. Intuition, as a weapon for a company to gain its competitive advantages, is needed to be stored and managed as well. Due to its some similarity with tacit knowledge, we are going to borrow that two-level concept to discuss advantages and disadvantages of intuition concerning its storage.

As we mentioned before about “availability of intuition”, people hold different ideas about whether intuition is a “born” gift for certain persons or an ability which is available to everyone. Similar to those differences, the storage of intuition can be regarded as something impossible to be stored or something which can be stored, at both individual and organizational levels.

First, let us discuss its storage at individual level. Throughout an organization, intuition, experience, and other tacit knowledge are fundamentally stored in the heads’ of individuals, which distinguish them as experts from others, and give them the superior abilities to help their companies compete in the market place. Thus, the storage of intuition at individual level is related with the education, training and self-development of the intuitive personnel.

No matter intuition is available only to certain people or to everyone, the supporters argue that intuition can be stored easily in individual’s head with the facility of education, on-site training, and some exercises, as soon as the individual acquires this gift or ability. They believe that it is a big advantage to use intuition in business decision making. From cost-benefit point of view, its storage at individual level is a one-time investment, meaning that once people get this “gift” by birth or by developing this ability after birth, intuition will be stored in those individuals and will never get lost till they die. Thus it is costless tool for intuitive personnel to depend on.

However, this statement is doubted by those who do not trust intuition. They claim that intuition is not able to be stored completely in individual’s mind. They point out that intuition is known as gut feelings, thoughts in blink, or other kind of unexplained sudden insights. It always appears in a sudden and unexpected way, which means its appearance is not stable. Then, if an ability or gift can not be triggered off and be used according to personal wishes, they continually argue, how this can be claimed to be stored steadily in the person’s head? As the view of “costless tool”, they believe intuition is only a tool which you feel handy when you get it by chance, but it will bring you big problem to keep them for future use.

| | Storage at individual level |
|-------------|---|
| Pros | Intuition *is able to stored easily and stably in individual’s head for a whole life time; *may be developed or enhanced by training, knowledge accumulation; *is one-time investment; *is costless to be kept |
| Cons | *since intuition always appears suddenly, it seems intuition can be stored nowhere; *intuition is unable to be stored in head with any cost |

Table 4.9.1 Summary of Pros and Cons of the storage of intuition, at individual level.

At organization level, the methods used to store intuition in an organization are similar to keep tacit knowledge. Thus, at this level it is *primarily* about the maintaining of those individuals. It is not exaggerate to say that those who acquire intuitive decision-making abilities form the basis of their company's future. The supporters argue that in this way, with experiences in human resource department and sophisticated methods such as promotions, raising salary, bonus, etc, they can easily keep intuitive personnel within the organization, which, in turn, stores intuitions there.

Secondly, it has also been argued that *Artificial Intelligence* can help to store intuition of individual in an organization. The formation of intuition now can partly be explained as below: "Our ability to isolate and detach our concepts from the examples that give rise to them, and subsequently to attach them instead to language, enables us to bring past experiences usefully to bear on the present situation. But even more insidiously, past conceptual structures, painstakingly abstracted and slowly accumulated over successive generations, become available to us as well, and these quietly by-pass the individual's scrutiny as they become part of his self-built 'intuitive' conceptual system....When approaching unfamiliar territory, we often, as observed earlier, try to describe or frame the novel situation using metaphors based on relations perceived in a familiar domain, and by using our powers of association, and our ability to exploit the structural similarity, we go on to conjecture new features for consideration, often not noticed at the outset." (Thompson, 1993).

The intuitive decisions are studied carefully. Combining with other kinds of understanding about intuition, scientists make models to imitate working process of intuition and try to teach machines to "think" intuitively. Of course, now even the most sophisticated artificial intelligence can not compete with intuitive human brain, but they can at least help to store some of the "intuition" which mainly is about accumulated experiences or other forms of tacit knowledge. In this way, some portion of "intuition" can be stored within its organization.

Again, those who underestimate intuition point out that it would be very difficult for a company to store intuition at organizational level. Firstly, they say that taking extra measures to keep those intuitive personnel seems not very worthy. It could cost the company a lot of expenses to look for and keep them in decision potions. But because the reliability, efficiency of their intuitive decisions is questionable, their contributions probably can not compensate the expense. Also if too much attention focuses on those people, it may limit other employees' passions to their jobs, which in turn may cause the decrease of the productivity of the whole company.

Secondly, they claim that artificial intelligence can hardly help to maintain "intuition" in an organization. For them, intuition is irrational and unstable while artificial intelligent (AI) is rational and scientific. AI can only imitate the rational thoughts and thinking procedures, and make decisions accordingly, not the irrational intuition, intuitive

thinking and decisions. Even AI nowadays could actually help store intuition in an organization, they argue, its high costs and less usage in intuitive decision making would limit its application in the company.

| Storage at organization level | |
|--------------------------------------|--|
| Pros | <ul style="list-style-type: none"> *recruit intuitive personnel within companies; *maintain intuitive executives or top managers in the positions with the help from HR department and methods, such as promotion, raising salary, bonus, etc.; *certain intuition can be imitated and stored within companies by implementing Artificial Intelligence or other hi-tech equipments. |
| Cons | <ul style="list-style-type: none"> *too costly to recruit or/and keep intuitive personnel in position: **their contributions may not compensate those expenses given the unstable performance of intuitive decisions; **special attentions to them may hurt other employees' passions to work, which may decrease the productivity; *Artificial Intelligence is hardly able to store intuition; and even it is possible, its benefits will barely cover its costs. |

Table 4.9.2 Summary of Pros and Cons of the storage of intuition, at organizational level.

4.10 Transferring

Seeing intuition as ability or gift will lead to different understanding about intuition transferring between individuals. Taking intuition as ability means it can be learnt and development after birth by accumulated experience, knowledge and experiments, which are similar to tacit knowledge. Then it is at least partial transferable and able to be transferred among individuals by teaching, training, experiencing and other methods for transferring tacit knowledge. Regarding intuition as gift, intuition is not transferable artificially from one individual to another. It is argued that intuition can be obtained merely by birth. The only possible way of transferring intuition is by heredity, but it can not be guaranteed that kids can always inherit it from their intuitive parents.

However, concerning transferring of intuition in an organization, it is not a "mission impossible" any more, no matter taking either ability or gift point of view. Davenport (1998, p.90) says that for tacit and ambiguous knowledge, "the most reliable way to put knowledge into circulation... is to transfer people in and out of the dedicated resources." This statement gives lights to the discussion of intuition transferring: it can be transferred within an organization by sending intuitive personnel to needed departments. Even though it may be hard to transfer intuition between individuals, it is comparatively easier to transfer intuitive personnel physically to different places given the convenient modern transportation system. Also this management tool is cheaper, easier, safer and faster to be transferred than other tools are. The only disadvantage is that each time the transferring can only happen to one place, which limits the application of intuition in management

At organization level, artificial intelligence (AI) can be another option to transfer intuition at least partially. AI is transferable in forms of machine, software or even robot. As we mentioned before, it is possible for AI to help store some part of intuition in an organization. In turn, when those storable intuitions are needed, they can be sent and used there in a corresponding AI form. This way is easier to be carried out and can meet the needs for same intuitions from different places. But it can be expensive to transfer those AI products, and its usage can be narrow because only small amount of intuition can be stored with the help of AI.

| | Transferring | |
|-------------|--|---|
| | At individual level | At organization level |
| Pros | *as ability, partially transferable | *cheaper, easier, safer and faster to transfer intuitive personnel within organizations **with Artificial Intelligence, intuition can be easily transferred to different places at the same time |
| Cons | *as gift, it is impossible to be transferred | *each time the transfer can only happen to one place **Artificial Intelligence can be expensive, and may have limited usage |

Table 4.10. Summary of Pros and Cons of the Transferring in intuition, at individual and organizational level.

5 CHAPTER FIVE: CONCLUSION

5.1 Summary and findings

Intuition as a hot topic has been discussed from many perspectives. Most of the previous works have concentrated on the concepts or importance of intuition in different fields, or on its role in certain area, but seldom there are some literatures that are trying to categorize the pros and cons of using intuition.

For instance, the intuition has been applied in business decision at all levels from strategic, management, in networks, to operational one, as well as a certain amount in the strategic management decision making. However, what are the pros and cons of using intuition in this area? It is hard to find read-to-use answers. It is obvious that people hold different ideas about whether intuition should be use in decision making, especially strategic decision making or not. Some of them believe intuition can be use undoubted; others warn that intuition is too dangerous to be trusted in making decisions. Till now, there has not been an absolute answer to this debate. Therefore, the summaries of most pros and cons of applying business intuition in strategic decision makings can help top executives and managers to make their own choice.

The purpose of this research is to inform business people, especially managers and executives who are facing strategic decision making the benefits and risks of relying on intuition. Hence, they can have a clear mind about to what extend they can trust their intuitions.

After reviewing briefly the history of the development of intuition concept and the main ideas of strategic decision making, we have conducted a thorough research about this topic from the following ten aspects: availability, timing, efficiency, flexibility, synthesis, accuracy or effectiveness, reliability, security, storage, and transferring. Our findings can be summarized in the following table which pictures an answer to our research question, “*what are the pros and cons of using intuition in the businesses from the strategic decision making approach, in a changing and complex business environment?*”

Table 5.1. Summary of pros and Cons of 10 aspects of intuition: availability, timing and time, efficiency, flexibility, synthesis, accuracy/effectiveness, reliability, security, storage, transferring.

| NAME OF ASPECTS | | PRONS | CONS |
|----------------------------|---|--|---|
| 1. Availability | As ability | <ul style="list-style-type: none"> * Available to individuals * Always available to organizations * Comparatively easier to get (by training) | <ul style="list-style-type: none"> * the ability to master it may be various * time, energy, money consuming to obtain or develop it |
| | As gift | <ul style="list-style-type: none"> * Available only to gifted ones; * Not always available at organization level | <ul style="list-style-type: none"> * Unavailable to ungifted individuals at whatever costs * Hard and very expensive for organizations to find the "right" gifted individuals |
| 2. Timing and Time | <ul style="list-style-type: none"> * Be able to sense the right moment to react; * 'Fast and frugal heuristics' (Gigerenzer et al., 1999) * 'Immediate knowing without reason' (Törnrosl & Hedaa, 2005) | <ul style="list-style-type: none"> * Since its process is mystery, it can be time consuming; * Missing the right timing and causing lost | |
| 3. Efficiency | <ul style="list-style-type: none"> * deal with unlimited external or internal information; * as well as limited or uncompleted information; * and be able to produce immediate decisions | <ul style="list-style-type: none"> * hard to find out exact right information which can trigger off the intuitive decision making process. | |
| 4. Flexibility | <ul style="list-style-type: none"> * good at handling with qualitative information * deal with uncertainty very well * solve conflicts and crisis * recognize potential opportunities or problems. | <ul style="list-style-type: none"> * hard to solve uncertain problems if its function itself is not stable. * maybe flexible, but in a "discounted" way since people's ability to apply intuition to decision making at various levels | |
| 5. Synthesis | <ul style="list-style-type: none"> * synthetic | <ul style="list-style-type: none"> * biased and not very synthetic | |
| 6. Accuracy /Effectiveness | <ul style="list-style-type: none"> * at least as accuracy as rational analysis | <ul style="list-style-type: none"> * biased and not accurate | |
| | <ul style="list-style-type: none"> Reliable because it is based on: * the information stored in our brain since we were born (Patricia Raskin, 1988); * or the accumulated knowledge or/and experiences (Jung, 1971) * or "the use of experience to | <ul style="list-style-type: none"> * intuitive decisions are made too fast without thorough and logical thinking; * "intuitions systematically ignore important sources of information" (Nisbett & Ross, 1980; Tversky & | |

| | | | |
|---------------------------|---|---|--|
| <p>7. Reliability</p> | <p>recognize key patterns” (Klein, 1999) *gradual understanding about its working process, with the help of cognitive science and artificial intelligence</p> | | <p>Kahneman, 1974); **“intuition seems to lack the logical structure of information processing.”(Lieberman, 2000)</p> |
| <p>8. Security</p> | <p>*more secure, more difficult to be predicted or imitated than analysis</p> | | <p>*can appear and disappear suddenly, *hard to be guaranteed</p> |
| <p>9. Storage</p> | <p>at individual level</p> | <p>Intuition *is able to stored easily and stably in individual’s head for a whole life time; *may be developed or enhanced by training, knowledge accumulation; *is one-time investment; *is costless to be kept</p> | <p>*since intuition always appears suddenly, it seems intuition can be stored nowhere; *intuition is unable to be stored in head with any cost</p> |
| | <p>at organization level</p> | <p>*recruit intuitive personnel within companies; *maintain intuitive executives or top managers in the positions with the help from HR department and methods, such as promotion, raising salary, bonus, etc.; *certain intuition can be imitated and stored within companies by implementing Artificial Intelligence or other hi-tech equipments.</p> | <p>*too costly to recruit or/and keep intuitive personnel in position: **their contributions may not compensate those expenses given the unstable performance of intuitive decisions; **special attentions to them may hurt other employees’ passions to work, which may decrease the productivity; *Artificial Intelligence is hardly able to store intuition; and even it is possible, its benefits will barely cover its costs.</p> |

| | | | |
|------------------|-----------------------|---|--|
| | At individual level | *as ability, partially transferable | *as gift, it is impossible to be transferred |
| 10. Transferring | At organization level | *cheaper, easier, safer and faster to transfer intuitive personnel within organizations **with Artificial Intelligence, intuition can be easily transferred to different places at the same time | *each time the transfer can only happen to one place **Artificial Intelligence can be expensive, and may have limited usage |

5.2 Limitation and Suggestion for Future Research

Intuition is quiet a broad field to be explored. It has been studied from philosophical, psychological, decision making, etc. perspectives. Many theories, real life implementations about intuition have been created, developed or carried out. As we mentioned at the beginning, with this research, we wanted to inform business people, especially managers and executives who are facing strategic decision making the benefits and risks of relying on intuition, therefore, they can have a clear mind about to what extend they can trust their intuitions. However, things can hardly be absolutely perfect. Even we did a lot of efforts during this process, and tried to provide an unbiased, clear, completed and some kind of “perfect” work, we had to admit there were several limitations in our work.

Intuition in strategic decision making is a quiet interesting studying area, and has a lot of specific area to conduct researches. However, we have to limit our work into the “pros and cons” because of several constrains.

Firstly, it is about the time. For this master dissertation, we had limited time to finish it. Because of this time constrain, our literature reviews concerning this topic can only cover the main works in relevant fields. It is possible that some advanced and important works had been left out during our research.

Secondly, because of some financial reason, we experienced limited access to some sources. Some relevant articles, papers, or books are commercialized and cost quiet a lot to get access to them. However, we two authors only had limited expendable money to purchase them. Because of this financial reason, we had to compromise a little bit to get to know their main ideas from summaries, or other’s previews, or review, or comments. This second-hand data or information may be quoted with biases or not accurately. So for the people who want to conduct researches in this topic, it is better to use original works.

Thirdly, in this research the discussion about pros and cons of intuition in strategic decision makings were carried on from academic point of view. We feel that it would be very interesting to talk about it from the practitioners' view points. The future research can be about the comparison between the views from academic scholars and managers or executives. It is also possible to conduct surveys to investigate this topic according to the country, or cultural, or gender differences.

Because of the existence of those limitations, we just expected our research could provide at least some insights into this topic and can light on the road for the future researchers.

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