

## REINTERPRETANDO PASSADO, PRESENTE E FUTURO SOBRE A PERCEPÇÃO DOS AGENTES ESTRATÉGICOS DAS ORGANIZAÇÕES A PARTIR DA PSICOLOGIA E DA NEUROCIÊNCIA

*REINTERPRETING PAST, PRESENT, AND FUTURE REGARDING ORGANIZATION'S STRATEGIC AGENTS PERCEPTION FROM PSYCHOLOGY AND NEUROSCIENCE*

Roberto Guedes de Nonohay<sup>1</sup>, Eugênio Ávila Pedrozo<sup>2</sup>

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### RESUMO

Diferentes percepções dos agentes estratégicos nas organizações podem causar problemas e oportunidades. Há, portanto, a necessidade de explorar quais podem ser os fatores que podem influenciar a formação das percepções dos agentes estratégicos. Para isso procura-se explorar os conhecimentos contemporâneos da psicologia, a partir de uma racionalidade social e não apenas econômica. O cérebro visto aqui como um fator importante na relação social, é o lócus da formação da relação entre eventos passados, presentes e futuros. Nesse sentido, o objetivo deste ensaio é o de propor uma nova perspectiva para a análise das diferenças das percepções dos indivíduos nas organizações baseados na psicologia associadas a uma lógica básica social do funcionamento do cérebro (cérebro social). Assume-se que as relações entre esses períodos de tempo formam as percepções dos agentes estratégicos nos momentos nos quais se encontram e estão em constante retroalimentação, de acordo com os resultados das percepções atuais. As contribuições para a teoria estão na integração de teorias que podem auxiliar o estudo da percepção dos agentes estratégicos. Para a prática gerencial, espera-se que essa visão possa contribuir no processo de relação interpessoal entre os colaboradores e facilitar os processos decisórios nas organizações.

**Palavras-chave:** Percepção, Estratégia, Neurociência.

1 Possui graduação em Administração de Empresas pela Pontifícia Universidade Católica do Rio Grande do Sul (2007), Mestrado em Administração de Empresas pela Universidade Federal do Rio Grande do Sul (2012) e Doutorado em Psicologia pela Universidade Federal do Rio Grande do Sul (2017). Atualmente realiza Pós-Doutorado em Psicologia no Programa de Pós-Graduação em Psicologia na Universidade Federal do Rio Grande do Sul.

2 Possui graduação em Engenharia Agrônoma pela Universidade Federal de Santa Maria (1980), graduação em Administração de Empresas pela Universidade Regional Integrada do Alto Uruguai e das Missões (1986), graduação em Ciência Contábeis pela Universidade Regional Integrada do Alto Uruguai e das Missões (1988), mestrado em Administração pela Universidade Federal do Rio Grande do Sul (1991) e doutorado no Institut National Polytechnique de Lorraine (1995). Atualmente é professor Titular da Universidade Federal do Rio Grande do Sul.

## ABSTRACT

*Different perceptions of strategic agents in organizations can cause problems and opportunities. There is, therefore, the need to explore what may be the factors that can influence the formation of the perceptions of the strategic agents. We seek to explore the contemporary knowledge of psychology, based on a social rationality rather than economic. The brain, an important factor in social relation, is the locus of formation of the relation between past, present and future events. The objective of this essay is to propose a perspective for the analysis of the differences of the perceptions of the individuals in the organizations based on the psychology associated with a basic social logic of the functioning of the brain (social brain). The relationships between these time periods form the perceptions of the strategic agents in the moments in which they are and are in constant feedback, according to the results of the current perceptions. The contributions to the theory are in the integration of theories that can aid the study of the perception of the strategic agents. For management practice, this view is expected to contribute to the process of interpersonal relationship between employees and to facilitate the decision-making processes in organizations.*

**Keywords:** Perception, Strategy, Neuroscience

## 1 Introdução

The same event can be perceived differently by two people. When observing the hierarchical structure of a company, divided into levels, it is possible to see that the strategy formulated moves through different levels until it is put into practice. This path, sometimes long, is populated by people with different profiles, depending on their background, which in turn depends on their history and their experiences. A senior manager, for example, may perceive in a positive manner, a problem that may be seen negatively to the machine operator and, in this way, the projected result may be compromised.

In several occasions there is a difference of perception among individuals within the organization. That can be explored as a difference in how individuals will segment and make sense of the events they are involved (Radvansky and Zacks, 2014). What can characterize perception? Pretz, Naples and Sternberg (2003) provide an example on this subject. Imagine two jars on a table. One contains lemonade and the other contains iced tea. At the same time the contents of the two jugs are placed in a third jar and it is seen that the lemonade remains separate from the iced tea. The authors then ask: How could this happen? At no point during the explanation of the problem was the physical state of the contents mentioned. It is common to think of beverages (lemonade and iced tea) in the liquid state. In this way, it is impossible that these contents do not mix. However, if one were to admit that, for example, both drinks were frozen, one would arrive at the constant result of the problem. The answer, once enlightened, seems somewhat obvious, even infantile, but if one looks beyond the simplicity of the answer, it will be seen that what happened was that the perception of aspects of the problem was done in a way that hindered the determination of what caused such a phenomenon. It is also easy to perceive the similarity of this problem of perception with those

that are faced in the daily life of individuals. Problems are not always presented in a simple and well-structured way (Pretz *et al.*, 2003), and that can cause several different understandings of the same phenomena.

In fact, these differences have deeper roots that deserve space to assist in the understanding of the facts that make up these differences. Advances in neuroscience, which increasingly improve understanding of the physiology of the human brain, are key points to complement the insight about individuals' perceptions.

Damásio (1996) exposes a case of a patient with a condition called anosognosia where the person does not realize and does not admit - even with clear and real evidence - that they are suffering from an illness. This is often the case, according to Damásio (1996) of patients suffering from stroke with consequent paralysis of one side of the body. Patients can see their paralyzed arm, but do not recognize it as their own. It is normal for this patient to say that the arm belongs to someone else. The recognition that a condition that has its origin in the human brain and that actually changes a person's perception regardless of their social interaction must be made.

The case of Phineas Gage is another example of this situation. According to Damásio (1996) after suffering a serious accident with serious consequences - an iron bar crossed through Gage's head - it was verified that the patient's physical health and memory were intact. However, his social behavior changed abruptly from a calm, educated and hardworking young man to a person with no ability to plan ahead and difficult interpersonal relationships.

Moreover, the social character of the formation of these perceptions for each individual is ignored. The perception of each person is treated as a measurable greatness where what is "x" for one person must necessarily be "x" for another. Little attention is paid to the fact that, although people have a similar basic education, social interactions are different and these interactions will shape one's perception (Franks, 2010). According to Franks (2010) the human being only develops and can participate actively in an organization by the social character existing in the human brain, hence the concept of social brain that is advocated. The author demonstrates that individuals with low social contact are more likely to have behavioral deviations and interaction difficulties, and consequently their perceptions of the world will be distorted. It may also affect emotional and cognitive development.

The perception of the different strategic agents within the organizations, until now, is the only recognized part. However, little attention is given to the reasons for these differences. If the recognition of divergences between the agents is important then the discovery of the root of this difference is also necessary.

Advances in neuroscience and psychology present the opportunity for a new angle on the problem of difference in perception, an angle that can complement the understanding on this subject. It is precisely this point that the present study intends to discuss. Based on these arguments, we propose: In what way is it possible to complement, using the studies of psychology and

neuroscience, the understanding of the differences between the perceptions of the strategic agents in the organization?

This paper aims to propose an integrative perspective for the analysis of the differences in the perceptions of individuals in organizations based on contemporary psychology and neuroscience, associated with a basic social logic of the functioning of the brain (social brain). This will allow a beginning of a dialogue between different current areas of knowledge that, so far, have not been used together.

Morin (2008) provides strength to the idea of attempting to integrate two seemingly different theories. Morin calls for the use of transdisciplinary aspects to escape the existing reductionisms and the exaggerated simplification that results from ignoring the complexity inherent in some problems. The simplification is harmful and the use of different disciplines brings complexity to the surface, and this is beneficial for the research process (Morin, 2008). In seeking to integrate concepts of psychology and neuroscience on the perceptions of strategic agents in organizations, we intend to advance in this complex and transdisciplinary vision.

To try to answer the proposed question, this essay is characterized by first bringing an analysis of some among many articles that focus on the differences of perception in companies, followed by an explanation about the vision of the social brain of Franks (2010) and some pertinent points about memory. Finally, the conclusion, limitations and proposals for future researches are presented.

## 2 Theoretical References

### 2.1 Perception of the different strategic agents

Within the activities of an organization there are people at different strategic levels and they relate in different ways. There are customers and suppliers, who work outside the company, and who have equal importance to the employees of the company. Intra-organizationally, agents' actions can be divided into three different levels: Strategic, tactical, and operational, in descending order of responsibility on the strategic directions of the organization. Decision scenarios can be presented by any of the levels and must be considered, depending on the magnitude, by one or more of the levels. That alone would entail a possibility of differences in perception of the problem.

Gomes (2007) states that the decision-maker does not only rely on his intelligence to carry out the decision-making process, it also depends on the organization's culture and its psychological style. These styles are different. People perceive situations differently. Therefore, this transfer of information may suffer some setbacks. Such an example can be seen in the work of Trevino, Weaver and Brown (2008) who conclude that the perception of ethics in the operations of three companies differs strongly among hierarchical levels.

While for senior managers perceptions were more positive, employees at the operational level were more skeptical. The authors further point out that the difference may be due to the identity that the person assumes within the role that he/she has to play in the organization. Spraggon and Bodolica (2017) also perceive these differences between levels. They demonstrate that managers, according to their position within the organization, differ in their perceptions of the company's strengths and weaknesses.

Agents may also diverge about the characteristics of their work and how their performances are perceived and recognized. Sharabi (2008) studied the difference in the perception between managers and other employees regarding job promotions. Although both parties agree that success in projects is the most important factor, intermediate items pointed out great differences. Even the definition of a word or field can affect the performance of marketing managers (Contreras and Ramos, 2016). By conceiving marketing as a tactical function, it is believed that the importance of the area is diminishing within companies. Agudo-Valiente, Garcés-Ayerbe and Salvador-Figueras (2017) propose that agents can perceive culture and strategies in different ways depending on subjective or objective barriers. That will drive their perception and attitude towards company policy a culture.

Plambeck and Weber (2010) demonstrate that CEOs differ in the validity of their interpretations. It is to say that when analyzing a given situation the executive may perceive ambivalent results. When seeing something as positive and/or negative is that a given strategy will be formulated to deal with the situation (Plambeck and Weber, 2010). Moreover, the authors conclude that some organizational characteristics that promote different perspectives on a subject can provide greater possibility of ambivalent evaluation on the part of its executives. The very actions promoted by the agents, both inside and outside the organizations, can be modulated by variations of perception. Mlodinow (2009) cautions against the fact that in several cases individuals perceive some action or strategy as being successful, when in fact they are purely random effects.

The recognition of these divergences is of extreme importance and can facilitate the achievement of strategic objectives. Among the agents, it is necessary to pass on the strategy to employees at all levels in such a way that all parties involved understand and can perform their tasks accordingly. However, this effort is worthless if clients (internal and external) and other stakeholders do not understand the intended strategy. Conceiving that everyone will have a different perception, it is up to the company and its employees to communicate the new objective in the best way. Rouleau (2005) presents a situation where managers demonstrate that there are different perceptions and focuses between people. She looks at the case of a clothing manufacturer who has suffered from outside competition and underwent reorganization. The highlight of this new phase was the launch of a new collection. Being located in the city of Quebec in Canada, the company should manage between the

duplicity of languages (French and English) and cultures existing in that city. For example, within the company, manufacturing management spoke English while design management spoke French. The same was true of their clients. The managers used a different angle and explanations of the new collection for each audience. Three audiences were focused:

**The press:** Newspapers of both languages were invited. At first all were greeted in a room and basic explanations were given. Folders with explanations in both French and English were produced and delivered. In an informal moment one of the managers talked to the French and English vehicles separately and for each one presented a specific explanation of the collection which, despite having the same final message, was said with some slight differences in some details.

**A client:** A manager was leaving a meeting, spoken in English, and when he was in the store he saw a client. He promptly started the conversation in French - because that was the language the client was talking - and when asked about the novelty of the cut in the collection piece presented an explanation that contained yet different details from what was given to the journalists.

**Stakeholders:** A meeting would happen to review what was being done since the start of the company's reorganization. The board members were composed of both French-speaking and English-speaking people. The directors, looking at the clothes in the macaws, received information from the manager that the customers understood the motto of the collection. That was for all women and not just for one, yet a third angle to explain the new collection.

Therefore, the interpretation of a new strategy - that of producing clothes that are closer to the reality of most women - has been made so that the manager can pass on this new information to different agents in a way peculiar to each one, so that the understanding of this new collection was carried out in a better way. Facilitating the understanding of the main goal of the new collection was the focus.

Simon (1974) provides an example where the difference of perceptions can hinder the achievement of a strategic objective. Two public administrators (a school board representative and another public works representative) from the city of Milwaukee in the United States were having difficulty deciding on the allocation of resources to recreational facilities in the city. One of them pleaded for the physical maintenance of the premises while the other promoted the constant supervision of the users (for greater safety of the children). Simon then wonders why would not calculate the marginal returns of each proposal on a scale, and rationally decide which one would be the best? Simon discovered that there was no such possibility, since there was no function that would enable the calculation of marginal returns in this case. This problem occurred because, for the representative of the public works department, these facilities served as "a green oasis in the middle of the city" (Simon, 1979, p. 500). However, to the other agent, the facility was a place of socialization where "children could play

together with the help and supervision of adults” (Simon, 1979, p. 500). Logically, these differences of perception can cause other harms for the progress of the organization and for the social relationship of the agents that compose it. Among the problems that these differences incur are: a non-effective job design, misapplication of motivational principles and non-effective supervision (Evans *et al.*, 2002). It is from the understanding of the environment in which it is inserted, precisely complex and dynamic, that the managers end up defining their strategies (Lang *et al.*, 2014). Differences in the perception of this environment generate discrepancies, as in the example explored above.

Still, Simon (1955) presents an example of individual perception that can be extrapolated to a strategic decision. An individual is selling a home and finds that \$ 150,000.00 is an acceptable price. Soon any price above this value would be considered satisfactory and any price that is below this value would be considered unsatisfactory. However, what is considered satisfactory for one person may not be for the other. The notion of satisfaction is tied to the motivation of an individual, and Simon (1959) states that motivation appears through a drive and that motivation ends once that drive is satisfied. Yet, Simon states that levels of satisfaction do not obey a fixed order, but follow a level of aspiration that adjusts up or down according to the individual experience of each person. The same behavior can be seen in the anchoring and adjustment bias (Tversky and Kahneman, 1979; Richie and Josephson, 2017). The anchor is set by an individual experience and past and/or future motivations that will suffer adjustments according to the individuals’ perception of the problem at hand.

There is, in fact, as demonstrated by the studies analyzed thus far, that people perceive situations and interpret them in different ways. These unique visions make up the decision strategy and the way it is passed on to customers and employees. But what is the origin of this difference? Why do people interpret the same situation in divergent ways? Some explanations can be drawn from studies in psychology and neuroscience.

## 2.2 The social brain

Many people think that individualism is the reigning factor in modern society. Many act as if they really have no contact with other people. However, according to Franks (2010), a brain alone does not survive. There is an example in this issue that tells the story of children who had two types of creation. In the 1940s about 100 babies were observed for two years (Franks, 2010). As will be seen below the social settings of the environments are absolutely different.

In the “abandoned child’s home” children were deprived of any social contact for the first 15 to 18 months of their lives. Their cribs were covered laterally by cloths and each nurse cared for about eight to ten babies. The idea of this place was to take care of the children according to the most rigorous sanitary standard of the time - the cloths in the cradles were intended to



avoid contamination. At the other extreme, in the nursery, the children had no social restrictions. People who took care of the babies were the mothers themselves, who looked after their children or more children when necessary. The proportion in this case was of one mother to about two babies. Sanitary rigor was not similar to the first case and many of the people who cared for children were called psychopaths and even criminals. Finally, at the end of six months, the children in the nursery were transferred to rooms where they lived with five other children. Here, the question arises: which group of children had the best development during the period of the study, taking into account the physical health, psychological activity and emotional responsiveness? The automatic answer would be that babies raised with sanitary rigor achieved better results. When the results were analyzed, the children in the nursery had much better results.

Where there was a greater sanitary rigor, children had a much higher mortality rate and those who survived would demonstrate "low intellectual functioning, attention deficit, extreme shame, psychosis and strange social behaviors" (Franks, 2010, p. 57). Therefore, the author's position seems quite appropriate: "For the social nature of the brain to emerge, a socially responsive environment is necessary" (Franks, 2010, p. 55).

According to Franks (2010), the social loci in the brain is an area called the amygdala. It is able to define if something is good, bad or dangerous with a speed of up to 100 milliseconds (ms), that is, significantly less than one second, because, this definition occurs before the evaluation of the prefrontal lobe - that is said to be the rational part of our brain. Therefore, when a situation that causes fear, for example, becomes less intense, greater control is said to be given to the frontal region of the brain. When control systems in the brain are somewhat busy with other tasks, there is a possibility that some automatic stimuli may be present without this control (Goetz and James, 2008). Central to the perception of the problems by agents is the functioning of the brain regarding perception. It can be closely related to the interactions of cognitive and physiological systems, as portrayed above. Franks (2010) discusses the recognition of objects such as a doll. For many people this is easy and very fast. Just a quick glance at the object and it is easily recognized as a doll. However, in the brain this happens through a somewhat lengthy process called characteristic extraction".

Characteristic extraction works as follows: when the object's visual stimulus reaches our eye, the extraction process sends information about the different characteristics to the occipital lobe where it is categorized into dimensions such as color, shape, depth, etc. This information is then sent to the regions of the temporal and parietal lobes where they are assembled and finally sent to the regions of the prefrontal cortex where it is then transformed into conscious information. Although it seems to be a long and time-consuming process, in fact the total time from the arrival of the stimulus until the in-



formation becomes conscious is around 500 ms or half a second (Franks, 2010). Hogarth (1980) explains that many scholars state that at the time of long-term memory retrieval there is a process of reconstruction - the extraction of fragments - reminiscent of pieces of information that allow the construction of more complete representations. These fragments are apparently connected in a kind of network of associations and the stronger these associations the more people can remember the information. People then formulate custom codes to assist in the retrieval of information, that is, for information that is already known to the individual, thus the formulation of these codes is facilitated. On the other hand, when the information does not interest the person these codes are not constructed and the information is somewhat lost.

When an object is recognized, as seen above, the process sees its different characteristics separately. An individual knows that a doll is a doll because, he or she once in the past had contact with one and this has been allocated in his or hers memory.

### 2.3 Memory

Memory, according to Eysenck and Keane (2017), can be divided into declarative and non-declarative. Declarative memory is what people tend to call memory, effectively. They are memories of facts and events that have happened in our lives. If someone asks the capital of France or Bolivia, for example, the individual will access declarative memory to seek the answer. It serves to remember where the person spent their last birthday or where they were when they learned of the September 11th attacks in the United States. The areas of the brain that are involved in this type of memory are the median temporal lobe and the diencephalon (Bears *et al.*, 2008).

Non-declarative memory is one where a conscious effort to recall this memory is not necessary. The authors give the example of when one learns to ride a bicycle, one does not remember exactly the day were it was first tried, but knows what it takes to keep the balance and actually ride. The description of this type of memory, and even the example given, resemble the concept of tacit knowledge (Spraggon and Bodolica, 2017). Non-declarative memory can be further divided into three subgroups (Bear *et al.*, 2008).

1. Procedural memory that is said to locate within a brain area called a striatum and that stores information about people's skills and habits - like playing guitar, for example. "The learning of procedures involves learning a motor response (procedure) in response to a sensory stimulus" (Bear *et al.*, 2008, pp. 762-763). This learning can be divided into two types: i) non-associative learning involves the habituation that is when the person learns to ignore stimuli that do not have meaning and the sensitization that is when the responses

to the stimuli get more intense even when those same stimuli did not cause a reaction of this type. For example, a person is walking down the street when suddenly a blackout occurs. Any sound that had previously gone unnoticed - the noise of a person walking, the branch of a tree moving with the wind, etc. - makes that person worried and anxious; ii) associative learning, which comprises the classical Pavlovian conditioning, and the second type of associative learning which is instrumental conditioning that differs from classical in that the individual learns an act through meaningful stimuli, typically a reward.

2. Skeletal muscle memory which is similar to the case of classical conditioning; and
3. Emotional responses. In this case the amygdala normally responsible. When a person is afraid of an animal - snake, cockroach, mouse, etc. - and sees the animal close, it is common for an extreme reaction to occur. Screams, attempted escape, despair are reactions that occur automatically in people and are triggered by non-declarative memory.

## 2.4 Types of Memory

How can it be explained that while one remembers a beach day ten years ago, one does not remember what was served for dinner exactly a week ago? Bear, Connors and Paradiso (2008) demonstrate that after receiving sensory information there can be two paths possible. It can get stored in short-term memory, which can last seconds or hours and is very vulnerable to disturbances or it can get stored in long-term memory that can be accessed after a long time. According to the authors, the process by which sensory information is stored in long-term memory is called consolidation. In a given period of time certain information may or may not go through short-term memory and may, through consolidation, become long-term.

Working memory is a short-term memory that requires repetition to be conserved. The authors exemplify the case of when the person memorizes a new telephone number. Usually the numbers is repeated a few times so that it stays present in the mind. Eventually the number can go to long-term memory or simply be overlooked.

Relational memory, according to Bear, Connors and Paradiso (2008) is that which - as the name proposes - relates facts and events that occur during the formation of a memory. For example, the shape of a building can make a person remember something related to the childhood, because that building is similar to what his/hers grandfather lived or a song recalls all the facts of a trip that was made with the friends. Many people who have trouble remembering street names use relational memory for navigation - a person's house is on the second street to the left of the main street next to a green house, for example.

It can be said, then, that memory is a fundamental issue in learning. After all, what is forgotten cannot be considered as learned. However, as the examples discussed above show, the learning process has a path inside the brain, but the stimuli that is ultimately stored in the memories may come from outside the brain and often go through interactions with other people - a guitar teacher, the friends on the trip, the researcher with the bell, etc.

Hogarth (1980) states that memory affects judgment in virtually every step of a decision-making process. Usually, memory is compared to a computer. Basically, the function of memory is to receive the information, to store it, and then to retrieve it (Hogarth, 1980, p. 133). Hogarth (1980) then discusses the need to understand the process of coding information in memory. It can be a selective process. This selectivity depends on the expectations that individuals have regarding information. During the course of life people develop their own understanding of the world and this is used to select, interpret, and anticipate events.

There is also the possibility of memory being affected by something that happens after an event (Radvansky and Zacks, 2014). Hogarth (1980) provides an example, in which people have seen a movie about an accident between two cars. He explains that there is a way to “trick” memory depending on how the question is asked. Depending on how much attention the person gave to the event, the questions “Have you seen **a** broken light?” or “Did you see **that** broken light?” can affect how the person will remember the event. If the person did not pay attention to the lights and was asked in the former manner, the individual could assume that a light from one of the cars was broken and that information would be coded and stored as a perceived real part of the event, when in fact this information could be false. Hogarth (1980) warns that knowledge of an outcome of an event can bring about biases where having such information changes the perceptions that have been made previously.

But what exactly is this representation of the world? It is possible to affirm, according to what has already been discussed above, that this world view is derived from social interactions that the individual had that were stored in the memory - declarative and non-declarative - that depending on the result were associated in a certain way. Thus, the preferences and representations of the world have been shaped over time, and this enables a diversity of visions to exist, since one person’s experience is different from the other.

## 2.5 Somatic marker hypothesis

A concept that can be further discussed to aid in understanding the processes of perceptions is that of the somatic marker hypothesis. Damásio (1996) states that when a person learns - through experience - that the result of an option or choice is bad, it would be “marked” within the emotional system, which triggers a visceral feeling, which can be said to provoke an emotional feedback, which occurs with the effect of a decision in the mind. The valence

(positive or negative) of the result and the context in which each individual is inserted can affect this feedback. This feeling serves to prevent a person from making a choice that may have a negative result. Not only in the negative results that the markers can be "created". In the same way, scenarios with positive results create visceral sensations that can be identified as a good feeling and this helps in cases where, in order to achieve a positive result, it is necessary to go through a period of sacrifice.

An example is when a company that is not doing well and sees that in order to reach a better position, everyone in the organization must make a sacrifice and receive lower salaries and work more hours for a period of time (Damásio, 1996). This is known to be bad, but the end result promises to be positive. People will keep their jobs and the company will come out of a situation that undermines its survival.

### 3 Discussion

As stated by Damásio (1996), Franks (2010) and Hogarth (1980), the brain learns from social interaction and new representations and symbols are built with experience. This construction is the base for perception of the world by an individual. Perception is one of the first steps towards the decision making in virtually any scenario. The social interactions undertaken by strategic agents in organizations are utterly dependent on perception of the different scenarios and expectations of the stakeholders.

There is also a question posed by Wenger (2003) about the identity of the individual within the communities of practice that he/she participates in. The author proposes the concept of multimembership which is the fact that a person belongs to different groups at an exact time in his/her life. In this sense, when a manager of a large multinational company leaves home, she does not cease to be a mother, to be part of a gym and a group of studies in her post-graduate class. She is, at the same time, mother, manager, athlete and student. These four aspects form the identity of this person and can exceed the limits of a given community thanks to the experience and competence that has added over the years and social coexistence.

Assuming that individuals have only developed through their social life since birth and that each person desires a specific future for their life, it is possible to group the factors that make up the perception of the strategic agents in three moments: past, present and future.

#### 3.1 Past

Possibly the events that belong to the past moment are those of greater importance for the molding of the perception of the individuals, as Hogarth (1980) affirmed. As has already been demonstrated, we are essentially social

beings, and individuals need this contact in order to develop. The baby, in the first hours of life, already tries to imitate the adults by opening their mouths and putting the tongue out (Franks, 2010), this suggests that the cerebral physiology is directly linked to the social interactions that in turn generate the learning and thus (re)shapes the perception of the world, excluding, of course, aspects of homeostatic control of the human being such as breathing, body temperature, and heart rate, etc.

According to the author, the brain has as one of its premises energy saving. On the one hand, the somatic marker hypothesis can be explained with this information. In order not to have to reprocess information about a situation that has previously been faced, the brain tries to promote a quick resolution of the subject by connecting the result of the action that has been taken in the past with the present situation. This causes perceptions to be sometimes premeditated and this can lead to a misrepresentation of the meaning of the strategy. In the presented case of the new collection, Rouleau (2005) affirms that the managers presented/displayed great faith in the new collection, they identified with it. This facilitated an ease in communicating the new aspects.

Thus, the predilections and experiences that have been accumulated over time to the present are those that will subconsciously and consciously shape the perceptions of the agents. The question of experience is an important point. Pretz, Naples and Sternberg (2003) say that for some people, solving the liquids problem can be extremely easy. The possibility of the physical state of the drinks was quickly recalled. One could say that either the person had already known this problem - would have the knowledge of its resolution structure - or is a person who has familiarity and experience with handling liquids and their physical properties - an expert. Pretz, Naples and Sternberg (2003) discuss expertise in the definition and representation of problems. These aspects make people see the problem differently from the others. This hypothesis is corroborated by Anderson and Nichols (2007) when they say that the time that managers spend collecting new information can help perceive a problem as a lesser threat. However, Pretz, Naples and Sternberg (2003) warn that these aspects may, depending on the situation, be more harmful than beneficial to the problem recognition process. An example is provided of a case where two people were playing chess. One was an expert and the other a beginner. When the basic rules of the game changed it was noticed that the beginner performed better than the expert. According to Pretz, Naples and Sternberg (2003) the fact that the person has such a profound knowledge of the subject has hindered flexibility when it was necessary. However, this does not happen in all cases. These new experiences will, according to Hogarth's (1980) vision, create more and more associations between events and memory, also allowing a better understanding of information.

In this way, events that have already occurred may form memory, somatic markers, and influence the kind of confidence individuals place in other

individuals. It is important to emphasize here that when talking about the past, it is not only what is stored in the long term memory, nor what happened in the short or medium term. In fact the influences of the past go back from the moment of the birth of the person, according to the examples of Franks (2010). Personality traits, immediate reactions, people's tastes are all built over the years and that is what shapes the present moment.

### 3.2 Present

The agent's perception is true only for the specific moment in which the individual finds himself (Trevino *et al.*, 2008; Radvansky and Zacks, 2014). It is possible to posit that with the passage of time - a promotion to a hierarchically higher level, new experiences, etc. - this formation of this perception will be changed. The events and choices made in the past put the person in the position he/she is currently in. This world view is momentary and ever reformulated.

It is not only the events that happen within or related to the organization that can change that perception. Everything a person believes and acts as part of their identity. According to Wenger (2003) it is this identity that is formed by participation in social systems. These systems may cover other aspects of the life of the person other than the company. For example, an individual who demonstrates strong trust in other people and who is surprisingly betrayed by someone - be it wife, family, etc. - may lose that confidence and thus change their perception of whether a collaborator can complete a task or strategic plan.

The position in which the person is momentarily may reflect a desire or aspiration of a future position. This clamor can also shape the perceptions of the present moment.

### 3.3 Future

Thinking and planning about the future is imagining future events and adapting cognition to the scenarios. In order to best foresee and think about future events, individuals will depend on their capacities to evoke past memories of events (Radvansky and Zacks, 2014). A trainee who enters a company shortly after the end of college aims for a position within the organization's strategic level. By envisioning the future, the individual will act according to what he/she imagines to be the correct way that will guarantee the future objective. Over time and learning about the culture and behavior of the company, the trainee will adapt their perceptions - although they do not reflect their personal belief in some moments - aiming at the correct courses of

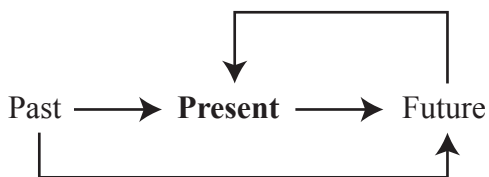
actions and thus a promotion. As in the example of Damásio (1996) where the members of an organization must go through a negative moment imagining a future gain, so does the individual in question may do so. Changing a current perception to suit the vision of a superior can be something that will facilitate the ascent. This suitability also assists in the moment when the individual will pass the information or action plan to levels hierarchically below. The perception about the organization also modifies the behavior of the individuals. In order to understand the impact of Corporate Social Responsibility (CSR) on the attraction of new employees, Parente and Penha (2014) argue that a company that has a CSR program in place attracts the attention of young talents to participate in the organization. Also regarding CSR, Holcomb and Smith (2017) present a case where managers of hotels have different perception of the company's culture depending on their personal attitudes towards CSR.

By no means do we come to the conclusion that individuals must set aside their perceptions and beliefs in the name of future positioning. As we have already shown, we are social beings and the interactions between individuals generate the necessary knowledge for a plurality of worldviews that benefit the strategic process much more.

#### 4 Conclusion

Past, present and future are factors that together shape the perceptions of strategic agents. Everything is part of a system (Morin, 2008). In the example of the human being, we are composed of the atoms, which make up our cells, which form the organs, which are part of our body, which is a component of a family, and so on. It was from the disorder that there is the genesis of the world and this disorder will generate order and organization through interactions. These forming interactions are the same ones that will eventually cause, again, the disorder, which will generate a new order and a new organization. This systemic thinking can be brought to the reality of this essay, as shown in figure 1.

Figure 1 - Past, present, future system



Source: Adapted from Morin (2008)

This present theoretical essay lacks future empirical studies that can effectively test the assumptions made. However, it is hoped to have contributed a new insight into the difference between the perceptions of agents and the integration of concepts that come from other sciences. A limitation of this work is that this integration is not normally carried out in strategic studies and still needs to be more widely accepted. Experimental designs and studies that can successfully integrate the concepts brought forth here can shed light on the issues discussed.



The theoretical contributions expected are the integration of different areas to the study of perception of strategic agents and a novel view on how it is formed through an individuals' life cycle. We hope that this view can support theoretical and experimental advancements as to the understanding and the effects of the perception of the agents in organizations. Contributions to management practices lies on the proposal that agents' perceptions are an inherently complex and intricate subject, based not solely on the present moment. It is made of virtually every interaction and experience that the individual had along the life and also what he/she is projecting as future objectives. This fact can aid the relations between the agents in a company and propose novel ways to consider information sharing, decision making and strategy formation in organizations.

It is also worth mentioning that it was not the objective of this essay to have exhausted all the possibilities that psychology and neuroscience can offer as an aid to the understanding of organizational aspects. As it has been said, what is expected is an initial integration of aspects, thus enabling a fruitful dialogue between the areas. The article also serves as an invitation to proceed to discuss organizational and organizational life, adding aspects and constructs of psychology and neuroscience, going beyond the discussions of the superimposing logic.

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