LEADERSHIP DEVELOPMENT: DOES MENTAL MODEL MATTER?

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Abstract

Leadership development is crucial to the continuous and lasting success of organizations. It is mandatory to invest in developing leadership competence for preparing the next generations of leaders. Annually, corporate have lavished a lot of efforts and money and time on improving managers' capabilities and on nurturing new leaders. Research shows that 15% to 20% of trainees who participate in the typical workplace learning event ever employ their new capabilities in a way that improve job performance and leads to worthwhile results for the organization. By considering this, one may ask: what may cause these results? This paper analyzes theoretically the transactional / transformational leadership under the mental model propositions – operational / strategic – and concludes that, for being effective, it is mandatory for leadership development programs to address the strategic mental model development needed for developing the transformational leadership style and for helping trainees for crossing over from operational to strategic mental model
Keywords: Leadership; Leadership Development Program; Mental Models

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INTRODUCTION

Leadership development is an organizational activity that is crucial to the continuous and lasting success of every organization. It is mandatory for organizations to invest to develop people competencies and expertise, and prepare the next generations of leaders. Annually, corporate have lavished a lot of efforts and money and time on improving the capabilities of managers and on nurturing new leaders. According to Loew and O'Leonard (2012), US-based corporations spend almost $14 billion annually on leadership development.

Research shows that "15% to 20% of trainees who participate in the typical workplace learning event ever employ their new capabilities in a way that improve job performance and

leads to worthwhile results for the organization" (Mooney & Brinkerhoff , 2008, p. ii) By considering this, one may ask: what may cause these results?

In search for answers to this question, Gurdjian et al (2014) have identified four of the most common mistakes: [1] overlook context – a brilliant leader in one situation does not necessarily perform well in another situation; [2] decoupling reflection from real work - even talented leaders often struggle to transfer even their best off-site experiences into changed behavior on job; [3] underestimating leaders mind-sets – changing behavior also means adjust underlying mindsets; and [4] failing to measure results – usually companies have no evidence to quantify the value of their investments.

The expected result of a leadership development program is the leader behavior modification. It may be said that the most critical factor that mediate the effectiveness of such program is the leader mindset. According to Gurdjian et al. (2014), mindset is perhaps the least understood, but most important driver of exceptional strategic business results. Becoming a more effective leader often requires changes in leadership behavior. This also requires adjusting underlying mindsets, the root causes of why leaders act the way they do. The mindset literature analysis allows to the preferred thinking patterns or mental models. Mental models may be described as characteristic models of perceiving, processing and using gathered information. Mental Models are derived from temperaments. They are a prime determinant of management style. Different mental models lead to different management styles. By knowing one´s mental model made possible do make consistent previsions on preference and behavior of persons, and on how they lead.

The search for an understanding of the mental model under leadership development HRD objective has itself theoretical and practical values. On the practical view, understand mental model proposition may be a tool for improving the effectiveness of leadership development programs by developing learning methodologies and practices that broaden trainees' mental models for a better leadership behavior.

In order to get new results, managers must do different things. But, in order to do different things, at least on a consistent, systematic basis over a sustained time period, companies and their managers must begin to think differently.

That's why mental models affect leader and organizational performance. Emphasizing on the importance of mental models as a way of understanding the foundation of leadership and organizational success seems to make sense by itself. Every leadership practice relies on some implicit or explicit model of human behavior and beliefs about the determinants of individual performance.

It is therefore just logical that leadership and organizational success or failure is determined, in part, by these mental models or ways of perceiving, organizing and using gathered information, and in order to improve leaders effectiveness, mental models must inevitably be an important focus of attention on HRD practices and interventions.

On the theoretical view, the main contribution refers to the identification of the type and the extended of the influence of the manager's personal characteristics – his or her mental model -

on the leadership behavior and its influence on team performance and, by consequence, in the determination of the enterprise fate.
Identifying the type and extension of leaders' mental model may be of value to the effort to build a theoretical proposition in the management field (McCarthy 2003).
So, the purpose of this paper is to present a basic review of the mental model proposition derived and measured by temperaments. It also intend to establish a link between leadership development and the influence of leaders' mental model as a personal characteristic in leading and managing the team performance and to point out some questions as a guide to the empirical research works.

The paper is structured as follows. In Section 2, we provide insights into the theoretical background of our study. In this, we describe about mental model - which correspond to characteristic modes of perceiving, processing and using gathered information. Furthermore, Section 3 and 4 presents method and results, respectively, followed by Section 5, in which we present some ideas to address the development strategic mental model based in our findings, with implications for further investigation and the conclusion, in Section 6.

2. LEADERSHIP

Leadership is defined in many numbers of studies on the subject. "The term leadership means different things to different people. Definitions of leadership vary in terms of emphasis on leader personality traits, abilities, influence relationship, orientation. Most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted by one person over other people to guide, structure and facilitate activities and relationship in a group or organization." (Jong & Hartog. 2003, p.28)

A leader may be defined as a person with the responsibility to influence one or more followers and directing them to achieve a set objective (Winston and Patterson, 2006). According to Hersey and Blanchard and Johson (2001, p 9), "Leadership occurs whenever a person attempt influence the behavior of an individual or team, regardless the reason"

Leadership may also be defined as a process of influencing people to get they become motivated to act intelligently to reach an objective. According to Yukl (2010, p. 21), "most definition of leadership reflect the assumption that it involves a process whereby intentional influence is exerted by one person over other people to guide, structure and facilitate activities and relationships in a group or organization".

Literature presents a lot of research which was undertaken to identify what effective leaders do. For many years traits have not been given importance for an effective leadership, however study on leadership have proven that the aspect of personality are also important for effective leadership. Conger's research (Conger, 1992) explains that leaders can be groomed than being discovered by understanding the importance of planned development (Davenport, 2008). Despite numerous studies on leadership, one question remains vague: Why some leaders are more effective than others? (Gordon & Yukl, 2004). Mental The Mental Model proposition may be a way to answer this question. By knowing one's own Mental Models, it might help leaders to know and understand one self better. By understanding the one's Mental Models it would help the leaders to see how their preferences, skills and behaviors are shaped. Follow we discuss what mental model is.

3. MENTAL MODELS

Mental models (many times called cognitive styles) may be described as characteristic models of perceiving, processing and using information gathered. Everyone has his or her proper mental model. Different mental models may lead to different strategic choices facing the same business environment. Research has shown that, by one's own preference, like right and left hand, she or he prefers one mode instead of the other and the mode not preferred is not developed and remains primitive. When one knows the mental model of leader, one can assume that their choices and decision making process are different if their perception and judgment are different from each other (Gallén, 2006 p. 119).

3. 1 Measuring Mental Models

There are many approaches to differences in mental model or cognitive styles in the literature but an recurring aspect is that, as Hambrick et al (1993, p.194) put it, some leaders are only interested in "what is" while other are more able to accept the new untested ideas about "what might be". This proposition is in accordance to the temperament approach as developed by Keirsey & Bates (1978). Temperaments are derived from one's preferred modes of perception and behavior in facing many life situations and are a useful way of grouping preferences, allowing making consistent previsions on preference and behavior of a person, on how one learns, and on how one manages (Kroeger and Thuessen, 1992), and about mental models.
Differences in perception - concrete or sensorial and global or intuitive (Jung, 1991) - are the first to be considered because perceptions are the ways people collect information about the world which influences the other functions. Without some understanding on how people perceive the communication process becomes highly difficult because people first believe in their own data and information.

The preference for concrete perception mode points to a preference for collecting factual and concrete information and then deciding what to do: organize them or continue to look for more information. The preference for global perception mode means that an executive will prefer to collect abstract or conceptual data and then will organize this information in a rational way or by considering values and ideas and interests of other people.

3.2 The Mental Models

By considering those preferred modes of perception and behavior in facing many life situations, it became possible to make a synthetic classification of leaders' mental model into two types: operational and strategic.

An Operational Mental Model leader may be characterized by her or his focus on what is going on and by the search for precision, reliability, efficiency, prudence and discipline, and conformity. Practical, this leader tends to reduce problems occurrence by improving and maximizing the process efficiency and has a preference to make plans and is happy with the plan accomplishment. Quick to decide, but once a decision is made, this is not a problem for her or him. He or she may be lazy about generating new ideas, unwilling or unable to concentrate on the future and prone to get lost in tending to the details of here-and-now activities rather than dealing with the patterns or tendencies that the big picture may brings to light. She or he tend to see the 'organizational trees and their issues, but to fail in seeing the

organizational forest. As to this leader the next step is to apply the information to daily activities, she or he may do things in a planned way – implementer – or in an improvised way – pragmatist.

A Strategic Mental Model leader will see and understand the 'organizational forest'. She or he tends to be hardwired to pick up on patterns, future possibilities, and the big picture rather than details and specifics. He or she leads toward the future by exercising her or his vision, and drive to change and develop the team and the organizational system. In leading, he or she has the ability to think strategically and to bring innovative solutions to daily problems and issues. She or he links factual and disconnected information and perceptions to form a pattern or trend, which are connect to new possibilities, ideas and facts for building a vision of the future and uses it to drive creative change and innovation. She or he may be sensible to people or privileges rationality. As to this person the next step in to use the information in the decision making process, one may know if his or her decision will be taken in a rational way – strategist – or in a value based way – energizer.

In this way, Keirsey and Bates' temper approach shows the potential of mental model for future research related to the competitive business environmental analysis and to the marketing professionals strategic choices and decision making process, and, this way, for addressing the relationship between the strategic choices and strategic decision process and the personal characteristics, as derived from her or his mental model.

3.3 Mental Model and Leadership Style

Because Mental Models bring their own strengths and weakness to the workplace, leaders need to be aware of their own mental model before they attempt to understand and lead with the team Mental Models is a prime determinant of leadership style. Managers need to access their own mental model and their inherent strengths and weakness before assessing the behavior exhibited by current or potential staff members. The mental model made possible to classify the leadership styles in four types:

The Implementer Leader

He or she is a stabilizer, consolidator who excels at establishing policies, rules, schedules, and routines. Such a leader is usually patient, thorough, and steady. An Implementer will provide a sense of performance that encourages industriousness and responsibility in a staff. An Implementer tends to be very reluctant to praise. Operation-al costs are carefully monitored, but true costs often are not. She or he usually is impatient with delays, may decide issues too quickly, and often complicates matters by preserving rules that are unnecessary and by adapting slowly to changes. On the other hand, Implementer has a strong understanding of policy and is a good decision maker. He or she runs meeting efficiently; is always punctual; and can absorb, remember, manipulate, and manage a great deal of detail – traits that certainly are useful to an organization.

The Pragmatist Leader:

She or he excels at putting out fires. A Pragmatist has a good grasp of potential solutions and is an excellent diplomat. She or he is crisis oriented and makes decisions based on expediency; neither regulations nor interpersonal relations are so sacred that cannot be

negotiated by a Pragmatist manager. A Pragmatist is concerned with getting the job done and is very reluctant to pay attention to theory or abstractions. Such a person of a person often makes commitments that she or he has difficulty carrying out when something comes up that is more current or more pressing. A Pragmatist can be unpredictable and, when not troubleshooting, can resist changes that are impose by someone else. However, such a person adapts well when a situation changes, always seeming to be one step ahead. He or she is very practical and often sees breakdowns before they occur. Beginning or struggling organizations are ideally suited to the Pragmatist manager.

The Energizer Leader

A leader who is a Energizer is probably inclined toward personnel management. He or she is committed to the personal progress of the staff, to seeing possibilities to other's growths, and to helping other to develop their potential. An Energizer is democratic and encourages other participation; in fact, she or he often is overly concerned with the staff's personal problems. Interpersonal relationship often drains the time and energy than an Energizer needs for her or his personal and professional life. However, an Energizer's ability to show appreciation can encourage staff; verbal fluency and enthusiasm make him or her an excellent spokesperson for an organization. An Energizer manager is often a good judge of the organizational climate; she or he shows great patience, despite a tendency to opt for stopgap solutions. Such a manager can find herself or himself in conflict if the qualities of subordinates do not match the tasks required by the manager's superiors. In such situations, an Energizer Manager can became frustrated at not being able to please all the people all the time; often, however, he or she learns to turn liabilities into assets.

The Strategist Leader

A Strategist leader is an architect of change, questioning everything and basing answers on proven laws and principles. Although she or he is not good at managing maintenance and consolidation projects, a Strategist excels at and takes pride on technical knowledge. A Strategist avoids crisis at all costs because everything must make sense to him or her.
The Strategist may delegate the execution of organizational plans but afterward rarely feels that these plans were carried out satisfactorily. Such a person often has difficulty with interpersonal transaction because of her or his impatience and reluctance to show appreciation. A need to escalate standards continually results in the Strategist Manager feeling of restless and unfulfilled.

A Strategic sees long- and short-term implication of a decision, can recognize the power base and the structure of an organization, and can make decisions based on interpersonal choices. More than any other type, a Strategist Manager seems to have the vision to see all dimensions of a system, making he or his a very capable planner an constructor.

When leading his or her team, most leaders will need staff members with similar mental models to support them. However, opposite mental models are also needed to compensate for existing weaknesses. The best team seems to be composed of people who have same mental model differences but who are not total opposites. Differences can encourage group growth, while similarities can facilitate understanding communication. When a team of complete

opposites does exist, an understanding of the Mental Model propositions can go a long way toward alleviating disagreements and recognizing the need for the team integration.

When looking for an integral vision of how to plan for the future, the manager should to keep in mind that Operational Minded People are best at practical, detail task; that Strategic Minded People are best at creative, long-range tasks; that Strategist's skills are appropriate for analysis tasks; and the skills of an Energizer are suited to interpersonal communication. A successful staff demands that all skills be used in the right place at the right time. A good manager will recognize the type of task that needs to be done and will assign the best and the most appropriate talents to accomplish the job in harmony.

4 MENTAL MODEL AND TRANSACTIONAL AND TRANSFORMATIONAL LEADERSHIP: AN APPLICATION

There may have many similarities between transformational and transactional leadership and operational and strategic mental models. Transactional and transformational leadership styles was identified by Burns (1978), based on a qualitative analysis of the biographies of various political leaders. According to Bass (1985), transactional leader is characterized as a leader that operates within the existing culture or organizations system. It demonstrate a preference for risk avoidance, pay attention to time constraints and efficiency, and generally puts focus n process as a way for maintaining operational control. She or he focuses on maintaining the status quo by limiting and discouraging team members when they are willing to initiate exploratory efforts for growth opportunities that depart from existing capabilities and process (Jansen, Vera and Crossan, 2009, p.8).

His or her interaction with team member is based on exchange "whereby individuals are explicitly rewarded and recognized for accomplishing agreed-upon objectives". Transactional leader monitors team and employees to anticipate disconformities and mistakes for taking corrective action when needed (Howell & Avolio, 1993). By establishing rewards for short-term goals she or he inhibits creative debate, diversity of opinions and experimentation of new ideas. This exchanged relationship based on performance pay can motivate individuals and teams to achieve operational and specific objectives.

Transactional leader try to motivate team member by rewarding or punishing them the transactional (Burns, 1978). The skillful transactional leader is likely to be effective in stable, predictable environments where charting activity against prior performance is the most successful strategy. This leader prototype is consistent with an equitable leader-member exchange relationship where the leader fulfills the needs of followers in exchange for performance meeting basic expectations (Bass, 1985).

According to Bass (1985), transformational leaders seek new ways of working, seek opportunities in the face of risk, prefer effective answers to efficient answers, and are less likely to support the status quo. Transformational leaders do not merely react to environmental circumstances—they attempt to shape and create them (Avolio & Bass, 1988). Transformational leaders tend to utilize symbolism and imagery to solicit increased effort. The leader accomplishes this by raising the level of intellectual awareness about the importance of valued outcomes, by raising or expanding individual needs, and by inducing a belief in transcending self-interest for the sake of the team or organization (Bass, 1985, p. 20).

Transformational leadership embodies four dimensions: intellectual stimulation, individualized consideration, idealized influence, and inspirational motivation (Avolio, Bass, & Jung, 1999; Jansen, Vera & Crossan, 2009).

- Intellectual stimulation: the leader arouses followers to think in new ways and stimulates their followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways (Bass, Avolio, Jung, & Berson, 2003).
- Individualized consideration: the leader delegates projects to stimulate learning experiences. He or she pay attention to each individual's need for achievement and growth by acting as a coach or mentor.
- Idealized influence or charisma: the leader instills pride, faith and respect. The leader charismatic behavior causes followers to identify with the leader.
- Inspirational motivation: leader transmits a sense of mission which is effectively articulated. She or he behaves in ways that motivate people by providing meaning and challenge to their followers' work (Bass et al., 2003).

There may have many similarities between leadership styles and mental model. Transformational leadership seems to fit many characteristics of strategic mental model. By other side, transactional leadership seems to fit many characteristics of operational mental model (Figure 1).

Figure 1. Leadership Style and Mental Models

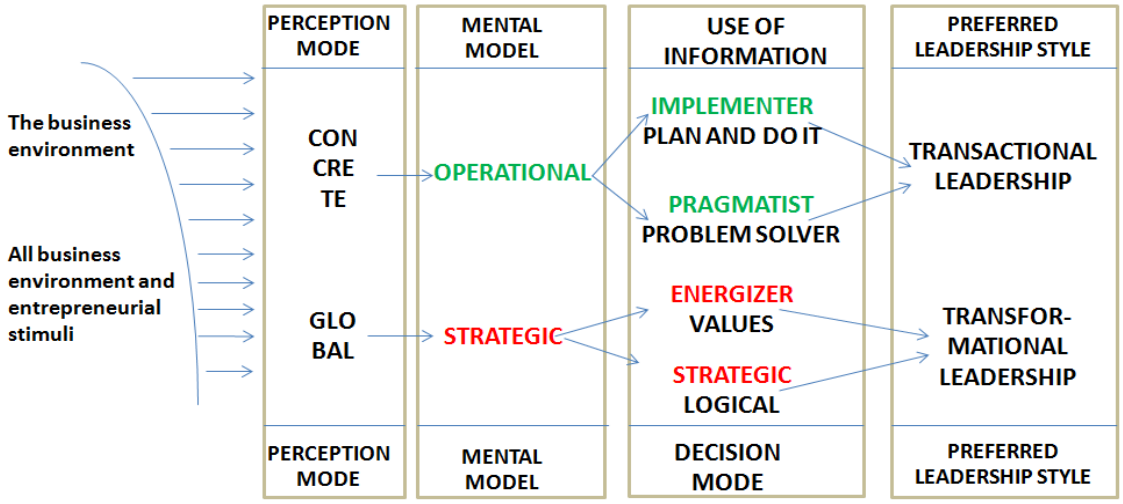
Transactional leadership	**Operational Mental Model**
• Operates within the existing culture or organizations system. Maintains the status quo. • Preference for risk avoidance, • Pays attention to time constraints and efficiency • Puts focus on the process as a way of maintaining operational control. • Rewards and recognizes people for accomplishing agreed-upon objectives. • Inhibits creative debate, diversity of opinions and experimentation. • Motivates individuals and teams to achieve operational/ specific objectives. • Motivates team member by rewarding or punishing them the transactional • Effective in stable, predictable environments	• Focuses on what is going on • Search for precision, reliability, efficiency, prudence and discipline, and conformity. • Practical • Improves/ maximizes the process efficiency • Preference to make plans and accomplish them. • Quick to decide, but once a decision is made, this is not a problem for her/ him. • Lazy about generating new ideas • Unwilling or unable to concentrate on the future • Focus on details of here-and-now activities rather than on the 'big picture'. • Tends to see the 'organizational trees, but to fail in seeing the organizational forest.
Transformational Leader	**Strategic Mental Model Leader**
• Seeks new ways of working, • Seeks opportunities in the face of risk, less likely to support the status quo. • Does not merely react to environmental circumstances • Attempts to shape and create environment • Utilizes symbolism and imagery to solicit increased effort. • Raises the level of intellectual awareness about the importance of valued outcomes, • Raises or expand individual needs.	• Sees and understand the 'organizational forest'. • Tends to be hardwired to pick up on patterns, future possibilities, and the big picture rather than details and specifics. • Leads toward the future by exercising her or his vision, • Drives change • Develops the team and the organizational system. • Think strategically • Brings innovative solutions to daily problems and issues.

• Arouses followers to think in new ways and stimulates their effort to be innovative and creative • Questions assumptions, reframes problems, • Approaches old situations in new ways. • Pays attention to individual's need for achievement and growth. • Instills pride, faith and respect. • Transmits a sense of mission which is effectively articulated.	• Links factual and disconnected information and perceptions to form a pattern or trend, • Search for new possibilities, ideas and facts for building a vision of the future • Uses it to drive creative change and innovation. • Sensible to people • Privileges rationality.

Source: synthesized by authors.

The similarities between transactional and transformational leadership and operational and strategic mental models may be an indication that these leadership styles maintain an orthogonal relationship and that they are not part of a continuous gradient of leader behavior. In addition, these similarities point to a possible relationship between these leadership styles and mental models. This relationship may be indicative of the fact that the adoption of a particular leadership style can be derived from the mental model, as proposed in Figure 2

Figure2. Proposed relationship between Leadership Style and Mental Model



Source: Author mental model proposition

This relationship can also be an indication of the reasons why the results of the transfer of leadership development are as poor as pointed by Mooney and Brinkerhoff (2008, p. ii). Similarities between transactional and transformational leadership and mental model may be an indication that, like mental models, these leadership styles are orthogonal (Laureiro-Martínez et al., 2010, p. 102). These similarities raise the question if these leadership styles are distinct patterns of leadership behavior, or if both cover the ends of one and the same continuum in antithetical directions (Keller & Weilbler, 2014). According to Laureiro-Martínez et al. (2010) there are evidence these leadership styles may be associated with different cognitive process

.By other side, these appointed similarities between transformational leadership and strategic mental model (Jansen, Vera, & Crossan, 2009; Vera & Crossan (2004). Leaders with transformational leadership style emphasize the need and the importance of experimentation,

change, and the challenging the organizational 'some old way' and in opening up new alternatives. By motivational and intellectual stimulation, transformational leader sign to the team that creativity and innovation are needed for a better performance and results (Keller & Weibler, 2014). Transformational leader generate different and global ways of thinking, new and innovative and creative solutions for old problems, transmits a sense of mission and vision which is effectively articulated and, by encouraging and supporting individuals to conduct their own work in a way through intellectual stimulation they facilitate the double-loop learning. (Vera & Crossan, 2004).

Transformational leader usually leads toward the future by exercising her or his vision, and drive to change and develop the team and the organizational system. In leading, he or she has the ability to think strategically and to bring innovative solutions to daily problems and issues. She or he links factual and disconnected information and perceptions to form a pattern or trend, which are connect to new possibilities, ideas and facts for building a vision of the future and uses it to drive creative change and innovation. This is a strong sign that transformational leader usually is a strategic minded leader.

5 DEVELOPING THE STRATEGIC THINKING MENTAL MODEL

Under mental model propositions, it may be said that address the strategic thinking mental model competence is a mandatory issue to leadership programs. But it is not an easy task. Katz (1991), e. g., in dealing with the question of developing strategic mental model needed for strategic thinking competence, points out that "a number of methods have been tried to aid in developing this ability with varying success". He also puts "some of the best results have always been achieved through the coaching of subordinate by superiors" (p.32).

According to his proposition, other ways to develop this mental model is through "trading jobs or job rotation, that is, by moving promising young men through different functions, and special assignments, particularly that one which involves interdepartmental problems, and works with cases involving broad management policy and interdepartmental coordination, and by presenting a series of detailed description of specific complex situations" (Katz, 1991, p. 32).

He stated that the strategic thinking mental model must become a natural part of executive makeup. He also stated that "different method may be indicated for developing different people, by virtue of their background, attitudes, and experiences but, in every case that method should be chosen, which will enable the executive to develop his own skill in visualizing the enterprise as a whole and coordinating and integrating the various parts" (p. 37).

But things seem not to work this way. These recommended methods seem not to be effective in developing the strategic thinking mental model and the capability for strategic thinking. In his retrospective commentary, Katz points that the conceptual ability – his name for strategic mental model depends on a specific way of thinking, and its development is more complex than he has been thinking.

Katz (1991) statement was based on what was known at that time when he did his work. One may say that imbedded in his proposition conceptual skill should be viewed as an innate

ability she or he may see the fixed-brain myth. Fixed brain myth stated we are born with a full complement of neurons and produce no new neuron during our lifetime. But advanced research techniques have given neuroscientists and neuro-psychologists opportunities to remarkable discoveries on brain. Discoveries like the growth of new brain cells even in adult brain destroy the fixed-brain myth (Katz & Rubin, 1998; Douglas et al. 2005).

Another wonderful discovery refers to the brain plasticity and the possibility to establish new brain connections. Discoveries show that it is still possible to improve one's mental faculties. They also show the possibility of optimizing the brain functioning, and getting the best out of one's brain cells and maintain it by adequate stimulation, and exercises, and activities. Something that now is known, and that recent research results are pointing out is that everyone is capable of operating either in operational mode or strategic mode. Research has shown that, by one's own preference, like right and left hand, she or he prefers one mode instead of the other and the mode not preferred is not developed and stay primitive. But, how to do it?

Fortunately, research and development on brain knowledge such as neuroscience, allied to research results in Psychology like Structural Cognitive Modifiability (Feuerstein; Feuerstein & Falik, 2010), and on brain plasticity made possible to abandon the fixed-brain myth and the conception of the brain as a definitive structure. These research bring about the possibility to one have her or his mental model modified, or developed by enhancing the natural level of strategic thinking capability. Recent researches and discoveries also point out some methods that can help in developing and maintaining new brain connections.

As appointed by Dawes (2006), Feuerstein's experience was that people's cognitive functioning could be challenged and changed. By considering that there is a link between cognitive flexibility and the ability to respond favorably to the challenge of change, this approach may be used as one of basic tools with both those who were struggling to come to terms with their changing and challenging business environment and with executive teams that needed to be able and flexible enough to lead initiative for organizational transformation (Dawes, 2006). In others words, it is a tool for developing strategic thinking competence.

All of this research built the basis for the development and the proposition of a series of activities that are designed to help people improve the mental capability, power, and flex. They also permit the strategic mental model development that is the most propitious for strategic thinking. But research in this area is at its beginning, and a lot of efforts are needed.

6. CONCLUSION

In this paper, the purpose was to study the possible relationship between leadership development and mental models. It also aimed to explore how individuals' mental model influences the type of leadership style they prefer to deal with team members. A mental model is the usual working neurocognitive pattern of a person; it is the characteristic models of perceiving, processing and using information gathered.

Under the mental models propositions, it may be said that that strategic mental leaders are more skilled for facing the challenges bringing by the next demanding phase of globalization to disruptive technological change and continued macroeconomic uncertainty. In this way,

this proposed approach appoints for the potential of the mental model for future research relative to the design of effective leadership development programs.

In this paper we do a theoretical comparison between mental model and transactional and transformational leadership style. According to this analysis, it may be said that mental models may have a strong relationship with the preferred leadership style. By its main characteristics, leaders with an operational mental model, by its main characteristics, tend to demonstrate a preference for transactional leadership style. By the other side, strategic minded leaders with a strategic mental model tend to demonstrate a preference for transformational leadership style.

It also needs to be noted that according to Yukl (2010), most definitions of leadership reflect the assumption that leadership involves a process whereby an intentional influence is exerted by leader on other people to guide, structure and facilitate performance and relationship between individual and teams. This proposition is aligned to the operational mental model proposition by it focus on here-and-now tasks and operational results.

The paper propositions emphasize the mental model influence on the preferred leadership style. This influence may be a reason for the low level of employment of the new capabilities developed in Leadership Development Programs in a way that improve job performance and leads to worthwhile results for the company. This proposition is in accordance to Mooney and Brinkerhoff (2008) proposition that many programs underestimate leaders' mental models and that changing behavior also means adjust underlying leaders mental models. In this way,

Theoretically, the development of these propositions signs an interesting research field. In spite of numerous studies on leadership and leadership development, the Gordon and Yukl (2004) question: 'Why some leaders are more effective than other?' remains vague.

Under the propositions done in this paper, emphasizing on the importance of mental models as a way of understanding the foundation of leadership styles and the success of leadership development programs makes intuitive sense. Every HRD and organizational intervention on leadership and management practice necessarily rely on some implicit or explicit model of human behavior and beliefs about the determinants of individual and organizational performance. It seems to be therefore just logical that success or failure is determined, in part, by these mental models or ways of viewing people and organizations. In order to develop effective leadership programs and interventions, mental models must inevitably be an important focus of attention.

Leadership development is an activity that is crucial to the continuous and lasting success of every organization. It's mandatory for organizations to invest to develop her or his competences and expertise, and prepare the next generations of leaders. If organizations are supposed to have a cadre of skilled leaders to run the enterprise in this turbulent business environment it is necessary to design leadership programs that address the development of the strategic mental model. However, they may consider that for these operational minded people, leading in a strategic mind way is like 'leading out the box'.

There are some straightforward implications of these propositions for the HRD professionals. One implication may be that before intervene somewhat less with programs and particular

techniques and practices, it is necessary to focus much more on helping organizational leaders enhance and improve their mental models. The ability to identify and help others discover their mental models, and the capability to improve or change those mental models, are possibly among the most critical capabilities an HRD professional can have or acquire.

This task is a big challenge because the mental model development may be the actual mean for the word "development'. For learning to lead in this way, they must attend leadership programs designed to develop the strategic mental model. These investments in learning are meant for giving birth to new abilities that are required and can be used to improve leadership performance and organizational results. It is a big and auspicious challenge. For facing this challenge, HRM will need to be innovative. The traditional approach to leadership development–often generic skill-building programs using traditional lecture and case study methods–is proving inadequate for today's business environment.

Many people apparently believe that mental models are not a very useful focus for leadership development since this sort of approach is seldom employed. Changing how people think is going to be more difficult than just changing what they do since mental models are often deeply embedded below the surface of conscious thought. By other side, to some HRD people, this type of intervention seems "softer" than the more typical HRD interventions such as redesigning career management plans, implementing new performance management programs. But in spite of the apparent difficulty and its less tangible nature, working on mental model and the way people think and act on leadership situations is, in fact, the most powerful and useful way to ultimately change leadership behavior and thereby affect organizational results and success.

In this way, we believe that the proposal made in the study appoints for the potential of Mental Model for future research related to leadership styles and leadership development programs. It can be an open door to a new perspective on how mental models may explain leaders behaviors and creates avenues for future empirical investigation on this issue. In this way, we also believe the proposal made will inspire others researchers to design and conduct research projects to address the impact of the mental model on the leaders and the executives' success. This research we hope may bring about new insights on leadership development.

REFERENCES

Avolio, BJ., Bass, BM. And Jung, D. 1999. Reexamining the components of transformational and transactional leadership using the Multifactor Leadership Questionnaire. *Journal of Occupational and Organizational Psychology*, 7, 441–462

Bass, BM. (1985) *Leadership and performance beyond expectations*. New York: The Free Press.

Bass, BM., Avolio, BJ., Jung, D.I. Berson Y. 2003. Predicting unit performance by assessing transformational and transactional leadership *Journal of Applied Psychology*, 88, pp. 207–218

Brandt, T. and Laiho, M. 2013. Gender and personality in transformational leadership context *Leadership & Organization Development Journal* 34(1) pp. 44-66.

Brown, F W. and Reilly, MD. 2009. The Myers Briggs type indicator and transformational leadership. *The Journal of Management Development*. 28(10), pp. 916-932.

Burns, J.M. (1978), *Leadership*, Harper & Row, New York, NY.

Conger, J. (1992). *Learning to lead*: The art of transforming managers into leaders. Jossey-Bass, San Francisco.

Dawes, G. (2006) Getting the brain into gear. *Development and Learning in Organizations*. Bradford: 20(3), 18-21

De Jong, J. and den Hartog, D. (2003). Leadership as a determinant of innovative behaviour. *Scales Research Reports H, 2003 03*.

Feuerstein, R.; Feuertein, R. S. & Falik, L. H. (2010) *Beyond smarter*: mediated learning and the brain's capacity for change. New York: Teachers College.

Gallén, T. 2006. Managers and strategic decisions: does the cognitive style matter? *The Journal of Management Development*. 25(2) pp 118-133

Gordon, A. & Yukl, G. The future of leadership research: challenges and opportunities. *German Journal of Human Resources Research*, 18(3), pp. 359-365

Gurdjian, P., Halbeisen, T. and Lane, K. 2014. Why leadership-development programs fail. *McKinsey Quartely*, january 2014

Hambrick, DC., Geletkanycz, MA. and Fredrickson, JW. 1993. Top executive commitment to the status quo. *Strategic Management Journal*, 14 (6), p. 401-18.

Hersey, P., Blanchard, K. H. and Johnson, DE. (2001). *Management of Organizational Behavior* (8rd ed.). New Jersey/Prentice Hall: Utilizing Human Resources.

Howell, JM. & Avolio, BJ. 1993. Transformational leadership, transactional leadership, locus of control, and support for innovation: Key predictors of consolidated business-unit performance. *Journal of Applied Psychology*, 78, 891–902.

Jansen, J.P, Vera, D. and Crossan, M. 2009. Strategic leadership for exploration and exploitation: The moderating role of environmental dynamism. *Leadership Quarterly* 20(1), pp. 5 – 18.

Jung, KG. 1991. *Tipos psicológicos*. São Paulo: Zahar.

Keirsey, D. and Bates, M. (1978). *Please understand me: character & temperament types*. USA: Prometheus

Keller, T. and Weibler, J. 2014 Behind Managers' Ambidexterity – Studying Personality Traits, Leadership and Environmental Conditions associated with Exploration and Exploitation *Schmalenbach Business Review*, July 2014, 66, 309-333

Kroeger, O., Thuessen, JM. and Rutledge, H. 1992. *Type talk at work*. USA: DellBooks

Laureiro-Martínez, D., Brusoni, S., Canessa, N., & Zollo, M. (2014). Understanding the exploration–exploitation dilemma: An MRI study of attention control and decision-making performance.*Strategic Management Journal*.

Laureiro-Martínez, D; Brusoni, S., Zollo, M. The neuroscientific foundations of the exploration− exploitation dilemma. *Journal of Neuroscience, Psychology, and Economics*, v. 3(2), pp. 95, 2010.

Loew, L. and O'Leonard, K. 2012. Leadership Development Factbook 2012: Benchmarks and Trends in U.S. *Leadership Development*, Bersin by Deloitte, July 2012, bersin.com. In Gurdjian, P., Halbeisen, T. and Lane, K. 2014. Why leadership-development programs fail. *McKinsey Quartely*, JANUARY 2014

McCarthy, B. 2000. The cult of risk taking and social learning: a study of Irish entrepreneurs. *Management Decision*, 38(8), pp. 563-574

Mooney, T. and Brinkerhoff, RO., *Courageous Training*: Bold Actions for Business Results, (San Francisco: Berrett-Koehler Publishers, Inc., 2008), 2.

Pfeffer, J.. 2005. Changing mental models HR's most important task. *Human Resource Management*, Summer, 44(2) pp. 123–128

Sethuraman, K. and Suresh, J. 2014. Effective leadership styles. *International Business Research* 7(9), 165-172.

Vera D. and Crossan, M. 2004. Strategic leadership and organizational learning. *Academy of Management* Review, 29 pp. 222–240

Winston, B. E. and Patterson, K. 2006 An integrative definition of leadership. *International Journal of Leadership Studies*, 1(2), pp. 6-66

Yukl, G. (2010), *Leadership in Organizations*, 7th ed., Upper Saddle River, NJ: Pearson Prentice Hall

As páginas devem ser numeradas (rodapé/direita).

2. Seções e Parágrafos

Os títulos de seção devem ser numerados em algarismos arábicos e escritos em fonte 12, negrito, em parágrafo com espaçamento anterior de 12 pt (use o estilo Capítulo). Os parágrafos devem ser tabulados em 1.25 cm. Use estilo parágrafo.

2.1. Subseções

Os títulos das subseções devem ser escritos sem negrito ou itálico, em parágrafo com espaçamento anterior de 12 pt - use estilo subseção. Os parágrafos devem ser tabulados em 1.25 cm.

3. Figuras, Gráficos e Tabelas

O texto, tabelas e figuras devem ser configurados nos seguintes limites:

- espaçamento: simples
- fonte: 12 pt.

Equações: deverão ser escritas no Editor de Equações do Microsoft Word ou importadas para o texto através de figuras. As equações devem ser numeradas seqüencialmente, com a numeração correspondente aparecendo entre parênteses a direita da ultima linha da equação.

Tabelas devem ser incluídas no corpo principal do texto. Cada tabela deve ter um numero próprio, e o título colocado acima da moldura da tabela, justificada a esquerda da moldura da tabela na mesma fonte do texto principal (Times New Roman, 12 pt). Citações da fonte ou notas explicativas devem aparecer imediatamente abaixo da moldura da tabela, justificada a esquerda em Times Roman, 10 pt. As unidades utilizadas, devem ser claramente indicadas na tabela.

Figuras e material gráfico podem ser em preto e branco ou coloridas e incluídas como parte integrante do texto. Cada figura deve ter um número e o título colocado abaixo da figura, centralizada, em Times New Roman 10 pt.

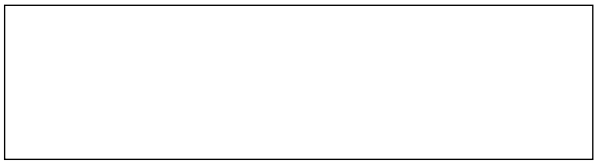


Figura 1. Exemplo de figura.

Legendas de tabelas devem ser colocadas na parte superior das mesmas, em parágrafo centralizado conforme ilustrado na Tabela 1. As tabelas devem ser formatadas adotando a mesma formatação da Tabela 1 - use estilo Tabela com grade 1.

Tabela 1. Relação das siglas e áreas temáticas do CASI.

Siglas	Áreas Temáticas

AEM	Administração Estratégica e Marketing
EPA	Ensino e Pesquisa em Administração e Contabilidade

4. Citações

As citações devem ser apresentadas no texto segundo o formato sobrenome do autor e o ano da publicação. Por exemplo: Oliveira (2009) ou (OLIVEIRA, 2009) com mais de dois autores Leal e Oliveira (2012) ou (LEAL; OLIVEIRA, 2012). **Também serão aceitos trabalhos formatados em acordo com a American Psychology Association (APA) e com a Associação Brasileira de Normas Técnicas (ABNT).**

5. Referências

As referências devem ser escritas segundo o padrão apresentado a seguir - use estilo Referências.

AMORIM, C. Brasil é 27º em ranking de patentes. **O Estado de S. Paulo**, São Paulo, 09 jul. 2007.

BRASIL. Decreto n. 2553/98, de 16 de abril de 1998. **Diário Oficial da República Federativa do Brasil**, Brasília, DF, 20 abr. 1998. Seção I. Disponível em: <http://www.presidencia.gov.br>. Acesso em: 15 mar. 2011.

COSTA, H. G.; FREITAS, A.L.P. Metodologia multicritério para a medição e classificação do grau de satisfação de clientes. In: METROLOGIA, 1., 2000, São Paulo. **Anais.**..São Paulo:

LIKERT, R. A. Technique for measurement of attitudes. **Archives of psychology**, v.140, n.1, p.5-55, 1932.

MARTELETO, R (2001). Análise de Redes Sociais: aplicação nos estudos de transferência da informação. **Ciência da Informação**, Brasília, v. 30, n. 1, p. 71-81, jan./abr. Disponível em: <http://www.scielo.br/pdf/ci/v30n1/a09v30n1.pdf>

RIBEIRO, T. A. C. Avaliação institucional de IES: um estudo de caso sob a ótica do corpo discente. 2003. **Dissertação** (Mestrado em Engenharia de Produção) – Universidade Estadual do Norte Fluminense, Campos dos Goytacazes.

SAATY, T. L. **Método de Análise Hierárquica**. São Paulo: McGraw-Hill, 1991.
Sociedade Brasileira de Metrologia, 2000. v.1. p.10.