THE EFFECTIVENESS OF LEADERSHIP DEVELOPMENT PROGRAMS: DOES MENTAL MODEL MATTER?

Abstract

This paper aims to study the possible relationship between leadership development and mental models. It also aims to explore how individuals' mental model influences the type of leadership style they prefer to deal with team members. The relationship between mental model and leadership development is done theoretically by examining the mental model under temperament proposition. The paper presents an exploratory comparison between transformational and transactional leadership and mental model. This study provides some theoretical evidence of the role mental model plays in determining leader preferences and in leadership styles. The mental model is a measure of the usual way in which individuals perceives, organize and use information gathered. It also discusses the need for developing the strategic mental model as a way to improve leadership development results, and proposes some cues to the strategic mental model development. Mental models may be a new way to explain why some leader are more effective than others. By developing leadership development programs and by addressing the strategic mental model development HR professionals may improve these programs results and the leadership behavior. This proposal may inspire others researchers to design research projects to address the impact of the mental model on the leaders' success.

1. Introduction

Leadership development is mandatory for organizations to 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. US-based corporations spend almost $14 billion annually on leadership development (Loew and O'Leonard, 2012). 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 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. 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 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. It 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 presents the mental models and its relationship with leadership style and sections 4 presents a proposed

relationship between mental model and transactional and transformational leadership, 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 (Jong & Hartog. 2003; Winston and Patterson, 2006; Hersey and Blanchard and Johson 2001, p 9). 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".

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). The Mental Model proposition may be a way to answer this question. 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 model 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).

There are many approaches to differences in mental model or cognitive styles in the literature. Some leaders are only interested in "what is" while other are more able to accept the new untested ideas about "what might be" (Hambrick et al 1993, p.194). This proposition is in accordance to the temper approach (Keirsey & Bates 1978). Tempers 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, 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. 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. 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. 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. 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**.

3.3 Mental Model and Leadership Style

Because each mental model brings 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 her

or his team. Mental Models is a prime determinant of leadership style. The mental model made possible to classify the leadership styles in four types:

3.3.1 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. She or he 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.

3.3 2 The Pragmatist Leader:

She or he excels at putting out fires. A Pragmatist has a good grasp of potential solutions. 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 him a Pragmatist leader. Such a leader 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 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. Beginning or struggling organizations are ideally suited to the Pragmatist manager.

3.3 3 The Energizer Leader

An Energizer leader 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/her an excellent spokesperson for an organization. Energizer leader can become frustrated at not being able to please all the people all the time.

3.3 4 The Strategist Leader

A Strategist leader is an architect of change, questioning everything and basing answers on proven laws and principles. A Strategist excels at and takes pride on technical knowledge. 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 Strategic sees long- and short-term implication of a decision, and can make decisions based on interpersonal choices. Strategist leader seems to have the vision to see all dimensions of a system, making he or his a very capable planner an constructor.

 When leading the 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 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. An effective leader 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.

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. Transactional leader operates within the existing culture or organizations system, and demonstrates a preference for risk avoidance, for paying attention to time constraints and efficiency, and puts focus n process as a way for maintaining operational control(Bass 1985). 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.

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(Bass 1985). 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). 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, transaction-al leadership seems to fit many characteristics of operational mental model (Figure 1).
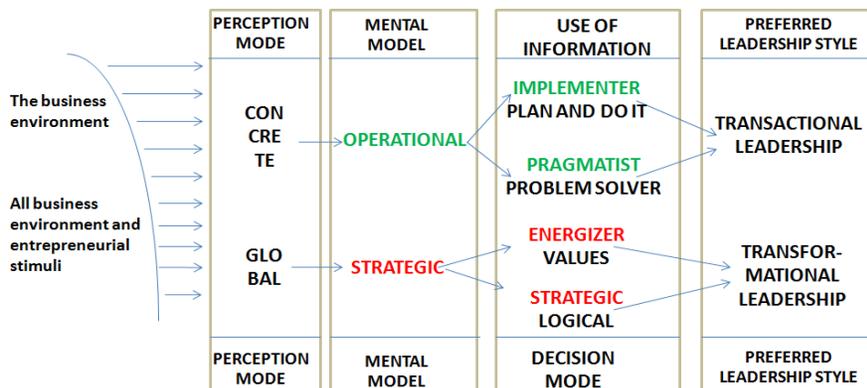
The similarities between transactional and transformational leadership and operational and strategic mental models may be an indication that these leadership styles maintain an orthogonal relationship and that they are not part of a continuous gradient of leader behavior. In addition, these similarities 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

Figure 1. Leadership Style and Mental Models

Transactional leadership	Operational mental model
- Operates within the existing culture or organizations system. - Preference for risk avoidance, - Pays attention to time constraints and efficiency - Puts focus on the process as a way of maintaining operational control. - Maintains the status quo - Rewards and recognizes people for accomplishing agreed-upon objectives. - Inhibits creative debate, diversity of opinions and experimentation. - Motivates individuals and teams to achieve operational and 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 and 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 or 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 and their issues, 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. - 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.	- 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. - hink strategically and to - Brings innovative solutions to daily problems and issues. - 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.

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 (Mooney and Brinkerhoff 2008, p. ii). 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).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; 2014).

By other side, there are many similarities between transformational leadership and strategic mental model (Jansen, Vera, & Crossan, 2009; Vera & Crossan (2004). Transformational leaders 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) recommended several methods for developing the strategic thinking mental model and the capability for strategic thinking. But, in his retrospective commentary, he 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 researchs 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. 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.

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. 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 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. 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'.

   This propositions brings a big challenge for leaders development 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. 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 MLQ. *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

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. *J. 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, BE. 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