PREFERABLE EXECUTIVES' COGNITIVE STYLE BY STAGE OF THE ORGANIZATION LIFE CYCLE

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ABSTRACT

There are too many different perspectives in strategic decision-making process within the literature. The rational normative model suggests that organizations, first, based on internal and external analysis determine some objective criteria to achieve value-maximization, and then based on those objectives make decisions. However, many research findings indicated that rational model is moderated by many individual-level and environmental-level factors. At individual-level, rational decision-making model has been found to be affected greatly, by the characteristics of executives. Among those characteristics, cognition has significant effects on decision-making process. Executives have different cognitive style that makes them follow steps of decision making process -including information gathering, alternative generation, alternative evaluation, and decision finalizing- very differently. From the other side, organizations at different stages of organization life cycle (Introduction, Growth, Maturity and Decline) have different administration needs and required types of decisions. The aim of this conceptual paper is to find out the desirable cognitive style for executives, at each phase of organization life cycle. Additionally, strategy, as the third construct that is related two both cognitive style and organization life cycle help us to explain the cognition-life cycle linkage with more confidence. Based on literature, executives with similar cognitive profile are more likely to follow similar type of strategies; and at each stage of organization life cycle, specific types of strategy is dominant. These findings implicitly support our proposition, indicating that at each stage of organization life cycle, executives with specific cognition profile will outperform. The proposed framework in this paper links strategy, organization life cycle and cognitive style of management.

JEL: M10

KEYWORDS*:* cognitive style, organization life cycle, executives' characteristics, strategic choice model

INTRODUCTION

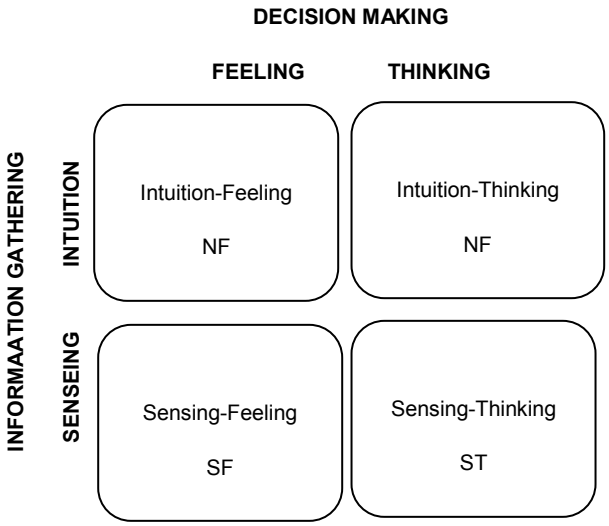
There are too many different perspectives in strategic decision-making process within the literature. The rational normative model suggests that organizations, first, based on internal and external analysis determine some objective criteria to achieve value-maximization, and then based on those objectives make decisions (Hitt & Tyler, 1991). However, many research findings indicated that rational model is imitated and moderated by many individual-level and environmental-level factors (Eisenhardt & Zbaracki, 1992; Hitt & Tyler, 1991). One of these factors is the role of executives and top managers in the decision-making process. Based on this prospective, which is labeled strategic choice, objectives are not consistent and constant across people and over time; and in addition to environmental conditions, the choices that managers make are the critical determinants of organization structure, processes and decisions (Miles & Snow, 1978). Simon (1947) was the first one who challenged the validity of value maximizing approach in decision making process and claimed the limitation of rational model. He argued that decision makers rarely make decisions based on complete information. Uncertainty and lack of comprehensive information is one of the main reasons that cause managers to reach different decisions. According to Cyert and March (1963),"uncertainty is a feature of organizational decision making with which organizations must live" (p.118). In absence of adequate information, managers use different approaches to deal with uncertainty. Among all executives' characteristics, the one that has the greatest

effects on decision-making is the cognition. Managers have different cognition style, which makes them follow the steps of decision-making process differently and reach to distinct decisions. Several researches have confirmed the significant effects of cognitive styles on strategic decision-making (Nutt, 1986a, 1986b; Haley, 1997; Walck, 1997; Myers et al., 1998; Gallen, 2006). Those researches have demonstrated the characteristics of each style, the methods each uses in different steps of decision-making process, and most probable outcomes for each type. Although the research on cognitive styles has began long ago, but its linkage to environment, the other construct that affects rational decision-making, has not been well studied yet. In this paper, the research objective is to study this linkage more narrowly and find out the preferable cognitive style for different stages of organization life cycle. At each stage of organization life cycle (introduction, growth, maturity and declining), there is specific administration needs, and accordingly, the types of required decisions vary. The objective of this study is to find the most efficient and appropriate decision-making style for each phase of organization life cycle. After a brief literature review on cognitive styles and organization life cycle, a theoretical framework will be provided to link these two constructs. Additionally, strategy, as the third construct that is related two both cognitive style and organization life cycle will help us to explain the cognition-life cycle linkage with more confidence. In fact, these three construct makes a triangle that one can explain each side (linkage) based on the other two sides. Based on literature, executives with similar cognitive profile are more likely to follow similar type of strategies; and at each stage of organization life cycle, some types of strategies are dominant. These findings suggest that at each stage of organization life cycle, executives with specific cognition profile will outperform, and implicitly support our conclusion.

LITERATURE REVIEW

Cognitive Styles: Decision making process consists of several steps of information gathering, alternative generation, alternative evaluation and decision finalizing. Research findings have indicated that besides other external elements, such as organization structure, nature of the task, and environment, cognition has a great effect on decisions (Walck, 1997), as managers' cognitive styles influence the decisions they tend to make. Most of executives have preferred styles that use more often, particularly in ill-structured situations (Simon, 1978). Executives with different personality traits develop distinct decision-making styles as their preference and method of information gathering and alternative generation and evaluation differ significantly. In information gathering, managers seek selectively for specific information, concentrate on them and ignore others (Weick, 1979; Haley, 1997), and in decision-making, they differently use insight, intuitions and heuristics (Eisenhardt, 1992; Haley, 1997). In this study the Jung's (1923) psychological constructs has been used to categorize managers' cognitive styles. Based on Jungian psychological construct, individuals' cognitions are different in terms of information-gathering and decision making procedures. For each of these two processes, Jung suggested two distinct functions. In information-gathering (perceiving) process, an individual tend to use either sensing or intuition (S or N) functions. These functions describe the process in which individuals perceive and interpret information. The sensing individuals ascribe prominence significance on tangible and concrete facts. They trust information which is received via the five senses, and tend to doubt on intuitive guesses and hunches. On the other side, intuitive individuals trust on abstract information and insights that have come up from the unconscious mind. Based on the data gathered via one of these two functions, the decision making process is conducted. This judging process also consists of two distinct functions, feeling and thinking (F and T), and individuals tend to prefer one type in making rational decisions. Thinking individual are more analytical; they set a set of rules for decision making process and based on that, pick the more reasonable and matching option. On the other hand, feeling type of individuals make decisions based on their feelings. They seek options that are more in harmony and fit with a given situation and making them feel right. Later on, Myers and Myers (1980) developed these Jungian mental functions and claimed that conjunction of these functions in information-gathering (S - N) and decision-making process (T - F) determines the cognition style of individuals. The following matrix shows the four types of individual cognition styles.

Figure 1: Cognitive Styles



This figure shows Myers and Myers Cognitive Styles (1980), which is the development of Jung's Psychological Constructs (1923). Based on Jungian psychological construct, individuals' cognitions are different in terms of information-gathering and decision-making procedures. For each of these two processes, Jung suggested two distinct functions. In information-gathering (perceiving) process, an individual tend to use either sensing or intuition (S or N) functions. Based on the data gathered via one of these two functions, the decision making process is conducted. This judging process, also consists of two distinct functions, feeling and thinking (F and T), and individuals tend to prefer one type in making rational decisions. The conjunction of these two processes defines the cognitive style of individuals.

Although Jung did not assume that these cognition style is absolute and unchangeable, but he believed that each individual has dominant preference style that tend to use most frequently in decision-making and problem solving process. Taggart and Robey (1981) linked cognitive styles and brain hemispheres, indicating that STs are completely left-brained while NFs have a right-brained style, while NTs and SFs are in the middle and have accommodating styles. Managers with left-brained style ascribe greater prominence on analytical and quantitative techniques and apply rational and logical methods for reasoning, while ones with right-brained style apply intuitive techniques and use unstructured and spontaneous procedure in decision making, considering the whole picture rather than its parts (Sauter, 1999). The characteristics of each cognitive style are presented in detail as follow.

ST (Sensing-Thinking)**:** As discussed above, individual with this style are predominantly left-brained and use analytical and sequential process to reason from causes to effects by using details, specifics and pieces of logics. STs pay attention on facts that can be received by senses. They ascribe more importance on hard data and avoid personal analysis. These managers are more risk averse than other styles (Walck, 1997; Behling et al., 1980) and prefer to establish orders and mechanism of control to achieve certainty (Mitroff & Mitroff, 1980). Thus, they typically use problem-solving models that have worked in the past (Haley and Pini, 1994). These managers more focus on immediate and current problems and use standard operating procedures to solve them (Haley, 1997). According to Gallen (2006), regularity, structure and fit with standard practices are the basics for their decision, and consequently, they would be more decisive in well-defined and regulated environment (Nutt, 1986b).

NF (Intuition-Feeling): This style is the extreme opposite of ST. These individuals are significantly right-brained, innovative, enthusiastic and insightful. They believe in their gestalts, feeling, hunches and intuitive perceptions, and look at the whole picture and broad theme rather than specific detailed parts. They avoid traditions and seek new possibilities and novel things that never happened before (Myers et al., 1998). Their decisions are based on similar experiences, analogy and personal views and judgment (Nutt, 1986a, 1986b; Haley and Pini, 1994). According to Haley (1997), these managers like working on

ill-structured problems that requires innovative concepts and theories; they are inclined to creative problem solving and prefer novel, ingenious solutions, rejecting traditional methods and standard operating procedures. NFs managers have specific vision and engage in long-term goals. They tend to simplify the complex problems by reasoning based on analogies and heuristics. Analogy is a reasoning process, in which managers need not understand every aspect of the problem at hand, rather, they just select some features and apply them to a past-solved problem or simple vivid situation (Gavetti & Rivkin, 2005).

NT (Intuitive-Thinking): NTs share common characteristics with both NFs and STs, with some differences. Like NFs, NT managers also pay attention to new possibilities, but with this difference that they use non-personal, cause-and-effect perspective when judging (Myers et al., 1998). Like STs, NTs ascribe great importance on analysis with this difference that they emphasis on long-range plans and new possibilities (Haley, 1997). Research findings indicated that Ns and Ts are better able to make decision in unstructured environments, comparing to Fs and Ss (Walck, 1997), thus the package, NT, outperforms other styles in complex situations. NT managers are more likely to recognize problems and patterns, and request more quantitative but general information for problem solving. According to Nutt (1986a), NT managers prefer long-term open-ended projects that need more innovation, risk and observation.
SF (Sensing-Feeling): SFs ascribe importance on specific peoples' opinions and ideas in decision-making and believe that actions become feasible when people endorse them (Nutt, 1986a; Haley & Pini, 1944). Like STs, SFs appear to focus on problems facing them today. SF mangers make decisions based on what people in a given situation need or want (Gallen, 2006). SF executives are more risk tolerant comparing to other styles; they ascribe more importance on facts and approach decision-making subjectively based on their own value system, as they use feeling as the judgment function.

Organization Life Cycle: Just like humans, organizations pass through four stages; they born, grow, mature and die. According to economic and organization theories, organizations share common characteristics at each stage of life cycles. These characteristics include both internal and external factors. In the following, some of these characteristics are pointed out.

Introduction Stage: This period begins with product innovation and development or some novel changes in the process. At this stage, the resources are limited, and there is emphasis on R&D and technological innovation. At introduction stage, the total sales volume is low and the stage lasts until the product is being manufactured in large quantity. The product or service is just introduced to the market and there is not a complete perceived need for it, within costumers. There is not a thorough and well-defined organization vision and entrepreneurial insight yet (Lindell, 1991). In terms of economics, the total profit and sales is low and the gross profit per unit is high. There is constant product or service revision. The focus of the organization or company is on establishing a market and arising demand for the product or service, consequently, marketing is significantly important at this phase.

Growth Stage: By the development of the product the innovation, activities shift from product to process in the growth stage. The volume of sales and production is gradually increasing and many positions and relationships are being created; so, neither the organization, nor market is stable yet. In terms of economic factors, total profit is high and rising, and at the same time, the sales and production volume is increasing. The product design is standardized. Competition is not considered as a significant threat, and risks are accepted by management. As the greater importance is on the processes at this stage, appropriate technologies for production and distribution are implemented; processes are routinized and systemized; manufacturing and marketing are being separated and accounting system for inventory control and purchasing are developed (Lindell, 1991). Jobs become more specialized, and communications within organization become formal at this phase.

Maturity Stage: At this stage, the sales growth is going to stop, the product is fully standardized and at the same time, processes are automated to achieve efficiency. At this stage, there are many competitors with similar products or services, and thus, competition is significantly high and threatening, and is an important concern in almost every decision. There is only minor innovation for modification purposes, and changes made only after a thorough investigation of all possible consequences. At mature markets, firms seek more low-cost strategies rather than innovative and differentiated ones. Actually, the bargaining power of buyers and competitive forces of rivals, incline firms to form tightly structured production and marketing process in order to achieve cost reduction and efficiency. At this stage total sales volume and profit is almost stable, and competitors try to defend their market share, rather than increasing the profit.

Decline Stage: At this stage as a result of unfavorable economic condition, significant change on customers' demands, or emergence of new and substitute products or services, organization experience its last phase of life cycle. At this stage, the sales volume decline and profits are replaced by losses. Management is preoccupied with maintaining controls, and most of actions and decisions are related to cost cutting. The emphasis of management is on finance to overcome the financial crisis.

According to the literature and what have been discussed, executives' characteristics, and more specifically, cognitive style play a critical role in organization strategic decisions. Many research scholars have linked management inability or unwillingness to consider all strategic available alternatives to cognitive styles of managers (Gallen, 1997; Nutt, 1986; Miller & Toulouse, 1986; Gallen, 2006). From the other aspect, at each stage of organization life cycle there are some specific administration needs. For instance, in introduction and lunching phases, there is a high need for creativity and flexibility; growth phase calls for operational planning and market penetration and accordingly analytic type of management; mature stage requires focus on efficiency and market share defense, and thus, needs some conservative and functional types of administration; and finally, at the declining stage, there is high a need for that type of management who can keep the organization together and react to the unfavorable pressures as fast as possible at the time of crisis. Significant differences among characteristics of stages of organization life cycle and cognitive styles imply that the effectiveness of different executives with different cognitive style varies at each stage of life cycle. Consequently, based on evidence in the literature, we proposed that for each stage there is favorable type of cognitive style. The table 1 summarizes the theoretical framework of the paper, which will be discussed more in depth afterwards.

Table 1: Strategy, Cognition and Organization Life Cycle Relationships

Organization Life Cycle	Strategy	Preferable Cognitive Style
Introduction	Prospector	NF
Growth	Analyzers	NT
Maturity	Defenders	ST
Declining	Reactor	SF

This table shows the relationship between three constructs of Organization Life Cycle, Strategy and Executive's Cognitive Style. Based on literature, executives with similar cognitive profile are more likely to follow similar type of strategies; and at each stage of organization life cycle, one type of strategy is dominant. These findings implicitly support the conclusion of the study regarding the outperformance of executives with each cognitive style at specific stage of organization life cycle.

LINKING ORGANIZATION LIFE CYCLES AND COGNITIVE STYLES

Introduction & NF Style: Based on literature, innovation is the core element of introduction stage, thus, more creative and insightful managers, like right-brained NFs, would be more successful at this stage. They avoid traditions and seek new possibilities and novel things that never happened before (Myers et al., 1998). As discussed earlier, NFs managers have specific vision and commit to long-term goals, and this is an essence in newly established markets. These managers prospect increasing corporate influence (Haley, 1997). NF managers are risk takers and believe in their hunches and intuition perceptions; and at

the other hand, there is high uncertainty at introduction stage, because there is not stable and standardized product or service, identified customers and well-defined target market. Thus, NFs managers and organization in introduction stage would be a great match. Other research findings have also confirmed the effectiveness of these mangers at ill-structured situations (Haley, 1997; Walck 1997; Myers et al., 1998). Moreover, research findings indicated that this type of mangers prefer to work in flexible and adaptive environment (Mitrof & Kilmann, 1975), which is one of the characteristics of the organizations at the first stage. Moreover, NF managers value marketing (Myers et al., 1998), which is very important at this stage. Finally, research finding has claimed that NF managers might more likely to follow prospector type of strategy (Gallen, 2006), and consistently, prospector strategy is the dominant type of strategy at introduction stage. Based on aforementioned explanations, we proposed that at introduction stage NF managers outperform management with other types of cognitive styles.

Proposition 1: NF Managers Outperform NTs, SFs, and STs at The Introduction Stage of Organization Life Cycle

Growth & NT Style: At the growth stage, although the product or service is stabilized, but there is still need for innovation in processes, and some improvements in product or service. At the same time, while company has made a market for itself, it should consider and analyze its previous performance. NTs manager would suit best at this stage of organization life cycle. These managers pay attention to new possibilities, but use non-personal and cause-and-effect perspective (Myers et al., 1998); they ascribe greater importance on analysis with emphasis on long range plans and new possibilities (Haley, 1997). Walck (1997) indicated that in complex and open-ended environment, NTs managers outperform other types of management. Growth stage can be considered as the most complex stage, since the firm must both defend its current market and be aware of prospector strategies for profit maximization and growth opportunities, while at other stages, firm has one of the roles, most of the time. NT managers are more likely to recognize problems and patterns, and seek more quantitative general information for solving problems and these characteristics seems most useful at growth stage, while there is no adequate information and specific patterns in introduction stage, and everything is quite well-defined in mature markets. In terms of risk-taking behaviors, these managers are at the middle, they are not as challenger as NFs, and not as risk averse as STs. Consistently, firms at growth stage need managers and executives with this level of risk taking due to their dual roles as both defender and prospector. As discussed earlier, in unstructured environments, NTs and NFs outperform the two other types, and the market structure is not well-defined in early stages of life cycle, introduction and growth. What distinguishes NT managers from NF executives is that they seek more quantitative data, while NF managers more use analogy-based intuitions (Kerin & Slocum, 1981). That is why NF managers more preferable at introduction level, while NT managers assumed to be more appropriate in the second stage. Moreover, NT manager more tend to follow analyzer type of strategies, which is the dominant strategy at the growth stage of life cycle (Gallen, 2006). The following proposition is made based on the above discussion.

Proposition 2: NT Managers Outperform NFs, SFs, and STs at the Growth Stage of Organization Life Cycle

Maturity & ST Style: In this stage of market life cycle, both product and processes are almost standardized and firms compete over efficiency and cost. From the other side, ST managers pursue goals of profitability within the organization and emphasis financial market information (Haley, 1997). These managers are more logical and analytical; they focus on facts and hard data and avoid personal analysis. At maturity stage innovation is rarity and firms are completely engaged with prevalent problems rather than thinking of future trends. Consistently, unlike other NF and NT managers, ST managers more focus on immediate and current problems and use standard operating procedures to solve them, rather than thinking of future problems and possibilities (Haley, 1997). At maturity stage all rules, regulations, relationships, and structure of the industry have been stabilized; thus, it is the best time for ST executives

to show their performance, as many research findings agreed that these managers have the best performance on well-defined, stable and regulated environments (Nutt, 1986b). Unlike other stages, in a mature market, there is a high competition and this competition assumed to be threatening and serious by managers. Compatible with these environments, ST managers found to be more risk averse (Nutt, 1986, 1990; Haley 1997). At mature markets, firms seek more low-cost strategies and try more, to defend their market share. According to Gallen (2006) findings, among managers with different styles, ST managers are more likely to follow defender types of strategies. Based on these findings we proposed that:

Proposition 3: ST Managers Outperform NFs, SFs, and NTs at the Maturity Stage Of Organization Life Cycle

Declining & SF Style: As discussed earlier, at declining stage, as a result of unfavorable economic condition, significant change on customers' demands, or emergence of new and substitute products or services, organization experience its last phase of life cycle. At this stage, the sales volume decline and profits are replaced by losses. Management is preoccupied with maintaining controls, and most of actions and decisions are related to cost cutting. Generally, at the declining stage, organizations face many internal problems as a result of cost-cutting strategies (e.g. downsizing), employees start to lose their trust and loyalty toward organizations, and cohesiveness of the organizations become fragile. At this crises stage, using SF managers could be more appropriate. These managers ascribe importance on peoples' opinions and ideas in decision-making and believe that actions become feasible when people endorse them (Nutt, 1986a; Haley & Pini, 1944). An important fact about dying stage is that this stage lasts until the product or service become extinct or organization breaks down and ceases the market. However, if organization could survive during this stage, maybe it could enter another introduction stage with a new product or service. At this time, the most important factor is protecting the internal cohesiveness of the organization, and SF types of management could do this best. SF executives are also more risk tolerant comparing to other styles and this is the essence of management at this crisis stage. These managers narrow their focus on problems facing them today. Gallen (2006) proposed that SF managers more tend to follow reactor types of strategies. This finding is consistent with our proposition, as these strategies are more seen in declining stages. At the declining stage, there is not a clear image about the future of the market, and organization just try to keep itself alive, so that an innovative movement could open up a new introduction phase. Therefore, the firm just follows what environment or key players of the market, which are more likely to survive and come up with some innovations, dictate. In this situations SF executives who more concentrate on organizational endurance through internal effectiveness, could be the best option, at least for a specific period until there is an opportunity for some fundamental changes. Based on the aforementioned explanation we proposed:

Proposition 4: SF managers outperform NTs, NFs, and STs at the declining stage of organization lifecycle.

CONCLUSION

This is a conceptual paper with aim to identify the preferable cognitive style for executives at each stage of organization life cycle. Briefly, we noticed that at each stage of organization life cycle, there is specific administration needs, and accordingly, the types of required decisions vary significantly. The objective of this study is to find the most efficient and appropriate decision-making profile at each phase of organization life cycle. Researchers have always mentioned the limitation of rational normative decision-making process, indicating that it is imitated and moderated by many internal and external factors. Among those internal factors, executive's cognition has a significant influence on the outcome of decision-making process. In this study, we first carried out a through literature review on cognition to summarize the specific characteristics of each cognitive style, and we used Jung's (1923) psychological constructs that is developed later and became a part of MBTI type indicator. Then after a literature review

on organization theory, we pointed out specific administration needs at each stage of organization life cycle. Then, we linked each cognitive style to a different stage of organization life cycle so that the best result is gained. Additionally, strategy, as the third construct that is related two both cognitive style and organization life cycle helped us to explain the cognition-life cycle linkage with more confidence. In fact, in the triangle of strategy, organization life cycle and executives' cognition, the side (linkage) of cognition-life cycle can be also explained by the other two sides. Based on literature, executives with similar cognitive profile are more likely to follow similar type of strategies (Gallen, 2006); and at each stage of organization life cycle, a specific type of strategy is dominant. Overall, we conclude that NF, NT, ST and SF profiles, in order, outperform at introduction, growth, maturity and declining stage with prospector, analyzer, defender and reactor strategy as the dominant type of strategy. These findings could be beneficial in strategic management literature in several ways. Firstly, it clarifies the role of executives' cognition in decision-making process in the context of organization, and explains why various management styles are more successful at different stages. Secondly, it helps organizations to match their executives with the stage of organization to achieve the best outcome. Finally, it is helpful for executives themselves, to recognize their strengths and limitations according to the organization stage, and use peripheral mechanism in decision-making process to cover their weaknesses and compensate for them. As a conceptual paper, this study has its inherent limitation, lack of validity. Although these findings sound cogent theoretically, but should be tested and validated in future researches.

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