



# Does CEO Resilience matter ? An upper echelons perspective.

Jonathan Hayes

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Par

**M. Jonathan HAYES**

Does CEO Resilience Matter ? An Upper Echelons Perspective.

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**Composition du Jury :**

Madame, Chevalier, Françoise

Monsieur, Thévenet, Maurice

Monsieur, Besson, Dominique

Monsieur, Besseyre des Horts, Charles-Henri

Professeur associé, HDR, HEC Paris

Professeur, HDR, CNAM et ESSEC business school

Professeur des universités; IAE de Lille

Professeur émérite, HDR, HEC Paris

Président

Rapporteur

Rapporteur

Directeur de thèse

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# INTRODUCTION

Before engaging into theoretical building and empirical analyses, I would like to elicit two of the premises that motivated this dissertation. My interest in the topic of CEO Resilience was sparked by the consideration that (1) firms have to navigate through increasingly troubled seas and (2) captain(s) at their helm have a role to play to head them through the storm.

First, corporations have nowadays fewer safe ports to hide and have to face unexampled upheavals. Hamel and Breen (2007) stress that the acceleration of changes, with pace following exponential pattern, causes drastic reduction of company lifespan. Coupled with fiercer competitive intensity -more powerful customers and lower barriers to entry-, increased complexity and uncertainty engender unprecedented turbulent environments. As a result, they are very difficult to sail. One statistics captures this effect: "more than half of the companies that were industry leaders in 1955 were still industry leaders in 1990. Yet, more than two-thirds of market leaders in 1990 no longer existed by 2004." (Bower, 2007). While describing those changes is beyond the scope of this paper, one consideration appears warranted: this trend towards increased pressure is likely to last.

Second, making sense of the strategic situation and setting the direction to follow appear as a crucial and challenging mission for the organizations apex. My initial and pre-doctoral program feeling was that, though constrained, top executives made a difference. Confronted to different practices within two stores of the same chain in France, I had come to identify that the different experiences felt by the customers, the different climates within the workforce and the different financial results were not due to the display and assortment of products, which were similar, but to the willingness and drive of the respective management. A strong advocator of Deming (1982), I was then keen on pinpointing management

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fallacies. For not considering top executive and especially CEOs as all-powerful, I nevertheless acknowledged that they enjoyed some latitude and exercised some influence. As an employee, I also experienced how the involvement of the CEO-founder of a headhunting firm in the City, greeting his employee at 7 a.m, was inspiring and commanding some respect and how his retirement, coupled with more process-driven practices, affected headhunters' morale. In a nutshell, I was intuitively laying towards the thesis that top management mattered; a belief that has, since then, become a conviction thanks to my confrontation with different theories and empirical research.

Top executives and more particularly CEOs have been under scholar scrutiny for decades. The function and the tasks they perform are well documented and our understanding evolved from the conceptualization of remote decision-makers preoccupied with big actions (Fayol, 1949; Barnard, 1938; Selznick, 1957) to multitask agents endorsing a variety of activities, roles and responsibilities (Mintzberg, 1973; Kotter, 1982).

During the Cambrian explosion of Organizational Theory in the 70's (Davis & Marquis, 2005), emerging theories tended to downplay the influence of top executives: Population ecology (Hannan & Freeman, 1977), Neo-Institutionalism (Meyer & Rowan, 1977; DiMaggio & Powell, 1983) and to a lesser extent resource dependence theory (Pfeffer & Salancik, 1978) emphasized respectively the importance of environment shifts, isomorphic forces and critical resources in sealing organizations' fate. In their respective frameworks, CEOs' role was considered incidental (if considered at all).

The pendulum swung back in 1984 with the seminal paper of Hambrick and Mason, which initiated a strong research stream in strategic leadership built upon their "upper echelons perspective". Following their call, researchers have since then investigated and documented the impact of various CEO characteristics on organizational outcome and

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brought significant empirical support for their effect on firm performance and strategic outcomes. Among the personality characteristics that have been documented to matter, can be inventoried *locus of control* (Anderson & Schneier, 1978, Miller, Kets de Vries & Toulouse, 1982...), *hubris* (Hayward & Hambrick, 1997), *charisma* (Fanelli, Misangyi & Tosi 2009; Flynn and Staw 2004; Tosi, Misangyi et al., 2004). *overconfidence* (Malmendier & Tate, 2005a, 2005b) or *narcissism* (Chatterjee & Hambrick, 2007, 2011). None in this list addresses specifically a characteristic, which proves crucial in the current context of heightened pressure and stress: *CEO Resilience*.

Benefiting from previous researches in psychology, which documented that resilience is "ordinary magic" (Masten et al, 1990; Vaillant, 1993), developable (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), and results from the interactions between the resources of the individual and those of his/her environment (Werner & Smith, 1982; Masten et al, 1990; Cyrulnik, 1999; Luthar et al, 2000), I do not conceptualize resilience as a trait (Anthony, 1974; Block & Block, 1980; Peterson et al, 2009) but as a positive "quasi state" capacity (Luthans et al, 2005; Luthans et al, 2006; Youssef & Luthans, 2007). Following the call of Carmeli, Friedman and Tishler (2013) to adopt a nuanced view of resilience, resilience is defined, in this manuscript, as **the capacity of a CEO to hold well under pressure and display sustained competence under stress**. There are thus two dimensions in this definition (1) a capacity to absorb strain and (2) a capacity to recover and adjust positively to difficulties (Carmeli et al, 2013).

For having been, at the individual level, an intense object of study in psychology since the 70's (Garmezy, 1974; Anthony, 1974; Werner & Smith, 1982; Cyrulnik, 1999; Luthar et al, 2000), and having been, at the organizational level, heavily researched to understand how firms and communities resist to crisis and traumatic event (Dutton et al, 2006; Powley, 2009;

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Waldman et al, 2011), CEO resilience has been comparatively less researched in management studies and Luthans and Youssef (2007) stressed that resilience was "just emerging in the management literature". Some recent publications have focused on some determinants of TMT resilience (Carmeli et al, 2013; Stephens et al, 2013) and the only study pertaining to CEO resiliency (portrayed as a trait and based on cross sectional data) was done by Peterson et al (2009); however, this trend of integrating literatures from both psychological and management strands on the matter is nascent and researchers have paid to date scant attention to CEO resilience and its effects. To be honest, some authors have pinpointed resilience and attributed CEOs' success to their resilience (Siebert, 2005; Kanter, 2006; James & Wooten, 2010...); Al Siebert (2005), for instance, suggested that the curiosity and resilience of Lee Iaccoca played a role in his turnaround of Chrysler in the early 90's. However, this claim resembles more a speculative insight and a systematic longitudinal empirical investigation of CEO resilience impact is missing. It seems all the more unfortunate since CEOs' exposure to stress is non-trivial, and their capacity to hold well under pressure and enjoy sustained competence is likely to affect their organizations.

**By focusing on Resilience, this dissertation extends the Upper Echelons line of research and sheds light on a capacity, which proves invaluable in times of uncertainty, rapid change and pressure. This doctoral thesis revolves around the following broad research question:**

**Does CEO resilience matter?**

In investigating CEO resilience, I considered two distinct research approaches and assessed each to its clarity, consistency, and applicability.

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A first approach would investigate the determinants and processes at play in CEO resilience. The objective of such research would be to identify protective/vulnerability factors and answer the following question: why do some CEOs display resilient trajectories while some other do not? Methodologically, I would need to replicate previous studies conducted on resilience and resort to variable- and/or person -based approach. In the first instance, I would use multivariate regression models, such as those proposed by Garnezy et al (1984) and, in the second case, I would need to identify a group of CEOs who experienced high risk and achieved high competence and compare them with other groups varying on these two dimensions. Although such research agenda would mainly contribute to research on resilience and generate some guidance for intervention, gaining access to CEOs and working with them through questionnaires and interviews remain extremely difficult and a pure psychological approach would limit my contribution to management research.

A second approach would focus on the consequences of CEO resilience and the impact of this personal characteristic on different organizational level variables. Investigating how executive cognition, values and personality affect organization performance represents the cornerstone of the "Upper Echelons" or "Strategic Leadership" research agenda. Working on resilience impact provides an opportunity for interesting linkages with different organisation theories and a possibility to ground my reasoning and contributions in management research. Recent methodology advancement, which couple the usage of unobstrusive indicators with reliable psychological scales, renders the conduct of large-scale panel analysis based on secondary data feasible. This possibility alleviates the concerns of working directly with CEOs. The objective of my thesis, which adopts this second approach, is thus to answer the following specific questions:

- 1) What impact does CEO resilience have on firm performance? Do firm features and environment characteristics moderate this relationship?***

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- 2) *What impact does CEOs resilience have on their strategic choices and more specifically on strategic dynamism? Does environment munificence moderate the effect of resilience on external strategic dynamism? Is strategic dynamism mediating the relationship between CEO resilience and firm performance?*
- 3) *How can we conceptualize the diffusion of CEO Resilience both internally and externally in times of crisis?*

It is organized as follows:

-In chapter 1, I **contextualize my research** by reviewing (1) past upper echelons literature contributions and (2) resilience literature in order to circumscribe the construct. As I import the concept from the field of psychology – *where it was mostly applied to children in a private sphere*- to the field of strategic leadership –*where it is applied to well seasoned executive in a professional sphere*-, I had to proceed with care and caution.

-In chapter 2 (essay 1), I examine **the impact of CEO resilience on firm performance** and the moderating role of firm features (*level of slack and diversification*) and environment characteristics (*munificence, dynamism and complexity*). After proposing hypotheses rooted in resource dependence theory, I test them based on a sample of S&P 500 CEO over a 5-year period [2002-2006]. I find substantial and robust support for my main hypothesis ; that of a curvilinear relationship (inverted-U shape) between CEO resilience and firm performance. Environment complexity strengthens this relationship and potential slack inverts the relationship in case of high potential slack.

-In chapter 3 (essay 2), I move **one step closer to the CEO and study the impact of CEO resilience on his/her strategic choices by adopting strategic dynamism** as object of study. I hypothesize that CEO resilience relates to strategic dynamism following a U-shape pattern and find significant support for this link, be it for internal strategic dynamism or



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external strategic dynamism. I however do not find any evidence of an internal strategic dynamism mediating effect between CEO resilience and firm performance. Once again these hypotheses are tested resorting to a panel data of S&P 500 CEOs from 2002 to 2006.

-After demonstrating that CEO resilience mattered as it affected both firm performance and strategic dynamism, I turn my attention to the intricacies that account for such an outcome. Chapter 4 (essay 3) presents a **theoretical model** eliciting the different steps and mechanisms at play in **the diffusion of CEO resilience both internally and externally in times of crisis**.

-Finally, Chapter 5 summarizes the thesis research objectives and its main contributions, addresses limitations inherent to this work and provides an agenda for future research. Lastly, some managerial implications are put forward.

In sum, this dissertation contributes to the strategic leadership literature by documenting and quantifying the impact of CEO resilience on (1) their organization performance and (2) their strategic choices. Rooted in upper echelons and resource dependence theory (in essay 1) as well as in upper echelons, behavioral theory of the firm and attention based view (in essay 2), it provides the first longitudinal empirical tests to date of CEO resilience influence. As such, it expands our knowledge of CEO behaviors and actions under challenging conditions. To do so, I take full advantage of resilience measuring scales, which provide a reliable and valid means to assess individuals' resilience capacities. If the first two essays establish that CEO resilience does matter, the third paper adopts a contingency based approach, opens the black box and pinpoints two paths through which, CEO resilience travels towards crisis handling effectiveness.

Two caveats should be introduced here pertaining respectively to this dissertation epistemology and format:

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First, this thesis adopts a positivism philosophy and follows a plain hypo deductive research strategy. Blaikie (2013) proposes that a deductive strategy follows six sequential steps, namely (1) put forward a tentative idea, a conjecture, a hypothesis or a set of hypotheses that form a theory, (2) based on previous literature or previously accepted hypotheses, specify the conditions under which the hypotheses are expected to hold, deduce testable propositions, (3) examine the conclusions and logic of the argument that produced them; assess whether it constitutes an advance in our understanding and if so move to next step, (4) test the hypotheses by collecting appropriate data to measure the concepts and analyze the relationships between variables (5) if the test fails, i.e. the data are not consistent with the conclusion, the theory must be false and the original conjecture should be rejected and (6) if the data are consistent with the theory, the theory is temporarily supported. It is corroborated but not proven to be true (Popper, 1959). The first two essays (chapter 2 and 3) specify and put to the test different propositions linking CEO resilience to specific organizational outcomes: the process I followed, strictly met the successive steps listed by Blaikie. Theories/hypotheses were framed well in advance of any kind of data gathering, and the resort to secondary data and panel data statistical analysis is fully in line with my research orientation. The third essay (chapter 4) also adopts a deductive stance but given its conceptual nature, it integrates different theories to make sense of CEO resilience impact in times of crisis and goes all the way from step 1 to step 3.

Second, my dissertation follows a three-essay format. While the three essays are related, to the extent that they answer my broad research question and contribute to a consistent research agenda rooted in upper echelons, they nonetheless represent three **stand-alone pieces**. This implies that each of these pieces sheds a slightly different light on CEO resilience impact and thus adopts different magnification glasses. It translates into the use of different theoretical lenses across papers (resource dependence theory for essay 1, attention

## INTRODUCTION

based view for essay 2 and two contingency theories for essay 3) and theoretical consistency is ensured within each essay. Moreover, my two empirical papers share some similarities methodologically wise and some sections such as variable operationalization, estimation methods or limitations need to be restated and will thus appear redundant.

## INTRODUCTION

**Figure 1**-Summary of the Doctoral Thesis Structure

### Does CEO Resilience matter? An Upper Echelons Perspective.

*Results and facts from previous researches*

- CEO experience (*be it Education, Functional background or Tenure*) and personality (*be it Locus of Control, Hubris, Charisma, or Narcissism*) impact the performance of their organizations.
- Those CEO characteristics also impact their strategic path of action (*Strategic Dynamism, Acquisition Premium, R&D Intensity, Build or Harvest Strategy*).
- There are no longer calm seas for CEOs and the amount of pressure they have to face has heightened (time pressure, broadened scope and increased complexity...)
- Resilience, defined as the capacity to hold well and display sustain competence under stress, has been conjectured by few authors to be crucial to lead in today's troubled seas. Yet, this idea has not been put to the fore and no longitudinal and empirical test has been produced to date.

#### Essay 1: Empirical Paper

What impact does CEO Resilience have on Firm Performance?

Do Firm features (*Firm Slack and Diversification level*) and Environment Characteristics (*Munificence, Dynamism and Complexity level*) moderate this relationship?

*=> Taking the two extremes of the Upper Echelons chain.*

#### Essay 2: Empirical Paper

What impact does CEO Resilience have on his/her strategic choices and more specifically on strategic dynamism within and outside the firm?

Does environment munificence moderate the effect of resilience on external strategic dynamism?

Is strategic dynamism mediating the relationship between CEO Resilience and Firm Performance?

*=> Moving one step closer to the CEO.*

#### Essay 3: Theoretical Paper

How can we conceptualize the diffusion of CEO Resilience both internally and externally in times of crisis?

*=> Opening the Black Box.*

### Main Results: CEO Resilience matters.

1-CEO Resilience effect on Firm Performance follows an inverted U shaped pattern. Environment Complexity strengthens this relationship and Potential Slack inverts this relationship in case of high Potential Slack.

2-CEO level of Resilience impacts Strategic Dynamism in such a manner that low and high resilient CEOs display higher Strategic Dynamism than moderately resilient CEOs (U shaped pattern). External Strategic Dynamism mediates the relationship between CEO Resilience and Firm Performance.

3- The diffusion of CEO resilience in times of crisis within and outside the organization follows different paths which, in fine, account for the effect of CEO Resilience on Crisis Handling Effectiveness.

# **CHAPTER 1**

## **TAKING STOCK OF PRIOR ART: AT THE CONVERGENCE OF TWO RESEARCH STREAMS**

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### **1 THE CENTRAL ROLE OF CEOS, AN UPPER ECHELONS PERSPECTIVE**

The upper echelons perspective stipulates that top executives, through their personality, values and cognition, have a strong influence on their organizations' performance. The model, presented by Hambrick and Mason (1984) and by Finkelstein and Hambrick (1996), illustrates a linear information-processing model. It relies on the assumption of bounded rationality (Simon, 1957; Cyert & March, 1963) and starts with an information overload situation. When top managers contemplate a strategic environment, which emit numerous, complex and ambiguous stimuli, they neither have the time nor the ability to comprehend the whole situation. In their field of vision, which is limited, they select bits of information and interpret them. Their personality, cognition and values play a major role in this filtering process that determines the strategic choices they make, and these choices, in fine, affect their organizations' performance.

To this extent, organizations reflect their top managers. Hambrick & Mason (1984) therefore suggest (1) that to understand why organizations behave the way they do, attention should be devoted to understand people at their helms, (2) that, in this quest, demographic variables can be used as proxy for executive cognition and (3) that adopting the top management team (hereafter referred to as TMT), rather than the CEO, as a unit of analysis offers better prediction of organizational outcomes.

In line with early organizational theorists (Fayol, 1949; Barnard, 1938; Selznick, 1957), upper echelons theorists consider that top executives matter and strongly influence

their organizations' fate and performance. Though intuitively appealing and prevalent from the 40's to the 60's, this view was sometimes contested and the upper echelons perspective came to contrast with a fair amount of research that paid little respect to top executives, namely *Population Ecologists* (Hannan and Freeman, 1977) and *New Institutionalists* (Di Maggio and Powell, 1983).

Population Ecologists contended that an organization's fate depended much more on environmental constraints than on the arbitrage made by their top executives. Given their focus on company-environment interactions, they were prompt to highlight internal and external constraints that restrict the latitude top executives enjoy. They claimed that organizations were in essence inertial and that top executive influence was marginal at best.

Stressing the prevalence of 'legitimacy' in business life, New Institutional theorists (Meyer & Rowan, 1977; DiMaggio & Powell, 1983) proposed that 'isomorphic forces' were at play and that industry norms significantly influenced managers' course of action. Pressured to appear rational and fearing to break stringent norms and conventions, top executives were likely to conform to their peer common practices. Those strong mimetic forces were to cause a fair amount of homogeneity in a given industry's top executive population; hence, top executive personal differences were considered as poor predictors of the variability witnessed in organization outcomes.

These claims received empirical support in two heavily cited studies: Lieberman and O'Connor study of top executive in large US corporations (1972) and Salancik and Pfeffer paper about US city mayors (1977). Both studies documented that leadership accounted for less than 15 % of the firm performance or of the city hall expenditure variation. In a replication of Lieberman and O'Connor study however, Weiner and Mahoney (1981) failed to corroborate the findings and showed that 'stewardship' actually accounted for 44% of the

variance in profitability for major US firms. The discussion concerning empirical findings and their validity should not however obfuscate the major theoretical divergences between upper echelons, population ecology and new institutional theorists that remain vivid and stems from their focus on different level of analysis.

In 1987, Hambrick and Finkelstein proposed that the concept of ‘managerial discretion’ could bridge the differences among the three orientations and could provide a grounding for synthesis. Managerial discretion, which reflects the latitude of action an executive enjoys, was proposed to result from three set of factors: the task environment (echoing the major preoccupation of population ecologists), the internal organization (echoing somehow the new institutional focus) and the managerial characteristics (echoing the major focus of upper echelons theorists). They suggested that the discretion level enjoyed by CEOs would determine whether personal characteristics are reflected in organizational outcomes and the magnitude of such influences.

Thirty years after Hambrick and Mason’s seminal publication, the upper echelons perspective has received tremendous empirical support showing univocally that top managers do make a difference. Numerous studies have investigated the CEO’s – or Top Executive- **Experience** and CEO- or Top Executive- **Personality traits**’ impact on organizational outcomes and found conclusive evidence. I review some of these studies dealing with CEO characteristics hereafter<sup>1</sup>.

CEO experience and CEO personality represent two pillars on which the upper echelons literature appears to stand. CEOs’ perceptions of their environment and the unfolding filtering process are acknowledged to be influenced by CEOs’ values- *what they aspire to or what they find desirable in the broader social system-*, their cognition –*what they*

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<sup>1</sup> Another part of the upper echelons literature focus on TMT; a focus that does not quite fit in the scope of my research project. For a TMT review, see , for instance, Carpenter et al (2004)).

*know and how this knowledge is organized-*, and their personality – *their ingrained dispositions-*. On the one hand, CEO cognition and values have been approached through experience proxies. The rationale behind this operationalization lies in the consideration that executive experiences do shape executive values and cognition, which, in turn, impact their organizational outcomes. Three executive experiences have been extensively researched: ***education, functional background*** and ***tenure***. On the other hand, CEO personality has been approached through the analysis of some personality characteristics or traits such as ***locus of control, positive self regard*** (including hubris, overconfidence or narcissism) or ***charisma***. I hereafter review those two strands of research.

### ***1.1 CEO Experience***

Several studies resort to different experience proxies and analyze their impacts on different organizational outcomes. Most of them reach confirming conclusions and bring empirical support to the upper echelons perspective. Yet, a majority of these studies does not address the direct impact of experience (broadly defined) on the perception of the executive, hereby leaving the executive cognitive process a black box. Other studies resort to psychological scales to avoid the limited visibility of individual cognition and perceptions.

#### ***1.1.1 Education***

CEO education has been hypothesized to influence behavior and strategic choices. Among the various characteristics studied, education can be considered the most remote to CEOs' present situation. Regarding education as influencing CEOs' decision entails acknowledging the long-term effect of education. The tools, the frameworks, and the analytical competences acquired through education can however bear long lasting influence. Some researchers have tackled this issue and their findings were quite clear and conclusive.

CEO education has been proven to affect firms' innovation level. As early as 1971, Rogers and Shoemaker documented the impact of executive education on their receptivity to



innovation. In 1981, Kimberly and Evanisko established that hospital administrators' education level was positively and significantly related to their hospitals' adoption of innovation. Similar effects were found in forest product, IT and airline industries (Thomas, Litschert & Ramaswamy, 1991; Hambrick, Cho & Chen, 1996). I note one divergent result in Barker and Mueller (2002), who found no significant relationship between a firms' R&D spending and CEO education and mixed findings for higher education background (no influence from the number of business degrees held but a significant and negative relationship for legal degrees and a significant and positive relationship for science and engineering degrees).

CEO education type (whether they hold a MBA or not) and its impact on organizational outcomes were extensively researched. Grimm and Smith (1991) showed that US railroads companies, which were changing their strategies in the wake of deregulation, were more likely to have MBA senior executive than those sticking to their past strategies. Barker and Mueller (2002) documented that companies with a higher proportion of MBA executives spent less on R&D. Bertrand and Schoar (2003) found that firms led by CEO holding a MBA, made different finance arbitrage: they took more debt and paid lower dividends. Focusing on the subset of elite schools MBA holding CEOs, Palmer, Jennings and Zhou (1993) unveiled that they were more likely to adopt a multidivisional corporation form in their organization. Palmer and Barber (2001) reported that these CEOs were more likely to engage in the 1963-1968 US-wave of M&As. Not only MBA holding affects strategic choices, but it also positively impacts corporate performance (Bertrand & Schoar, 2003). Though the time elapsed between their education and their actions is substantial, CEOs' level and type of education have been proven to significantly affect their strategic choices and their companies' performance.

### ***1.1.2 Functional Background***

Most senior executives and CEOs in particular build their careers and credentials in a specific functional area before accessing the top of their organizations. That marketing and sales, finance and operation departments follow different and sometimes divergent agendas has been frequently noted and illustrations of the tensions those divergences generate are plethora. The influence of CEOs' primary functional background on their environmental scanning, information selection and decisions is commonsense. This influence can be expected to be quite strong since it is reinforced over the CEO's career; prior to becoming CEOs, executives join a company in a specific department (output, throughput or peripheral functions) reflecting both their interests and abilities. In their ascension, these executives acquire expertise and meet satisfactorily numerous challenges. These successes reinforce their views and orientations and they develop heuristics that are often specific to their functional backgrounds.

Three studies investigated functional background's influence on executive interpretation of business problems. Dearborn and Simon (1958) had 33 middle managers read a case study and asked them to identify the major problems the company faced. Respondents tended to identify problems related to their functional background and the authors noticed the existence of functional biases. However, in a replication and extension of this study, Walsh (1988) quite surprisingly did not reach the same conclusion: no functional bias was put in evidence. Two major differences existed in the design of the two studies: the former relied on executives and asked them to "identify the most important problem" whereas the latter relied on MBA students and asked them to identify "all of the important problems". Starting from these differences, the third study by Beyer et al (1997) established that the respondents, who were given the first instruction, identified fewer problems than those who

were given the second, and confirmed Walsh's conclusion: the problems the students identified were not indicative of a functional bias. Yet, interestingly, they documented that the functional backgrounds significantly influenced overlooked problems. For instance, people with and operations-background tended to overlook human resource dimensions.

As a potential explanation of these diverging findings, I would like to stress that the periods in which those studies were conducted differ also significantly: indeed, in the 60's, multidisciplinary business training was relatively more rare than nowadays, when it represents the building block of regular MBA education. Also, the two replication studies relied on MBA students, who operated in a non-highly complex situation and were not exposed to time pressure. It can hence be speculated that respondents may not have been forced to resort to shortcuts and heuristics to meet the tasks at hand and that the influence of their functional backgrounds was not strictly tested.

To sum up, while not overlooking the impact of executive functional background on their environmental scanning and perception, it seems wise to expect this impact to decrease under the influence of business education programs (multidisciplinary focus) and the adoption of new HR practices such as job rotation.

While the impact of functional background on executive cognition may not be clear, a certain fit between firm strategic choice, firm performance and CEO functional background was shown. For **business strategies**, most of the studies relied on Miles and Snow typology (1978) and classified companies as prospectors or defenders. They documented that executives with output experience (i.e: functional background in marketing, sales, and product R&D.) tended to pursue prospector strategies whereas executives with throughput experience (i.e: functional background in production, process engineering, finance, and accounting) tended to pursue defender strategies. That has been proven robust over different

industries (tobacco companies for Chaganti and Sambharya (1987), IT companies for Thomas, Litschert and Ramaswamy (1991), hospitals for Strandholm, Kumar and Subramanian (2004)). Moreover, this alignment of executive background and business strategies generated better performance: Thomas, Litschert and Ramaswamy (1991) stressed that the best prospectors were held by CEOs with output background and that the best defenders were held by CEOs with throughput background. Beal and Yasai-Ardekani (2000) showed that CEOs with R&D backgrounds have superior firm performance if the firm was engaged in an "innovation differentiation" strategy but that CEOs with accounting and engineering backgrounds were more efficient if the firm was engaged in cost leadership or quality differentiation strategies. Similarly, Gupta and Govindarajan (1984) established that companies engaged in a "build strategy" benefited from managers with Marketing & Sales experience whereas companies engaged in "harvest strategies" did not.

For **corporate strategies**, emphasis was placed on the level of diversification and engagement in M&As. CEOs with financial, accounting or legal backgrounds were hypothesized to adopt a view of firms as portfolios of businesses and to seek growth through diversification (Hayes & Abernathy, 1980; Fligstein, 1987). This proposition enjoyed some empirical support. Song (1982) documented that firms, which engaged in growth through acquisitions, had more finance and legal CEOs and that those, which engaged in organic growth, had more core function experience. Palmer and Barber (2001) found that CEOs with financial background engaged more in diversification and acquisitions; a finding corroborated by Jensen and Zajac (2004).

Also, Michel and Hambrick (1992) proposed that the presence of core functions competence would be proportional to the firm's business lines interdependence (ranging from unrelated to vertically-integrated). They found strong support for their hypothesis. Yet, the impact of the diversification and top executive background alignment on a firm's

performance remained unclear. Michel and Hambrick (1992) also found, that, for the unrelated case, profitability was negatively associated with the presence of a core-functions executive, while it was the opposite for vertically integrated companies; puzzling findings that go contrary to their hypotheses. Moreover, despite Hayes and Albernathy's (1980) argument that the prevalence of financial profiles would be detrimental to organization health, no empirical evidence followed.

### ***1.1.3 Tenure***

Executive tenure refers to the time spent in holding a position within an organization, or an industry. These types of tenure are not independent and rather co-vary: Time spent as a CEO is also spent in an organization as well as in an industry. Studies of executive tenure rest on the central claim that CEOs with long tenure tend to get committed to the status quo, do not engage in major change, and lead their organizations to sub-optimal performance.

The theoretical framework on which most of the empirical studies rely is formulated by Hambrick and Fukutomi (1991). Their article titled "the season's of CEO tenure", analogous to the seasons of the year, has been heavily quoted (more than 650 times) since its first publication and the bell shape relationship between CEO tenure and firm performance is empirically robust (Luo et al, 2014). They proposed that a CEO's tenure goes through five seasons, which can be summarized as follows. CEOs come with their own cognitive maps and apply methods that proved to be successful in their past experience (Season 1). Having earned first wins and gained legitimacy, they might experiment new ways of operations (Season 2), before quickly selecting and sticking to practices that demonstrated to be the most effective and/or most comfortable (Season 3). They next increasingly commit to their paradigm (Season 4), to the point where they apply a single reading grid that gets increasingly disconnected from the environment (Season 5). During these seasons, different aspects evolve concurrently: first, CEOs' knowledge of their job increases from a low level in

*season 1* to reach a satisfactory plateau in *season 3*; second, the number of CEOs' sources of information decreases over time due to routines and habits implemented (collaborators know which information their CEOs are looking for, CEOs trust their collaborators information and their access to information gets highly filtered). Third, CEOs' interest in their tasks might decrease from *season 4* since few novelty arises and fourth, CEOs' power constantly increases starting at low level in *season 1* to achieve very strong level in *season 5* (at the beginning of their tenure, CEOs gauge the situation and the context, and then through successive selection, reward and appointments, they enjoy increasing power over their close circle).

Executive tenure therefore affects executive cognition: the breadth and diversity of information sourced and processed decrease over time. Moreover during the first part of their tenure, CEOs having remained at the helm of their organizations receive praised. Thus, they are more likely to stick to their analyses, procedures and policies. Evidence of this effect has been provided by Hambrick, Geletkanycz and Frederickson (1993) who showed that executive tenure was positively related to commitment to the status-quo or CSQ. They defined CSQ as the belief of the executive in the enduring accuracy of current organizational policies. They also asserted that the longer the executive had been exposed to current policies, the less likely they conceived or formulated alternative modes of proceeding.

Empirical studies have unambiguously shown that executive tenure reduced strategic choices. Gabarro (1987) showed that the majority of actions, taken by General Managers in their work premises, came from their first two and half years in office. Finkelstein and Hambrick (1990) found that top executive tenure was positively related to strategic persistence and conformity. Wiersema and Bantel (1992) stressed that executive tenure was negatively related to corporate diversification. Grimm and Smith (1991) documented that

executive company and industry tenure were negatively related to their railroad company changing strategies in the wake of deregulation.

Similar to researchers investigating the impact of education, researchers have also investigated the impact of tenure on the type of strategy pursued. They established that long-tenured executives tended to favor defender strategy, whereas short-tenured executives favored prospector strategy (Chaganti & Sambharya, 1987, Thomas, Litschert & Ramaswamy, 1991). Barker and Mueller also unveiled that CEO tenure was negatively related to R&D spending.

If the impact of CEO tenure on strategic choices is established, its impact on firm performance garnered mixed empirical findings. Some studies established that tenure had a positive impact (Pennings, Lee and Van Witteloostuijn, 1998; Waldman et al., 2001), while others found a negative one (Sorensen, 1999) and others found no relationship (Iaquinto & Frederickson, 1997; Balkin, Markman, & Gomez-Mejia, 2000). An alternative argument is that the impact of tenure on performance is non-linear, illustrated in an inverted U shaped, with an inflexion point around seven or eight years (Hambrick & Fukutomi, 1991) and eight to ten years (Miller and Shamsie, 2001). Henderson, Miller and Hambrick (2006) proposed that this inflexion point varied according to the dynamism of the industry. In a dynamic industry, the CEO cycle might be shorter due to a more rapid obsolescence and changing environment, whereas in a more stable industry the inflection point might occur later (fifteen years of tenure in the branded food industries). In a recent study, Luo et al (2014) complemented this picture and documented that the impact of CEO tenure on firm performance was mediated by the level of firm-employee relationship and firm customer relationship.

## ***1.2 CEO Personality***

In addition to executive values and cognition, executive personality, defined as the executives' ingrained disposition, has been of great interest in upper echelons research. Senior executives' personality is thought to have a direct impact on their followers and, through a cascading effect, on the whole organization. Senior executives' personality traits also clearly influence what executives perceive and how they interpret environmental stimuli. Kets de Vries and Miller (1984) proposed that the neuroses of CEOs explain dysfunctions in organizations. Different personality characteristics have been investigated since the 90's, and a methodological evolution is noticeable. While some researchers initially adopted a psychoanalytic orientation (Kets de Vries & Miller, 1984), which proved fruitful, other researchers resorted to various psychological scales (Rotter (1966), big 5 personality traits, Bass (1985) among others) and developed innovative ways to measure those dimensions without CEOs and senior executive filling the associated psychological questionnaires. The difficulty of access to senior executives and their reluctance to respond to psychological assessment remain one of the main challenges faced by any researcher engaging in this stream of research. Over time, researchers have overcome the issues by resorting to interviews or unobtrusive measures. Three broad personality variables have been mostly investigated: locus of control, positive self-regard and charisma.

### ***1.2.1 Locus of control***

Locus of control is one of the first variables examined in upper echelons empirical studies. These studies resort to Rotter's scale (1966) that measures how much an individual thinks he has control over the events occurring in his/her life. Researchers differentiate between "internal" and "external" profiles: internal profiles consider that events occurring in their lives fall under their control whereas external profiles consider that events occurring in their lives escape their control and result from fate or destiny. Empirical studies have shown



that "internals" are better equipped than "externals" to meet hardship: their reactions appear more programmatic and less emotional. Internals appear more likely to adapt to radical change (Anderson, Hellriegel & Slocum, 1977). They are also more chosen to lead teams by their peers and their teams performed better than those led by externals in a school context (Anderson & Schneier, 1978). One of the most cited studies documenting the impact of a CEO locus of control on strategy and structure is by Miller, Kets de Vries and Toulouse (1982). Based on data collected through interviews with top executives of Canadian firms, they showed that firms led by internals were more innovative (more frequent product introduction, more radical change in product lines) and were more likely to survive in dynamic environments than were firms led by externals.

In a more recent study, Boone et al (1996) found that CEO internality had a positive direct effect on firm performance and on engagement in differentiation strategy. In spite of empirical support, the direction of causality and the presence of selection bias might be problematic. While internals have the opportunity to demonstrate their abilities in a fast moving environment, externals are unlikely to display the same kind of abilities in such context; the dynamism of the firm context can therefore influence who becomes CEO and this possibility incite us to apprehend the previous results with caution.

### ***1.2.2 Positive self regard***

With the locus of control analysis, researchers confirmed that internals who consider the environment as threatening were less efficient than their more external counterparts. In the study of a CEO's personality traits, researchers investigated whether positive self-regard, which is traditionally seen as a positive, could be overplayed and become detrimental. They mainly focused on exaggerated self-regard, notably CEO hubris, overconfidence or narcissism.

## CHAPTER 1

**Hubris**, which origin lies in Greek mythology and which is defined as "exaggerated pride or self confidence, often resulting in retribution" (Hayward & Hambrick, 1997), was first invoked by Roll (1986) to account for CEOs' tendency to engage in large corporate acquisitions despite strong evidence that those deals would not be beneficial and that synergies were often overestimated. Hayward and Hambrick (1997) tested this hypothesis by analyzing the premium CEOs paid in their acquisitions in 1989 and 1992. They documented that CEO hubris was negatively related to their companies' subsequent performance. The authors could not directly assess CEO hubris (problem of access to CEOs, presence of strong desirability bias). They thus opted to aggregate "three sources" of hubris -the recent acquirer performance, the media praise for the CEO during the three years prior to the deal and the CEO relative compensation to the second highest paid officer- as proxy of self importance. Each of these dimensions positively influenced the amount of premium paid for acquisition, supporting the existence of a hubris effect.

**CEO Overconfidence**, a similar concept, has been analyzed in the finance literature. In two articles, Malmendier and Tate postulated that overconfidence was a personal characteristic and investigated how it was affecting a CEO investment decisions. They defined overconfident CEOs as CEOs who "persistently overestimate their own skills relative to others and, as a result, are too optimistic about the outcomes of their decision". They demonstrated that (1) overconfident CEOs (categorized as those who were not exercising their stock options when these were 'in-the-money') invested in more unprofitable projects – a situation claimed to arise from overestimation of their personal capacity to deliver results- (Malmendier & Tate, 2005a) and that (2) CEOs enjoying "superstar" status were underperforming relative

to the overall market and to a matched sample of their peers (Malmendier & Tate, 2005b).

**Narcissism**, which origin also lies in Greek mythology, has been used in psychology literature for over a century (Ellis, 1898). Narcissists are individuals who are simultaneously full of self-admiration and need to shine in front of their peers so as to be comforted in their self-views. Only recently have researchers in psychology proposed that narcissism could be measured on a continuum, using a scale developed by Emmons (1987). However, as for hubris research, gaining access to CEOs for assessing their narcissistic tendencies is unfeasible. Chatterjee and Hambrick (2007), resorted to unobtrusive measures in order to gauge the level of narcissism of CEOs in the hardware and software industries, and proposed an innovative operationalization of Emmons' scale. They used (1) the prominence of the CEO's photograph in annual reports, (2) the CEO's prevalence in the company's press releases (number of times the CEO is mentioned by name in press release / number of words) (3) the CEOs' use of first-person singular pronouns relative to the use of first-plural pronouns in interviews (4) the CEO's relative cash compensation (in comparison to the cash compensation of the second highest paid officer in the company), and (5) the CEO's relative non-cash compensation (in comparison to the non-cash compensation of the second highest paid officer in the company). They aggregated these indicators to form a general narcissism index and were able to demonstrate that CEO narcissistic tendencies positively influence the dynamism of a company's strategy, the number and size of acquisitions made, and the extremeness of the company performance. Reaching important results, this study about narcissism pioneered a new way of measuring psychological constructs and opened new research possibilities for upper echelons scholars.

### ***1.2.3 Charisma***

Though not a personality type - a leader is charismatic to the extent that his followers consider him/her as charismatic-, charisma stood high on the agenda of numerous researchers. Charisma can be considered as influenced by a CEO's personality and its effect on followers was hypothesized as positive (Weber et al, 1947, Bass, 1985). The leadership literature listed various personality characteristics thought to contribute to charisma including, self confidence, high activity level, commitment, need for power... In charisma studies, researchers focused on CEO charisma influence over followers' behaviours, to the difference of most upper echelons studies, which focused more on strategic choices and decision processes. CEOs' charisma was proven to spread over the organization boundaries: Flynn and Staw (2004) documented that investors were more attracted and invested more money in companies headed by charismatic CEOs and that this tendency was strengthened in times of economic difficulties or problematic business prospects. Fanelli, Misangyi et al (2009) showed that CEOs' charisma, as reflected in their organizational discourses, positively influenced analyst recommendations. However, the link between CEOs charisma and company performance is not fully established, as it garnered mixed empirical findings: Waldman, Ramirez et al (2001) found that CEOs' charismatic leadership was strongly related to organizational performance, but only under conditions of environmental uncertainty or volatility, and Agle and Sonnenfeld (1994) established a positive relationship between CEO charisma and CEO performance (as perceived by followers). Yet, Tosi, Misangyi et al (2004) and Agle, Nagarajan et al (2006) found no relationship between CEO charisma and organizational performance.

To summarize, past upper echelons research has extensively documented the influence of diverse CEO characteristics on strategic choices and firm performance. The majority of

research resorted to demographic variables as proxies for CEO values and cognition. Given the challenges of getting direct psychometric information from CEOs, demographic variables represented, for early upper echelons researchers, an acceptable alternative. Since then, and with the willingness to stick closer to CEO cognition and tendencies, new methodologies have been used. The most noteworthy consist of coupling unobtrusive indicators (Webb & Weick, 1979) with valid psychological scales (Chatterjee & Hambrick, 2007; 2011). Unobtrusive indicators have notably been used in different researches; to name a few, Gosling et al (2002) resorted to study offices and bedroom as proxy of personalities; Varize and Gosling (2004), Lâm Lê (2015) resorted to personal web sites and tweets as proxy of identity.

As mentioned above, previous research investigated and documented the impact of various CEO characteristics on organizational outcome and brought significant support and contribution to the upper echelons perspective. Yet, to my knowledge, little research has focused on CEO resilience, one of the characteristics that can dramatically affect firm's performance, especially if the CEO faces some form of pressure or stress (and whom of them does not?). Some authors have attributed CEOs' success to their resilience (Siebert, 2005; Kanter, 2006 ; James & Wooten, 2010...); Al Siebert (2005) for instance suggested that the curiosity and resilience of Lee Iaccoca played a role in his turnaround of Chrysler in the early 90's. However, this claim resembled more a speculative insight and the impact of CEO resilience over firm performance remains to be empirically tested. Considering that CEOs' exposure to stress is non-trivial, their capacity to hold well under pressure and enjoy sustained competence is likely to drastically impact their organizations.

Before investigating whether CEO resilience matters, I first need to circumscribe the construct of resilience in order to provide a sound grounding to my reasoning.

## **2 THE CONCEPT OF RESILIENCE AND ITS APPLICATION TO CEO**

The first use of the term 'Resilience' is considered to date back to 1824. It was then employed in physics to describe the property of a metal to spring back into shape after bending, stretching or being compressed (Tredgold, 1824). However, as pinpointed by Ionescu (2010), the word "resilience" had previously been used in very different contexts by More (1688) who made reference to resilience to misery and Johnson (1751) who evoked the resilience of the mind; in both occurrences the capacity to 'bounce back' was stressed. The word spanned different disciplines over time and is now used in various contexts such as IT, ecology, and medical sciences.

In the field of social sciences, a resilient individual is one who, when confronted to significant stress or adversity, overcomes the initial trauma, copes effectively with the situation and enjoys a sustained recovery (Werner & Smith, 1982; Vaillant, 1993; Masten et al, 1990; Cyrulnik, 1999; Luthar et al, 2000). It is in the manifestation of resilience (i.e. the resilient outcome) that lays the origin of researchers reasoning. As some systems, individuals or communities resist better than others to significant threats or assaults, and de facto perform better in the face of adversity, they are characterized as resilient. This represents the foundation for research on resilience, a well-established foundation not subject to controversy. The attempts to account for this resilient outcome and to explain it have however triggered significant debate between two orientations: one defending an internal attribution model – or a trait model – and another that adopted a more open-approach featuring a process model.

## **2.1    *Different perspectives***

*The trait perspective* stems from internal attribution considerations. Its logic is quite straightforward and stipulates that people (or communities) who display resilient trajectories do so because they possess a specific capacity that renders them more resistant to traumatic shocks. Similar to other traits (extraversion, neuroticism, etc), resilience becomes a feature of the individual. We can therefore a priori label an individual as resilient and this individual, quite naturally, displays resilient trajectories. Yet, some argue that this logic is circular in that as long as people are not actually exposed to stressors, we are unlikely to assess with certainty their resilience.

When they refer to resilience as a trait, researchers mainly relate to the work of Jack and Jeanne Block (Block & Block, 1980; Block & Kramen, 1996) and their concept of “‘ego resiliency’”. Block research starts with the ego i.e. the desire of an individual (in his case children) to conform to external constraints and demonstrates that individuals can be ordered according to their level of ego-control: on the low end of the continuum, stand under-controlled individuals, who are very expressive and seek immediate gratification of their desires and, on the high end, stand over-controlled individuals, who, conversely, appear constrained, do not show their emotions and postpone the gratification of their desires. In this framework, ego resiliency designates “‘ the dynamic capacity of an individual to modify a characteristic level of ego-control, in either direction, as a function of the demand characteristics of the environmental context, so as to preserve or enhance system equilibration”’ (Block & Kramen, 1996). Ego-resilient individuals thus exhibit good levels of adaption to new situations, while non ego-resilient subjects stick to their usual tendencies.

Ego resiliency has received significant research attention and has been proven to influence diverse behaviors such as teenagers’ drug use (Block et al, 1988) or teenagers’ depressive symptoms (Block & Gjerde, 1990). A scale, the ER-89, has been designed to

measure ego resiliency and covers 14 items such as "I quickly get over and recover from being startled", "I enjoy trying new food I never tasted before" or "I like to do new and different things" (Block & Kramen, 1996). Some researchers have resorted to this scale to measure resilience (Tugade & Fredrickson, 2004; Waugh, Fredrickson & Taylor, 2008). This operationalization appears however problematic: ER-89 actually measures an individual's level of adaptability and, even if adaptability can contribute to the emergence of a resilient outcome, it does not equate resilience. Fortunately, ER-89 does not constitute the only option to measure resilience.

Based on different research over time, scholars have developed various scales: 19 resilience measurement scales<sup>1</sup> have been designed over the last 20 years. Their breadth of application is wide and ranges from people who are in full health or not, be they children, adolescents, adults or older adults. These scales assess the capacity of a given subject to cope with stress – by analyzing different traits of the individual and/or the robustness and diversity of his support system, to accurately reflect his/her resilience potential. Some stick closely to a trait orientation (e.g. the ER-89, Wagnild & Young resilience scale, Connor & Davidson Scale...), others such as the RSA (Friborg et al, 2003) include dimensions of the subject's environment and appear more fitted to a process orientation. However, those scales do not all meet every validity criteria; only three of them (namely the RSA, the CD-RISC and the Brief Resilience Scale) reached satisfactory construct and content validity and were proven to be reliable.

In brief, as a trait, resilience represents a fixed and stable intrinsic property of the individuals, who hold it or do not. Some researchers contend that individuals possess this characteristic at their birth and that genetic factors are at play. For instance, Caspi et al (2003)

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<sup>1</sup>G.Windle, K.M. Bennett & Jane Noyes (2011), "A methodological review of resilience measurement scales", *Health and Quality of Life Outcome* 20011, 9:8. <http://www.hqlo.com/content/9/1/8>.



documented that the presence of long allele for gene 5HTT decreased the probability of a subject to experience post-traumatic depression. Yet, researchers adopting a trait-orientation are rather scarce today and they acknowledge they do not measure resilience per se but assess the existence of traits that may (or may not) promote resilience (Waugh et al, 2008).

In opposition to this trait perspective, *a process perspective* is defended by developmental psychologists, who, in the 70's, pioneered research on resilience. At its core stands the conviction that resilience can not be traced to a single or composite attribute of an individual, but rather results from interactions between the individual and his/her environment: being resilient is not considered as a trait but as the outcome of individual-environment interactions and thus represents a dynamic process. Researchers followed the specific purpose of identifying the factors that account for the healthy functioning and positive trajectories of children exposed to adverse environments - psychopathological parents (Garmezy, 1974; Anthony, 1974), poverty (Werner & Smith, 1982) or deaths and injuries in the family (Murphy & Moriarty, 1976). They explored correlations between diverse variables and identified which elements, personal or environmental, in presence of adversity, increased the odds of positive adaptation (protective factors) or decreased them (vulnerability factors). Their original work in the 70's was followed by those of Masten in the 90's and more recently by those of Luthar, Cicchetti or Bonanno to name a few. It can be summarized to the following premises:

1. Resilient trajectories are not so much due to subjects' internal abilities but rather result from the influences of factors exterior to the individual. The locus of resilience is not to be found within the individual but shall be understood as the resultant of three forces: *the attributes of the individuals, the characteristics of their families, and the composition of their wider environment*. If this triangle is

currently well accepted and was proven empirically robust, the weights allocated to each of its constituents seem variable. One has to stress here the influence of John Bowlby's attachment theory to elicit the mechanisms at play between a child and his/her family/environment support. Bowlby documented how familiar adults provide a secure base for children in times of distress and how they encourage them to explore their environment (Bowlby, 1969, 1973, 1980). These early emotional bounds are crucial for a balanced development and most of Cyrulnik work (1993, 1999, 2001) builds upon Bowlby's attachment theory.

2. Resilience is not fixed over time but fluctuates over one's life circumstances and the nature and strength of the adverse forces or stressors. This goes counter to the conception that some resilient profiles are "invulnerable" as depicted by Anthony (1987) in the well-known three dolls metaphor.

*“...three dolls made of glass, plastic, and steel and exposed to the same risk, the blow of a hammer. The first doll breaks down completely, the second shows a dent that it carries permanently, and the third doll gives out a fine metallic sound. Of course, the outcomes for the three dolls would be different if their environments were to buffer the blows from the hammer by interposing some type of 'umbrella' between the external attack and the recipient. (1987 pp. 10-11)”*.

The acknowledgment that (1) one might be resilient in one situation and not another - to reuse the metaphor, exposed to fire up to 1400 °C, the plastic doll would melt first, the steel one would follow and only the glass doll would withstand- and that (2) no doll can be left unaffected, is, within this research stream, widely shared today.

The trait model challengers hence share the considerations that the distinction should be clearly drawn between "*a personal trait that may (or may not) promote resilience and the unfolding adaptive response to adversity that constitutes resilience*" (Mancini & Bonanno, 2011). They also contend that resilience can only be measured a posteriori, when actual adversity is experienced, which is at odds with the recent trend of designing evaluation scales. In line with Masten (1994), Luthar, Cincchetti and Becker (2000) and Mancini and Bonanno (2011) therefore recommended to use the term **Resiliency** when a personality construct is assessed and the term **Resilience** when the ability of a subject to bounce back after experiencing significant adversity is witnessed. Yet, a slight distinction can be made between those who define resilience as a process and those who define it as an outcome; it stems from their respective research objectives. While the former analyze the resilience of children, who are exposed to significant and enduring stressors, and conceptualize resilience as a dynamic process that leads to positive adaptation, the latter analyze resilience of adults, who, by definition, enjoy fewer developmental possibilities and experience stressors of shorter duration. It is worth noticing two evolutions in resilience research pertaining to the adult population:

1. While children resilience is well documented and has benefited from researchers' attention since the 70s, adult resilience has only become of interest for researchers in the last decade. The only book<sup>1</sup> to date providing an overview of researches in "adult resilience" was published in 2010, which demonstrates the recent focus on this population.

2. While resilient research pioneers investigated the influence of adverse conditions and chronic stress on children development, the incorporation of shorter duration stressors has become commonplace. Adult resilience has been studied following such discrete

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<sup>1</sup> "Handbook of adult resilience" edited by John W. Reich, Alex J. Zautra, John Stuart Hall, 2010, The Guilford Press.

traumatic events as September 11<sup>th</sup> terrorists' attack (Frederickson et al, 2003), hurricane Katrina (Mancini and Bonanno, 2010), bereavement (Bonanno, 2004, 2005) or personal assault (Frazier et al, 2004) to name a few.

Those studies demonstrate that (1) the stressors' duration does not condition the existence of resilience and (2) adults follow some post-traumatic trajectories that evoke the presence of developmental properties. This is puzzling since adults are defined as mature individuals, for whom development is over; yet, researchers have coined concepts such as post-traumatic growth (Tedeschi & Calhoun, 1995, 2004) or stress-related growth (Park et al, 1996), which echo developmental considerations. Provided those concepts validity is warranted, some bridges between works on children and adult resilience can be built and findings or frameworks can be transferred from one population to the next to formulate a unitary theory.

## **2.2    *Semantics and process orientation***

Though the literature on resilience is vast (PsycINFO database listed in August 2010<sup>1</sup>, 4 641 papers dealing with this topic) and the definitions of resilience numerous, one recent proposition put forward by Pourtois, Humbeeck and Desmet (2012) stands apart and deserves specific attention since (1) it adopts developmental lenses and frames resilience as a process, which can be applied to adults, (2) it specifies the relations existing between resilience and other concepts that qualify it or oppose to it and (3) it is a good illustration of a process perspective. By proposing a lexical field surrounding the term 'resilience', Pourtois et al delineate the boundaries of the term, and move it from the status of a notion (or even of a metaphor when the sole characteristic of bouncing back is evoked) to that of a proper concept. Pourtois et al posit that an individual's identity develops through the fulfillment of affective, cognitive, social and conative needs, which are met through the processes of

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<sup>1</sup> Serban Ionescu in "Traité de résilience assistée", Avant propos p XIX, Septembre 2011, PUF.

affiliation (*I benefit from secure emotional attachments and I am accepted by a community*), achievement (*I am stimulated, experiment new possibilities and I am rewarded for that*), social autonomy (*I communicate well with others and they appreciate me*) and ideology formation (*I get a clear idea of what is right/wrong, true or beautiful*).

Under normal functioning conditions, the identity of the individual is in equilibrium, secure and grows constantly. The advent of a discrete traumatic event or the presence of enduring adverse conditions provokes a collapse of the individual's self by affecting the extent to which those 4 psychosocial needs are met. Confronted to this imbalance, the individual adopts strategies to counter it (or to adapt to it) and, in fine, achieves the state of prior-shock equilibrium (or does not). Resilience can be seen as the homeostatic property of an individual who recovers and displays a post shock developmental potential equivalent to the one he/she displayed pre-shock.

According to Pourtois et al, resilience is thus a psychological process that supposes (1) the identification of a trauma, (2) the development of resisting or de-sisting strategies, (3) the preservation of the individual development potential and (4) a thriving potential that remains intact. Resilience thus represents a process that renders a new positive development possible, a process at the origin of an emancipatory neo-development of the self: the resilient individual makes sense of the past and engage in new social interactions that help him/her reconstruct his/her broken identity.

As shown in the figure below, Pourtois et al coin the term *desilience* as resilience's antagonism. Instead of embracing an emancipatory trajectory, the *desilient* individual follows an alienating path that leads him/her to deny the value of social interactions, and, in the most severe cases, to negate the existence of others. This alienation can, for example, lead him/her to find refuge in toxic substances or to engage in extreme

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endeavors such as mass killing or altruistic suicide. In those situations, the *desilient* individual aims at showing his/her worth in a world deprived of value.

Orthogonally to the horizontal desilience-resilience axis, Pourtois et al draw a vertical desistant-resistant axis. This axis reflects the strategy adopted by traumatized individuals: do they resist the situation and attempt to maintain their development potential or do they disinvest some spheres of development (sometimes to preserve others)? By resisting the situation and the collapse of their selves, the individual can try to block the effect of the trauma and preserve their pre trauma state. As such, resisting individuals will appear only marginally affected by trauma and will tend to remain the same. In this situation, resisting individuals cope with the situation, maintain the same functioning and display the same amount of care for others (Bonanno, 2004). For Pourtois et al, resisting individuals differ from resilient individuals since they are not, at this stage, engaged in atypical or neo-development. Though new development is not pursued, their developmental potential remains intact but dormant.

Conversely, non-resisting individuals are characterized by the neologism "desisting". In order to confront their identity collapse, desisting individual decides (un)consciously to sacrifice dimensions of their psychosocial needs to survive. For example, following a traumatic event, some individuals have been portrayed as overinvesting the cognitive sphere (decoupling their efforts at work for instance) and disinvesting the affective or social spheres. Similarly to resisting individuals, desisting individuals do not pursue neo-development, which set them apart from resilient persons but, to the difference of resisting individuals, they alter the level of potential development they might achieve at a later stage.

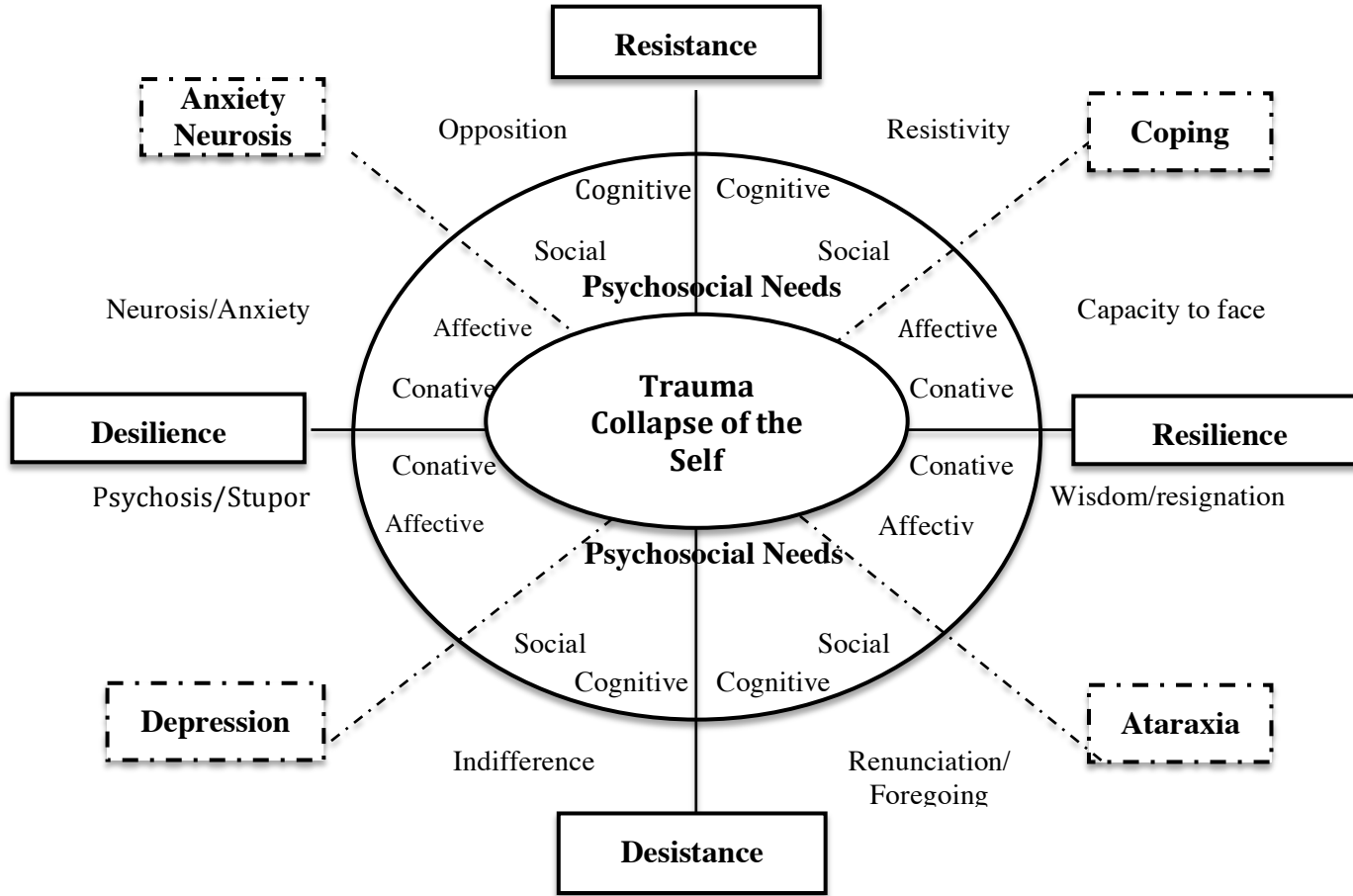
Pourtois et al's model maps four quadrants reflecting the strategy and process followed by traumatized individuals: resistance-resilience, resistance-desilience, desistance-resilience and desistance-desilience.

I will briefly cover these four quadrants and will start with the upper half section of the model. In order to address the collapse of their selves, persons affected by traumatic events, can try to resist their influence; if they stand against the situation and cope effectively i.e. they sustain their pre-shock social relationships and aim to keep functioning as usual, they will engage in a new development and follow a process of resilience. However, resisting does not imply necessarily coping and resilience. Individuals can resist the situation but be unable to overcome the initial trauma; in this case, they remain with their suffering and oppose any help from the outside. They stick with their trauma and do not allow themselves to go beyond it: sticking to the past, they no longer care for the present and any type of emancipatory development is unlikely. Such path leads them to follow a desilient trajectory characterized by high level of anxiety and the occurrence of neuroses.

The lower half of the model portrays the paths followed by traumatized persons engaged in desisting strategies. Desisting individuals do not fight back but alter their development potential and choose to sacrifice some areas of their psychosocial development. On the one hand, this strategy can lead them to desilience since individuals who disinvest some psychological areas they relied on pre-shock, get increasingly detached from important aspects of their identity. For instance, they may no longer relate to others affectively and emotionally, which might cause chronic depression. In its most severe form, those individuals remain stunned and no longer perceive reality, which is symptomatic of psychosis. On the other hand, engaging in desistance is not always negative. For example, it may enable those individuals to reevaluate what depends from them and what does not, and allow them to reach a state of calmness, called by ancient Greeks Pyrrho and Epicurus "Ataraxia". Instead

of fighting the trauma, those individuals get detached from it, which might lead them to neo-development, characterizing a resilient process.

**Figure 2-Semantic positioning of Resilience**



Translated from: Pourtois, Humbeeck & Desmet, 2012

From this model, which positions resilience in a precise lexical field and is anchored in the paradigm of psychosocial needs, we get a clear sense of the conditions and situations, in which resorting to a process orientation is beneficial: it appears well-suited to address developmental issues, help in developing one's resilience potential or assess trajectory towards recovery post-shock. As such, a strict process orientation is fully indicated for medical practionners assisting individuals coping with post-traumatic stress disorders (PTSD). By focusing mostly on the dynamic and unfolding pattern of resilient trajectory, a strict process orientation adopts very detailed lenses, which proves fully adequate for



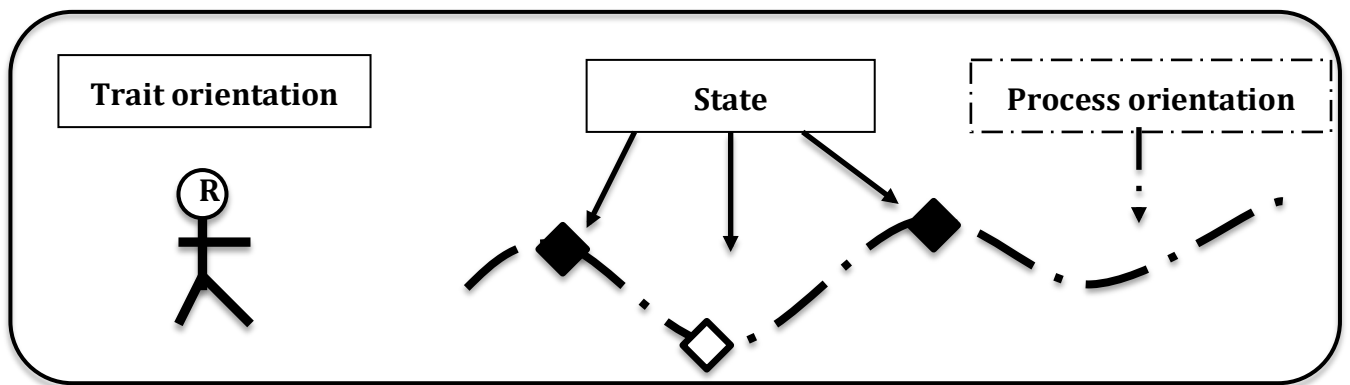
scrutinizing resilience over time. As such, it appears rather ill fitted to meet my willingness to study CEO resilience effects on organizational outcomes.

A third perspective consists of considering *resilience as a state (or a quasi-state)* and shares many similarities with the *process perspective*. Both consider that resilience is "ordinary magic" (Masten et al, 1990; Vaillant, 1993), developable (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), and results from the interactions between the resources of the individual and those of his/her environment (Werner & Smith, 1982; Masten et al, 1990; Cyrulnik, 1999; Luthar et al, 2000). The only difference between those two orientations stems from the magnification power of the researcher lenses. While process researchers adopt high magnification lenses covering the process over time, state oriented researchers wear lower magnification ones at discrete moments. This is pictured in figure 3: resilience is viewed as a full curve in a process orientation and as dots on this very curve in a state orientation. Process oriented scholars acknowledge that resilience are non static states (Cicchetti & Garmezy, 1993; Coie et al., 1993; Egeland et al., 1993) but they are interested in the evolution of the dots; researchers resorting to conceptualization of resilience as a state Milestones in the development of resilience [are interested in the influence of those dots on other variables. The research of Luthans (2002, 2007) and his Positive Organizational Behaviour (POB) approach are instructive and enlightening in this regard. Luthans (2002) defines POB as *"the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace"* and Luthans and Youssef (2007) insist that positive state-like positive capacities be the building blocks for POB. Unlike pure traits (such as the Big 5 traits or core self evaluation), which are very stable over time, positive state-like capacities are far more malleable and open to development. However, unlike pure states, which are highly changeable, momentary, and swiftly fluctuate according to the

circumstances, they enjoy some inertia. Luthans and Youssef (2007) propose that self-efficacy, optimism, hope or resiliency can all be viewed as positive state-like capacities and are eligible to sit on the POB agenda.

*In summary, three venues are open to conceptualize CEO resilience: a trait, a state and a process perspective. An illustration of these three orientations is provided below.*

**Figure 3-**Three Orientations for Conceptualizing Resilience



### 2.3 CEO Resilience: a Definition

As I am coining the term "CEO resilience," a clear definition is in order. As shown previously, the term "resilience" has spread and appears pretty well suited to the interrogations and challenges of the time. It is poly-semantic and hence, conceptual clarity is required.

Following Carmeli et al (2013), I adopt a "nuanced conceptualization" of resilience and define it as **"the capacity of a CEO to hold well under pressure and display sustained competence under stress"**. There are thus two components in this definition (1) a capacity to absorb the strain or Resilience-Efficacious beliefs (*I believe I can make it*) and (2) a capacity to recover and adjust positively to the difficulties or Resilience-adaptive capacities (*I sense, interpret and respond to the complexities of hardship effectively*).

Furthermore, I do not conceptualize resilience as a personality trait. If portraying resilience as a hard-wired and stable enduring psychological trait was common in early resilience research (Anthony, 1974; Block & Block, 1980), most of the recent findings tend to affirm this position. Shall I thus consider resilience as a state or a process?

Contrary to children psychologists, I adopt CEOs as object of study and do not follow developmental considerations. As executives reach the CEO position somehow in an advanced stage of their careers and life (S&P 500 CEOs stand in the 50-59 age bracket<sup>1</sup>, my CEO sample age mean is 52), (1) the influence of adversity on their future personal development is less stringent and (2) the stressors they encounter are of shorter duration. Compared to children growing in enduring adverse conditions that can last for years, CEOs facing crises experience adversity that is limited to weeks or months, even hours or days in case of normal working conditions. Thus, the distinction between resilience and resiliency is somehow infertile<sup>2</sup>.

Also, to the difference of most studies that have dealt with bereavement and traumatic events in adulthood (Bonanno, 2004, 2010), my focus is not on the reconstruction of an individual after he/she experienced trauma but on the effects of CEOs resilience potential on the organization they manage. While a process orientation proves beneficial to unveil the intricacies of the post-traumatic individual trajectories and to recommend some therapies, it appears inadequate for my purpose.

Importing the concept into professional settings leads me to extend the consideration of resilience to situations that are not necessarily highly traumatic but generate significant stress to the organization and its CEO.

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<sup>1</sup> Research for the 14th annual Route to the Top prepared by Meghan Felicelli, Spencer Stuart, Chicago, Illinois.

<sup>2</sup> This distinction proposed by Masten to avoid having public authorities or researchers consider children as inherently resilient, an inaccurate view that overlooked the influence of the environment on children personal development as well as the plasticity of their intelligence. Bonanno (2004, 2010), who studies resilience in adulthood conceptualized resilience as “an outcome reflecting adaptive functioning in the face of adversity.”

Given that I do not trace the origin of resilience to an innate individual quality and that the developmental aspect of resilience is not my primary concern, I conceptualize resilience as a positive quasi-state capacity as proposed by Luthans (2007) in his POB framework. This positive capacity enjoys different levels ranging from low to high. Since I will resort to a measuring scale that gauges the CEO resilience potential, resilience represents, in this manuscript, a continuous variable: in place of desilient vs resilient individuals, individuals display low, medium or high level of resilience (thresholds is determined in relation to the mean); this level will be assessed yearly and measured continuously.

### ***2.4 Resilience and related concepts***

It is important to differentiate resilience from other constructs that may relate to it but remain nonetheless distinct. As previously stressed, CEO personality has been apprehended in the upper echelons literature through the construct of locus of control and positive self-regard (including hubris, overconfidence, narcissism or charisma). A clear characteristic that sets resilience apart from the aforementioned constructs is the occurrence of a shock or the exposure to stress or pressure, which condition its existence. Stress and pressure are not required in the definition of locus of control and positive self-regard concepts. In addition to this distinction, which attests the conceptual novelty of resilience in the upper echelons research stream, resilience enjoys different level of similarities with those various concepts.

For example, resilience has very little in common with charisma: one will easily convene that people with various level of charisma can display the same level of resilience; while resisting to adversity and coping with stress can be done with brio, being charismatic is, by no mean, a necessary condition.

Resilience appears also loosely related to narcissism. The characteristics of narcissism namely (1) a belief in one's superiority and (2) a need to have one's superiority reaffirmed are not directly related to resilience.

Conversely, resilience appears somewhat related to the construct of optimism. Optimism represents an attribute of individuals who expect they will experience good outcome in life. Optimism has been framed as a dispositional attribute and operationalized as the propensity of individuals to consider that good things will happen in the future (Scheier & Carver, 1992) or as an explanatory style, operationalized as the attribution of causes to bad events (Buchanan & Seligman, 1995). In both cases, optimists focus only on the positive aspect (*I expect good outcome* or *I attribute the cause of bad events to external forces*) and tend to overlook the negative (*I expect bad outcomes* or *I attribute the cause of bad events to my own behavior*). That a healthy dose of optimism can be beneficial for individuals to display sustained competence under stress appears reasonable. Yet, people are optimistic regardless of the situation and highly optimistic individual may prove unable to sustain competence under pressure. Their tendency to dismiss any unpleasant stimuli lead them to ignore the true source of pressure or adversity they have to face, which can trigger disastrous consequences.

Also, resilience appears closely related to confidence. Confident individuals trust their abilities in succeeding at challenging tasks and self confidence contributes directly to resilience: people displaying low level of confidence are more likely to dysfunction in front of adversity and being confident in one's abilities represents thus a key dimension of resilience, which resembles the personal competence dimension depicted in the Resilience Scale for Adults (Friborg et al, 2003). Yet, both constructs are not synonymous or equivalent: facing a shock, an individual level of self confidence is likely to vary and resilience designates the capacity to sustain one's level of confidence under stress and one's capacity to

restore it swiftly tapping other resources such as family or social support. Confidence is thus both a resource and a by-product of resilience and the two constructs are therefore clearly distinct.

### **3 CEO RESILIENCE AND FIRM STRATEGIC OUTCOMES: INCREASING EXPLANATORY POWER BY ADOPTING DIFFERENT THEORETICAL LENSES**

This thesis as a whole contributes to a rich and prolific research stream, that of upper echelons or (in its more recent labeling) that of strategic leadership. In order to account for the influence of CEO resilience over firms' outcomes, I will adopt mixed perspectives and enrich my theorizing by combining a traditionnal upper echelons orientation with three major organization theories (1) Resource Dependence Theory-RDT- (Pfeffer & Salancik, 1978) in the first essay, (2) Attention Based View-ABV- (Ocasio, 1997) in the second essay and (3) two contingency Theories in the third essay: Situational Crisis Communication Theory-SCCT- (Coombs, 2004; 2007) and a functional leadership approach (Zaccaro et al ; 2001). Given the scope of those perspectives and their specific premises they appear particularly well fitted for the specific objectives pursued in the three papers:

First, by acknowledging the criticality of resources supplied by the environment and the multiple interactions firms manage with different stakeholders, RDT provides adequate lenses to investigate the influence of CEO Resilience on firm performance in a general context and to study the moderating effect of their environment characteristics.

Second, by extending the behavioral theory of the firm, on which the upper echelons perspective is grounded, ABV is all indicated in proposing a mechanism that affects the number of strategic options considered by CEOs and the degree of strategic dynamism their firm display.

Finally, the third essay investigates the diffusion of CEO resilience within and outside the organization in the specific context of crisis and account for the impact of CEO resilience on crisis handling effectiveness; to do so, a prescribed match between the requirements of crisis handling (both internally and externally) and CEO abilities is required. Adopting two contingency theories specifying an ideal match externally (SCCT) and internally (Functional leadership theory) prove particularly adequate in devising pertinent propositions. More specifically:

### **3.1    *Resource Dependence Theory***

According to RDT, organizations are not self sufficient and depend for their functioning and development on resources supplied by their environment. They are engaged in exchanges with a myriad of stakeholders, on which their growth and survival depend and they are rife with internal and external conflicts. They operate thus under constraints emanating from their network of interdependence with other firms, which are supplying and buying a given firm resources. Those resources vary according to their level of criticality and people at the helm of corporation aim at controlling vital resources, managing environmental uncertainty and reducing dependence when feasible.

RDT is also referred to as Power Theory, since the concept of power stands at the core of Pfeffer and Salancik argumentation. They trace power origin to an asymmetry in the relationship between two actors: *"If organization X sells to organization Y and is dependent on Y for absorbing its output, it is simultaneously true that Y purchases from X and is, therefore, dependent upon X for the provision of some required input. Assymetry occurs when the exchange is not equally important for both parties"*. This asymmetry determines the amount of power actor X and Y respectively enjoy in this relationship.

Pfeffer and Salancik propose that in order to maximize its power and increase its chance of success, an organization should try to minimize environmental dependences by

engaging into (1) mergers/vertical integration (Pfeffer & Salancik, 1978 ; Chapter 6), (2) joint ventures and other interorganizational arrangements (Pfeffer & Salancik, 1978 ; Chapter 7) (3) interlocking in boards of directors (Pfeffer & Salancik, 1978 ; Chapter 7) (4) political action, (Pfeffer & Salancik, 1978 ; Chapter 8) and (5) executive succession (Pfeffer & Salancik, 1978 ; Chapter 9). The use of RDT to explain those different firm actions has proven productive and this organization theory has received most empirical support over the last 30 years (for an exhaustive review, see Hillman et al, 2009); however those firms' actions do not fall, strictly speaking, in the scope of my thesis.

For benefiting from the general open-system framework and organization embeddedness in its environment inherent to RDT, I also capitalize on a rather less covered contribution from Pfeffer and Salancik: that of managerial roles. The authors evoke those roles in the introduction of "The External Control of Organizations" and detail them in the last chapter of their book. Pfeffer and Salancik (1978; chapter 10) acknowledge the influence and roles of top managers (including CEOs) in determining the fate of their organisations and their theory appears thus fully compatible with an upper echelons orientation. They propose that managers fulfill three major roles:

- ***A symbolic role:*** CEOs personify their organizations and are praised by the stakeholders for the success and failures of their organizations.
- ***A responsive role:*** CEOs assimilate information emanating from different stakeholders, assess the validity of their claims and decide which will be honored.
- ***A discretionary role:*** CEOs act upon their organizational context to shape and modify the rules of the game.

Exposed to stress and pressure, CEOs' capacity to perform effectively those three roles rests upon their resilience potential. One precision should be introduced here: the roles



defined by Pfeffer and Salancik are rather broad compared to other propositions providing much finer-grained description of managerial work (Mintzberg, 1973; Kurke & Aldrich, 1983; Tengblad, 2006); yet, these three categories represent a parsimonious and exhaustive (an infinite number of sub tasks can be allocated to each category) classification of CEO roles; moreover, this classification is not outdated: CEOs performed those three roles in 1978 (as well as earlier) and they still do today ; what changed though, is the context and contingencies that constrain their action (pace of change, innovation, globalization...).

My first essay objective is to empirically investigate the link between CEO resilience and firm performance and account for this influence through the use of moderators be they internal (level of diversification or of slack) or external (environment munificence, complexity and dynamism). Thanks to its emphasis on resources and environment constraints, RDT offers a relevant tack to investigate those variables influence.

### **3.2 *Behavioral Theory of the firm: Attention Based View.***

As pinpointed in the first paragraph, the upper echelons perspective is grounded on the behavioral theory of the firm and more specifically on the concept of bounded rationality (Simon, 1957; Cyert and March 1963). Hambrick & Mason (1984) propose an information processing model: it starts with an information overload situation, where top managers select bits of information and interpret them according to their past experience and other personal biases, and then elicits how these personal construals end up impacting their organization strategy and performance.

Ocasio's attention based view of the firm complements the upper echelons perspective well, since it stresses attention as a crucial element for information processing. Ocasio emphasises how attention (defined as *"the noticing, encoding, interpreting, and focusing of time and effort by organizational decision-makers"* on both the issue and the answer) is conditioning decision makers' choices. Two features attest for the compatibility of attention

based view with upper echelons: (1) it acknowledges the importance of top executives and especially CEOs -*"The most critical players in attention regulation are typically the CEO and the top management group"* (Ocasio 1997)- and (2) it is rooted into behavioral theory of the firm (Cyert and March, 1963) and more precisely restates one of Herbert Simon's initial insight concerning attention scarcity :

*"In an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it."*<sup>1</sup>

Stress and pressure have been documented to alter individuals' attention. While some amount of stress has been proven to induce some alertness (Kaufer, 2013), high level of stress causes significant disruption of attention in situations, where decision makers need to integrate information from various parties (a situation most decision makers, in a globalized business world, experience), and decreases decision makers' performance (Vedhara et al, 2000 ; Chajut & Algom, 2003). In such a context, decision makers have been proven to suffer more from vision tunnelling (i.e. adopting a very narrow spectrum of attention) and premature closure (i.e. deciding too quickly before considering other relevant alternatives); those two processes impair in turn their decision effectiveness (Keinan, 1987).

CEO resilience indicates CEO mastery of coping with stress and adapting to stressful situations; CEOs resilience is thus very likely to affect their level of attention, which represents a key mechanism to account for their strategic choices and their firm strategic dynamism. Coupling a consideration of attention with a more common consideration of decision-making quality (biases, heuristics...) appears thus warranted and beneficial for

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<sup>1</sup> Simon, H. A. (1971) "Designing Organizations for an Information-Rich World" in: Martin Greenberger, *Computers, Communication, and the Public Interest*, Baltimore. MD: The Johns Hopkins Press. pp. 40-41

investigating the impact of CEO resilience on strategic choices. Given attention based view and upper echelons perspective complementary and compatibility, I will incorporate them to enhance the explanatory power of CEO resilience influence on firm strategic dynamism and firm performance; this coupling echoes a similar move made by Cho & Hambrick in 2006.

### ***3.3 Contingency Theory: Situational Crisis Communication Theory and a functional leadership approach***

The third essay opens the black box and proposes principles accounting for the diffusion of CEO resilience. In order to be specific and valid, I chose to elicit those influences in the particular context of crisis, which puts significant stress and pressure over CEOs and Top Management. In contrast to the two previous essays, which respectively capitalize on two major organization theories (RDT and Behavioral Theory of the firm/ABV) that are not contingent, the third essay adopt a contingency perspective.

A contingency perspective exists in Organization Theory and was highly influential in the 70's. Its premises can be summarized to the following tenets: (1) *"There is an association between contingency and the organizational structure"*, (2) *"Contingency determines the organizational structure, because an organization that changes its contingency then, in consequence, changes its structure"* and (3) *"there is a fit of some level of the organizational structure variable to each level of the contingency, which leads to higher performance, whereas misfit leads to lower performance."* (Donaldson, 2001)

This match or fit translating into higher effectiveness, which stems from what was called the consonance hypothesis, stands at the core of the contingency theory paradigm (Galbraith, 1973; Pfeffer & Ross, 1982; Donaldson, 1995). Though having received strong empirical support, a pure contingency approach in organization theory is very rare today and its development and popularity, which spanned over 15 years, have faded away. This stream of research was called structural contingency theory as its main focus was on the relationship

between firms' environment and firms' structure (Pfeffer, 1982). Paper 3 does not build, stricto sensu, on the findings of structural contingency theory nor contributes to it. Yet, it is built on the same premises.

Indeed, contingency theorizing has not only been used in strategic literature but it has also spanned across different disciplines over time such as human resource management (Delery & Doty, 1996), decision making process (Fredrickson, 1984), leadership (Fiedler, 1967) or post crisis communication (Coombs, 2007). Given its emphasis on the diffusion of CEO resilience in the aftermath of a crisis, my third paper investigates how CEOs manage their external stakeholders through their communication strategies and how they manage internal stakeholders through their effective motivation of TMT members. Theorizing on those two paths, I build on two contingency perspectives namely (1) the situational crisis communication theory –SCCT- proposed by Coombs (2007) and (2) a functional leadership model proposed by Zaccaro et al (2001).

SCCT proposes a classification of crises based on the responsibility attributed to the firm by the public, a classification of communication strategies and a link between the two specifying the most effective match (Coombs 2004, 2007). As such, it represents the most recent and empirically robust contingency theory of post crisis communication and provides a sound basis for my reasoning.

Zaccaro et al (2001) build upon Fiedler (1967) and devise a contingency model detailing the intricacies of leader-followers (Team) dynamics. In the leadership literature some models have been contingency based and are still taught today in leadership seminars around the world: the most popular to date being the one proposed by Hersey & Blanchard (1974, 1988) – claiming that leadership style should be adjusted to maturity of the subordinates as well as their job maturity –, and the one proposed by Vroom & Yetton (1973) refined by Vroom & Jago (1988)-claiming that decision making style should be adjusted to decision quality and acceptance by subordinates-. Zaccaro et al (2001) propose that the role

of leaders is to provide team with the resources they lack in order for them to be effective, and contend that leaders impact their team effectiveness through (1) team cognitive, (2) team motivational, (3) team affective, and (4) team coordination processes. I will adopt this model and apply this framework to a crisis situation with CEO-TMT dyad as unit of analysis.

## CHAPTER 2

### THE IMPACT OF CEO RESILIENCE ON CORPORATE PERFORMANCE: CONCEPTUALIZATION AND EMPIRICAL EVIDENCE

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#### 1 INTRODUCTION

"More than education, more than training, a person's resilience will determine who succeeds and who fails. That's true in the cancer ward, it's true in the Olympics and it's true in the boardroom."  
*Dean Becker, the president and CEO of Adaptiv Learning Systems*

"The moment we believe that success is determined by an ingrained level of ability as opposed to resilience and hard work, we will be brittle in the face of adversity."  
*Joshua Waitzkin*

Since the 1970's, the construct of resilience has been an object of research in psychology (Garmezy, 1974; Rutter, 1979; Werner & Smith, 1982; Cyrulnik, 1999; Luthar et al., 2000, among others). Luthar (2006) defines the construct as: "a phenomenon or process reflecting relatively positive adaptation despite experiences of significant adversity or trauma." Put differently, resilience reflects the capacity of a person to bend without breaking, and his/her capacity, once bent to spring back (Vaillant, 1993). Business leaders value this ability. In a recent survey, Accenture<sup>1</sup> stressed that 71% of the corporate leaders around the world consider resilience as extremely important in their decision to keep or promote employees. While plethora of articles has documented how different CEO (and top management team) characteristics translate into organizational outcomes, management and corporate governance studies, in contrast to psychology research, have paid scant attention to resilience. If executive resilience has been suggested to make a difference (Coutu, 2002; Siebert, 2005; Kanter, 2006; James & Wooten, 2010...), little empirical research to date has systematically investigated the impact of CEO resilience (Peterson et al, 2009). It seems rather unfortunate, as organisations have to face unprecedented turbulent environments

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<sup>1</sup> International Women's Day Survey, 2010

(Hamel & Breen, 2007), which cause high level of pressure and stress. In such contexts, CEO resilience is solicited and may draw the line between successful and failing initiatives. To address this gap in the literature, this paper (1) circumscribes the construct of CEO resilience, (2) devises hypotheses rooted in upper echelons and resource dependence theory linking CEO resilience to Firm performance and (3) tests them empirically and conclusively accross a sample of 61 S&P 500 CEOs over a 5 year period.

## 2 THEORETICAL BACKGROUND AND HYPOTHESES.

### 2.1 *CEO Resilience-Defined*

I conceive "CEO resilience" as **the capacity of a CEO to hold well under pressure and display sustained competence under stress**. There are thus two components in this definition (1) a capacity to absorb strain and (2) a capacity to recover and adjust positively to difficulties. Borrowing the terminology from Carmeli et al (2013), I label these two characteristics (1) resilience-efficacious beliefs (*I believe I can make it*) and (2) resilience-adaptive capacities (*I sense, interpret and respond to the complexities of hardship effectively*).

Furthermore, I do not conceptualize resilience as a personality trait. If portraying resilience as a hard-wired and stable enduring psychological trait was common in early resilience research (Anthony, 1974; Block & Block, 1980), most of the recent findings tend to infirm this position. Studies have clearly documented that resilience is "ordinary magic" (Masten et al, 1990; Vaillant,1993), developable (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), and results from the interactions between the resources of individuals and those of their environment (Werner & Smith, 1982; Masten et al, 1990; Cyrulnik, 1999; Luthar et al, 2000). I conceptualize thus resilience as a "state-like" positive capacity, which is

more malleable than pure traits but remains more stable than pure psychological states (Luthans et al, 2005; Luthans et al, 2006; Youssef & Luthans, 2007).

This capacity enjoys different levels ranging from low to high. Resorting to the Resilience Scale for Adulthood (Friborg et al, 2003), I operationalize resilience as a pool of resources, namely interpersonal and personal protective factors, which have been proven to ensure individuals normal functioning under pressure. These resources amount to four categories namely: (1) Personal Competence *-I am pleased with myself and I believe in my own abilities-* (2) Social Competence *--I am good in getting in touch with new people-* , (3) Social Support *-I have some friends who can back me up-* and (4) Personal Structure *-rules and regular routines make my life easier or I prefer to plan my actions-* (Friborg et al, 2003)<sup>1</sup>.

Terminology wise, CEOs, who enjoy low, moderate or extremely high level of protective factors, are, in this manuscript, respectively qualified as low, moderate or extremely high resilient individuals. I propose that this level of resilience, viewed as a pool of resources, relates to the two dimensions of resilience, namely (1) resilience-efficacious beliefs (*I believe I can make it*) and (2) resilience-adaptive capacities (*I sense, interpret and respond to the complexities of hardship effectively*) (Carmeli et al, 2013) in the following manner:

**Table 1-**Resilience as a Pool of Resources Impact on Coping and Adaptive Capacities

<b>Resilience <i>Pool of resources</i></b>	<b>Resilience (1) <i>Efficacious belief/coping</i></b>	<b>Resilience (2) <i>Adaptive capacities</i></b>
Low	-	-
Moderate to High	+	++
Extremely High	++	+/-

<sup>1</sup> A fifth dimension, Family Coherence, is present in the RSA. Due to measurement issues, this dimension was dropped from our analysis.



It is noticeable that these two dimensions play out successively: effective coping conditions the effectiveness of adaptation. Low resilient people benefit from a very limited pool of resources leading them to poorly cope with stress and to panic, which, in turn, cause them to inadequately adapt to the situation. Moderate to high resilient people apprehend the severity of the situation and benefit from sufficient resources to manage their stress, which translate into (1) a sound appraisal of the context and (2) very good adaptive capacities as their diagnostic and their capacity to address the challenge are adequate. However, extremely high resilient people tend to cope with stress so well (extremely high efficacious belief) that they are likely to overlook some weak signals and environmental cues; this slightly less qualitative diagnosis, in turn, diminishes their level of adaptive capacities: for benefiting from extraordinary high level of resources, they might mobilize them in the wrong direction or not in a timely manner. Considering that people can be over-resilient is not common in the literature. Yet, it does appear logical in light of research findings pertaining to other strengths, which become weaknesses when overused (for instance, confidence leading to overconfidence (Malmendier & Tate, 2005) or Hubris (Hayward & Hambrick, 1997; Chatterjee & Hambrick, 2007)). My rationale in this regard resonates with the logic put forward by different leadership scholars, who stress the perils of accentuating the positive (Kaiser & White, 2008; Kaiser, 2009; White, 2009; Kaplan & Kaiser, 2013). This quote from Kaplan and Kaiser (2013) epitomizes this line of reasoning: *"We've seen virtually every strength taken too far: confidence to the point of hubris and humility to the point of diminishing oneself. We've seen vision drift into aimless dreaming and focus narrow to tunnel vision. Show us a strength, and we'll give you an example where its over- use has compromised performance and probably even derailed a career "*. Considering that similar to other strengths, there is a tipping point, a threshold above which resilience can become less advantageous appears thus sensible and is represented by this third category of extremely resilient individuals. .

Another way to make sense of this table is to resort to metaphors. One venue is to refer to Aesop or Jean de Lafontaine fable of ‘the oak and the reed’ imagery: a low resilient CEO appears like a weak oak that breaks quickly in face of strong winds. More resilient CEOs behave like reeds, easily bending and springing back to their initial position. Too resilient CEOs behave like hyper resistant reed that spring back to equilibrium so quickly that they become very powerful oaks no longer perceiving or affected by wind blows.

A second venue is to invoke the figure of Kairos, depicted also by Aesop (C 6<sup>th</sup> BC) in his fable "Opportunity" as bald but with a lock of hair on his forehead. He is travelling in a storm and witnesses only have a few moments to grasp him by his hair. Low resilient individuals absorb stress so badly, that by the time Kairos is at their door, they are on the floor incapable of grasping him. Moderate to high resilient CEOs feel the wind coming and have the resources and stamina to stay on foot and seize him when he passes. In contrast, extremely resilient CEOs will only feel a slight breeze and leave him escape, without noticing. As such, the main line of reasoning is that resilience affects the capacity of individuals to seize the opportune moment, when it passes by (Baturnek & Necochea, 2000).

In his poem "*Capitolo L'Occasione*", Niccolo Machiavelli (1506) invokes the same notion of ‘opportune moment’ called la Fortuna and who is portrayed, for a change, as a woman. It is noticeable that the impossibility of grasping the deity hair is invariant through ages: "*...Few know me, Opportunity am I. The reason that I never can be still is because on a wheel my foot doth lie; [...] I spill my tresses forwards that they flow as spun veil covering over face and bosom, so in passing I be recognized by none; Behind my head no single hair doth grow, wherefore he gazeth vainly when maybe I hasten by or look back as I go.*" "*Tell me, who is it that accompanieth thee?*" "*She is called Penitence: O take good care, He keepeth her who cannot capture me! And thou who chattering wastest time so*

*rare, Immersed in matters vain and manifold, Alas, hast thou not seen, nor art aware That I meanwhile have slipped out of thy hold<sup>1</sup>.*

## **2.2 CEO roles, CEO Resilience and firm performance**

This elasticity feature of CEOs is likely to affect their organizations. I consider the organization as an open system and rely on Resource-Dependence Theory to analyze organizational behavior and CEOs' roles. Resource Dependence Theory stresses that organizations are not self sufficient and depend for their functioning and development on resources supplied by their environment. Organizations are engaged in exchanges with a myriad of actors that can be internal (employees...) as well as external (shareholders, suppliers...) on which their growth and survival depend. I hereafter label these actors *stakeholders*, since they represent "groups or individuals who can affect or be affected by the achievement of the organization objectives" (Freeman, 1984).

The degree of dependence between the organization and its stakeholders varies according to the criticality and the availability of the resources being exchanged, which in turn determine their respective power. The power of the organization over a given stakeholder is defined as "the amount of resistance on the part of the stakeholder which can be potentially overcome by the organization" (Emerson, 1962) or put differently, the ability of the organization to "bring about the outcome it desires" (Pfeffer & Salancik, 1978). The more dependent the stakeholder is, the less power it enjoys and vice versa.

In order to be successful, organizations have to align their strategic choices with the characteristics of their environments. To achieve this alignment, CEOs attempt to maximize the power of their organizations by decreasing their dependence on specific suppliers of critical resources and/or by increasing others' dependence on their organization. Pfeffer and

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<sup>1</sup> <sup>1</sup> *Capitolo L'Occasione*", Niccolò Machiavelli, From *An Anthology of Italian Poems 13th-19th Century* selected and translated by Lorna de' Lucchi, Alfred A. Knopf, New York; 1967; pp. 116-117, 352

Salancik (1978) contend that managers fulfill three distinct duties: a symbolic, a responsive and a discretionary role. I envision that the extent, to which CEOs effectively fulfill these three roles, rests upon their resilience potential.

Indeed, organizations are rife with internal and external conflicts that arise when interdependent groups fight for the same resources. The capacity of the CEOs to resolve those conflicts and to resort to power when needed varies according to their resilience:

1. The symbolic role might be the simplest role fulfilled by CEOs and entails a series of social, legal and ceremonial obligations such as attending formal dinner, welcoming important clients or signing contracts. This reinforces stakeholders' opinion that CEOs are in charge and can be held accountable for the decisions and performance of their company. Facing adversity, I contend that low resilient CEOs quickly give in; confronted with serious challenges, they rapidly feel overwhelmed and convey this impression to different stakeholders by not communicating or communicating poorly. They appear often "unavailable for comment", cause confusion and their internal followers end up taking the lead to propose and enact quick fixes. In contrast, moderate to highly resilient CEOs seize the severity of the challenge, are affected yet remain lucid and quickly bounce back to fulfill their mission. They live up to the expectations of their stakeholders since they send clear signals and appear directly involved. I draw a line between CEOs enjoying moderate to high level of resilience and extremely resilient CEOs. Extremely resilient CEOs are sure of themselves; they are backed by significant social support and they show it. They convey an image of their organization as all-powerful, almost appear invulnerable and believe their own press. This high amount of resources is likely to cause hubris (Roll, 1986; Hayward & Hambrick, 1997). Facing a challenge or conflict, they display lack of discernment, resort to power and might come across as arrogant. Over time the resentment of disgruntled stakeholders builds up and in fine prove detrimental to the company. Nemesis is never far

from hubris and when hardship strikes, disgruntled stakeholders will enjoy the delight of seeing the once lofty brought back to earth (Feather & Sherman, 2002), a pleasure also called Schadenfreude (Feather, 1994, 1999; Wiesenfeld, et al, 2008)

Pfeffer and Salancik (1978) also underscore two substantive roles of managers namely a responsive role (*aligning the organization to fit the constraints of its environment*) and a discretionary role (*acting directly upon the context to alleviate or neutralize some constraints*).

2. In line with Pfeffer and Salancik (1978), I do not conceptualize CEOs as "all-seeing" visionaries devising strategic plans in their ivory towers but I rather view them as assimilators selecting, which demands should be attended to and which propositions should be heeded. On a daily basis and under strict time constraints, CEOs assimilate information emanating from different stakeholders, assess the validity of their claims and decide which will be honored. In their selection process, they should in priority respond to claims made by powerful stakeholders, since these stakeholders control critical resources for the functioning/survival of their organizations. In order to fulfill satisfactorily their responsive role, CEOs must accurately comprehend their organizational context and the interdependences it encompasses. I propose that CEOs' resilience impacts their level of comprehension.

Low resilient CEOs facing overt conflict such as strikes, boycotts or takeover attempts, are prone to dysfunction and to misread the stakes of the conflict. They are likely to overestimate the potency of the contenders and will thus not respond accurately. Paralyzed by the event, they will freeze and either do nothing ("the unavailable for comment scenario") or engage in erratic direction with the willingness to conform to the mounting claims from stakeholders... Depending on

the situation, they will thus either commit to the status quo or display an excessive amount of versatility.

Extremely resilient CEOs will equally dysfunction but for different reasons: they are likely to underestimate the issue, overlook some stakeholders and misread their claims. They are likely to downplay the severity of the threats their organizations face and to rely on the old practices that brought them success and power. As such, they will also exhibit a strong commitment to past methods and to the status quo. In contrast, moderately to highly resilient CEOs will first feel affected by the situation, which will prompt them to carefully assess the context, and will then bounce back to find ways to handle it.

While low resilient CEOs see the glass as almost empty and extremely resilient CEOs see it as almost full, moderately to highly resilient CEOs successively see it as half empty and half full. As such, they benefit from a more accurate picture of their organizational context, which conditions their performance as responsive managers.

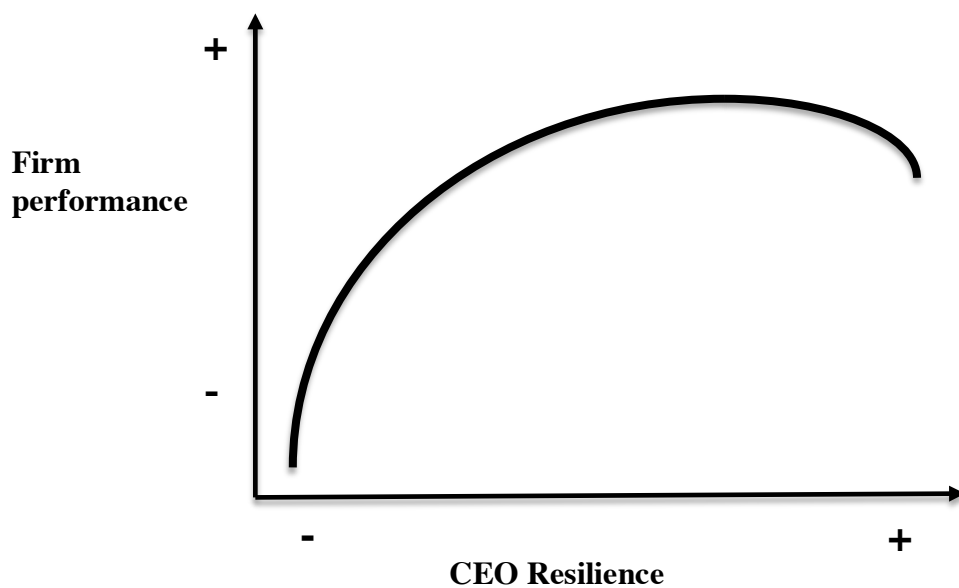
3. In order to successfully fulfill their discretionary roles, CEOs must enjoy significant support. Acting upon an organizational context (through lobbying, merger & acquisition, cooptation...) to modify the rules of the game, requires access to critical resources and solid political and business connections. Extremely resilient CEOs, who enjoy the most extensive network of support, could be expected to surpass their less resilient counterparts in performing this discretionary role. Yet, their actions' effectiveness rests upon accurate evaluation of their context contingencies and, as stressed in the previous paragraph, excessively resilient CEOs are likely to display excessive confidence that can lead them to dysfunctional decision-making bearing high costs for their firms (Malmendier & Tate, 2005;

Hayward & Hambrick, 1997; Chatterjee & Hambrick, 2007). Therefore, moderately to highly resilient CEOs appear as the most apt to fulfill their discretionary role effectively.

In summary, low level of CEO resilience will induce low level of organization performance. Moderate to high level of resilience enables CEOs to keep healthy functioning under stressful situations and to preserve the timing and quality of their decision-making as well as the quality of their relationship with their stakeholders; this level of resilience will thus induce higher performance. Extremely resilient CEOs, insulated from their organization environment and stakeholders' pressure, will neglect some contextual cues and overestimate their strengths, which might, in fine, prove detrimental to the performance of their organizations. Hence I propose,

**Hypothesis 1:** The relationship between CEO resilience and firm performance is curvilinear (inverted U-Shape), with higher firm Performance at moderate-to high CEO resilience than at low or extremely high CEO resilience.

**Figure 4-**Hypothesized CEO Resilience Impact on Firm Performance



Sticking to a resource dependence perspective, I also propose that both organization characteristics and organization task environment moderate the relationship between CEO resilience and firm performance.

### **2.3    *Looking Inwards: the Moderating Role of Firm Characteristics***

CEOs in different types of organizations are not exposed to the same constraints and contingencies, to the same level of information processing requirements and to the same level of uncertainty. CEOs of highly diversified companies with low level of organizational slack face bigger challenges, which render their resilience more central for their organization performance. Hence, I propose that the level of diversification and the level of organizational slack moderate the relationship between CEO resilience and firm performance.

As a preliminary comment, those moderating effects shall not modify the general shape of the relationship proposed in Proposition 1, which should keep a bell shape format. So far in my analysis, I have not identified a condition that would reverse the inverted U-curve put forward in proposition 1. The moderators are however proposed to affect the slopes of the curve (upward and downward parts).

More specifically, **firm diversification** represents a way for organizations to lessen their dependence over some elements of their environment. Some empirical studies have documented the positive relationship existing between the strength of organizations' dependence on few stakeholders and their propensity to engage in diversification (Pfeffer and Salancik, 1978), others have investigated whether related or unrelated diversification brought better returns (Elgers and Clark, 1980; Rumelt, 1982; Palepu, 1985; Chatterjee, 1986) and have reached mixed findings (Chatterjee and Wernerfelt, 1991).

Whether diversification generates superior performance is incidental for my purpose. I am interested by the effect of diversification on the relationship between CEOs' resilience



and their firm performance and therefore scrutinize the effect of diversification on the emergence of conflicting demands and stressors affecting CEOs. Though diversification enables organizations to hedge against strong dependence, it also increases the number of stakeholders and demands organizations have to face. By multiplying the number of internal and external stakeholders as well as dependencies, diversification increases (1) the volume of information CEOs have to process, (2) the complexity of this information and (3) the amount of decisions that need to be made (Chandler, 1962; Thompson, 1967). Diversification also increases the probability that conflicting or competing demands are voiced internally (e.g. among different departments) and externally (among different interest groups...).

In highly diversified corporations, I therefore expect CEOs to be more cognitively challenged and more frequently confronted to conflicting demands. In order to manage their diversified organizations effectively, CEOs need to manifest specific capabilities.

First, in view of extra information load and stakeholder diversity, CEOs need to show more diversified skills and hold a wider breadth of experience. Given the heterogeneity of their diversified organizations, these CEOs stand for the unity of their organizations and warrant their coherence. Hence, their capacity to signal that they are in charge is of paramount importance: it instills a sense of purpose internally, and reassures stakeholders externally.

Second, as their organizations operate in different business environments, CEOs need to gain access and be acquainted with new stakeholders frequently. Their faculty to easily get in touch with new people and adjust to new social milieus represents thus an asset.

Third, diversification multiplies the number of challenges and conflicting demands the organizations have to face. Resolving them requires an ability to tap a wider pool of resources. All other things being equal, I thus consider that CEOs enjoying a wider network

of contacts will be more likely to get the support they need to address those challenges timely and effectively.

Finally, highly diversified firms have more layers of control than their more focused counterparts; power and decision-making are more decentralized and more formalization is required so that control can be exercised. In order to keep their businesses aligned, CEOs need not only to appear as symbols of unity but also to wisely allocate resources and systematically monitor their returns. Due to the variety of markets and industries served by their organizations, CEOs cannot master each of them. They thus resort more to financial than strategic controls (Baysinger and Hoskisson, 1989) and, in so doing, they have to follow strict and rigorous procedures in allocating resources and controlling their use. All else being equal, highly structured CEOs, who resort to regular routines, will make a difference.

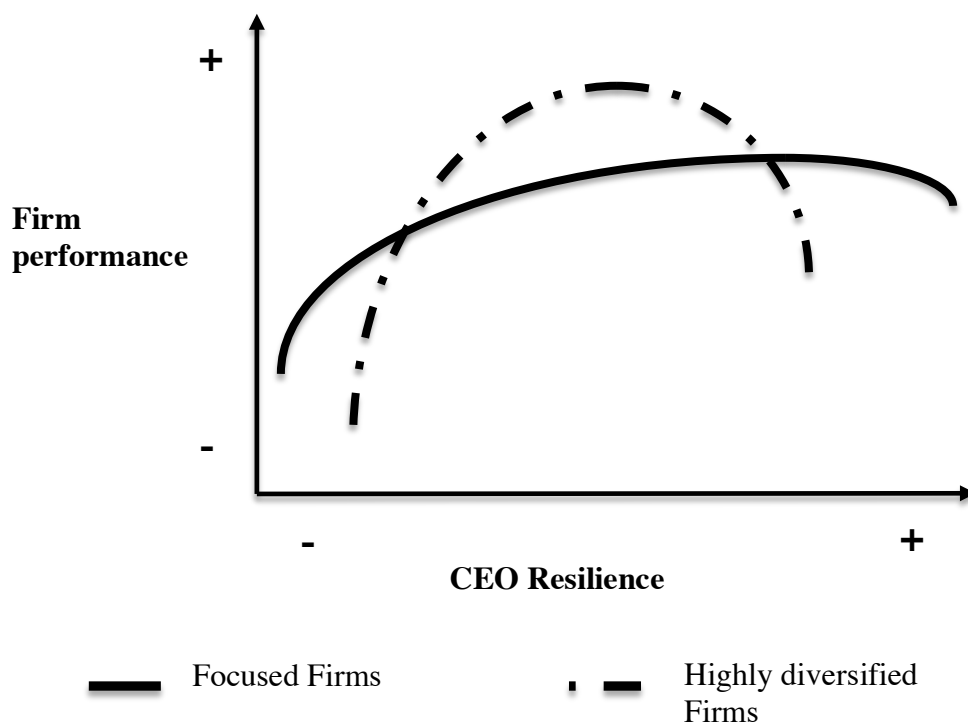
Conversely, in focused corporations, these competences might be less potent. The number and diversity of stakeholders are more limited and they fall into one industry. Although the CEOs need to coordinate different departments internally, the coherence of the business is not under threat. Therefore, CEOs' ability to underscore that they are in charge, is of less importance. Moreover CEOs know extensively the industry their organizations operate in; they have been in touch with the major stakeholders for a while and the situation is unlikely to change quickly. While they still need to interact intensely with few stakeholders, they do not need to gain access to new contacts frequently. Hence, the influence of their social competence on their firm performance can be discounted. Similarly, the breadth of issues that organizations encounter is more restricted and these challenges require less assistance to be overcome. CEOs benefiting from a restricted number of supports might thus not be at a strong disadvantage. Finally, in focused organizations, CEOs are likely to resort to strategic control (Baysinger and Hoskisson, 1989). Adopting a longer-term orientation, they get involved in a variety of decision-making situations, but, given their knowledge of their

industry, they do not have to follow a strict agenda to address them. The requirement to sequentially process huge amount of information being relaxed, less-focused CEOs may not be severely penalized.

Taken together, these elements, which cover four sub dimensions of the resilience construct (personal and social competence, social support and personal structure), lead us to propose that CEO resilience bears stricter consequences for highly diversified corporations. The moderating effect appears symmetrical and I propose,

***Hypothesis 2a:*** *The level of firm diversification strengthens the curvilinear relationship between CEO resilience and firm performance.*

**Figure 5-**Hypothesized Moderating Effect of Firm Diversification



Firms also vary according to their level of **organizational slack**. Paraphrasing Cyert and March (1963), Bourgeois (1981) defines organizational slack as "*a cushion of actual or potential resources which allow an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy, as well as to initiate changes in strategy with respect to external environment*". As a surplus of resources, slack can be readily **available**- surplus of cash-, **recoverable**- buffer stocks- or **potential** –extra equity or debt that can be raised- (Bromiley, 1991; Tan and Peng, 2003).

As previously mentioned, CEOs attempt to align their organizations with their environment and face conflicting demands. Slack determines the latitude that CEOs enjoy to answer those claims. It also reflects the maximum amount of stakeholders' pacification CEOs can afford. Framed this way, the influence of slack as a moderator of the *resilience-performance* relationship becomes central. On the one hand, CEOs enjoying high levels of slack have ample means to respond to their stakeholders' demand and are thus unlikely to experience strong opposition; on the other hand, CEOs with low levels of slack experience the full pressure emanating from their environment and have little room to alleviate it. The impact of CEO resilience on their firm performance is thus likely to vary according to their organization slack.

In low slack organizations, CEOs enjoy little buffer against the turbulence of the environment. They experience shortage of cash and/or high debt to equity ratio that may lead them to the brink of bankruptcy. In such a situation, organizations are under pressure and stakeholders' attention turns to the CEOs: as symbols, they enjoy greater visibility and their messages are under scrutiny. They have to show that there is a steady hand at the helm of their corporations and, in order to be convincing, they need to trust their own abilities. CEOs scoring high on personal competence should thus perform well in such a context and manage to maintain healthy relationships with most stakeholders. With mounting claims and few

resources at their disposal, CEOs' capacity to relate to others also makes a difference. In lean years, CEOs who communicate well, manage to keep their troops motivated and succeed in retaining talents.

In contrast, CEOs with low score in social competence cannot balance the absence of extrinsic rewards and quickly send their organization through a downward spiral. Moreover, it is in difficult times that business contacts and supports prove invaluable. For CEOs enjoying wide support network, some doors remain open and they can enable their firms to bounce back. For instance, Davis and Cobb (2009) mention the case of "a large national real estate firm headquartered in Michigan which faced an unwanted takeover bid from out-of-state rival" and "was able to successfully call on the state legislature to pass legislation to prevent the takeover and (allegedly) save local jobs". Should a CEO not benefit from a sufficient support network, all doors would remain shut, bearing dire consequences for his/her corporation.

Finally, it is when slack is low that the capacity of CEOs to remain focused, stick to the strategic plan and implement decisive actions, brings most value. CEOs have indeed to satisfy more stakeholders with fewer resources and they need to display great rigor in discriminating among claims, allocating resources and tracking their use. Hence, high-structured individuals are better fit to meet these requirements.

Conversely, in high slack corporations, CEOs' resilience should have smaller effects on the performance of their organizations.

First, if stakeholders still value positively the self confidence displayed by CEOs and their displayed control, they shall not worry about the financial health of the corporation. The sustainability of their ongoing business relationship is not under threat, and different levels of CEO optimism and self confidence will bring closer results.

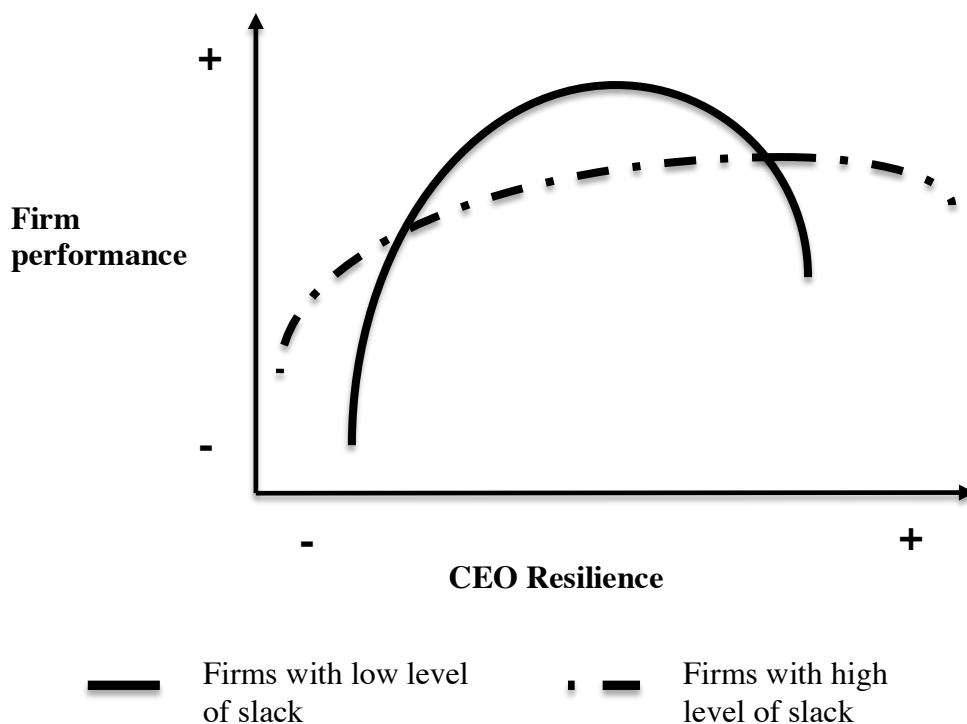
Second, CEOs have the resources to satisfy conflicting demands simultaneously. Provided that stakeholders receive the share of resources they claim, they are unlikely to voice much concerns. Hence, the capacity of CEOs to handle disgruntled stakeholders and keep them on board thanks to their social skills shall be less solicited and comparatively bring less value.

Third, a high level of slack insulates the corporation from the pressures of their environments and the embeddedness of the CEO in a wide support network, though positive, is less crucial than in a low slack situation.

Finally, high level of slack enables focused and unfocused CEOs to keep financing projects. Being highly organized does not appear as strict a condition for good performance. Hence, I propose,

***Hypothesis 2b:*** *The level of organizational slack weakens the curvilinear relationship between CEO resilience and firm performance.*

**Figure 6-**Hypothesized Moderating Effect of Firm Level of Slack



#### **2.4    *Looking Outwards: the Moderating Role of the Task Environment***

In line with Hrebiniak and Joyce (1985), I do not view determinism and voluntarism as mutually exclusive but rather consider that both of them affect firm performance (Child, 1972), a consideration that is fully consistent with resource dependence theory. A given task environment determines CEOs' room of action and the extent to which their resilience is solicited. I therefore propose that the relationship between CEO resilience and firm performance is moderated by the characteristics of the organization task environment. Deriving insights from population ecology and resource dependence theories as well as Aldrich's (1979) codification of environmental conditions, Dess and Beard (1984) unveiled three environmental dimensions: **munificence**, **complexity** and **dynamism**. Each of these dimensions bears different consequences for the relationship between CEO resilience and firm performance.

***Environmental Munificence*** represents 'the extent to which an organization has to expand its area of operation to obtain the resources it requires' (Aldrich, 1979). It measures the availability or the scarcity of critical resources in a given environment. In this section, the reasoning echoes the previous discussion about slack; it seems consistent since environment munificence directly influences the amount of slack organizations can generate (Cyert and March, 1963).

Low munificence environments comprise mainly mature and declining industries, in which resources are scarce. Organizations fight for these resources, and survival becomes a pressing concern. Competition intensifies and tough decisions need to be made (in terms of budget allocation, human resources decisions...). The range of options becomes more limited and consolidation in the industry inexorably follows, as "being the last one standing" is viewed as the only viable strategy. The scarcity of resources, which exacerbates interpersonal

and intergroup conflicts and fosters the pursuit of divergent objectives, also challenges the integrity of the organization.

In such a context, CEO resilience crucially affects their firm performance. First, to achieve positive results, CEOs need to be decisive and stand for a direction in the storm; as the future of their organizations appears uncertain, CEOs have to maintain trust with internal and external stakeholders. Only if CEOs trust their ability to solve problems and design realistic plans, do they demonstrate their competence and keep healthy relationships with their environment. People scoring high in personal competence should manage to reassure external stakeholders, while guaranteeing the cohesion and unity of their organization.

Second, CEOs have to take drastic and painful decisions, such as closing plants or laying people off. Their level of social competence should strongly affect the effectiveness of their initiatives. Strong social competence should help them sweeten the pill, minimize frictions and preserve the morale of remaining employees. Their capacity to relate to others is thus likely to crucially affect the effectiveness of their initiatives.

Third, CEOs' capacity to implement restructuring programs also rests upon their amount of social support. Through good connections within their industries, they can, for instance, maintain sound relationships with labor unions or gain access to rare resources held by politicians or legislators. Being highly connected might also favor projects of merger by informally interacting with potential targets and gaining access to sources of capital. Yet, having frequent contacts within industry members may generate unintended consequences: CEOs of companies operating in low munificent environment have some incentives to engage in illegal acts (Staw and Sz wajkowski, 1975) and frequent interactions might entice them to do so (e.g. price fixing schemes).

Finally, low munificent environment leave little room for luck and actions such as downsizing, mergers and acquisitions or post merger integration, needs to be carefully



planned. Allocation and use of resources also require systematic and precise monitoring. Therefore, highly structured individuals should make a clear difference in low munificent environments.

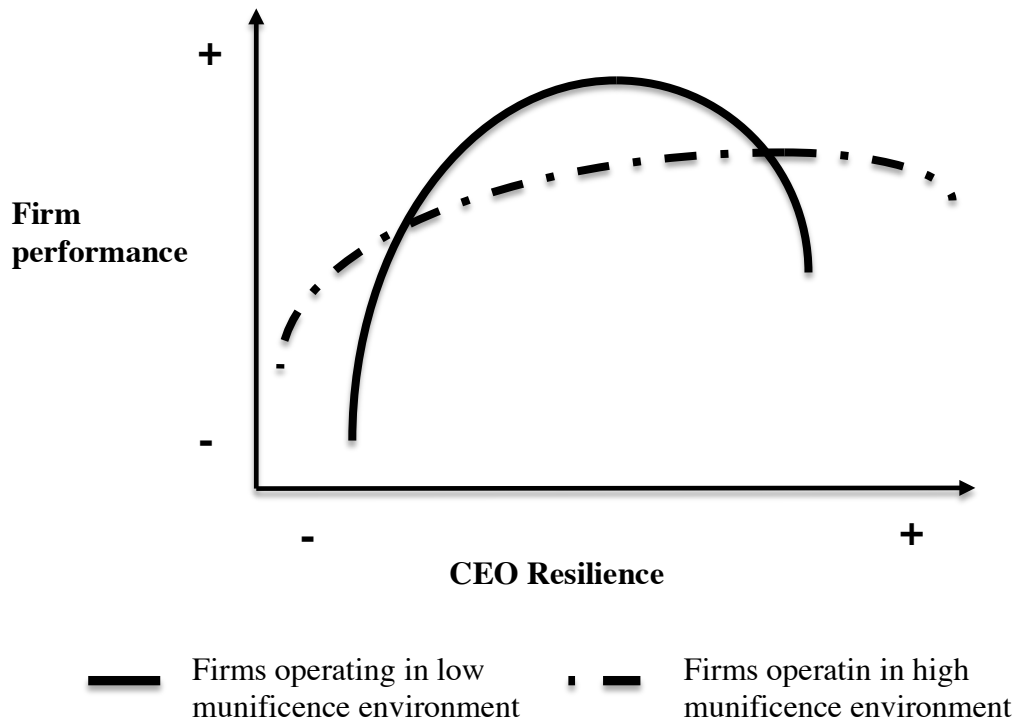
Conversely, in high munificence environments, the abundance of resources relegates survival preoccupation to the background and firms build some slack that enables them to hedge against hardship, venture into new territories or explore new organizational forms. High munificence environments give CEOs certain latitude of action since there is little friction over critical resources. This implies that CEOs' personal competence should affect their organization performance less strictly. Indeed, their organizations do not experience deference from stakeholders and their unity is not challenged by dissensions. The benefit of displaying strong self confidence is therefore lessened. Similarly, CEOs can pacify different stakeholders simultaneously by resorting to slack and their organizations enjoy some power over their stakeholders. Given that negotiations and concessions are not common, CEOs' social competence should less severely impact their corporate performance. Being widely connected and enjoying the support of a wide network remain beneficial in times of growth as access to extra information can open new business opportunities. Relationships with stakeholders still need to be carefully managed as growth brings its own set of challenges and attracts, for instance, new rivals. Yet, the impact of such support does not directly affect the survival prospects of the firms operating in munificent environments (as it does in low munificent situation). Finally, all else being equal, less focused CEOs are unlikely to be much penalized in highly munificent environments. Given that their organization hold significant power, good performance can be achieved through different means or organizational structures. The degree of CEOs' personal structure should thus matter less.

Taken together, these elements, which cover four sub dimensions of the resilience constructs (personal and social competence, social support and personal structure), lead us to

propose that CEO resilience bears stricter consequences in low munificent environments. Hence, I propose,

**Hypothesis 3a:** *The level of environment munificence weakens the curvilinear relationship between CEO resilience and firm performance.*

**Figure 7-**Hypothesized Moderating Effect of Environment Munificence



**Environmental dynamism** reflects the extent to which change is difficult to predict for organizational members. Dynamic environments are highly volatile and heighten the level of uncertainty organizations and their leaders have to face. In terms of decision-making, such environments increase the amount of information that needs to be processed and put extra burden on the decision makers (Galbraith, 1973). Environmental dynamism moderates the relationship between firm performance and decision process rationality (Priem, Rasheed and Kotulic, 1995), outsourcing (Gilley and Rasheed, 2000) or discretionary social responsibility (Goll and Rasheed, 2005). Unexpected change and evolution create disruptive environmental conditions and CEOs operating in turbulent environments are likely to be regularly thrown

out of their comfort zone, which causes stress and anxiety (Waldman, Ramirez, House and Puranam, 2001). In such situations, their capacity to absorb shocks and bounce back will be particularly solicited and their resilience will clearly affect their organization performance.

First, in order to quickly respond to unexpected environmental changes, CEOs must hold the strong conviction that they can "make it". Should they not have this conviction and the whole organization would be crippled by doubts. Their capacity to foster optimism, instills confidence and being decisive matters.

Second, their social competence also significantly influences their followers' willingness to contribute and be reactive. Leaders' behaviors and attitudes affect their followers (Tyler and Lind, 1992). For instance, leaders, who relate effectively with people and remain accessible, contribute to foster "psychologically safe" climates that increase their followers' ability to perceive environmental cues as well as their willingness to contribute in decision-making (Edmondson, 1999, 2002). High level of CEO social competence thus render their organization more apt in dealing with dynamic environments.

Third, corporations operating in dynamic environments run the systemic risk of getting caught off guard. CEO social network can help them mitigate this risk: CEOs enjoying access to numerous contacts are indeed likely to better sense evolutions in their industry and can prepare their organizations to face them sooner than their competitors. Hence, strong social support can act as a buffer for uncertainty and impact firm performance. Finally, given the volume of information that needs to be filtered and the amount of cues that need to be scanned, highly-structured CEOs will better organize their times and achieve greater agility by resorting to daily routines.

In contrast, corporations operating in stable environments are insulated from the disruptive influence of dynamic conditions. They benefit from good visibility on their markets and have been able to secure strong relationships with their important stakeholders.

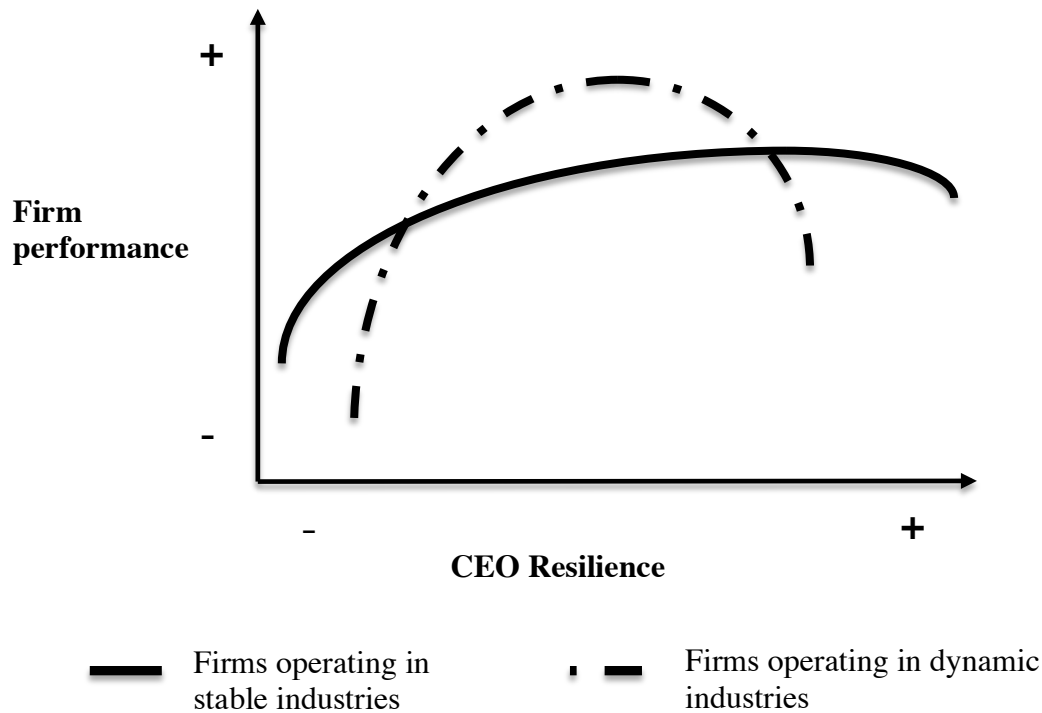
Their product life cycles are often longer and they are often engaged in mutually dependent long-term relationships with their stakeholders. The volume of information that needs to be processed and the uncertainty incurred by the business appear limited. Indeed, the situations encountered by managers keep reoccurring, which enable them to cut corners and resort to heuristics effectively.

Therefore, the impact of the four sub dimensions of CEOs' resilience on firm performance should be weakened: (1) CEOs still need to demonstrate confidence in their choices but little pressure will put this confidence under a fair test (2) the impact of CEOs' social competence on their team reactivity remains valid but the requirement for reactivity is loosened, (3) being member of a narrow network should prove as beneficial as participating in a wider network and (4) no real pressure is put on the CEOs' capacity to handle consequent volume of information quickly, which renders tight organization control optional. All things considered, I thus propose,

***Hypothesis 3b:*** *The level of environment dynamism strengthens the curvilinear relationship between CEO resilience and firm performance.*

***Environment complexity*** reflects the extent to which environments are heterogeneous and composed of diverse actors (Emery and Trist, 1965; Lawrence and Lorsch, 1967, Thompson, 1967). Environmental complexity varies according to the number and dissimilarity of the environmental elements a firm has to interact with (Cannon & St John, 2007). The more interactions and the more dissimilar they are, the more complex the

**Figure 8-**Hypothesized Moderating Effect of Environment Dynamism



environment is. Both complexity and dynamism increase the degree of environment uncertainty that CEOs have to face (Lumpkin and Dess, 2001). More complex environments prompt CEOs to perceive greater levels of uncertainty and they thus need to process a higher volume of information (Duncan, 1972)

Complex environments induce extra pressures for organizations and CEOs. Complexity increases the number of stakeholders involved in a transaction, which in turn magnifies the possibility of conflicts. To sense effectively their environment, organizations need to adopt a wider scope of analysis, influence multiple internal and external constituents and get more intensely involved in problem solving. CEOs and decision makers operating in such environments witness extra challenges and need to process increased amount of information to reach satisfactory decisions. CEOs' resilience influences the extent to which their organizations make sense of environmental complexity and handle it.

As for environmental dynamism, CEOs first need to believe "they can make it" and have strong confidence in their capacities. Otherwise, they would quickly feel overwhelmed with information and would end up stifled by the stakes. Their optimism and confidence convey in turn a sense of purpose to their followers, which strengthens the cohesion along the decision-making chain. Significant personal competence can thus be viewed as a prerequisite for success.

Second, CEOs operating in complex environment should benefit from high social competence: (1) Social competence fosters sound relationships with their followers and enable them to sense better the environment (psychological safety) and (2) it enables the CEOs to have access to a variety of cooperative stakeholders and gain a more holistic comprehension of the situation. Complexity implies more numerous stakeholders and the capacity to adapt to different milieus and remain flexible is likely to make a difference.

Third, complex environments heighten the probability that conflicting demands arise. Enjoying strong social support and having access to a wide network maximize the possibility that these claims will be handled effectively and provide CEOs with more cues about their complex context. Finally, in order to grasp complexity and take decisions, numerous stakeholders will take part in the decision making process and order will need to emerge from chaos. Managing this process requires method and organization and highly structured CEOs should enjoy a significant advantage.

Taken altogether, complexity increases the strain put on CEOs, so as the possibility to dysfunction and commit mistakes increases as well. Misreading the stake and not correcting such mistakes will severely hit the firm performance. Hence, the effect of extremely resilient CEOs insulation from their environment is proposed to be strengthened.

In contrast, in low complex environment, organizations depend on few critical but similar stakeholders; CEOs are able to easily scope their environment since the variety is limited and the sources of conflicts clearly identifiable and predictable. Therefore, following the same rationale as for environmental dynamism, I expect that each sub dimensions of resilience will have weaker effects on firm performance. CEOs benefit from good visibility on their markets and have been able to secure strong relationships with their important stakeholders. Their product life cycles are often longer and they are probably engaged in mutually dependent long-term relationships with key stakeholders. The volume of information that needs to be processed and the uncertainty incurred by the business appear limited. Indeed, the situations encountered by managers keep reoccurring, which enable them to cut corners and resort to heuristics effectively. Therefore, the impact of the four sub dimensions of CEO resilience on firm performance should be weakened: (1) CEOs still need to demonstrate confidence in their choices but little pressure puts this confidence under a fair test (2) the impact of CEO social competence on their team reactivity remains valid but the requirement for reactivity is loosened, (3) being member of a narrow network should prove as beneficial as participating in a wider network and (4) no real pressure is put on the CEOs' capacity to handle consequent volume of information quickly, which renders tight organization optional .

All things considered, I thus propose:

***Hypothesis 3c:*** *The level of environment complexity strengthens the curvilinear relationship between CEO resilience and firm performance.*

Figure 9-Hypothesized Moderating Effect of Environment Complexity

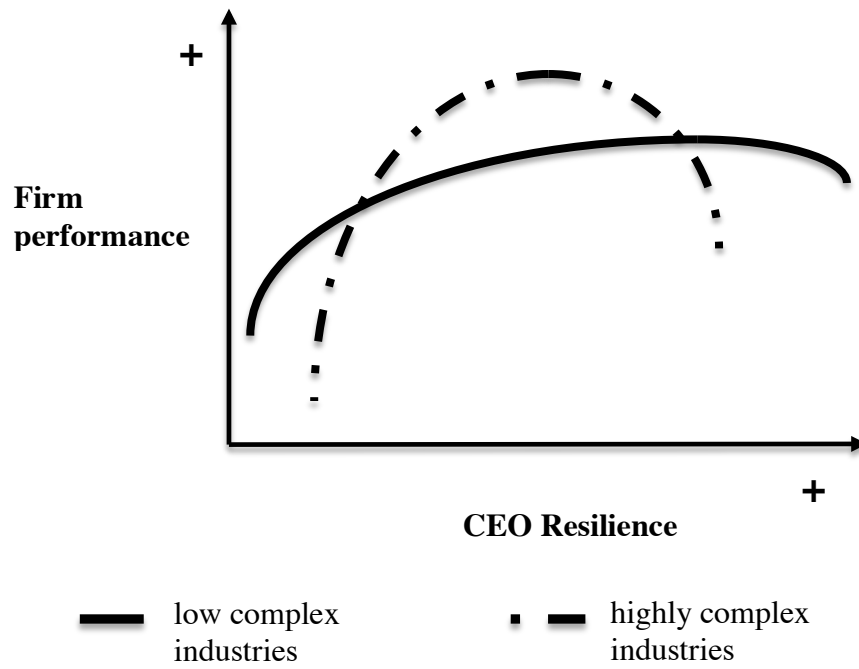
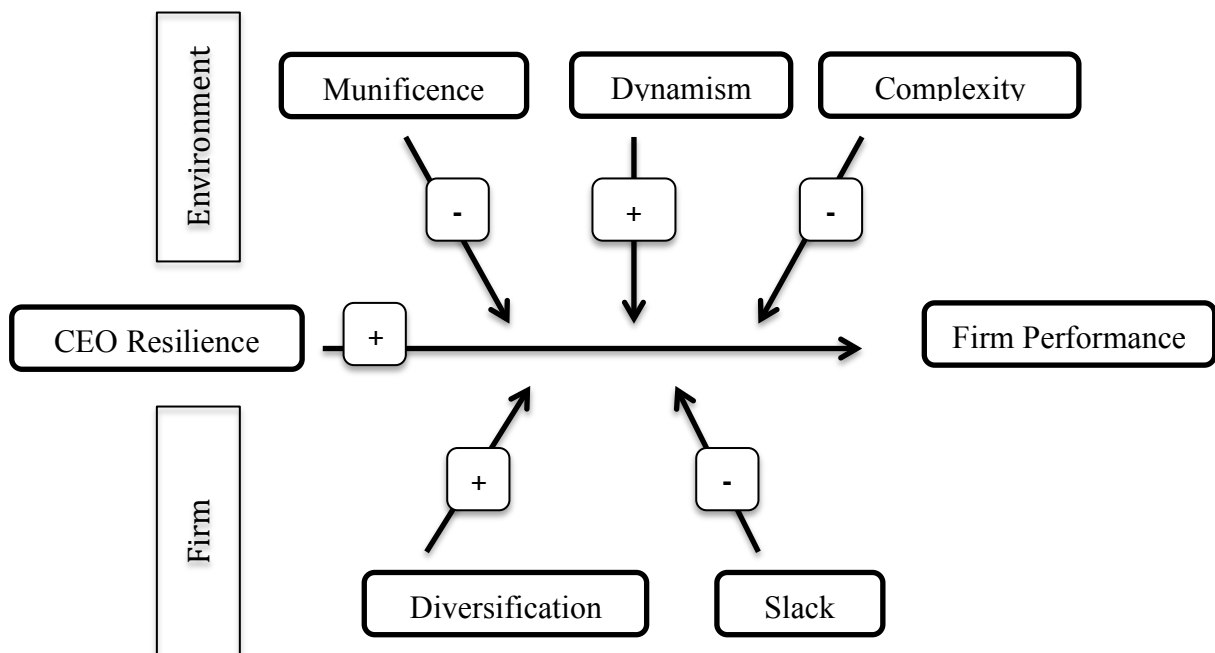


Figure 10-Essay 1 Full Model Summary





### 3 METHODOLOGY

#### 3.1 *Sample and data collection*

The sample consists of five years of data (2002 to 2006) and is focused on the CEOs of US S&P 500 corporations (public or privately held for which financial information is available). The 'S&P 500' list is compiled by Standard and Poor's and ranks those corporations according to their market value. I retain CEOs who held their jobs for at least two of the five years and started their tenure in 2001 or later (to address any possibilities of survival bias). A case has been made in the finance and economic literature for not taking into account companies from the financial sector -SIC codes between 6000 and 6999-, since EBIT information are not provided for these companies (Berger & Ofek, 1995) and their profitability is not comparable to other industries (Xi-He, 2009; Hund et al, 2010). Provided that I apply these filtering parameters and given the availability of data for the moderating variables (*available and potential slack, business and geographic diversification*) and for the dependent variable (*especially the information pertaining to social support and social dimension of resilience*), **I reach a final sample of 61 CEOs in 61 unique firms.**

Sticking to the conceptualization of resilience as a "quasi state", I measure resilience and other moderators annually, yielding a total of **243 CEO-years** for testing the effect of resilience. I generated a one year-lead variable for ROA, the dependent variable; this design puts the hypotheses to a conservative test, as I do not allow recursive or circular relationship between resilience and firm performance. I also included some control variables be they at the CEO, Firm or Industry level. I moreover controlled for **endogeneity**-namely the possibility that some resilient CEOs are drawn to certain specific situations or corporations- and **selection bias** -since the sample is unbalanced, if highly resilient CEOs have systematically longer tenure than lower resilient CEOs, results would be biased and I had to account for this possibility-.

### 3.2 *Measurements*

#### 3.2.1 *Resilience Scale and Proxy*

Though some researchers adopting a process orientation reject the use of psychological scales to measure resilience and contend that resilience cannot be directly measured and should be inferred based on the level of adversity and the level of positive adaptation (Luthar & Cushing, 1999; Luthar & Zelazo, 2003), most research to date have resorted to resilience scale.

A review of "resilience" assessment scales<sup>1</sup> shows nineteen resilience instruments designed over the last twenty years (including four refinements of previous scales), and assesses their validity. Among those, three scales receive the best psychometric ratings: namely, the Connor-Davidson Resilience scale or CD-RISC (Connor & Davidson, 2003), The Resilience Scale for Adult or RSA (Friborg et al, 2003) and the Brief resilience scale (Smith et al, 2006). Among these three scales, I choose to consider the RSA and CD-RISC, as the Brief Resilience Scale was designed to specifically assess the ability to recover or bounce back from stress, with the purpose to help patients who suffer from health problems. This scale is therefore more restricted than the other two, and appears somehow too narrow for my purpose. The RSA or CD-RISC can therefore provide a basis for my operationalization of CEO Resilience and will play the same role as the one devoted to Emmons' NPI by Chatterjee and Hambrick in their operationalization of hubris<sup>2</sup>.

The orientation and dimensions of these two scales are summarized hereafter:

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1 G. Windle, K.M. Bennett & Jane Noyes (2011), "A methodological review of resilience measurement scales", *Health and Quality of Life Outcome* 20011, 9:8. <http://www.hqlo.com/content/9/1/8>.

2 In a previous resilience scale reviews by Ahern et al, 2008, these two scales received a score of 2 out of 3 – a lower score attributable to their absence of application in adolescent settings and not to validity considerations.

**Table 2-Two Resilience Scales: RSA and CD-RISC**

	<b>RSA</b> Friborg et al, 2003	<b>CD-RISC</b> Connor & Davidson 2003
Orientation	<p>The goal of this scale is to assess intra and interpersonal protective factors that are thought to facilitate adaptation in the face of adversity.</p> <p>The authors derived insights from longitudinal research on resilience (Werner, 1989, 1993; Cederblad, 1996) and major developmental researchers (Rutter, 1990; Werner, 1993; Garmezy, 1993) who identified three major stakeholders in the resilience process: the individual – his/her psychological and dispositional attributes, his/her family cohesion, and support and the existence of external support systems. Based on these initial categories, they derived items for their questionnaires along five dimensions.</p>	<p>The authors define Resilience as a quality residing in the individual and that reflects their capacity to cope with stress. The goal of this scale is to measure individuals' stress coping capacity.</p> <p>The authors relied on three authors (Kobasa, 1979; Rutter 1985, Lyons, 1991) to identify characteristics of resilient people and through Factor Analysis, they unveiled five dimensions.</p>
	<p>This is a multi-level measure.</p> <p>Resilient personality traits are measured in the context of other resilience factors.</p>	<p>This is an individual level measure</p> <p>Resilient personality is the sole focus of this measure.</p>
Dimensions	<ol style="list-style-type: none"> <li>1. Personal competence.</li> <li>2. Social competence.</li> <li>3. Family coherence.</li> <li>4. Social support.</li> <li>5. Personal structure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personal competence, High standard &amp; Tenacity.</li> <li>2. Trust in one's instincts / Tolerance of negative affect/ strengthening effects of stress.</li> <li>3. Positive acceptance of change &amp; Secure relationships.</li> <li>4. Control.</li> <li>5. Spiritual influences.</li> </ol>

As advanced in the process-model orientation, resilience is influenced by (1) individual attributes (attitude and behavior) (2) the support an individual might enjoy in his/her family and (3) the resources he/she can tap in his/her wider context (confidants, role models, friends). Since I define CEO resilience as a "state-like" positive property, the influence of these external factors has to be taken into account in my operationalization. RSA incorporates these features in its design and thus provides a more robust operationalization of CEO resilience: it encompasses more dimensions of the construct and acknowledges the

influence of social and family support. As I detail hereafter, I resort to unobtrusive measures in evaluating the dimensions of RSA.

Echoing the five dimensions stressed by Friborg et al (2003), in the RSA, namely (1) Personal Competence, (2) Social Competence, (3) Social Support and (4) Personal Structure, I resort to the following unobtrusive measures and indicators: (1) the prominence of CEO photograph in his/her company annual report (2) the membership or participation of CEO in the governance of nongovernmental, nonprofit institutions (3) the number of boards, exclusive clubs and business policy association, federal government advisory committee the CEO is involved in and (4) the size of the TMT.

RSA had a 5<sup>th</sup> dimension, namely family coherence; I initially attempted to account for this dimension; yet, I did not find any reliable proxy and decided after numerous attempts to drop this dimension. Every CEO in the sample is married and has minimum two children... and registering the number of mentions to his spouse or husband in his/her conversion could bring confounding signals. Indeed, one of the CEO in the sample kept mentioning in interviews that without his wife he would not have sit for a MBA and would not have reached his current position; yet, he was having a love affair during his tenure, which led me dubitative as to how I would quantify such events. Ignoring this dimension equates considering that every CEO enjoys the same level of family support.

### **3.2.1.1 *Personal Competence***

Personal Competence denotes the level of confidence an individual has in his/her abilities. Twelve items reflect this RSA dimension including itmes such as "I believe in my own abilities", "I know that I succeed if I carry on" or "I am pleased with myself". I operationalize this dimension through “the prominence of CEO photograph in companies annual report” following the rationale that the more CEOs believe in their own abilities, the more likely they are to put themselves forward. I therefore expect that CEOs who rate high

on self confidence/personal competence will strive to be highly visible .As pointed out by Hambrick and Chatterjee (2007), if a CEOs' photographs represent a standard feature of annual report, they are not uniform and actually reflect CEOs' choices. CEOs take special care in controlling how they are portrayed in annual report and the prominence of their photographs as well as the wording of the letters to shareholders fall under their close scrutiny and control. I therefore rated the item as follows: 4 points if the CEO's picture represents himself or herself alone and covers more than half a page, 3 points if the CEO's photograph represents himself or herself alone but covers less than half a page, 2 points if the CEO's photograph included other colleagues and 1 point if there is no photograph.

### **3.2.1.2 Social Competence**

Social Competence denotes the ability of an individual to communicate with others. Ten items reflect this RSA dimension including "I am good in getting in touch with new people", "I easily establish new friendship" or "I enjoy being with other people". CEOs who are involved in different types of organizations that are not directly related to their daily economic activity demonstrates their ability to bind with people from different backgrounds. I operationalize this dimension by recording the number of membership or participation of CEO in the governance of non-governmental and non-profit institutions. Following Useem (1979), I consider as eligible seven types of non-governmental and non- profit organizations: (1) regional, community or economic development organization, (2) cultural organizations, (3) research and scientific organizations, (4) philanthropic foundations (5) colleges and universities (6) health-related organizations, and (7) charitable organizations.

Data were originally collected from Marquis' Who's Who in America. Yet, they proved to be too imprecise, incomplete and sometimes unreliable to be trusted alone. Different official and online resources (such as SEC DEF 14A reports, MarketVisual Search database, NNDB search database, Bloomberg BusinessWeek and various press releases.. )

were used to cross check/ triangulate as much as possible the information and ensure the validity of CEOs' resilience score ; a long and painstaking task that was nonetheless necessary to ensure that measurement error was reduced to the minimum.

### **3.2.1.3 Social Support**

Social Support denotes the possibility for an individual to benefit from family or friends' backup in cases of hardship. Nine items reflect this RSA dimension including "I have some close friends/family members who can back me up", "I have some close friends/family who really care about me" or "I have some close friends/family members who value my abilities". I operationalize this dimension by recording the membership or participation of the CEO in (1) exclusive clubs and major business policy associations, (2) boards, and (3) federal government advisory bodies. CEOs who belong to these institutions, due to their access to influential parties can count on some assistance and backup in case of hardship. I counted the number of boards, business association, clubs and government advisory bodies the CEO belongs to and consider this figure as their social support score. I allocated  $\frac{1}{2}$  point if the CEO is a member of the association, 1 point if he/she is board member, 2 points if he/she is President, chairman or vice chairman and 3 points if the CEO sits on one of the 15 federal advisory committees (such as Network Reliability and Interoperability Council, Natl. Security Telecommunications Advisory Committee, President's Export Council, National Petroleum Council...).

As for the 'social competence' score, different official and online resources (such as SEC DEF 14A reports, MarketVisual Search database, NNDB search database, Bloomberg, BusinessWeek and various press releases.. ) were used to cross check/ triangulate as much as possible the information and ensure the validity of the CEOs' resilience score

#### **3.2.1.4    *Personal Structure***

Personal Structure denotes the reliance of an individual to routines and planning in his/her daily life. Five items reflect this RSA dimension including "Rules and regular routines make my life easier", "I keep up my daily routines even at difficult times" 'or "I prefer to plan my actions". I operationalize this dimension by recording the TMT size. A CEO, who is involved with large TMT, is likely to score high in the "personal structure" dimension, while a CEO with a lower score is likely to be involved with smaller TMT reflecting flatter organizations. The personal preference of the CEO for structure is therefore proxied by an organizational characteristic, which he/she has the power to influence.

Data were collected from sec filings 10k or Def 14A and the number of officers of the registrant was recorded.

I then standardized the score for each of the 4 dimensions (so that they would benefit from the same weight) and aggregated them. I did not expect any correlation between the different dimensions of the construct. Indeed, this resilience metric captures the pool of resources, on which the CEO can rely. Any strength in one dimension can balance a weakness in another and there is thus different manner to achieve a medium score of resilience through a unique combination of low and high level of resources (or medium score for the 4 dimensions). Extreme scores, be they low or high, indicate however that the CEOS scores low or high for the majority of the dimensions.

**Table 3-**Operationalization of RSA: Summary of Unobtrusive Indicators

<b>Conceptual element of Resilience ( from Friborg et al, 2003)</b>					
	<b>Personal Competence</b>	<b>Social Competence</b>	<b>Family Coherence</b>	<b>Social Support</b>	<b>Personal Structure</b>
Illustrative items from Resilience Scale for Adults (RSA)	I believe in my own abilities. I am pleased with myself.	I am good at getting in touch with new people. I easily establish new friendships.	There are strong bonds in my family. In our family we are loyal to each other.	I have some close friends/family members who really care about me. I have some friends/family members who back me up.	Rules & regular routines make my life easier. I prefer to plan my actions.
<b>Interpretive Alignment with Elements of Resilience</b>					
Unobtrusive indicators					
<b>Prominence of CEO's photograph in annual reports</b>	I am please with myself and feel I deserve to be showcased.				
<b>Participation in the governance of nongovernmental, nonprofit institution.</b>		I am able to get involved with people from different horizons.			
<b>Participation in major business policy association &amp; exclusive clubs, other boards and Government advisory committee.</b>				I am well connected in my industry and with powerful people that can back me up if need be.	
<b>TMT size</b>					I am organized and at ease managing large well structured team.



### 3.2.2 *Dependent Variable: Firm Performance*

I use an accounting based measure of firm performance, widely resorted to in previous researches: **Return on Asset**. Return on Asset has been proposed to "foster a better view of fundamentals of the business, including asset utilization" (Hagel et al, 2010) and robust empirical evidence has confirmed this intuition. Extending findings from Francis et al. (2003) and Barton et al. (2010), Aliabadi et al (2013) assembled a random sample of U.S. and non-U.S. companies that follow IFRS; they found a significant association between market performance and accounting performance measures and documented that, among the six accounting measures investigated, ROA was the most relevant metrics.

$$ROA = IB/AT.$$

*IB and AT are ticker from Compustat with IB= Income Before Extraordinary Items , and AT= Total asset.*

I used a lead version of 1 year for the dependent variable that guaranteed that I did not experience recursive or circulatory effects between resilience and firm performance.

### 3.2.3 *Moderating Variables*

#### 3.2.3.1 *Firm Characteristics*

##### 3.2.3.1.1 *Firm diversification*

Following Jacquemin & Berry (1979), Palepu (1985), Davis & Duhaime (1992), I adopt an entropy index as a proxy for the level of diversification:

$$DT = \sum_{i=1}^N P_i \ln(1/P_i)$$

where:  $N$  is the total number of segment the firm is operating in.

$P_i$  is the share of the  $i$ th segment in the total sales of the firm, segment being defined at the 6 digits NAICS code.

The construct validity of this metric has been found satisfactory in comparison to other diversification measures (Chatterjee & Blocher, 1992; Hoskisson et al, 1994).

One asset of this measure is that it can be divided into two components, taking into account the number of segments the firm is present in as well as the relative importance of each segments in the total sales of the firm.

$$DT = DR + DU$$

Where:

$DU$  reflects the level of unrelated diversification i.e diversification arising from operating across different industry groups (those having different first two-digit SIC code).

$DR$  reflects the level of related diversification i.e. diversification arising from operating in different segments from the same industry group (those sharing the same two-digit SIC code but having different six-digit SIC code).

Scholars studying diversification have heavily resorted to Compustat Segment data (Baysinger & Hoskinson, 1989; Berger & Ofek, 1995; Lang & Stulz, 1994; Campa & Kedia, 2002; Villalonga, 2004). Compustat Segment data have been proven to be more valid and robust than TRINET DATA (Davis & Duhaime, 1992), and Compustat segment files record information disclosed by companies in line with Financial Accounting Standard Board regulation 14, known as SFAS 14. SFAS 14 required that firms record any business segment making up more than 10% of their consolidated revenues, operating income or identifiable assets. Firms generally differentiated segment at the four-digit SIC code level and researchers

had access to sales figures in dollars per segment. Yet, in 1998, SFAS 131 superseded SFAS 14 and the content of Compustat segment files was affected accordingly.

SFAS 14 and SFAS 131 provide two principles to differentiate between segments: following SFAS 14 (from 1977 to 1997), companies distinguished between *business segments* i.e. internal entities dedicated to provide a specific product or a service to customers and following SFAS 131 (from 1998 to present), companies distinguish between *operating segments*, i.e. segments that are independently managed or that are considered as distinct for resource allocation purposes.

In the SFAS 131 Basis for Conclusions, FASB (1997) states that the primary benefits of the new standards are that (1) some enterprises will report a greater number of segments, (2) most enterprises will report more items of information about each segment, (3) enterprises will report segments that correspond to internal management reports and (4) enterprises will report segment information that will be consistent with other parts of their annual report (FASB, 1997; see Ivonne A. Moya, 2006). Empirical studies have since then documented that SFAS 131 actually did increase the number of segments reported and lead to more disaggregated financial data (Street, Nichols & Gray, 2000; Berger & Hann, 2003). One limitation of SFAS 131 is that firms may record different segments for activities falling under the same SIC code; to mitigate this risk I aggregated any segments, which share the same 4-digit SIC code.

I resorted to the business segment information and compute BUS\_DIV as:

$$BUS\_DIV = \sum_{i=1}^n P_i \ln(1/P_i)$$

where: n is the total number of segment the firm is operating in as recorded by Compustat under the BUSSEG label.

$P_i$  is the share of the  $i$ th segment in the total sales of the firm, segment being defined at the 4 digits NAICS code.

I resorted to the geographic segment information and compute GEO\_DIV as:

$$GEO\_DIV = \sum_{i=1}^n P_i \ln(1 / P_i)$$

where:  $n$  is the total number of segment the firm is operating in as recorded by Compustat under the GEOSEG label.

$P_i$  is the share of the  $i$ th segment in the total sales of the firm, segment being defined at the 4 digits NAICS code.

I therefore computed BUS\_DIV and GEO\_DIV based on S&P's Compustat segment files for years 2002-2006

### 3.2.3.1.2 Firm Level of Slack.

Bourgeois & Singh (1983) and Bromiley (1991) operationalize slack through three measures reflecting the three categories of slack namely:

**Available slack:** Current ratio = Current Assets / Current Liabilities

**Recoverable Slack:** Selling, General and Administrative expenses / Current Liabilities

**Potential slack:** (1) Debt to Equity ratio= Total liabilities/Shareholders Equity

(2) Interest coverage ratio= Income before Taxes and Interest Charges  
/Interest charges.

However, in order to compute measures for each type of slacks, I need to impose restriction on the type of industries I situate my study in. Bromiley (1991) chose to limit his sample to manufacturing firms (SIC code between 3000 and 3999) in order to “mitigate difficulties produced by using accounting data from vastly different kind of data”.

As pinpointed in the sample selection section, I chose to put aside firms operating in the financial sector-SIC codes between 6000 and 6999- as accounting in banks differs substantially from accounting in other industries. Yet, due to the wide array of industries covered, Recoverable Slack appears difficult to operationalize as Overheads information or Selling, General and Administrative expenses (Compustat XSGA ticker) is not often provided for firms outside the manufacturing sector. In order to integrate Recoverable Slack, I would have to remove 16 %of the sample (including 2 measures of slack) , which appear unreasonable to gain an extra measure for a moderator .I thus preferred to drop recoverable slack from the analysis.

Regarding Slack, I thus focused on Available slack and Potential Slack operationalized as :

***Available slack:***  $\text{Current ratio} = \text{Current Assets} / \text{Current Liabilities}$  (Compustat tickers : ACT/LCT)

***Potential slack:***  $\text{Interest coverage ratio} = \text{Operating Income Before Depreciation} / \text{Interest charges}$  (Compustat tickers: EBIT/XINT)

Data were gathered from Compustat.

### ***3.2.3.2 The Task Environment***

For the measurement of the task environment, I rely on Dess and Beard (1984) whose model has been validated by confirmatory factor analysis (Rasheed & Prescott, 1987) and has been widely used since (Keats & Hitt, 1988; Boyd, 1990; Bamford et al, 2000). Following Boyd (1990), I picked one indicator from their analysis to operationalize munificence (Sales growth), dynamism (Sales dispersion) and resort to a Herfindalh Index and 4-firm concentration ratio for measuring complexity.

Data for these measures were obtained through Compustat.

### **3.2.3.2.1 *Munificence***

Munificence refers to the possibility for growth within an industry. Following Dess and Beard (1984) and Keats and Hitt (1998), I used the growth in industry sales to derive the munificence score. I proceeded in two steps: First, the natural logarithm of the total sales of four-digit NAICS industries was regressed against an index variable of years, over a period of five years. Then the antilog of the regression coefficient was used as the measure for munificence. Intuitively, I can consider the regression coefficient as an estimate of the sales growth rate.

### **3.2.3.2.2 *Dynamism***

I followed the same methodology as for munificence, using this time the standard error of the regression as the measure for volatility. Intuitively, we can consider the standard error of the regression coefficient as an estimate of the unpredictability of the sales growth rate.

### **3.2.3.2.3 *Complexity***

Complexity has been measured through a myriad of indicators in the literature (Cannon & St John, 2007). In line with Boyd (1990), Kotha & Nair (1995) or Dean & Snell (1996), I adopt a Herfindahl-Index (Herfindahl, 1950) as a proxy for complexity. Herfindahl-index is computed every year as the sum of the squared market shares for all firms in an industry group – identified by 6 digit NAICS code-, and ranges between 0 and 1. A score of zero represents perfect competition, while a score of 1 represents a perfect monopoly.

## **3.2.4 *Control Variables***

I controlled for potentially confounding factors at three level of analysis :

#### **3.2.4.1 CEO controls**

CEO age= number of years since CEO birth.

CEO tenure= number of years since CEO joined his/her current company.

CEO Level of Education= 4 for PhD, 3 for Master Degree or JD, 2 for Bachelor Degree and 1 otherwise.

CEO power= 1 in case CEO Board/chair duality and 0 otherwise

#### **3.2.4.2 Firm controls**

Prior year's performance= ROA in previous year

Firm size (ln(sales)) to control for bureaucratic momentum.

Firm performance before CEO appointment (Roa prior to first year of CEO's tenure) to control for ingrained practices.

Slack and diversification appeared also as control were they were not plugged as moderators.

#### **3.2.4.3 Industry controls**

Munificence, dynamism and complexity scores acted as control when they were not plugged as moderators

#### **3.2.4.4 Correction for Matching-endogeneity-: Match**

I had to control for the possibility that resilient CEOs could be drawn to certain specific situations or attracted by certain corporations, which would enable them to demonstrate their resilient capacities. In order to do so, I resorted to a method used by Chatterjee & Hambrick (2007) and regressed CEO Resilience (measured at the second year of tenure) against a set of antecedents and contemporaneous variables. The antecedent variables captured key conditions at CEO's entry, were measured the year prior to CEO appointment and consisted of Firm revenues, ROA and calendar year. The contemporaneous variable measured at the time of CEO resilience measurement (2 years of tenure) included

CEO power (CEO/chair duality) CEO age and CEO education. Among those variables, only firmsize prior to entry was significant en positively related to CEO resilience score ( $P=.052 < 0.1$ , and coefficient of .4936. The overall model was significant ( $p=.0000 < .05$ ) for an R-squared of .2231. Using stata postestimation command, I computed each CEO's predicted Resilience score labeled 'Match' and included that variable as endogeneity control in the regression.

### 3.2.4.5 *Correction for selection bias: Mills*

My panel data is unbalanced, as the 50 CEOs enjoyed different tenures. Should higher resilient CEOs have longer tenure than less resilient ones, results would be biased. This is a not trivial concern in our case, when the amount of resources available to extremely resilient CEOs could enable them to stay in power despite poor performance. In order to control for this possible bias, I resorted to an instrument variable labeled 'Mills'. Using Stata xtprobit routine, I estimated the probability that the CEO would remain in office for a given year, predictors being CEO age, tenure, CEO/Chair duality , calendar year, ROA and revenues . This mill's ratio was included in the analysis.

**Table 4-** Model Variable Summary

<b>Dependent variable</b>	<b>Independent variable</b>	<b>Moderating variables</b>	<b>Control variables</b>
<b>ROA<sub>t-1</sub></b>	<b>CEO Resilience</b>	<b>Available Slack<sub>t+n-1</sub></b> <b>Potential Slack<sub>t+n-1</sub></b> <b>Bus Diversification<sub>t+n-1</sub></b> <b>Geo Diversification<sub>t+n-1</sub></b> <b>Munificence<sub>t+n-1</sub></b> <b>Dynamism<sub>t+n-1</sub></b> <b>Complexity<sub>t+n-1</sub></b>	<b>CEO age<sub>t+n-1</sub></b> <b>CEO is chair<sub>t+n-1</sub></b> <b>CEO tenure<sub>t+n-1</sub></b> <b>CEO education<sub>t+n-1</sub></b> <b>Firmsize (ln)<sub>t+n-1</sub></b> <b>ROA<sub>t-1</sub></b> <b>Correct for matching</b> <b>Correction for selection bias</b> <b>Year</b>



## 4 MODEL AND ESTIMATION

In line with Hambrick and Chatterjee (2007) and because I had multiple observations for CEO/firms, I used generalized estimating equations (GEE) (Liang and Zeger, 1986), which derive quasi likelihood estimates and accommodate non-independent observations. To define the model, I needed to specify (1) the distribution of the dependent variable, (2) a link function, (3) the independent variables, and (4) the covariance structure of the repeated measurements. I specified a Gaussian (normal) distribution for the dependent variable, with an identity link function and an exchangeable correlation matrix.

Given the nature of the data, two correlation structures would appear adequate depending on my assumption. Auto-regressive-1 correlation was chosen as it takes into account the temporal sequence in the data and since we measured CEO resilience yearly, it appeared as the most reasonable match. As robustness check, I reran the analysis specifying an exchangeable correlation structure and results remained unchanged.

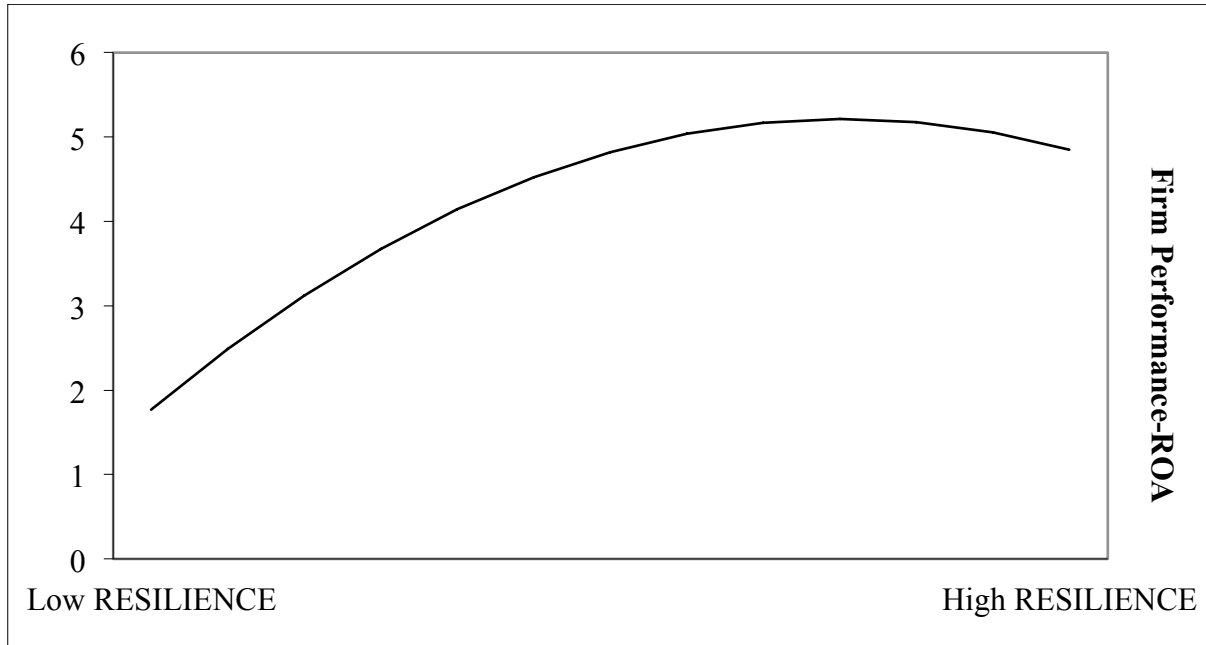
I used a random-effect model since fixed effect model preclude the use of variable invariant across time. Moreover, Fixed effects are also problematic when the number of CEO is large but the number of year on which they are observed is small (in my sample, the average number of observations per CEOs is 4). I used robust variance estimators (White, 1980) and used the xtgee routine in Stata 11.0.

## 5 RESULTS

Table 5 summarizes means, standard deviations and correlations among the variables. Table 6 presents GEE results for my test of CEO resilience impact on firm performance. Model 1 includes all control variables and their impact on firm performance. Model 2 includes the resilience score and Model 3 adds the quadratic term. Hypothesis 1 predicted that resilience would affect firm performance and display an inverted U-shape pattern. CEO

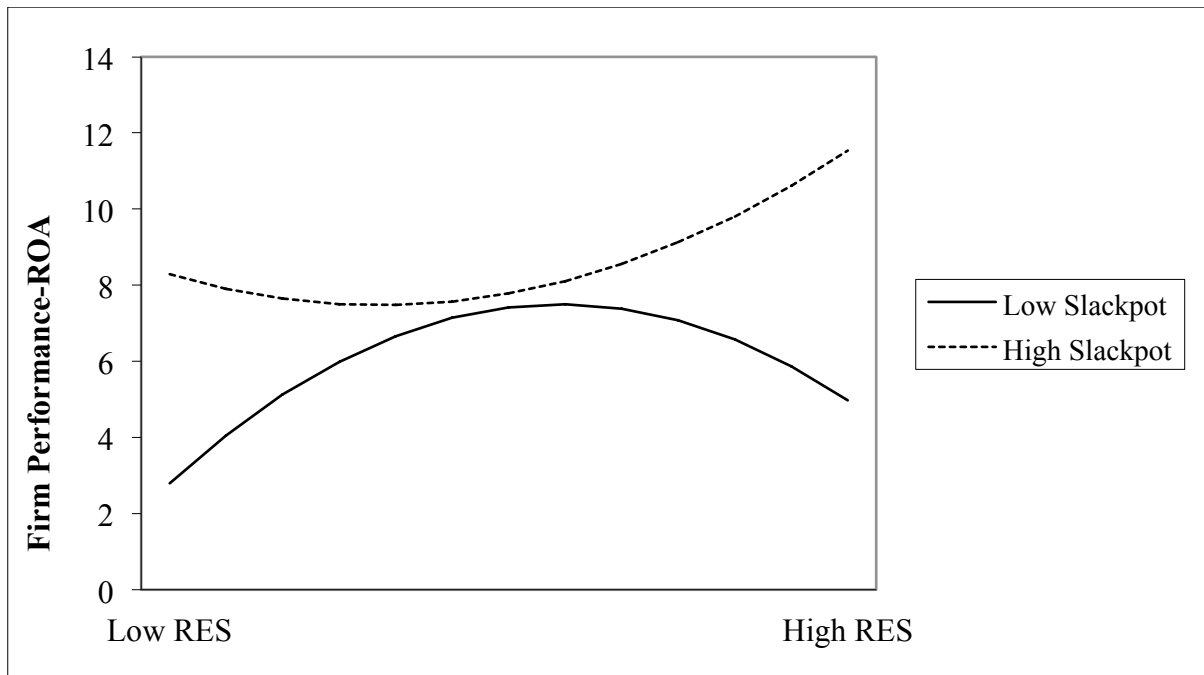
resilience shows a positive and significant ( $p < 0.05$ ) effect and CEO resilience-squared shows a negative and significant ( $p < 0.05$ ) effect on firm performance. Those results provide substantial support for hypothesis 1. Moreover the effect are not incidental, from low to high level of resilience, performance increases by approximately 150 percent (see graph hereafter).

**Figure 11-CEO Resilience Impact on Firm Performance**



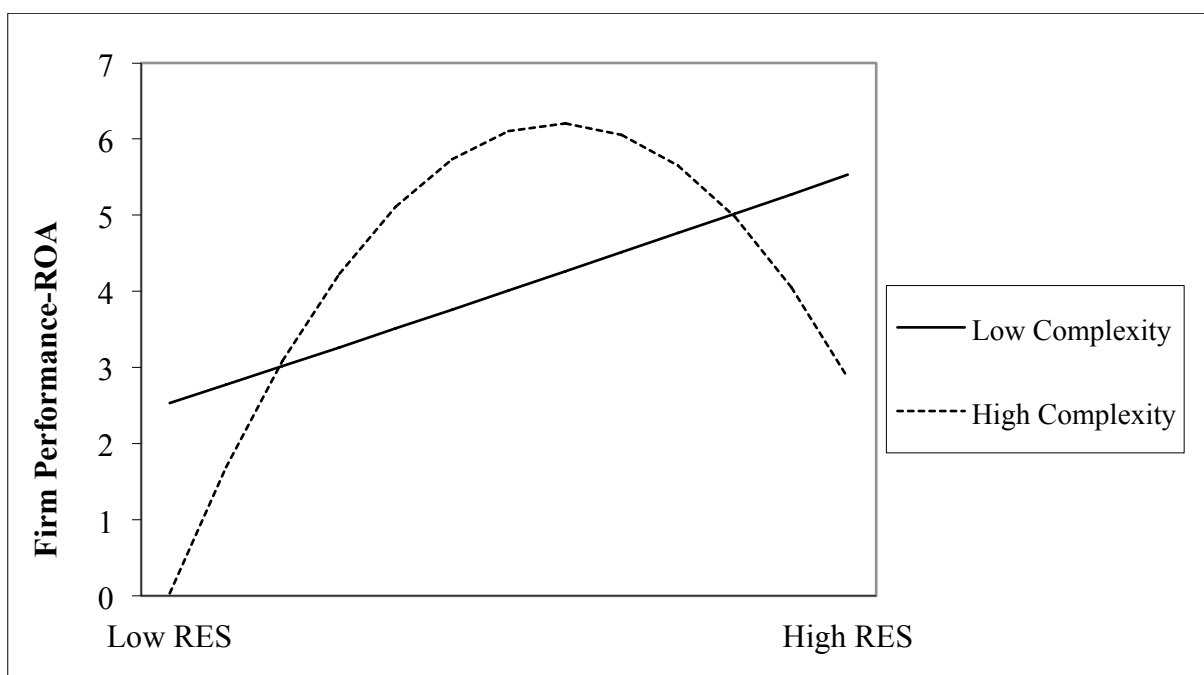
Concerning within-the-firm moderators, I do not find any support concerning the level of diversification be it geographical or per segment. Hypothesis 2a is therefore not supported. As regards to slack, available slack is non significant and thus does not appear to moderate the relationship between CEO resilience and firm performance. As pictured in Model 4, Potential slack x CEO resilience squared is however found significant ( $p < 0.05$ ) and enjoys a positive effect, while Potential slack x CEO resilience is not significant ( $p < 0.05$ ); those elements confirm the presence of a moderating effect (see graph hereafter).

**Figure 12-** Moderating Effect of Potential Slack



While potential slack does moderate the relationship between CEO resilience and firm performance, it nonetheless reverses the effect. Therefore, hypothesis 2b stipulating that slack weakens the effect of CEO resilience on firm performance is not confirmed. I will attempt to make sense of this curve in the discussion section.

**Figure 13-** Moderating Effect of Environment Munificence



Concerning environmental moderators, Munificence and Dynamism score are not significant ( $p < 0,05$ ), hence Hypotheses 3a and 3b are not supported. However as pictured in model 5, Complexity x CEO resilience squared is found significant ( $p < 0,05$ ) and enjoys a positive effect, while Complexity x CEO resilience is not significant ( $p < 0,05$ ); those elements confirm the presence of a moderating effect (see graph hereafter) and bring strong support to hypothesis 3c.

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**Table 5-Essay1** Correlation Table and Summary Statistics

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. ROA1lead	5.41	6.15	1.00									
2. CEO Resilience	0.00	2.41	0.18*	1.00								
3. CEO age	52.68	5.72	0.15*	0.34*	1.00							
4. CEO is chair	0.69	0.46	0.12	0.39*	0.41*	1.00						
5. CEO tenure	3.16	1.40	0.11	0.12	0.25*	0.18*	1.00					
6. CEO education	2.77	0.60	-0.24*	-0.18*	-0.00	-0.11	-0.02	1.00				
7. Firmsize (ln)	9.08	1.06	0.03	0.43*	0.19*	0.25*	0.09	-0.13*	1.00			
8. Prior year ROA	4.75	7.82	0.59*	0.22*	0.15*	0.25*	0.27*	-0.14*	0.07	1.00		
9. Prior Entry ROA	1.33	32.32	0.29*	0.15*	0.06	0.12	0.04	-0.21*	0.24*	0.28*	1.00	
10. Available Slack	1.60	0.82	0.10	-0.24*	0.06	-0.12	-0.01	0.08	-0.39*	0.08	-0.46*	1.00
11. Potential Slack	18.83	36.12	0.28*	0.02	0.14*	-0.13*	0.21*	0.00	-0.03	0.28*	0.19*	0.13*
12. Business Diversification	0.39	0.46	0.01	0.11	-0.13*	0.04	-0.08	-0.10	0.22*	-0.06	-0.06	-0.00
13. Geograhic Diversification	0.69	0.56	0.19*	-0.18*	0.03	-0.31*	0.01	0.04	-0.22*	0.12	-0.04	0.31*
14. Munificience	-0.01	0.11	-0.01	0.01	0.11	0.04	-0.02	0.00	0.07	-0.01	0.07	-0.11
15. Dynamism	0.00	0.08	-0.08	0.01	0.03	-0.09	0.02	-0.02	-0.04	-0.11	-0.03	-0.05
16. Complexity	0.11	0.08	0.08	-0.03	-0.01	0.12*	-0.01	-0.19*	0.06	0.09	0.03	0.02
17. Correction for matching	-0.13	1.09	0.13*	0.47*	0.64*	0.59*	-0.04	-0.39*	0.63*	0.07	0.19*	-0.19*
18. Correction for selection bias	0.24	0.26	0.01	0.04	0.06	0.09	0.15*	-0.01	0.09	0.12	0.09	-0.01
19. Year	2004.14	1.33	0.04	0.08	0.22*	0.09	0.82*	0.02	0.11	0.16*	-0.08	0.05

Variable	Mean	S.D.	11	12	13	14	15	16	17	18	19
10. Available Slack	1.60	0.82									
11. Potential Slack	18.83	36.12	1.00								
12. Business Diversification	0.39	0.46	-0.07	1.00							
13. Geograhic Diversification	0.69	0.56	0.20*	-0.06	1.00						
14. Munificience	-0.01	0.11	-0.07	0.00	-0.09	1.00					
15. Dynamism	0.00	0.08	-0.08	0.06	-0.09	0.27*	1.00				
16. Complexity	0.11	0.08	0.08	-0.05	-0.28*	-0.03	-0.06	1.00			
17. Correction for matching	-0.13	1.09	-0.07	0.14*	-0.24*	0.09	0.01	0.14*	1.00		
18. Correction for selection bias	0.24	0.26	-0.02	0.10	0.07	0.09	-0.03	0.00	0.02	1.00	
19. Year	2004.14	1.33	0.08	-0.08	0.04	-0.10	0.07	0.07	0.01	0.13*	1.00

\* Correlations significant at the p <.05 level.

**Table 6-Essay 1 Results of GEE analysis, CEO Resilience impact on firm performance**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
<b>CEO age<sub>t+n-1</sub></b>	0.084 (0.200)	0.077 (0.202)	0.097 (0.210)	0.093 (0.206)	0.086 (0.205)
<b>CEO is chair<sub>t+n-1</sub></b>	-0.065 (1.888)	-0.190 (1.872)	-0.381 (1.849)	-0.517 (1.841)	-0.450 (1.885)
<b>CEO tenure<sub>t+n-1</sub></b>	0.249 (0.635)	0.292 (0.636)	0.189 (0.647)	0.081 (0.617)	0.044 (0.620)
<b>CEO education<sub>t+n-1</sub></b>	-1.705* (0.874)	-1.607* (0.860)	-1.449* (0.879)	-1.640* (0.852)	-1.560* (0.884)
<b>Firm size (ln)<sub>t+n-1</sub></b>	-0.413 (0.807)	-0.581 (0.820)	-0.569 (0.832)	-0.712 (0.849)	-0.466 (0.812)
<b>ROA<sub>t+n-1</sub></b>	0.248*** (0.069)	0.218*** (0.064)	0.191*** (0.061)	0.199*** (0.059)	0.210*** (0.060)
<b>ROA<sub>t-1</sub></b>	0.021* (0.012)	0.023* (0.012)	0.023* (0.013)	0.017 (0.014)	0.022* (0.013)
<b>Available Slack<sub>t+n-1</sub></b>	0.945 (0.588)	1.131* (0.593)	1.203** (0.591)	1.070* (0.605)	1.426** (0.588)
<b>Potential Slack<sub>t+n-1</sub></b>	0.017 (0.017)	0.014 (0.016)	0.009 (0.016)	0.005 (0.015)	0.008 (0.017)
<b>Business Diversification<sub>t+n-1</sub></b>	1.052 (0.758)	0.968 (0.785)	1.046 (0.766)	1.165 (0.772)	1.304* (0.739)
<b>Geographic Diversification<sub>t+n-1</sub></b>	1.260 (0.932)	1.362 (0.927)	1.305 (0.945)	1.088 (0.920)	1.260 (0.887)
<b>Munificence<sub>t+n-1</sub></b>	2.425 (1.604)	2.381 (1.666)	2.613 (1.638)	2.783* (1.633)	3.479** (1.604)
<b>Dynamism<sub>t+n-1</sub></b>	-1.766 (2.686)	-1.294 (2.657)	-1.188 (2.855)	-1.808 (2.971)	-2.441 (2.654)
<b>Complexity<sub>t+n-1</sub></b>	2.201 (4.732)	4.716 (4.927)	4.020 (5.056)	2.710 (4.927)	13.078** (5.914)
<b>Correction for matching</b>	0.237 (1.725)	0.091 (1.661)	-0.006 (1.705)	0.096 (1.695)	-0.153 (1.713)
<b>Correction for selection bias</b>	-0.967 (1.430)	-0.865 (1.394)	-0.557 (1.312)	-0.706 (1.323)	-0.735 (1.297)
<b>Year 2003-dummy-</b>	0.654 (0.950)	0.554 (0.918)	0.730 (0.910)	0.873 (0.901)	0.973 (0.883)
<b>Year 2004-dummy-</b>	1.653 (1.391)	1.494 (1.392)	1.873 (1.442)	2.044 (1.423)	2.124 (1.427)
<b>Year 2005-dummy-</b>	0.622 (1.665)	0.484 (1.682)	0.991 (1.715)	1.439 (1.688)	1.550 (1.625)
<b>Year 2006-dummy-</b>	-1.013 (2.344)	-1.116 (2.374)	-0.631 (2.428)	-0.135 (2.348)	-0.159 (2.368)
<b>Constant</b>	4.255 (15.373)	5.539 (15.523)	4.821 (16.051)	7.506 (16.081)	3.614 (15.839)
<b>CEO Resilience<sub>t+n-1</sub></b>		0.348* (0.201)	0.427** (0.216)	0.338 (0.226)	0.418 (0.304)
<b>(CEO Resilience)<sup>2</sup></b>			-0.116** (0.055)	-0.167*** (0.063)	0.069 (0.084)
<b>Potential Slack x CEO Resilience</b>				0.002 (0.004)	
<b>Potential Slack x (CEO Resilience)<sup>2</sup></b>				0.006** (0.003)	
<b>Complexity x CEO Resilience</b>					-0.113 (2.105)
<b>Complexity x (CEO Resilience)<sup>2</sup></b>					-2.236** (0.942)
<b>Observations</b>	243	242	242	242	242
<b>Number of CEOs</b>	61	61	61	61	61
<b>Wald chi<sup>2</sup></b>	116.84***	130.64***	129.36***	153.51***	143.86***

Standard errors in parentheses \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

## 6 DISCUSSION AND CONTRIBUTION

This paper starts with the premise that CEOs' influence on their firms' performance is not trivial and that, in line with previous upper echelons research, it is essential to gain a better understanding of CEO personality. I provide one venue to extend our comprehension of CEO influence on their firm performance under conditions of uncertainty, stress and pressure, and propose to adopt resilience as object of study. Grounded in resource dependence and upper echelons theory, my paper explores the possible influence of CEO resilience on their firm performance and makes several contributions to the literature.

First, while Vaillant (1993) was musing that "we all know perfectly well what resilience meant until we listened to somebody trying to define it", this paper has attempted to circumscribe the construct. I have traced back the origin of the construct, imported it from the field of social psychology into the field of upper echelons research (where it is applied to an adult population of senior executives). Also, I have proposed to define CEO Resilience as "a state-like capacity of the CEO to hold well under pressure and display sustained competence under stress". A fair tribute was paid to the multidimensional nature of the construct and the operationalization of resilience (which stresses four dimensions) resorting to unobtrusive indicators provides a relevant venue to approximate CEO resilience scores.

Second, I have found strong support for the hypothesis that CEO resilience relates to firm performance following an inverse U-shaped pattern and showed a pretty strong effect: moving from low level of resilience to high level brings a 150 % increase in firm performance, which is substantial. Moreover if resilience matters, too much resilience becomes detrimental; this finding can result from the fact that (1) extremely resilient CEO will commit mistakes (as any other CEOs, who are subjected to bounded rationality in a very complex environment), but to the difference of moderate to highly resilient CEOs, extremely resilient CEOs will be unwilling to correct those (Kanter, 2013) and (2) too many resources

tend to insulate CEOs from the context contingencies and lead them to overlook some environmental cues. Being extremely resilient does not cause a sharp drop in performance but being aware of this drawback can be of value. This result appears moreover consistent with past upper echelons researches and a comparison with (1) locus of control, (2) hubris and an overconfidence respective effect on firm performance is enlightening.

Differentiating groups of CEOs based on locus of control boils down to classify them as either Externals – *who share a rather passive view of their actions and feel that most of their fate is dictated by forces standing outside of their controls-* and Internals – *who share an active conception and believe they have the control of their lives and can influence their environment-* (Rotter, 1966). The more we move to the extremely low resilient end of the spectrum, the fewer resources are available to the CEO and one can reasonably expect a higher proportion of internals within this group. That low resilience negatively impacts firm performance appears thus fully congruent with the finding that internal CEOs perform worse than their external counterparts (Miller, Kets de Vries and Toulouse, 1982; Boone, de Brabander and Van Witteloostuijn, 1996).

Conversely, the more we move to the extremely high resilient end of the spectrum, the more resources are available to the CEO and one can expect them to be more subject to hubris (*as they believe their own press and are backed by sufficient social support*) and overconfidence (*as they score high on the self confidence and social support dimension*). That extreme level of resilience proves detrimental to performance resonates well with similar effects established for Hubris (Hayward & Hambrick, 1997) and Overconfidence (Malmendier & Tate, 2005b).



Third, I have documented that the level of potential slack moderates the relationship in such a fashion that it reverses the relationship in high potential slack situation. This finding, which is not in line with my expectations, deserves some attention.

On the right side of the curve, the absence of performance penalty for extremely high resilient CEOs is interesting. As such, being extremely resilient and benefiting from high amount of potential slack (equating benefiting from high level of support from bankers and investors) seems to enable CEOs to leverage their resources, disregard some internal stakeholders claims, and impose their views. This might prove valuable in turnaround situations, where a steady hand is compulsory and overcoming some bureaucratic inertia necessary. This represents one possibility to make sense of the curve but more research in this area would be warranted.

On the left side of the curve, the pattern is however quite puzzling. Why would some low to moderate resilient CEOs perform worse than extremely low resilient CEOs? Once again, one explanation could be put forward, but further attention to this area is needed. Extremely low resilient CEOs are consistent in their helplessness: facing stress, they dysfunction. This element being well known by their followers, they may end up performing better than slightly more resilient CEOs because (1) they do not temper with a situation they do not master erratically and (2) their consistent behavior enable their followers and the rest of the TMT to compensate for them. This latter "social compensation" (Williams & Karau, 1991) has been proven to act as a powerful force leading team members to contribute more to the group than they would have done otherwise (under the condition that the group product be important for the group, a condition fully met in TMT settings).

This phenomenon is also sensed by the players in the leader-follower dyad as illustrated by this short story related by one of my students: There were Two teachers: one math teacher and one physics teacher and they did not like each other. The former was

acknowledged to be an excellent teacher; he was caring for his students, was coming well prepared in class and gave his students sufficient drive and support. The latter appeared aloof and was not clearly involved in his teaching. Come the time of the "baccalaureate", and comparing the mean for their students performance, the physics teacher was very pleased to show the dean his results, which were slightly better than those of his math colleague. How can we account for this apparent contradiction? According to my student, who sat in those two teachers classes, the mechanism at play had been the following: well aware of the deficiencies of the physics teacher, most of the students who wanted to succeed worked harder by themselves in physics in order to compensate the teacher lack of involvement. They ended up working slightly less by themselves for the math section, as they were well prepared in class. Though anecdotic, this story pinpoints an element that could also play in the executive suite and which could explain the pattern of this curve.

Fourth, I have grounded my reasoning on resource dependence theory and built upon its assumptions that organizations respond to demands made by stakeholders – be they internal and external- and try to minimize their reliance upon powerful ones. While not contributing directly to test common resource dependence theory propositions (such as the motivation for Merger and Acquisitions, Joint Venture design or board compositions), I nevertheless benefited from integrating RDT and its description of CEO roles (Pfeffer & Salancik, 1978, Chap10) to a more micro-level orientation than usual, answering the recent call for such perspective (Hillman et al, 2009). The fact that potential slack and complexity moderates the relationship between CEO resilience and their firm performance testify for the influence of the environment and specific resources over CEO/firm success and as such brings some support to a RDT orientation.

More specifically, those moderating effects might prove of value in executive succession situations. Pfeffer and Salancik (1978) considered CEO replacement as a means to

bring better alignment between the organization and its environment. Given the impact of CEO resilience on performance, recruiters, executive succession consultants and CEO headhunters would be well advised to take into account CEO resilience potential and assess areas of vigilance stemming from their client environment specificities (level of slack or complexity). In case of low resilience level, some training programs, which have been contended to increase one's resilience potential, could be resorted to in order to address deficiencies (Reivich and Shatte, 2003; Seligman, 2011). In case of extremely high resilience level, being aware of its downside (except in the case of high potential slack) represents a first step as a man who is warned is worth two.

## **7 LIMITATIONS AND FUTURE RESEARCH**

As in any research, the findings of this paper should be considered in the context of its limitations, which are threefold.

First, I resorted to a methodology, which led us to use unobtrusive indicators as proxy for resilience dimensions and I disregarded/held constant for my sample the family coherence dimension. As such, I strongly believe this measure is satisfactory and is, for the time being, far better than demographics proxy. Yet, I am still pretty far from CEO saying and the optimum proxy would be to administrate CEOs the RSA questionnaire: the unwillingness of CEOs to participate in such program, the low response rate and the possibility of desirability bias in their answers cast doubt about the possibility of succeeding with such research design. While not perfect, these measures appear adequate and are rooted in sound psychological research.

Second, I focused on the two extremes of the CEO-Firm performance chain. While I documented a clear effect, there are possibilities to refine the model and move one step closer to the CEOs by focusing on some firm specific actions.

Third, I have highlighted a personality characteristic, which may cast new lights on timely and relevant issues: CEOs' exposure to stress is significant and their capacity to resist to and overcome pressure bears important consequences. However, I have assumed that S&P 500 CEOs faced significant stress and pressure during their tenures: a fair assumption. Yet, investigating the influence of resilience in crisis situation would provide a stringer test as resilience consequences are particularly salient in times of crisis, when the trajectories followed by top executives enjoy greater visibility and traceability. For instance, the contrast between the reaction of Tepco CEO, "Masataka Shimizu" and that of Toyota CEO, "Akio Toyoda" is striking: while the former was absent for "mental fatigue" a week after the beginning of the crisis, failed to meet his duties and was finally fired two months after, the latter faced the biggest recall in Toyota's history, testified in front of the US congress and remains today at the head of the manufacturer. Though anecdotic, these examples illustrate well what is at stake and stand at the core of my willingness to study the influence of resilience. Various adverse conditions (enduring financial crisis, product defects, accidents...) increase the pressure experienced by CEOs and studying CEO Resilience bears great promises for understanding the different fates experienced by companies facing hardship.

Finally, as pinpointed in my willingness to make sense of the moderating effect of potential slack, possibilities exist to investigate the influence of CEO resilience over the TMT. Indeed, the possibility that other TMT members compensate CEO extreme low resilience would deserve being investigated.

As a conclusion, this paper proposed to take into account the influence of a new construct in upper echelons literature and represents a first empirical test of the influence of CEO resilience on firm performance. The resilience construct, which has been imported into the field of upper echelons bears great promises to enhance our understanding of CEOs' actions

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and behaviors in times of change and pressure; it appears novel and enjoys a real potential to expand our knowledge of firms' actions and CEO behaviors under challenging conditions. This paper represents thus an interesting foray and opportunities for future research are rife.

## **CHAPTER 3**

### **MOVING ONE STEP CLOSER TO THE CEO:**

#### **THE IMPACT OF CEO RESILIENCE ON STRATEGIC DYNAMISM.**

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## **1 INTRODUCTION**

Initiated by Hambrick and Mason's 1984 seminal publication, a strong research stream, based on the upper echelons framework, has proposed and documented that CEO and Top Management Team characteristics impact the fate of organizations and firm performance. CEO tenure, functional background, education, as well as hubris, narcissism and charisma have been documented to matter. In my first essay, I have extended this line of research by taking CEO Resilience into consideration. Capitalizing on resource dependence theory (Pfeffer & Salancik, 1978), I have demonstrated and provided conclusive evidence of the effect of CEO resilience on firm performance, effect that is moderated by the firm's level of slack and industry complexity.

For being interesting and novel, this first essay restrictively focused on the two extremes of the upper echelons continuum and the unexpected shape of slack moderation led me to engage into speculative explanation: I namely proposed that extremely resilient CEO performed better than moderately resilient ones in case of high potential slack because they dared more...Is it really the case?

In this second essay, I am moving one step closer to CEOs and investigate the impact of CEO resilience on their strategic behavior and more precisely on their firm strategic dynamism level. Strategic dynamism has been on the agenda of strategic researchers for years and designates the degree of change in organization strategy. On the low end of the strategic dynamism spectrum, firms can be said to be strategically persistent as they stick to a definite

roadmap and orientation, whereas on the high end, they appear versatile as they move in many different directions and follow rather chaotic paths.

Previous research has documented that various conditions impact strategic dynamism. On the macro level, industry characteristics (Birkinshaw, Morrison and Hulland, 1995) and firms' characteristics such as organizational size (Chen and Hambrick, 1995) and slack (Singh, 1986) have been shown to affect the strategic dynamism of companies: Organizational size negatively relates to strategic dynamism and level of slack positively correlates with it.

Moreover, strategic dynamism is not only affected by industry and firm features. Previous works have also reported that some executives are more likely to alter their company strategy than others. CEO tenure has been demonstrated to reduce strategic initiatives (Miller, 1991) and this pattern holds for Top Management Team as well (Finkelstein & Hambrick, 1995). Education (be it at the individual or top management team level) also plays a role and favors strategic initiatives (Wiersema & Bantel, 1992) and narcissism has been proven to foster strategic dynamism (Chatterjee & Hambrick, 2007). In this paper, I resort to two different measures of strategic dynamism: the first one, "internal strategic dynamism", denominates the variation in allocation of resources year by year; the second one, "external strategic dynamism" denominates the amount of acquisitions or divestment, CEOs engage in.

The level of CEO resilience, conceived as the capacity of the CEOs to hold well under pressure and display sustained competence under stress, can be foreseen to affect strategic actions. Stress has been documented to reduce the breadth of vision of the decision maker (Postman & Brown, 1952; Smock, 1955) and to diminish problem-solving capacity by inducing decision-makers to stick with well-known solutions, even though they no longer suit

the situation (Cowen, 1952). This represents one of the grounding of the threat rigidity hypothesis put forward by Staw et al (1981), which indicates that threats cause a restriction of decision making capacities due to a "narrowing in the field of attention, a restriction in information processing and a simplification in information codes".

Therefore the capacity of CEOs to move away from stress and remain under healthy functioning is likely to affect **the amount of decisions taken, their appropriateness and their variability in terms of orientation**. By investigating this question, I am mainly focusing on the responsive role of CEOs (Pfeffer and Salancik, 1978 chap 10), and ground my theorizing on the upper echelons perspective (Hambrick & Mason, 1984; Bantel & Jackson, 1989) and attention based view of the firm (Ocasio, 1997).

## 2 THEORY AND HYPOTHESES

The upper echelons perspective, as presented by Hambrick and Mason, (1984) and by Finkelstein and Hambrick (1996) (as well as built upon by Bantel & Jackson, 1989), illustrates a linear information-processing model. It relies on the assumption of bounded rationality (Cyert & March, 1963) and starts with an information overload situation: on a daily basis, top managers are bombarded with data and when they contemplate a strategic environment – *which emit numerous, complex and ambiguous stimuli*-, they neither have the time nor the ability to comprehend the whole situation. In their field of vision, which is limited, they select bits of information and interpret them. Their personality, penchants, cognition and values play a major role in delineating their field of vision, filtering the information and interpreting it. In his attention-based view of the firm, Ocasio (1997) proposes that attention<sup>\*</sup> ought to be taken into consideration to explain firms' behaviors and strategic action.

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<sup>\*</sup> defined as encompassing "the noticing, encoding, interpreting, and focusing of time and effort by organizational decision-makers on both (a) issues; the available repertoire of categories for making sense of the environment: problems, opportunities, and threats; and (b) answers: the available repertoire of action alternatives: proposals, routines, projects, programs, and procedures"



Ocasio contends that researchers should emphasize (1) the way individual decision makers focus their attention (i.e. "the focus of attention"), (2) the characteristics of the situation the decision maker is confronted with (i.e. "the situated attention") and (3) the way firms distribute and regulate the attention of their decision makers (i.e. "the structural distribution of attention").

Among those three levels, the first and second levels are especially adequate for my theorizing, as resilience, an individual feature, is influenced and triggered by stressful situations. Attention appears as one of the crucial elements, which is disrupted when a decision-maker panics and which remains constant under adequate resilience level. The general mechanism at play is that resilience, an emotional quasi-state, affects the cognitive capacities of CEOs, which condition the attention devoted to certain claims and stimuli that, in fine, determine the quality of their decision-making.

### ***2.1 A definition of resilience***

I conceive "CEO resilience" as **the capacity of a CEO to hold well under pressure and display sustained competence under stress**. There are thus two components in this definition (1) a capacity to absorb strain and (2) a capacity to recover and adjust positively to difficulties. Borrowing the terminology from Carmeli et al (2013), these two characteristics are labeled (1) resilience-efficacious beliefs (*I believe I can make it*) and (2) resilience-adaptive capacities (*I sense, interpret and respond to the complexities of hardship effectively*).

Furthermore, resilience is not *stricto sensu* a personality trait. If portraying resilience as a hard-wired and stable enduring psychological trait was common in early resilience research (Anthony, 1974; Block & Block, 1980), most of the recent findings tend to *infirm* this position. Studies have clearly documented that resilience is "ordinary magic" (Masten et

al, 1990; Vaillant, 1993), developable (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), and results from the interactions between the resources of the individual and those of his/her environment (Werner & Smith, 1982; Masten et al, 1990; Cyrulnik, 1999; Luthar et al, 2000). Resilience is conceptualized as a "state-like" positive capacity, which is more malleable than pure traits but remains more stable than pure psychological states (Luthar & Cushing, 1999; Luthar & Zelazo, 2003).

This capacity enjoys different levels ranging from low to high. Resorting to the resilience scale for adulthood (Friborg et al, 2003), resilience is operationalized as a pool of resources, namely interpersonal and personal protective factors, which have been proven to ensure individuals normal functioning under pressure. These resources amount to four categories namely: (1) Personal Competence *-I am pleased with myself and I believe in my own abilities-* (2) Social Competence *--I am good in getting in touch with new people-*, (3) Social Support *-I have some friends who can back me up-* and (4) Personal Structure *-rules and regular routines make my life easier or I prefer to plan my actions-*.

Terminology wise, CEOs, who enjoy low, moderate or extremely high level of protective factors, are, in this manuscript, respectively qualified as low, moderate or extremely high resilient individuals. I propose that this level of resilience –viewed as a pool of resources- relates to the two dimensions of Resilience, namely (1) resilience-efficacious beliefs (*I believe I can make it*) and (2) resilience-adaptive capacities (*I sense, interpret and respond to the complexities of hardship effectively* (Carmeli et al, 2013) in the following manner:

**Table 7-**Resilience as a Pool of Resources Impact on Coping and Adaptive Capacities

<b>Resilience <i>Pool of resources</i></b>	<b>Resilience (1) <i>Efficacious belief/coping</i></b>	<b>Resilience (2) <i>Adaptive capacities</i></b>
Low	-	-
Moderate to High	+	++
Extremely High	++	+/-

It is noticeable that these two dimensions play out successively: effective coping conditions the effectiveness of adaptation. Low resilient people benefit from a very limited pool of resources leading them to poorly cope with stress and to panic, which, in turn, cause them to inadequately adapt to the situation. Moderate to high resilient people apprehend the severity of the situation and benefit from sufficient resources to manage their stress, which translate into (1) a sound appraisal of the context and (2) very good adaptive capacities as their diagnostic and their capacity to address the challenge are adequate. However, extremely high resilient people tend to cope with stress so well (extremely high efficacious belief) that they are likely to overlook some weak signals and environmental cues; this slightly less qualitative diagnosis, in turn, diminishes their level of adaptive capacities: for benefiting from extraordinary high level of resources, they might mobilize them in the wrong direction or not in a timely manner.

Considering that people can be over-resilient is not common in the literature. Yet, it does appear logical in light of research findings pertaining to other strengths, which become weaknesses when overused (for instance, confidence leading to overconfidence (Malmendier & Tate, 2005) or Hubris (Hayward & Hambrick, 1997; Chatterjee & Hambrick, 2007)). My rationale in this regard resonates with the logic put forward by different leadership scholars, who stressed the perils of accentuating the positive (Kaiser & White, 2008; Kaiser, 2009; White, 2009; Kaplan & Kaiser, 2013). This quote from Kaplan and Kaiser (2013) epitomize this line of reasoning: *" We've seen virtually every strength taken too far: confidence to the point of hubris and humility to the point of diminishing oneself. We've seen vision drift into aimless dreaming and focus narrow to tunnel vision. Show us a strength, and we'll give you an example where its over- use has compromised performance and probably even derailed a career "*. Considering that similar to other strengths, there is a tipping point, a threshold

above which resilience can become less advantageous appears thus sensible and is represented by this third category of extremely resilient individuals. .

## ***2.2 The Link between CEO Resilience and firm strategic dynamism***

Low resilient CEOs benefit from a low pool of resources: they enjoy little self-confidence ("they don't feel they can make it") and few self-routines to rely on; they also suffer from a lack of interpersonal resources (low social competence and support). When they are confronted with stress, they are unable to cope with it effectively and thus dysfunction. By not coping with stress and pressure effectively (step 1) they are unable to display healthy functioning and sustain accurate attention (step 2), which in turn hinder their decision-making abilities. They indeed suffer from a narrowing of their field of vision and a restriction of information processing (Staw et al, 1981).

Low resilient CEOs freeze when they encounter stress and this might induce two consequences on their strategic choices: Either they do nothing and procrastinate decision making or they engage into a healthy dose of decision making in erratic directions, because the decision process rests upon dysfunctional attention and functioning. In modern professional life and due to increased amount of complexity and information speed, I propose that the former option is neither a viable options for CEOs nor a pleasant one: postponing decisions only makes the matter worse; pending decisions as well as stakeholders' frustration pile up and stress/pressure, for not disappearing, heighten. Given that not taking any decision is not an option, low resilient CEOs rather engage into a certain "fuite en avant "; they "rush ahead" in their decision making in order to make stress go away. In so doing, they are likely to engage into confusing directions, which should translate into an extremely high amount of strategic dynamism be it internal or external.

Conversely, extremely resilient CEOs benefit from a consequent amount of resources: they are sure of themselves, highly structured and they are backed by significant social

support. On the one hand, this translates into an excellent capacity to absorb strain, which renders them extremely resistant to stress; but on the other hand, it fuels their hubris (Roll, 1986; Hayward & Hambrick, 1997), which, in the end, proves detrimental and cripples the adaptive dimensions of resilience (hence the pattern displayed in table1). Hubris is defined in the oxford dictionary as an " excessive pride or self confidence". In ancient Greece, this excessive pride towards the gods was leading to nemesis, a divine punishment for excessive presumption causing an ineluctable downfall.

In management settings, hubris has been documented to positively impact the premium paid by bidders in acquisitions (Hayward & Hambrick, 1997). CEO excessive resilience impacts their level of attention (they are far more likely to overlook some environmental cues that they perceive as menial and adopt a restricted field of vision) as well as their probabilities of success for strategic options (they are also more likely to overestimate their chance of success). They tend to downplay the severity of adverse signals, overestimate their capacities to make things happen, and might thus dare slightly more than moderate to high resilient CEOs. This would translate into a heightened level of strategic dynamism be it internal or external.

It is however noticeable that as stress is evacuated rather rapidly from their mind, this penchant should be weaker than in the case of extremely low resilient CEOs, equating a lesser magnitude of internal strategic dynamism in the extreme high resilient scenario compared to the low resilient one. Conversely and concerning external dynamism, namely the tendency to engage into acquisitions (and divestments), their very high resource pool might prove invaluable to fulfill their ambition, be it information or support wise. Thus, I envision that their external strategic dynamism should be of greater magnitude in the extreme high resilient scenario compared to the extreme low resilient one.

In contrast, moderate to high resilient CEOs benefit from an intermediate mix of resources. They are thus well equipped to face stress but their feeling of vulnerability to it renders them especially acute, which raises their level of attention. By feeling the pressure and partially absorbing stress, they (1) keep the attention necessary to better analyze the stakes and (2) timely recover to appropriately address them. They seize the severity of the challenge, are affected yet remain lucid and quickly bounce back to fulfill their mission. They live up to the expectations of their stakeholders since they send clear signals and appear directly involved. While low resilient CEOs see the glass as almost empty and extremely resilient CEOs see it as almost full, I suggest that moderate to high resilient CEOs successively see it as half empty and half full. As such, they benefit from a more accurate picture of their organizational context, which lead them to be more consistent in their choices. They thus appear more likely to be persistent in their orientations and their level of overall strategic dynamism, be it internal or external, should be lower.

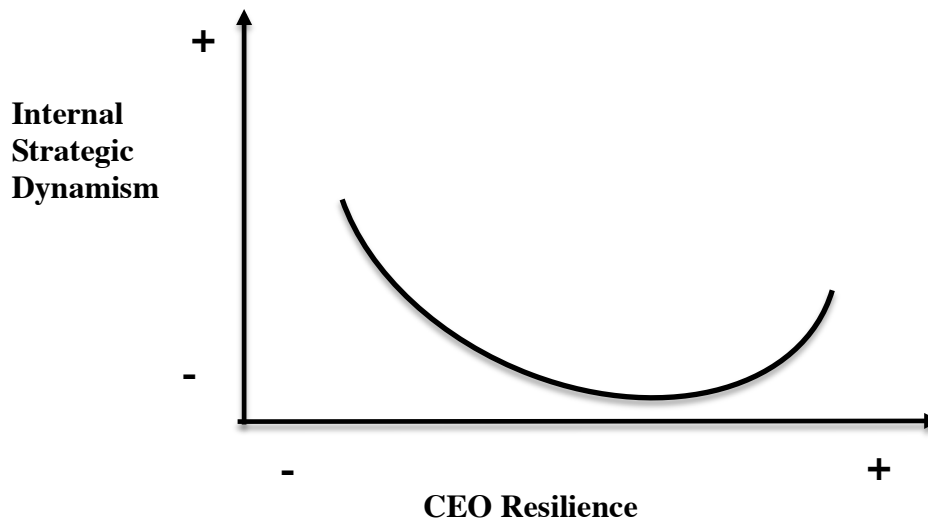
In summary, low level of CEO resilience induces a high level of strategic dynamism. Moderate to high level of resilience enables CEOs to feel the stress, which sparks a heightened level of attention, to cope with it effectively and to maintain the quality of their decision-making. They base their decisions on a sounder apprehension of the context, which prompt them to be more strategically persistent. This level of resilience thus induces a lower level of strategic dynamism. Extremely resilient CEOs, cope so well with stress that they somehow become insulated from their organization environment and stakeholder pressure; it fuels their hubris and they neglect some contextual cues and overestimate their strengths, which might, in fine, lead them to dare more than moderate to high resilient CEOs and engage into more risky ventures.

Hence, I propose:

**Hypothesis 1:** The relationship between CEO resilience and Internal Strategic Dynamism is curvilinear (U-Shape), with high internal strategic dynamism at low level of CEO resilience, moderate

internal strategic dynamism at extremely high level of CEO Resilience and low internal strategic dynamism at moderate to high level of CEO Resilience.

**Figure 14-**Hypothesized CEO Resilience Impact on Internal Strategic Dynamism



**Hypothesis 2:** The relationship between CEO resilience and External Strategic Dynamism is curvilinear (U-Shape), with high external strategic dynamism at low level of CEO resilience, moderate external strategic dynamism at extremely high level of CEO Resilience and low external strategic dynamism at moderate to high level of CEO Resilience.

**Figure 15-**Hypothesized CEO Resilience Impact on External Strategic Dynamism



### **2.3    *The moderating role of environment munificence***

I also argue that the link between CEO resilience and firm external strategic dynamism is moderated by industry munificence. *Industry munificence* represents “the extent to which an organization has to expand its area of operation to obtain the resources it requires” (Aldrich, 1979). It measures the availability or the scarcity of critical resources in a given environment.

In high munificence environments, the abundance of resources relegates survival preoccupation to the background and firms build some slack that enables them to hedge against hardship, venture into new territories or explore new organizational forms. High munificence environments give CEOs certain latitude of action since there is little friction over critical resources. In highly munificent environment, the panel of strategy and organization structure options is vast (Brittain & Freeman, 1980, Lieberman & O'Connor, 1972, Tushman & Anderson, 1986). The pressure and stress experienced by CEOs mainly stems from this variety of options. In such a context, they are more cognitively challenged and subjected to increased demands from their stakeholders. This can generate a form of "uplifting stress" as the spiral of the industry is rather positive: after all, the market is growing and they can gain more customers without having to steal them from competitors (Porter, 1980). In such conditions, I propose that the curvilinear effect between CEO resilience and firm external strategic dynamism is strengthened. Low resilient CEOs are confronted to many more possibilities to choose from and their attention is dragged in many directions. Their tendency to engage in “fuite en avant” is encouraged by the circumstances, and for not sticking to a clear path and roadmap, they are very likely to engage into an "acquisition spree" in order to please their stakeholders' willingness for growth. Having many possibilities, they are going with the flow and engage in a high amount of external strategic dynamism (mainly through acquisitions).



Similarly, this type of environment is exhilarating for extremely resilient CEOs; it operates as a catalyst for their hubris and thus also induces an acquisition spree (Roll, 1986; Hayward & Hambrick, 1997). As such, they are also likely to display, but through a different mechanism, a very high amount of external strategic dynamism.

In contrast, moderate to high resilient CEOs are the only ones sticking to a persistent strategy in such a high munificence context of hectic solicitations. Their capacity to identify areas of vigilance by feeling stress and partly absorbing it, and to bounce back and actively focus their attention, lead them to disregard some of the sirens swimming in munificent seas. As such, munificent environments do not necessarily call for growth through acquisition; there is room for existing players and companies are able to gain customers without having to steal them from competitors or buying those competitors' assets (Porter, 1980). By making a more accurate assessment of the situation, moderate to high resilient CEOs do not engage into risky acquisitions- whose failure rates falls between 70 and 90%<sup>1</sup> for reasons of ego or lack of discernment. Compared to low and extremely resilient CEOs, they are thus likely to display a rather low level of external strategic dynamism.

Conversely, low munificence environments comprise mainly mature and declining industries, in which resources are scarce. Organizations fight for these resources, and survival becomes a pressing concern. Competition intensifies and tough decisions need to be made (in terms of budget allocation, lay off...). The very stress that I labeled 'uplifting' in the munificent scenario turns into a depressing and draining one. The range of options becomes more limited and consolidation in the industry inexorably follows, as "being the last man standing" is viewed as one of the only viable strategy. In her Chapter on disengagement strategies, Rita Gunther McGrath (2013) suggests that managers should engage in "garage

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<sup>1</sup> « Big idea : the NEW M&A playbook » by Clayton M Cristensen, Richard Alton, Curtis Rising and Andrew Waldeck... HBR March 2011.

sale or fire sale" (depending on the level of urgency) of their firm assets if the capability has value but not for the firm in question, or engage into "run-off or last man standing" strategy if the capability is in decline. In both cases, appropriate strategy in low munificent context claims for some degree of external dynamism.

I envision that, in low munificent environment, and confronted to "depressing" stress with few options (and no easy one) on the table, low resilient CEOs are likely to freeze and choose the status quo. The main difference with the highly munificent scenario lies in the more restricted range of options and the demands from stakeholders, which will impose some inertia: in low munificent case, internal players are more likely to resist adverse decisions such as divestments and engaging into acquisition in difficult times requires focused attention, courage and strong personal drive. Reasons, which lead me to consider that in this specific context, low resilient CEOs will not rock the boat, as they are rather ill equipped to do so.

Extremely resilient CEOs enjoy the self-confidence, drive and social support to make things happen in such contexts. They are likely to go over some stakeholders' claims and force their way into actions: as such they are not likely to freeze. However, their ego and their past successes lead them to behave as all powerful, and they will stick to their regular routines and recipes. As such, they are also likely to follow forcefully their own agenda, which consist of "more of the same old things" and cause a rather low level of external dynamism.

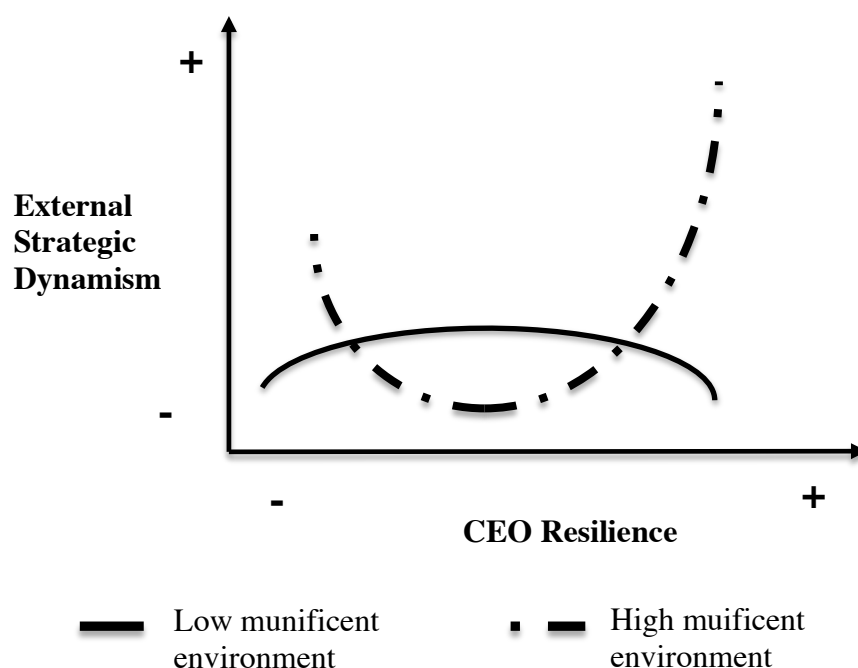
In contrast, moderate to high resilient CEOs benefit from sufficient resources to bounce back and an accurate perception of stress/pressure, which limit the narrowing of their field of vision and enable them to benefit from a more holistic account of the strategic landscape. Prompted by their feelings that things have to change, they are likely to engage into healthy divestment (fire sale or garage sale) or acquisitions to support a last man's standing strategy. Their behaviors and social competence might also lead them to ground

their decisions on a more qualitative pool of information (Dutton et al, 1997; Edmondson, 1999), and their tough decisions in terms of spin-offs might be more easily accepted by inside stakeholders –their social competence helping in sweetening the pill-. Comparatively speaking, they should therefore display a higher level of external strategic dynamism than low or extremely high resilient CEOs.

Hence, I propose:

**Hypothesis 3:** Environment munificence moderates the relationship between CEO resilience and external strategic dynamism in such a fashion that it strengthens the U shape relationship in case of low munificence and revert it to a bell shape (Inverted U) in case of low munificence.

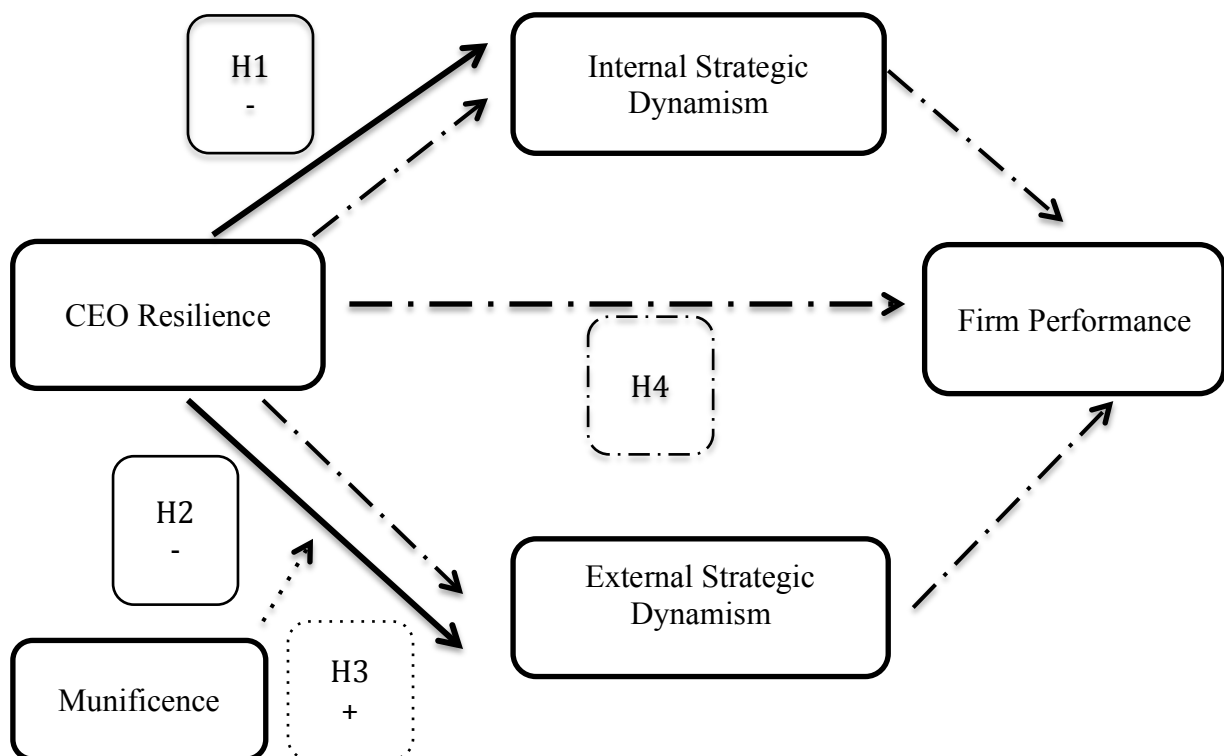
**Figure 16-**Hypothesized Moderating Effect of Environment Munificence



Given my prediction that CEO resilience impacts the level of strategic dynamism and that strategic dynamism has been documented to negatively affect firm performance (Agrawal, Jaffe and Mandelkar, 1992; Sirower, 1994), I suggest that the effect of CEO resilience over firm performance is partially channeled through strategic dynamism (be it internal or external). Hence, I propose:

**Hypothesis 4:** Internal and external strategic dynamism partially mediate the impact of CEO resilience on firm performance.

**Figure 17-Essay 2 Full Model Summary**



### 3 METHODOLOGY

#### 3.1 *Sample*

The sample consists of five years of data (2002 to 2006) and is focused on the CEOs of the S&P 500 US corporations (public or privately held for which financial information is available). The 'S&P 500' list is compiled by Standard and Poor's and ranks those corporations according to their market value. I retain CEOs who held their jobs for at least two of the five years and started their tenure in 2001 or later (to address any possibilities of survival bias). A case has been made in the finance and economic literature for not taking into account companies from the financial sector -SIC codes between 6000 and 6999-, since EBIT information are not provided for these companies (Berger & Ofek, 1995) and their profitability is not comparable to other industries (Xi-He, 2009; Hund et al, 2010). Provided that I apply these filtering parameters and given the availability of data for my moderating variables (*environment munificence*), *control variables (slack, business and geographic diversification)* and for my resilience dependent variable (*especially the information pertaining to social support and social dimension of resilience*), **I reach a final sample of 61 CEOS in 61 unique firms.**

Sticking to my conceptualization of resilience as a "quasi state", I measure resilience and the other moderators annually, yielding a total of **243 CEO-years** for testing the effect of resilience. I also included some control variables be they at the CEO, firm or industry level. I moreover controlled for ***matching-*** *namely the possibility that some resilient CEOs are drawn to certain specific situations or corporations-* and ***selection bias*** -*since the sample is unbalanced, if highly resilient CEOs have systematically longer tenure than lower resilient CEOs, results would be biased and I had to account for this possibility-*.

#### 3.2 *Measurements*

##### 3.2.1 *Resilience Scale and Proxy*

### Chapter 3

A review of "resilience" assessment scales<sup>1</sup> shows nineteen resilience instruments designed over the last twenty years (including four refinements of previous scales), and assesses their validity. Among those, three scales receive the best psychometric ratings: namely, the Connor-Davidson Resilience scale or CD-RISC (Connor & Davidson, 2003), The Resilience Scale for Adult or RSA (Friborg et al, 2003) and the Brief resilience scale (Smith et al, 2006). Among these three scales, I choose to consider the RSA and CD-RISC, as the Brief Resilience Scale was designed to specifically assess the ability to recover or bounce back from stress, with the purpose to help patients who suffer from health problems. This scale is therefore more restricted than the other two, and appears somehow too narrow for my purpose. The RSA or CD-RISC can therefore provide a basis for operationalization of CEO resilience and will play the same role as the one devoted to Emmons' NPI by Chatterjee and Hambrick in their operationalization of hubris<sup>2</sup>.

The orientation and dimensions of these two scales are summarized as follows:

**Table 8-Two Resilience Scales: RSA and CD-RISC**

	<b>RSA</b> Friborg et al, 2003	<b>CD-RISC</b> Connor & Davidson 2003
Orientation	<p>The goal of this scale is to assess intra and interpersonal protective factors that are thought to facilitate adaptation in the face of adversity.</p> <p>The authors derived insights from longitudinal research on resilience (Werner, 1989, 1993; Cederblad, 1996) and major developmental researchers (Rutter, 199. Werner, 1993, Garmezy, 1993) who identified three major stakeholders in the resilience process: the individual – his/her psychological and dispositional attributes, his/her family cohesion, and support and the existence of external support systems. Based on these initial categories, they derived items for their questionnaires along five dimensions.</p>	<p>The authors define Resilience as a quality residing in the individual that reflects their capacity to cope with stress. The goal of this scale is to measure individuals' stress coping capacity.</p> <p>The authors relied on three authors (Kobasa, 1979; Rutter 1985, Lyons, 1991) to identify characteristics of resilient people and through Factor Analysis, they unveiled five dimensions.</p>

1G.Windle, K.M. Bennett & Jane Noyes (2011), "A methodological review of resilience measurement scales", Health and Quality of Life Outcome 20011, 9:8. <http://www.hqlo.com/content/9/1/8>.

2 In a previous resilience scale reviews by Ahern et al, 2008, these two scales received a score of 2 out of 3 – a lower score attributable to their absence of application in adolescent settings and not to validity considerations.

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	<p>This is a multi-level measure.</p> <p>Resilient personality traits are measured in the context of other resilience factors.</p>	<p>This is an individual level measure</p> <p>Resilient personality is the sole focus of this measure.</p>
Dimensions	<ol style="list-style-type: none"> <li>1. Personal competence.</li> <li>2. Social competence.</li> <li>3. Family coherence.</li> <li>4. Social support.</li> <li>5. Personal structure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Personal competence, High standard &amp; Tenacity.</li> <li>2. Trust in one's instincts / Tolerance of negative affect/ strengthening effects of stress.</li> <li>3. Positive acceptance of change &amp; Secure relationships.</li> <li>4. Control.</li> <li>5. Spiritual influences.</li> </ol>

As advanced in the process-model orientation, resilience is influenced by (1) individual attributes (attitude and behavior) (2) the support an individual might enjoy in his/her family and (3) the resources he/she can tap in his/her wider context (confidants, role models, friends). Since I define CEO resilience as a "state-like" positive property, the influence of these external factors has to be taken into account in my operationalization. RSA incorporates these features in its design and thus provides a more robust operationalization of CEO resilience: it encompasses more dimensions of the construct and acknowledges the influence of social and family support.

Echoing the five dimensions stressed by Friberg et al (2003), in the RSA, namely (1) Personal Competence, (2) Social Competence, (3) Social Support and (4) Personal Structure, I resort to the following unobtrusive measures and indicators: (1) the prominence of CEO photograph in his/her company annual report (2) the membership or participation of CEO in the governance of nongovernmental, nonprofit institutions (3) the number of boards, exclusive clubs and business policy association, federal government advisory committee the CEO is involved in and (4) the size of the TMT. RSA had a 5<sup>th</sup> dimension, namely family coherence; I initially attempted to account for this dimension; yet, I did not find any reliable proxy and decided after numerous attempts to drop this dimension. Every CEO in my sample

is married, has minimum two children and registering the number of mentions to his spouse or husband in his/her conversion could bring confounding signals. Indeed, Parsons (CEO of Time Warner in my sample) keeps mentioning in interviews that without his wife he would not have sit for a MBA and would not have reached his current position; yet, he was having a love affair during his tenure, which led me dubitative as to how I would quantify such events. Ignoring this dimension equate considering that every CEO enjoys the same level of family support.

### **3.2.1.1    *Personal Competence***

Personal Competence denotes the level of confidence an individual has in his/her abilities. Twelve items reflect this RSA dimension including ‘I believe in my own abilities’, ‘I know that I succeed if I carry on’ or ‘I am pleased with myself’. I operationalize this dimension through “the prominence of CEO photograph in companies annual report” and The more the CEOs believe in their own abilities, the more likely they are to put themselves forward. I therefore expect that CEOs who rate high on self confidence/personal competence will strive to be highly visible .As pointed out by Hambrick and Chatterjee (2007), if a CEO’s photographs represent a standard feature of annual report, they are not uniform and actually reflect the CEO’s choices. CEOs take special care in controlling how they are portrayed in annual report and the prominence of their photographs as well as the wording of the letters to shareholders fall under their close scrutiny and control. I therefore rate the item as follows: 4 points if the CEO’s picture represents himself or herself alone and covers more than half a page, 3 points if the CEO’s photograph represents himself or herself alone but covers less than half a page, 2 points if the CEO’s photograph included other colleagues and 1 point if there is no photograph.



### **3.2.1.2      *Social Competence***

Social Competence denotes the ability of an individual to communicate with others. Ten items reflect this RSA dimension including ‘I am good in getting in touch with new people’, ‘I easily establish new friendship’ or ‘I enjoy being with other people’. A CEO who is involved in different types of organizations that are not directly related to his/her daily economic activity demonstrates his/her ability to bind with people from different backgrounds. I operationalize this dimension by recording the number of membership or participation of CEO in the governance of non-governmental and non-profit institutions. Following Useem (1979), I consider as eligible seven types of non-governmental and non-profit organizations: (1) regional, community or economic development organization, (2) cultural organizations, (3) research and scientific organizations, (4) philanthropic foundations (5) colleges and universities (6) health-related organizations, and (7) charitable organizations.

Data were originally collected from Marquis’ Who’s Who in America... yet they proved to be too imprecise, incomplete and sometimes unreliable to be trusted. Different official and online resources (such as SEC DEF 14A reports, MarketVisual Search database, NNDB search database, Bloomberg BusinessWeek and various press releases...) were used to cross check/ triangulate as much as possible the information and ensure the validity of the CEOs' resilience score. A long and painstaking task that was nonetheless necessary to ensure that measurement error was reduced to the minimum.

### **3.2.1.3      *Social Support***

Social Support denotes the possibility for an individual to benefit from family or friends’ backup in cases of hardship. Nine items reflect this RSA dimension including ‘I have some close friends/family members who can back me up ’, ‘I have some close friends/family who really care about me’ or ‘I have some close friends/family members

who value my abilities'. I operationalize this dimension by recording the membership or participation of the CEO in (1) an exclusive club and major business policy associations, (2) boards, and (3) federal government advisory bodies. A CEO who belongs to these institutions, due to his access to influential parties can count on some assistance and backup in case of hardship. I count the number of boards, business association, clubs and government advisory bodies the CEO belongs to and consider this figure as his/her social support score. I allocate  $\frac{1}{2}$  point if the CEO is a member of the association, 1 point if he/she is board member, 2 points if he/she is President, chairman or vice chairman and 3 points If the CEO sits on one of the 15 federal advisory committees (such as Network Reliability and Interoperability Council, Natl. Security Telecommunications Advisory Committee, President's Export Council, National Petroleum Council...).

As for the 'social competence' score, different official and online resources (such as SEC DEF 14A reports, MarketVisual Search database, NNDB search database, Bloomberg, BusinessWeek and various press releases.. ) were used to cross check/ triangulate as much as possible the information and ensure the validity of the CEOs' resilience score

#### **3.2.1.4    *Personal Structure***

Personal Structure denotes the reliance of an individual to routines and planning in his/her daily life. Five items reflect this RSA dimension including 'Rules and regular routines make my life easier, 'I keep up my daily routines even at difficult times' 'or 'I prefer to plan my actions'. I operationalize this dimension by recording the TMT size. A CEO, who is involved with large TMT, is likely to score high in the 'personal structure' dimension, while a CEO with a lower score is likely to be involved with smaller TMT reflecting flatter organizations. The personal preference of the CEO for structure is therefore proxied by an organizational characteristic, which he/she has the power to influence.

Data were collected from sec filings 10k or Def 14A and the number of officers of the registrant was recorded.

**Table 9-Operationalization of RSA: Summary of Unobtrusive Indicators**

<b>Conceptual element of Resilience (from Friborg et al, 2003)</b>					
	<b>Personal Competence</b>	<b>Social Competence</b>	<b>Family Coherence</b>	<b>Social Support</b>	<b>Personal Structure</b>
Illustrative items from Resilience Scale for Adults (RSA)	I believe in my own abilities. I am pleased with myself.	I am good at getting in touch with new people. I easily establish new friendships.	There are strong bonds in my family. In our family we are loyal to each other.	I have some close friends/family members who really care about me. I have some friends/family members who back me up.	Rules & regular routines make my life easier. I prefer to plan my actions.
<b>Interpretive Alignment with Elements of Resilience</b>					
Unobtrusive indicators					
<b>Prominence of CEO's photograph in annual reports</b>	I am please with myself and feel I deserve to be showcased.				
<b>Participation in the governance of nongovernmental, nonprofit institution.</b>		I am able to get involved with people from different horizons.			
<b>Participation in major business policy association &amp; exclusive clubs, other boards and Government advisory committee.</b>				I am well connected in my industry and with powerful people that can back me up if need be.	
<b>TMT size</b>					I am organized and at ease managing large well structured team.

I then standardized the score for each of the 4 dimensions (so that they would benefit from the same weight) and aggregated them. I did not expect any correlation between the different dimensions of the construct. Indeed, the resilience metric captures the pool of

resources, on which the CEO can rely. Any strength in one dimension can balance a weakness in another and there is thus different manner to achieve a medium score of resilience through a unique combination of low and high level of resources (or medium score for the 4 dimensions). Extreme scores, be they low or high, indicate however that the CEO scores low or high for the majority of the dimensions.

### ***3.2.2 Dependent Variable***

#### ***3.2.2.1 Internal Firm Dynamism***

My measure of internal strategic dynamism follows prior research (Westphal et al, 2001; Hambrick & Chartterjee, 2007), which captures change in key resource allocation. It covers namely two key resource allocation indicators: (1) selling, general and administrative expenses/sales and (2) financial leverage (debt/equity). I had to disregard two other indicators namely (1) advertising/sales and (2) R&D/sales since they were causing too much attrition in my sample. I then calculated the absolute change in values per year for the two indicators, standardized each dimension (so that they benefit from the same weight) and summed the two standardized indicators to yield the composite measure of strategic dynamism.

Data were retrieved from Compustat.

#### ***3.2.2.2 External Strategic Dynamism***

My measure of external strategic dynamism is a count of divestments and acquisitions made by the firm (Headquarters in the US) worldwide for a given calendar year and at their time of announcements. To be qualified as a deal, acquisitions/divestments had to involve controlling stakes: acquiring or divesting 100% was of course recorded as well as moving participation let's say from 20% to 90 % or vice versa. I also rejected any acquisitions/divestments that did not go through and were withdrawn.

Data were retrieved from the Zephyr database.

### ***3.2.3 Moderating Variables: Munificence***

In my measurement of munificence, I rely on Dess and Beard (1984) whose model has been validated by confirmatory factor analysis (Rasheed & Prescott, 1987) and has been widely used since (Keats & Hitt, 1988; Boyd, 1990; Bamford et al, 2000). Following Boyd (1990), I picked one indicator from their analysis to operationalize munificence (sales growth). Munificence refers to the possibility for growth within an industry. Following Dess and Beard (1984) and Keats and Hitt (1998), I used the growth in industry sales to derive a munificence score. I proceeded in two steps: First, the natural logarithm of the total sales of four-digit NAICS industries was regressed against an index variable of years, over a period of five years. Then the antilog of the regression coefficient was used as the measure for munificence.

Data for these measures were obtained through compustat.

### ***3.2.4 Control Variables***

I controlled for potentially confounding factors at three levels of analysis:

#### ***3.2.4.1 CEO controls***

CEO age= number of years since CEO birth.

CEO tenure= number of years since CEO joined his/her current company.

EO Level of Education= 4 for PhD, 3 for Master Degree or JD, 2 for Bachelor Degree and 1 otherwise.

CEO power= 1 in case CEO Board/chair duality and 0 otherwise

#### ***3.2.4.2 Firm controls***

Prior year's performance= ROA in previous year

Firm size (ln(sales)) to control for bureaucratic momentum.

Firm performance before CEO appointment (ROA prior to first year of CEO's tenure) to control for ingrained practices.

Firm level of slack operationalized as the current ratio= Current Assets /

Current Liabilities (Compustat tickers: ACT/LCT)

Firm Diversification operationalized as an entropy measure ((Jacquemin & Berry (1979), Palepu (1985), Davis & Duhaime (1992)) for business and geographic diversification.

### **3.2.4.3 Industry controls**

In my measurement of the task environment, I rely on Dess and Beard (1984) whose model has been validated by confirmatory factor analysis (Rasheed & Prescott, 1987) and has been widely used since (Keats & Hitt, 1988; Boyd, 1990; Bamford et al, 2000). Following Boyd (1990), I picked one indicator from their analysis to operationalize munificence (Sales growth), dynamism (Sales dispersion) and resort to a Herfindalh Index and 4-firm concentration ratio for measuring complexity (Compustat Data).

#### **3.2.4.3.1 Munificence (when it was not used as a moderator)**

Munificence refers to the possibility for growth within an industry. Following Dess and Beard (1984) and Keats and Hitt (1998), I used the growth in industry sales to derive the munificence score. I proceeded in two steps: First, the natural logarithm of the total sales of four-digit NAICS industries was regressed against an index variable of years, over a period of five years. Then the antilog of the regression coefficient was used as the measure for munificence. Intuitively, one can consider the regression coefficient as an estimate of the sales growth rate.

#### **3.2.4.3.2 *Dynamism***

I followed the same methodology as for munificence, using this time the standard error of the regression as the measure for volatility. Intuitively, we can consider the standard error of the regression coefficient as an estimate of the unpredictability of the sales growth rate.

#### **3.2.4.3.3 *Complexity***

Complexity has been measured through a myriad of indicators in the literature (Cannon & St John, 2007). In line with Boyd (1990), Kotha & Nair (1995) or Dean & Snell (1996), I adopt a Herfindahl-Index (Herfindahl, 1950) as a proxy for complexity. Herfindahl-index is computed every year as the sum of the squared market shares for all firms in an industry group – identified by 6 digit NAICS code-, and ranges between 0 and 1. A score of zero represents perfect competition, while a score of 1 represents a perfect monopoly.

#### **3.2.4.4 *Correction for endogeneity: Match***

I had to control for the possibility that resilient CEOs could be drawn to certain specific situations or attracted by certain corporations, which would enable them to demonstrate their resilient capacities. In order to do so, I resorted to a method used by Chatterjee & Hambrick (2007) and regressed CEO Resilience (measured at the second year of tenure) against a set of antecedents and contemporaneous variables. The antecedent variables captured key conditions at CEO's entry, were measured the year prior to CEO appointment and consisted of Firm revenues, ROA and calendar year. The contemporaneous variable measured at the time of CEO resilience measurement (2 years of tenure) included CEO power (CEO/chair duality) CEO age and CEO education. Among those variables, only firm size prior to entry was significant en positively related to CEO resilience score ( $P=.045$ )

<. 05, and coefficient of .61325). The overall model was significant ( $p=.0096 <.05$ ) for an R-squared of .228. Using stata post estimation command, I computed each CEO's predicted resilience score labeled "Match" and included that variable as endogeneity control in the regression.

#### **3.2.4.5 Correction for selection bias: Mills**

My panel data is unbalanced, as the 50 CEOs enjoyed different tenures. Should higher resilient CEOs have longer tenure than less resilient ones, results would be biased. This is not a trivial concern in my case, where the amount of resources available to extremely resilient CEOs could enable them to stay in power despite poor performance. In order to control for this possible bias, I resorted to an instrument variable labeled "Mills". Using Stata xtprobit routine, I estimated the probability that the CEO would remain in office for a given year, predictors being CEO age, tenure, CEO/Chair duality, calendar year, ROA and revenues. This mill's ratio was included in my analysis.

## **4 MODEL AND ESTIMATION**

In line with Hambrick and Chatterjee (2007) and because I had multiple observations for CEO/firms, I used generalized estimating equations (GEE) (Liang and Zeger, 1986), which derive quasi likelihood estimates and accommodate non-independent observations. To define the model, I needed to specify (1) the distribution of the dependent variable, (2) a link function, (3) the independent variables, and (4) the covariance structure of the repeated measurements.

I specified a Gaussian (normal) distribution for the dependent variable, with an identity link function and Exchangeable correlation matrix. I used a random-effect model since fixed effect model preclude the use of variable invariant across time. Moreover, Fixed effects are also problematic when the number of CEO is large but the number of year on which they are



observed is small (in my sample, the average number of observations per CEOs is 4). I used the xtgee routine in Stata 11.0. To test the mediating effect, I resorted to a causal mediation approach and followed the methodology proposed by Baron and Kenny (1986), which has been used in numerous researches so far.

## 5 RESULTS

Table 10 summarizes means, standard deviations and correlations among the variables. Table 11 presents GEE results for the test of CEO resilience impact on Firm dynamism. Model 1 includes all control variables and their impact on Internal Strategic dynamism. Model 2 includes the resilience score and Model 3 adds the quadratic term. Hypothesis 1 predicted that resilience would affect internal strategic dynamism and display a U shape pattern. CEO resilience shows a negative and significant ( $p < 0.1$ ) effect and CEO resilience-squared shows a positive and significant ( $p < 0.001$ ) effect on firm performance. Those results provide substantial support for hypothesis 1. Moreover the effect is not incidental, moving from moderate to extreme low level of resilience increases internal strategic dynamism by 128 percent and moving from moderate to extreme high level of resilience increases internal strategic dynamism by 71 percent (see graph hereafter).

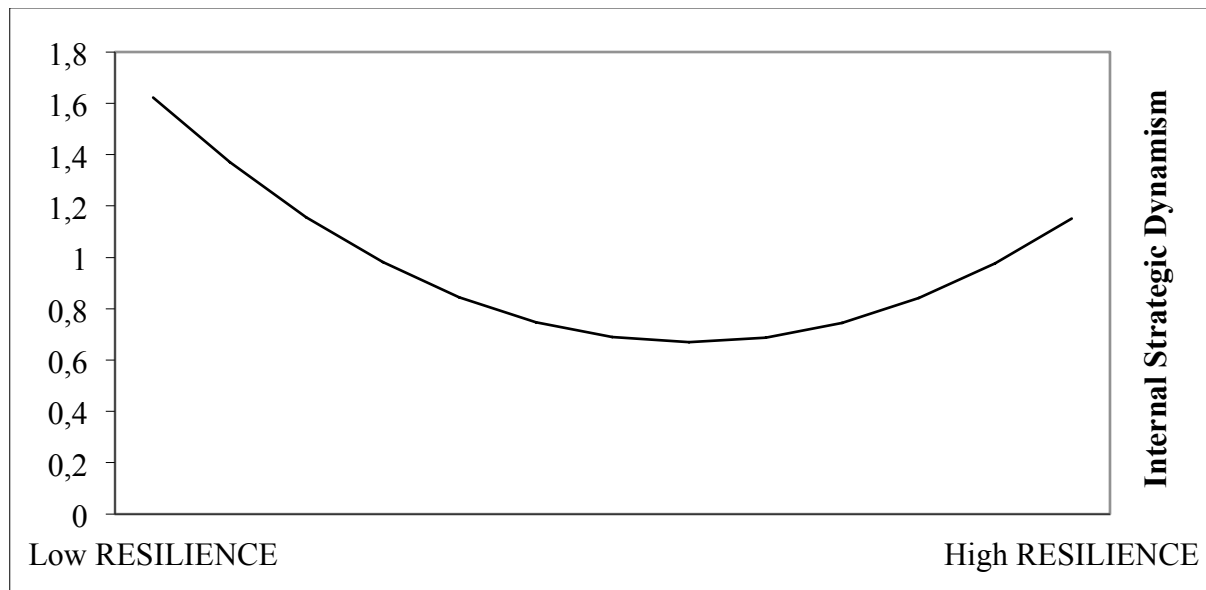
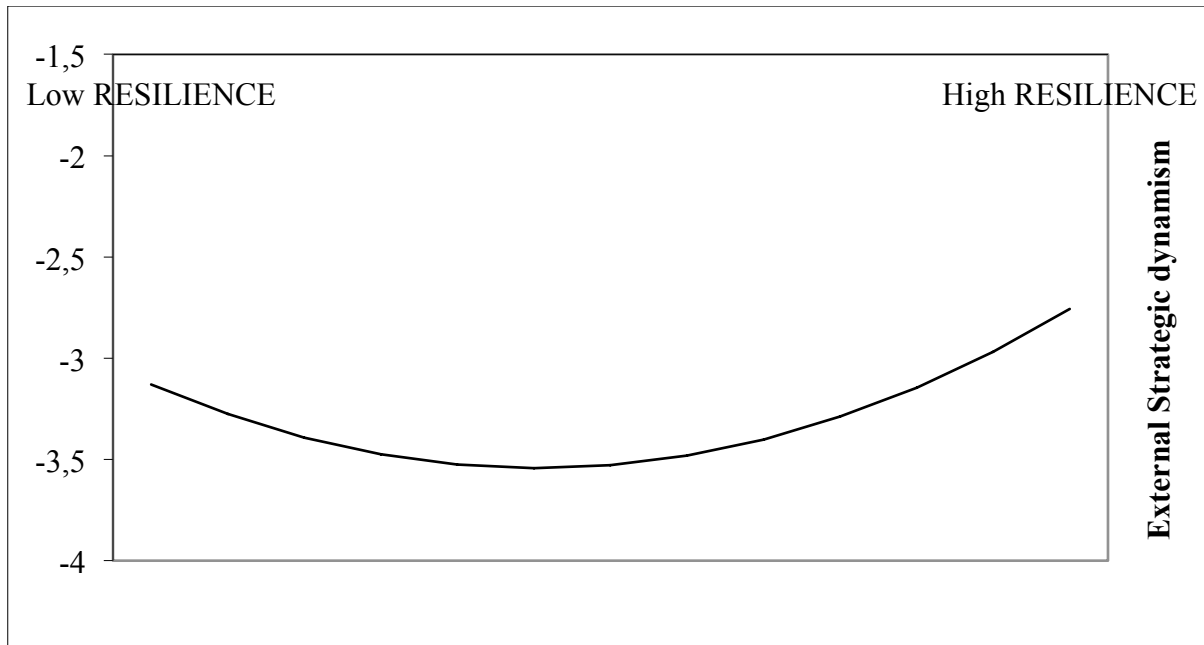
**Figure 18**-CEO Resilience Impact on Internal Strategic Dynamism

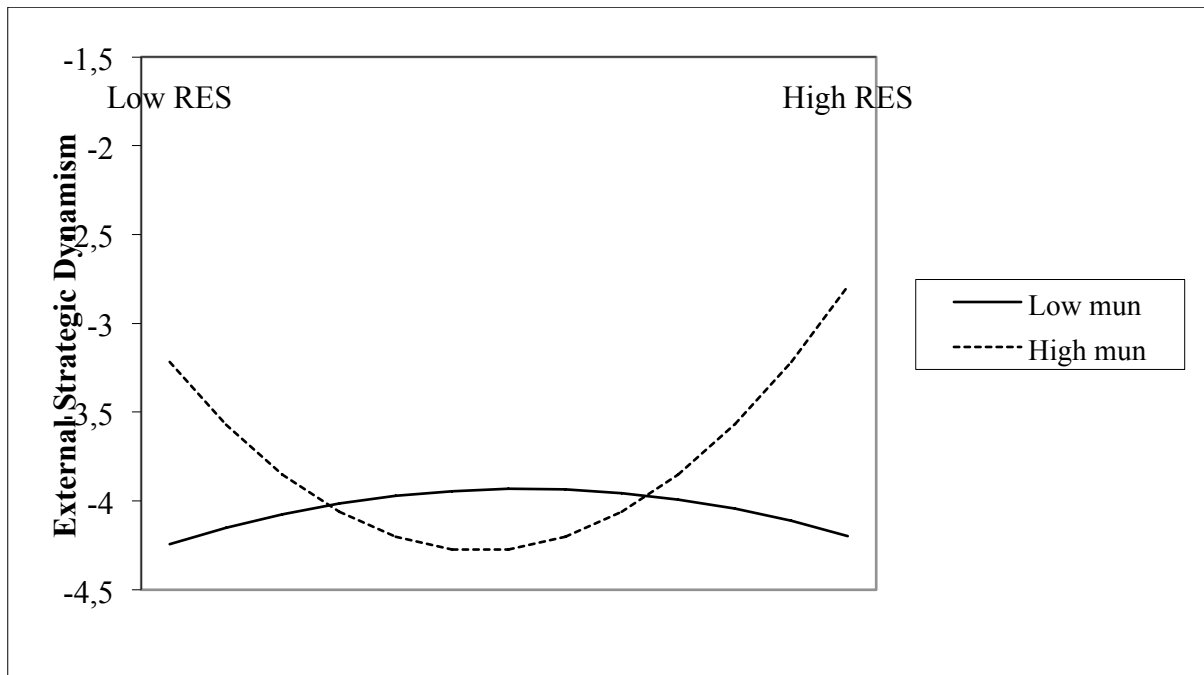
Table 11 presents also GEE results for the test of CEO resilience impact on firm dynamism. Model 4 includes all control variables and their impact on external strategic dynamism. Model 5 includes the resilience score and Model 6 adds the quadratic term. Hypothesis 2 predicted that resilience would affect internal strategic dynamism and display a U shape pattern. CEO resilience shows a positive and significant ( $p < 0.1$ ) effect and CEO resilience-squared shows a positive and significant ( $p < 0.01$ ) effect on firm performance.

Those results provide substantial support for hypothesis 1. Moreover the effect is not incidental, though of lower magnitude than for internal strategic dynamism: moving from moderate to extreme low level of resilience increases external strategic dynamism by 17 percent and moving from moderate to extreme high level of resilience increases external strategic dynamism by 33 percent (see graph hereafter).

**Figure 19**-CEO Resilience Impact on External Strategic Dynamism



Model 7, displayed as well in Table 11, provides evidence for the moderation effect of Munificence over the CEO resilience-firm external strategic dynamism relationship. Munificence x (CEO Resilience) show a negative effect and Munificence x (CEO Resilience)<sup>2</sup> shows a positive and significant ( $p < 0.1$ ) effect. As shown in the following graph, hypothesis 3 is thus fully supported.

**Figure 20-**Moderating Effect of Environment Munificence

Finally, Hypothesis 4 proposed that internal strategic dynamism as well as external strategic dynamism partially channeled the effect of CEO Resilience to firm performance. Table 3 provides the results for moderation testing (Baron & Kenny, 1986; Judd & Kenny, 1981; James & Brett, 1984). According to the *three steps* proposed by the pre-cited authors, Model 3 presents in table 3 the results for step 1 (firm performance as the criterion variable, CEO resilience and  $(\text{CEO resilience})^2$  as the predictors + control variables)... And the results are positive for CEO resilience and negative for  $(\text{CEO Resilience})^2$  and significant for both ( $P < 0.05$ ). **Hence, step 1 is validated.**

Model 4 and Model 5 present in table 3 the results for step 2 (internal strategic dynamism (model 4) or external strategic (model 5) dynamism as the criterion variable, CEO resilience and  $(\text{CEO Resilience})^2$  as the predictors + control variables)... And the results are significant for both models. **Hence, step 2 is validated.**

Finally, Model 6 presents in table 3 the results for step 3 (firm performance as the criterion variable, CEO resilience, (CEO resilience)<sup>2</sup> , internal strategic dynamism and external strategic dynamism as the predictors + control variables).... And the results are significant for external strategic dynamism ( $p < 0.1$ ) but not significant for internal strategic dynamism. So Hypothesis 4 is partially supported. *More specifically, the sequence "CEO resilience impact external strategic dynamism, which, in turn, affects negatively firm performance" is supported.* This pattern however does not hold with internal strategic dynamism.

**Table 10-Essay2** Correlation and Descriptive statistics

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10
1. External Strat. Dynamism <sub>t+n</sub>	2.26	2.41	1.00									
2. Internal Strat. Dynamism <sub>t+n</sub>	0.04	1.71	0.28	1.00								
3. ROA <sub>t+n+1</sub>	6.02	6.20	-0.16	-0.21	1.00							
4. CEO Resilience <sub>t+n</sub>	-0.08	2.27	0.00	-0.18	0.16	1.00						
5. CEO age <sub>t+n</sub>	52.64	5.45	-0.11	-0.10	0.12	0.39	1.00					
6. CEO is chair <sub>t+n</sub>	0.69	0.47	-0.03	-0.16	0.11	0.39	0.41	1.00				
7. CEO tenure <sub>t+n</sub>	3.11	1.41	-0.01	-0.21	0.11	0.10	0.28	0.18	1.00			
8. CEO education <sub>t+n</sub>	2.73	0.61	0.21	0.18	-0.26	-0.13	-0.06	-0.13	-0.00	1.00		
9. Firm size (ln) <sub>t+n</sub>	9.13	1.03	0.16	-0.09	0.05	0.41	0.23	0.22	0.13	-0.15	1.00	
10. External Strat. Dynamism <sub>t-1</sub>	1.70	2.08	0.49	0.14	-0.01	-0.26	-0.34	-0.24	0.04	0.22	0.06	1.00
11. Internal Strat. Dynamism <sub>t-1</sub>	-0.04	1.28	0.15	0.20	-0.28	-0.16	-0.02	-0.16	-0.05	0.32	-0.24	-0.01
12. ROA <sub>t+n-1</sub>	5.30	8.19	-0.12	-0.23	0.54	0.19	0.12	0.26	0.29	-0.12	0.08	-0.04
13. ROA <sub>t-1</sub>	0.99	36.10	-0.17	-0.18	0.31	0.17	0.08	0.12	0.03	-0.24	0.27	-0.07
14. Slack <sub>t+n</sub>	1.69	0.85	-0.01	0.02	0.09	-0.26	0.07	-0.10	-0.03	0.15	-0.43	-0.05
15. Business Diversification <sub>t+n</sub>	0.43	0.47	0.19	-0.13	-0.03	0.11	-0.12	0.07	-0.07	-0.08	0.26	0.24
16. Geographic Diversification <sub>t+n</sub>	0.75	0.54	0.08	0.32	0.09	-0.24	0.01	-0.31	0.02	0.11	-0.27	0.29
17. Munificence <sub>t+n</sub>	-0.01	0.11	0.06	0.14	0.02	-0.01	0.07	0.05	0.04	-0.01	0.03	-0.03
18. Dynamism <sub>t+n</sub>	-0.00	0.07	-0.05	0.03	-0.06	0.02	0.11	-0.03	0.06	-0.07	-0.02	-0.05
19. Complexity <sub>t+n</sub>	0.12	0.08	-0.07	-0.20	0.12	0.04	0.12	0.24	0.02	-0.20	0.05	-0.15
20. Correction for matching	-0.10	1.08	-0.01	-0.15	0.14	0.49	0.65	0.60	-0.02	-0.44	0.61	-0.26
21. Correction for selection bias	0.24	0.27	0.08	-0.02	0.04	0.03	0.07	0.05	0.15	-0.03	0.07	-0.02
22. Year <sub>t+n</sub>	2004.12	1.32	-0.02	-0.22	0.09	0.12	0.29	0.12	0.82	-0.00	0.15	0.02

Variable	Mean	S.D.	11	12	13	14	15	16	17	18	19	20
11. Internal Strat. Dynamism <sub>t-1</sub>	-0.04	1.28	1.00									
12. ROA <sub>t+n-1</sub>	5.30	8.19	-0.23	1.00								
13. ROA <sub>t-1</sub>	0.99	36.10	-0.84	0.29	1.00							
14. Slack <sub>t+n</sub>	1.69	0.85	0.56	0.07	-0.49	1.00						
15. Business Diversification <sub>t+n</sub>	0.43	0.47	-0.02	-0.10	-0.07	-0.06	1.00					
16. Geographic Diversification <sub>t+n</sub>	0.75	0.54	0.19	0.04	-0.04	0.27	-0.17	1.00				
17. Munificence <sub>t+n</sub>	-0.01	0.11	-0.11	-0.01	0.08	-0.10	0.03	-0.12	1.00			
18. Dynamism <sub>t+n</sub>	-0.00	0.07	0.01	-0.08	-0.03	-0.02	-0.03	-0.08	0.42	1.00		
19. Complexity <sub>t+n</sub>	0.12	0.08	-0.05	0.11	0.02	-0.04	-0.08	-0.40	0.00	-0.04	1.00	
20. Correction for matching	-0.10	1.08	-0.29	0.06	0.23	-0.20	0.17	-0.30	0.03	0.06	0.22	1.00
21. Correction for selection bias	0.24	0.27	-0.06	0.13	0.09	-0.03	0.07	0.07	0.09	-0.00	-0.01	0.00
22. Year <sub>t+n</sub>	2004.12	1.32	0.07	0.22	-0.09	0.05	-0.05	0.08	-0.03	0.07	0.06	0.04

Variable	Mean	S.D.	21	22
21. Correction for selection bias	0.24	0.27	1.00	
22. Year <sub>t+n</sub>	2004.12	1.32	0.13	1.00

\* Correlations significant at the p &lt; .05 level.

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**Table 11-Essay2 Results of GEE analysis, CEO Resilience impact on Strategic Dynamism**

VARIABLES	Internal Strategic Dynamism			External Strategic Dynamism			
	Model1	Model2	Model3	Model4	Model5	Model6	Model7
<b>CEO age</b> $t+n$	-0.044 (0.046)	-0.040 (0.047)	-0.039 (0.043)	-0.011 (0.071)	-0.012 (0.070)	-0.016 (0.070)	-0.005 (0.078)
<b>CEO is chair</b> $t+n$	0.090 (0.375)	0.109 (0.376)	0.220 (0.361)	0.607 (0.533)	0.581 (0.532)	0.650 (0.530)	0.573 (0.553)
<b>CEO tenure</b> $t+n$	0.030 (0.180)	0.022 (0.180)	0.081 (0.166)	-0.115 (0.273)	-0.117 (0.270)	-0.050 (0.269)	-0.053 (0.267)
<b>CEO education</b> $t+n$	0.354 (0.296)	0.347 (0.295)	0.277 (0.271)	0.430 (0.479)	0.434 (0.473)	0.366 (0.469)	0.375 (0.535)
<b>Firm size (ln)</b> $t+n$	0.074 (0.208)	0.087 (0.208)	0.098 (0.194)	0.391 (0.305)	0.349 (0.306)	0.354 (0.303)	0.365 (0.292)
<b>ROA</b> $t+n-1$	-0.023 (0.015)	-0.021 (0.015)	-0.017 (0.015)	-0.047** (0.021)	-0.051** (0.021)	-0.046** (0.021)	-0.045 (0.035)
<b>Int.strat.Dynamism</b> $t-1$	0.306** (0.127)	0.313** (0.127)	0.317*** (0.119)				
<b>Ext.strat.Dynamism</b> $t-1$				0.656*** (0.120)	0.672*** (0.121)	0.670*** (0.119)	0.654*** (0.122)
<b>Slack</b> $t+n$	-0.228 (0.180)	-0.249 (0.182)	-0.259 (0.174)	0.384* (0.229)	0.409* (0.229)	0.411* (0.227)	0.432* (0.225)
<b>Business Diversification</b> $t+n$	-0.497* (0.290)	-0.488* (0.289)	-0.604** (0.266)	0.013 (0.446)	-0.023 (0.443)	-0.054 (0.438)	0.020 (0.384)
<b>Geographic Diversification</b> $t+n$	1.052*** (0.288)	1.033*** (0.289)	1.017*** (0.264)	-0.370 (0.433)	-0.370 (0.428)	-0.336 (0.424)	-0.432 (0.364)
<b>Munificence</b> $t+n$	3.003*** (1.043)	2.985*** (1.045)	2.822*** (1.028)	3.534** (1.412)	3.512** (1.414)	3.341** (1.407)	-1.026 (2.375)
<b>Dynamism</b> $t+n$	-0.848 (1.701)	-0.859 (1.704)	-0.693 (1.650)	-3.793 (2.458)	-3.678 (2.458)	-3.614 (2.441)	-3.882** (1.653)
<b>Complexity</b> $t+n$	-0.359 (1.767)	-0.629 (1.799)	-0.398 (1.644)	1.325 (2.542)	1.759 (2.549)	2.255 (2.532)	1.916 (2.123)
<b>Correction for matching</b>	0.235 (0.368)	0.242 (0.366)	0.249 (0.341)	-0.111 (0.535)	-0.134 (0.531)	-0.119 (0.525)	-0.151 (0.587)
<b>Correction for selection bias</b>	-0.021 (0.363)	-0.024 (0.365)	-0.084 (0.363)	0.463 (0.496)	0.485 (0.498)	0.390 (0.498)	0.433 (0.467)
<b>Year 2003-dummy-</b>	-0.173 (0.347)	-0.166 (0.348)	-0.291 (0.343)	0.343 (0.474)	0.328 (0.473)	0.217 (0.474)	0.208 (0.470)
<b>Year 2004-dummy-</b>	-0.558 (0.424)	-0.542 (0.424)	-0.736* (0.406)	1.000 (0.611)	0.976 (0.607)	0.776 (0.611)	0.778 (0.613)
<b>Year 2005-dummy-</b>	-1.083** (0.545)	-1.059* (0.545)	-1.327*** (0.514)	0.058 (0.798)	0.038 (0.791)	-0.224 (0.794)	-0.212 (0.745)
<b>Year 2006-dummy-</b>	-0.999 (0.677)	-0.986 (0.678)	-1.280** (0.631)	0.611 (1.003)	0.621 (0.993)	0.320 (0.995)	0.343 (1.031)
<b>Constant</b>	1.180 (3.318)	0.921 (3.347)	0.689 (3.105)	-3.845 (4.879)	-3.483 (4.856)	-3.529 (4.800)	-4.113 (5.666)
<b>CEO Resilience</b> $t+n$		-0.037* (0.063)	-0.066 (0.059)		0.072* (0.088)	0.051 (0.088)	0.039 (0.095)
<b>(CEO Resilience)<sup>2</sup></b> $t+n$			0.053*** (0.016)			0.045* (0.024)	0.044 (0.031)
<b>Munificence x CEO Resilience</b> $t+n$							-0.144 (0.598)
<b>Munificence x (CEO Resilience)<sup>2</sup></b>							0.549* (0.292)
<b>Observations</b>	212	211	211	248	247	247	247
<b>Number of CEOS</b>	50	50	50	61	61	61	61
<b>Wald chi<sup>2</sup></b>	64.85***	65.74***	85.82***	78.74***	81.00***	86.14***	127.68***

Standard errors in parentheses; \*\*\*p<0.01, \*\* p<0.05, \* p<0.1

**Table 12-Essay2 Results of GEE analysis, Mediation Model**

VARIABLES	Firm Performance- ROA lead			Int.Strat.dyn	Ext.strat.dyn	Firm Perf.
	Model1	Model2	Model3	Model4	Model5	Model6
<b>CEO age</b>	0.090 (0.141)	0.076 (0.143)	0.086 (0.144)	-0.039 (0.043)	-0.016 (0.070)	0.058 (0.163)
<b>CEO is chair</b>	-0.945 (1.147)	-1.062 (1.146)	-1.232 (1.144)	0.220 (0.361)	0.650 (0.530)	-1.378 (1.236)
<b>CEO tenure</b>	0.483 (0.562)	0.487 (0.568)	0.342 (0.575)	0.081 (0.166)	-0.050 (0.269)	0.062 (0.589)
<b>CEO education</b>	-1.579* (0.947)	-1.470 (0.961)	-1.314 (0.968)	0.277 (0.271)	0.366 (0.469)	-1.685* (1.010)
<b>Firm size (ln)</b>	-0.471 (0.647)	-0.657 (0.660)	-0.664 (0.660)	0.098 (0.194)	0.354 (0.303)	-0.242 (0.697)
<b>Prior year ROA</b>	0.262*** (0.047)	0.234*** (0.047)	0.216*** (0.047)	-0.017 (0.015)	-0.046** (0.021)	0.216*** (0.050)
<b>Prior Entry ROA</b>	0.041*** (0.013)	0.044*** (0.014)	0.044*** (0.014)			0.041** (0.021)
<b>Int.strat.Dynamism <math>t_{-1}</math></b>				0.317*** (0.119)		-0.175 (0.589)
<b>Ext.strat.Dynamism <math>t_{-1}</math></b>					0.670*** (0.119)	0.463* (0.270)
<b>Slack</b>	0.942* (0.534)	1.084** (0.537)	1.082** (0.535)	-0.259 (0.174)	0.411* (0.227)	1.643*** (0.577)
<b>Business Diversification</b>	1.034 (0.901)	0.936 (0.913)	1.001 (0.917)	-0.604** (0.266)	-0.054 (0.438)	0.408 (0.986)
<b>Geographic Diversification</b>	1.335 (0.825)	1.434* (0.838)	1.371 (0.842)	1.017*** (0.264)	-0.336 (0.424)	0.721 (1.072)
<b>Munificence</b>	2.200 (3.092)	2.279 (3.058)	2.610 (3.034)	2.822*** (1.028)	3.341** (1.407)	5.134 (3.452)
<b>Dynamism</b>	-2.414 (5.341)	-1.988 (5.298)	-1.949 (5.256)	-0.693 (1.650)	-3.614 (2.441)	-4.998 (5.515)
<b>Complexity</b>	3.271 (5.188)	5.590 (5.353)	4.524 (5.407)	-0.398 (1.644)	2.255 (2.532)	7.196 (5.866)
<b>Correction for matching</b>	0.537 (1.123)	0.415 (1.132)	0.375 (1.133)	0.249 (0.341)	-0.119 (0.525)	0.089 (1.253)
<b>Correction for selection bias</b>	-0.892 (1.097)	-0.800 (1.080)	-0.547 (1.073)	-0.084 (0.363)	0.390 (0.498)	-0.343 (1.187)
<b>Year 2003-dummy-</b>	0.586 (1.032)	0.528 (1.023)	0.758 (1.022)	-0.291 (0.343)	0.217 (0.474)	1.361 (1.116)
<b>Year 2004-dummy-</b>	1.305 (1.303)	1.213 (1.305)	1.652 (1.322)	-0.736* (0.406)	0.776 (0.611)	2.494* (1.393)
<b>Year 2005-dummy-</b>	0.299 (1.683)	0.244 (1.696)	0.825 (1.725)	-1.327*** (0.514)	-0.224 (0.794)	1.772 (1.810)
<b>Year 2006-dummy-</b>	-1.545 (2.107)	-1.475 (2.133)	-0.808 (2.167)	-1.280** (0.631)	0.320 (0.995)	0.063 (2.243)
<b>Constant</b>	4.271 (10.210)	6.094 (10.388)	6.130 (10.407)	0.689 (3.105)	-3.529 (4.800)	4.327 (11.397)
<b>CEO Resilience</b>		0.348* (0.185)	0.399** (0.186)	-0.066 (0.059)	0.051 (0.088)	0.461** (0.208)
<b>(CEO Resilience )<sup>2</sup></b>			-0.105** (0.052)	0.053*** (0.016)	0.045* (0.024)	-0.086 (0.058)
<b>Internal strategic dynamism</b>						0.175 (0.402)
<b>External strategic dynamism</b>						-0.300* (0.178)
<b>Observations</b>	247	246	246	211	247	212
<b>Number of CEO</b>	61	61	61	50	61	51
<b>Wald chi<sup>2</sup></b>	107.87***	106.71***	109.41***	85.82***	86.14***	107.49***

Standard errors in parentheses; \*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1



## 6 DISCUSSION AND CONTRIBUTION

This study of CEO resilience provides substantial support for my hypotheses, including evidence that CEOs' resilience impact their company strategic dynamism (be it internal or external) following a U shape pattern, that environment munificence moderates this relationship and that external strategic dynamism channel the influence of strategic dynamism over firm performance. In short, I find that, in contrast to extremely low or high resilient CEOs, moderate to high resilient CEOs display persistent external strategic orientations, which cause superior performance.

Dealing with the topic of 'environment-strategic' congruence, prior research is split between two orientations: Either they contend that due to environmental forces and constraints, top executive have little latitude to alter the fate of their organizations (Hannan and Freeman, 1977; Meyer & Rowan, 1977; DiMaggio & Powell, 1983) or they acknowledge top executive influence under personal limitation and bias (Hambrick et al, 1993; Staw et al, 1981). In this essay, I contribute to the second strand and document empirically that the level of CEO resilience is a predictor of this congruence.

Moving from moderate to low level of resilience increase the propensity to engage in such ventures by 17% and from moderate to high level by 33%. This statistics is striking as it sheds light on one of the effects of benefiting from a very large pool of resources and brings support to Roll (1986) account for acquisition pattern: extremely high level of resilience tends to cause hubris, which, in turn, translates to a more daring and risky acquisition-oriented behavior (Hayward & Hambrick, 1987).

In munificent environment, this relationship is strengthened and moderate to high resilient CEOs listen less to the sirens of external growth and acquisitions than less resilient or

extremely resilient ones. To answer the question raised in introduction, extremely resilient CEOs do dare more.

The pattern of mediation is also remarkable. In a previous paper (essay 1, Chapter 2), I established the existence of the relationship between CEO resilience and firm performance. In this second essay, I elicit one of the venue through which CEO resilience travels towards firm performance: the bell shape format of the CEO resilience-firm performance curve results partially from (1) the U shape format of the CEO resilience-external strategic effect and (2) the negative influence of external strategic dynamism over firm performance – a finding fully consistent with prior researches (Agrawal, Jaffe and Mandelkar, 1992; Sirower, 1994).

It is worth noticing though that I did not find any support for this link in the case of internal strategic dynamism, due to the absence of relationship between internal strategic dynamism and firm performance. This finding is puzzling but I would remain cautious concerning the strength of this absence of relationship, which might be due to some kind of measurement error. Through my measurement of internal strategic dynamism follows prior research (Westphal et al, 2001; Chatterjee & Hambrick, 2007), the authors traditionnally resorted to four key resource allocation indicators: (1) advertising intensity (advertising/sales), (2) research and development intensity (R&D/sales), (3) selling, general, and administrative (SGA) expenses/sales, and (4) financial leverage (debt/equity). In order to balance the strong attrition in my sample, should I follow the entire pool, I restricted the range of key resource allocation indicator to two namely (1) selling, general, and administrative (SGA) expenses/sales, and (2) financial leverage (debt/equity). Although I rightly measured a difference in resource allocation, my measurement is far more restrictive and might account for the absence of results.

## **7 LIMITATIONS AND FUTURE RESEARCH**

As in any research, the findings of this paper should be considered in the context of its limitations, which are fourfold.

First, I resorted to a methodology, which led me to use unobtrusive indicators as proxy for resilience dimensions and I disregarded/held constant for the sample the family coherence dimension. I strongly believe this measure is satisfactory and it answers to the call of Hambrick (2010) to move beyond the use of mere demographic proxies. As such, it represents a significant improvement to traditional methods in upper echelons research and capitalized on the proposition and methodology followed by Chatterjee & Hambrick (2007). Yet, I am still pretty far from the CEOs saying and the optimum proxy would be to administrate CEOs the RSA questionnaire: the unwillingness of CEOs to participate in such program, the low response rate and the possibility of desirability bias in their answers cast doubt about the possibility of succeeding one day with such research design. While not perfect, my measure appears nonetheless adequate and is rooted in sound psychological research.

Second, I have highlighted a personality characteristic, which may cast new lights on timely and relevant issues: CEO exposure to stress is significant and their capacity to resist to and overcome pressure is key. However, I have assumed that S&P 500 CEOs faced significant stress and pressure during their tenures: a fair assumption. Yet, investigating the influence of resilience in crisis situation would provide a stringer test as resilience consequences are particularly salient in times of crisis where the trajectories followed by top executives enjoy greater visibility and traceability.

Third, I have identified one factor through which CEO resilience influences firm performance: strategic dynamism. Yet, it represents only one possibility and other interesting research alternative remain to be tackled. It would, for instance, be quite interesting to see

how resilience plays out in CEOs' willingness to follow defender vs. prospector strategy (Miles and Snow, 1978) or build vs. harvest strategy (Levinthal & March, 1993). Do moderate to high resilient CEOs display a constant preference or does it vary according to the situation requirements, the industry and the stage in the lifespan of their corporation?

Fourth, for having attempted to open the black box, I have only shed a tiny spotlight in an ocean of darkness and of unknown. There are many steps and causal possibilities that remain unexplored to account for the cascading effect of CEO resilience within and outside the organization. This represents one possible venue for future research. Another venue would be to investigate the impact of CEO resilience over the TMT (as well as its resilience) and their respective interactions. CEOs do not act in isolation and I have, for the sake of parsimony, clarity and feasibility, decided to let this area outside of my investigation scope. CEO resilience might for instance affect the quality of the information they seek as well as the willingness of their followers to select and engage into issue selling (Dutton, 93; 97).

As a conclusion, this paper complements my previous essay, which has established the existence of an impact of CEOs resilience over their firm performance. After deriving propositions rooted in upper echelons theory and attention based view of the firm, it provides a first empirical test to date of the influence of CEO resilience on strategic dynamism, and documented the mediating role of external strategic dynamism over the CEO resilience- firm performance relationship. As such, it has contributed to expand our understanding of firms' action and CEO behaviors under challenging conditions and opened the door on a vast field of possible future investigations.

## **CHAPTER 4**

### **OPENING THE BLACK BOX: A MODEL OF CEO RESILIENCE DIFFUSION IN TIMES OF ORGANIZATIONAL CRISIS.**

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#### **1 INTRODUCTION**

The first empirical paper, presented in chapter 2, elicited the relationship between CEO resilience and firm performance. It focused on the two extremes of the upper echelons model, based its rationale on resource dependence theory (Pfeffer and Salancik, 1978) and documented the influence of two moderators on this relationship, namely firm level of potential slack and industry complexity.

The second empirical paper moved one step closer to CEOs and investigated the influence of their resilience on their firm strategic dynamism (be it internal or external). Grounded in a subset of the behavioral theory of the firm (Cyert & March, 1963), namely the attention based view of the firm put forward by Ocasio (1997), it established that CEO resilience impacted their firm strategic dynamism following a U shape pattern and that external strategic dynamism mediated the relationship between CEO resilience and firm performance.

The following theoretical piece opens the black box and formulates a process model that conceptually accounts for the diffusion of CEO resilience internally and externally in times of crisis. While the two precedent empirical papers analyzed the influence of CEO resilience in a general context and avoided a selection on crisis occurrence, which would have biased the results as reverse causality exists, this third paper has the advantage of focusing on a specific and important source of stress. Crises represent situations, which call for rapid decision under strict constraints of time and uncertainty and thus considerably raise the level of pressure (Dutton & Jackson, 1987; Pearson & Clair, 1998). Purposively sampling on crisis

situation provides a venue to focus on an extreme case scenario, which has the advantage of increasing the stakes and magnifying the consequences of decisions quality (Eisenhardt, 1989). Organizational crisis represents an interesting setting since top managers experience an increased amount of stress, have to face ambiguity and act quickly; and they must do so under public scrutiny. Organization crisis has been on scholars' agenda for some time (roughly two decades) and various theories have been put forward to account for them and for their understanding by crisis managers; to name a few, Sense-Making (Weick, 1988, 1993, 2005), Threat & Rigidity Model (Dutton & Jackson, 1987), Broaden and Built Hypothesis (Frederickson & Levenson, 1998; Frederickson & Joiner, 2002), Situation Crisis Communication Theory (Coombs, 2007).

**My purpose in this essay is to develop a theory that accounts for the diffusion of CEO resilience in times of crisis and its impact on crisis handling effectiveness.**

Prior to formulating propositions and for the sake of clarity, I will first briefly review some definitions and typologies, which have been proposed in the field of crisis management. I will then engage in theory building and present the rationale accounting for CEO resilience impact on crisis handling effectiveness.

## **2 CRISIS TERMINOLOGY**

### ***2.1 Crisis Definition***

According to Dutton & Jackson (1987), organizational crisis is a type of strategic issue, which is characterized by a high level of criticality, time pressure and ambiguity. Similarly, Pearson & Clair (1998) define organizational crises as "*a low-probability, high-impact event that threatens the viability of the organization and is characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly*". In

order to define "organizational crisis", other scholars have proposed to position the construct into a lexical field and contrast it with related terms. For example, Pauchant & Mitroff (1992) stressed the difference between an incident, an accident, a conflict and a crisis. An incident is of limited disruption, while an accident is a systemic disruption but one that does not affect basic assumptions and meaning. Conflict involves only a disturbance of symbolic structures and crisis reflects “*a disruption that physically affects a system as a whole and threatens its basic assumptions, its subjective sense of self, its existential core*”. We can logically expect that incident, conflict, accident and crisis cause increasing amount of costs.

**Table 13-**Pauchant & Mitroff Crisis Definition

		System Area	
		Subsystem	Whole System
System Level	Physical	Incident	Accident
	Symbolic	Conflict	Crisis

Source: T.C. Pauchant & I.I. Mitroff, *Transforming the Crisis-Prone Organization*, Jossey-Bass Publishers, 1992.

James & Wooten (2010) contrast the construct of "organizational crisis" with that of "business problem". In addition to the commonly accepted characteristics of urgency, criticality and ambiguity, they contend that four extra dimensions set organization crises apart from business problems: (1) ***the infrequency of crisis occurrence***: while business problems are recurrent issues, for which protocols are often designed, the sudden (or the unpredictable chain of events leading to the occurrence of crises, render them infrequent and abnormal, (2) ***the significance of crises***: while business problems impair the normal functioning of a business, crises affect significantly the long term performance of a firm, and in some case its survival prospects, (3) ***the breadth of stakeholders***: while business problems affect a limited number of stakeholders (mainly internal), organizational crises involve a wide array of

stakeholders (government, trade unions...) that span different geographical boundaries and have significant influence on the business fate and (4) *the level of publicity*: while a business problem is rarely revealed and of interest for the public, crises receive a fair amount of media attention.

In this paper, I follow James & Wooten (2010) and define organizational crisis as "*a rare and significant situation that has the potential to become public and bring about highly undesirable outcomes for the firm and its stakeholders, including: injury or death, negative or unwanted publicity, financial or reputational ruin, and enhanced political, governmental, or regulatory scrutiny, therefore requiring immediate corrective action by firm leaders*".

## 2.2 Crises Classification: Numerous typologies

Numerous typologies have been put forward to classify organizational crises, ranging from the most rudimentary (2 categories) to the most comprehensive (10 categories). Among the most rudimentary classification, stand the *man-made* / *natural* dichotomy, which is one of the oldest and most commonly used typologies (Rosenthal & Kouzmin, 1993). The man-made/natural distinction, which has been widely used, was refined as natural, human or technological threats by Rike (2003).

**Table 14** -Rike's Crises Classification

Potential Types of Exposure		
Natural Threats and Hazards	Technical and Mechanical Hazards	Human Activities and Threats
Fire Flood Hurricane Earthquake Lighting strike Tornado, wind storms Snow and ice storms Wind Tidal wave Typhoon Mold and mildew Insects and rodents	Power outage/failure Gas leak Software failure/malfunction Sewage failure/backup; Building structural failure; Electrical shortage/faulty wiring Toxic spill Radiation contamination Loss of physical access to resources Biological contamination Train derailment/airplane crash	Computer error Lost or misfield documents/records Vandalism Theft Bomb threat Civil disorder Strikes Kidnapping Terrorism Sabotage Loss of key personnel Epidemic

Source: Rike, 2003



# OPENING THE BLACK BOX : A MODEL OF CEO RESILIENCE DIFFUSION IN TIMES OF ORGANIZATIONAL CRISIS

This refinement is not the only one and typologies ordering crises according to their sources are legion. As illustration, Table 15 presents some of the heaviest quoted examples. A caveat should however be introduced here. To produce those typologies, the different authors follow a similar methodology: they list categories referring to real business cases and group them afterwards. As such, those classifications can be criticized, as they do not result from substantial quantitative investigation and factor analysis.

**Table 15 - Examples of Organizational Crisis Classification**

<u>Meyers &amp; Holusha, 1986</u>	<u>Coombs, 1999</u>	<u>Mitroff &amp; Anagnos, 2001*</u>	<u>Rike 2003</u>	<u>Seeger, Sellnow &amp; Ulmer 2003</u>
Public Perception	Natural Disasters	Economic	Natural threats & hazard	Public Perception
Sudden Market Shift	Malevolence	Informational	Technical & mechanical hazard	Natural Disaster
Product failure	Technical Breakdowns	Physical-Loss of key plants and facilities	Human activities & threats	Product or service crises – <i>product recall, food borne illnesses-</i>
Top Management Succession	Human Breakdowns	Human Resource		Terrorist Attacks
Cash Crises	Challenge	Reputation		Economic Crises
Industrial Relations	Mega-damage	Psychopathic Acts		Human Resource Crises
Hostile Takeover	Organizational Misdeeds	Natural Disasters		Industrial Crises
Adverse International events	Workplace Violence			Oil & Chemical Spills
Regulation/Deregulation	Rumors			Transportation Disasters
				Crises that originate in the wider environment.

\* also refined in a further HBR paper ‘*Preparing for Evil*’ in 2003 by Mitroff & Alpaslan.

In respect to classification validity, Gundel (2005) contends that, in order to be useful and pertinent, crisis typology must meet four criteria:

- 1-The various crisis categories must be mutually exclusive.
- 2-The typology must be exhaustive, allowing its users to allocate an infinite set of crises to a finite set of classifications.
- 3-Crisis typologies must be as relevant as they are useful.
- 4-Typologies must be pragmatic limiting the number of classification to a reasonable and manageable number.

Most of the typologies listed in table 14 violate at least one of Gundel's criteria: mutual exclusivity for most of them and the pragmatic condition for the most recent ones. Some categories mirror each other from one typology to the next and they are not mutually exclusive: In Seeger et al' proposition for instance, natural disaster can cause industrial crisis, leading to economic and reputation crises. Moreover, though parsimonious, classifying crisis as caused by man or nature may not be straightforward (violation of rule 3).

In the external stakeholder diffusion path of my model, I will follow Coombs (2004, 2007) recent call to order crises based on their respective level of responsibility attribution. Coombs delineates three clusters: a **victim cluster** (natural disaster, workplace violence, rumor, product tampering...), in which there is a weak attribution of crisis responsibility, **an accidental cluster** (challenges by stakeholders, technical errors), in which there is a minimal attribution of crisis responsibility, and a **preventable cluster** (human error accidents, organizational misdeeds, management misconducts...), in which there is a strong attribution of crisis responsibility. This classification meets Gundel's four criteria and provides a sound basis for theorizing. The possible allocation of an infinite number of crises to these three categories attests for the generalizability and external validity of my following propositions.

### 2.3 *Different crisis stages*

For being diverse, crises follow a similar unfolding pattern, which is not subject to controversy. Variations in conceptualization mainly stems from the degree of fineness and of details sought after by different researchers (See Table 16).

**Table 16-A** single unfolding Pattern

<b>Turner, 1976</b> <b>6 stages of 'Failures in oversight'</b>	<b>Pauchant &amp; Mitroff, 1992</b> <b>5 phase Crisis management model</b>	<b>Seeger, Ulmer, 2003</b> <b>3 stages model</b>
<b>1 - Notionally normal starting point:</b> <ul style="list-style-type: none"> <li>(a) Initial culturally accepted beliefs about the world and its hazards.</li> <li>(b) Associated precautionary norms set out in laws, codes of practice, mores, and folkways.</li> </ul>	<b>1- Signal detection</b> Prior to the emergence of the crisis, some signals are emitted. The authors make the difference between crisis-prone organizations that overlook signals and in which denial and bad communication are rife and crisis-prepared organizations that are able to sense very weak signals.	<b>1- Pre crisis:</b> The origin is a state of equilibrium in which the organization has plans, procedures and policies in place to safeguard its interests. Next, some signals get undetected (failure in foresight) leading to increase in uncertainty; unforeseen associations are produced and coupled with the increased uncertainty and threat; a shrinking response capacity and a failure to communicate effectively.
<b>2- Incubation period:</b> The accumulation of an unnoticed set of events that are at odds with accepted beliefs about hazards and the norms for their avoidance.	<b>2- Preparation/Prevention</b> Weaknesses having been detected, the organization uses prevention (if the crisis is still manageable) or prepares itself with contingency plans.	<b>2- Crisis</b> The threat is real leading to increased stress and emotional confusion, in turn disrupting sense making. Time pressure coupled with difficulty to properly assess actions available.  Self-organization and decision lead to slow return to normal.
<b>3- Precipitating event</b> The crisis forces itself to the attention and transforms the general perceptions from stage 2.	<b>3- Containment/damage limitation</b> In case the prevention of the crisis was not feasible, P&M evoke some damage limiting mechanisms such as, for instance, controlling the amount of information that is broadcast. Authors stress that repetitive bad news or inaccuracies in the press can cause greater damages.	<b>3- Post Crisis</b> Causes are properly assessed and a story is conveyed concerning the event. Operations of apologia and image restoration are conducted and new norms and procedures are enacted.  The crisis becomes a building block, a myth in the organization.
<b>4- Onset:</b> An immediate consequence of the collapse of cultural precautions becomes apparent.	<b>4- Recovery</b> The authors focus on crisis management. Recovery mostly comes from the preparation made in Stage 2. Great cohesion is witnessed at this stage and the personnel share the willingness to gain back what was lost during the previous stage.	

<p><b>5- Rescue and salvage:</b></p> <p><b>First stage adjustment</b></p> <p>An immediate post collapse situation is recognized in ad hoc adjustments that permit the work of rescue and salvage to be started.</p>	<p><b>5- Learning</b></p> <p>Reassessment of the previous stages and takeaways.</p>	
<p><b>6- Full cultural readjustment</b></p> <p>An inquiry or assessment is carried out and beliefs and precautionary norms are adjusted to fit the newly gained understanding of the world.</p>		

As shown by these three propositions, which share some similarities, there is a consensus concerning the unfolding pattern of crises and one would easily convene that the three models resemble Russian dolls: Turner (1976) and Pauchant & Mitroff (1992) models are actually nested in Seeger et al' parsimonious proposition.

### 3 A MODEL OF CEO RESILIENCE INFLUENCE ON POST CRISIS PERFORMANCE

As previously mentioned, crises have been an object of interest for communication scholars; the body of literature on this topic is vast and relies mainly on the use of case studies (Dawar & Pillutla, 2000; Dean, 2004). While building upon some findings of communication researchers (Coombs & Holladay, 1996, 2008; Pauchant & Mitroff, 1992), I will not *stricto sensu* contribute to this research stream.

Given that CEO resilience diffusion is my main focus, crises represent situations in which resilience is likely to make a difference. My approach thus resonates more with a crisis leadership orientation (James & Wooten, 2010) than with a public relation orientation (Coombs & Holladay, 1996, 2008; Pauchant & Mitroff, 1992). James & Wooten (2010) propose that, to handle a crisis effectively, leaders need to display specific competencies required by the crisis stage they have to face: *sense-making* and *perspective taking* in the signal detection phase, *influence*, *creativity* and *agility* in the prevention phase,

*communication and risk taking abilities in the damage and containment phase, ability to promote resilience in the recovery phase and ability to foster organizational learning in the final phase.*

**Table 17-**Crisis Phases and Supporting Competencies

Five Phases of a Crisis & Nine Supporting Competencies								
Signal Detection		Preparation & Prevention			Damage Containment		Recovery	Learning
Sense Making	Perspective Taking	Influence	Organizational Agility	Creativity	Communicating Effectively	Risk Taking	Promoting Resilience	Individual Learning Orientation
Pre Crisis				Crisis	Post Crisis			

Source: James & Wooten (2010) for the first three lines

My model starts with the **crisis occurrence**, as a key antecedent of CEO resilience behavior, proposing that crisis situations put CEO resilience to the fore and that their resilience directly impact their effectiveness in managing stakeholders, be they internal or external. It is in the immediate aftermath of the crisis occurrence, i.e. in the damage and containment stage, that CEO resilience enjoys the greatest visibility and impact. This model focuses thus on the triggering moment and the responses or dialectic that unfold between the firm's top executives and the other stakeholders. In the aftermath of a crisis-triggering event, stakeholders face uncertainty and turn their eyes to the executive suite. The whole chain of information and the regular sense making abilities of an organization and its top management are disturbed. The various stakeholders represent, at this stage, major sources of concern, while simultaneously requiring immediate attention. The high level of criticality, urgency and ambiguity, which characterize crises, causes significant disruptions (Dutton & Jackson, 1987). TMT members face an extraordinary situation, are thrown out of their comfort zones, and the

routines that guarantee smooth functioning are broken. Numerous stimuli are emitted from the field by diverse sources of information necessitating rapid response.

Containing the chaos and making sure that (1) the different stakeholders get the information they need and (2) the TMT keeps functioning by enacting new procedures/processes and prioritizing tasks, fall under the responsibility of the CEO. CEOs play a pivotal role in providing information and conveying meaning to stakeholders, internally (employees, followers...) and externally (shareholders, general public, media...). Those two groups of stakeholders represent the two paths through which CEO resilience travels to affect crisis handling effectiveness: 1) a path dedicated to external stakeholders, which could also be called "*distant crisis leadership*" and 2) a path dedicated to internal stakeholders, which could also be called "*close crisis leadership*". Through those two venues, CEO messages frame the perception of stakeholders, impact the crisis strength and its duration, and condition their firm survival. That crises put significant pressure and grant heightened visibility to CEO behaviors appears straightforward.

However, this relationship is bidirectional and reverse causality exists. Indeed, it is reasonable to expect that CEO resilience affects the probability of crisis occurrence. During the signal detection phase (James & Wooten, 2010), sensitive CEOs have the possibility to avoid the escalation of small incidents to major crisis and nip the nascent crisis in the bud. Their capacity to do so rests upon their resilience potential. Extremely resilient CEOs, due to high stress tolerance, tend to overlook menial details and allow them to escalate, while extremely low resilient CEOs have major difficulties not freezing in front of the wide array of the numerous distress signals they detect. As such, resilience affects both the boundedness of their awareness (Neale & Bazerman, 1985; Chugh & Bazerman, 2007) and the boundedness of their rationality (Simon, 1957; Cyert & March, 1963), in such a fashion that extremely low

resilient CEOs suffer the most from bounded rationality *-as they take on too many signals into consideration-* and extremely high resilient CEOs suffer the most from bounded awareness *- as they are the most likely to disregard some weak but crucial stimuli-*.

Taken together, the above arguments suggest the following:

***Proposition 1:*** *Crisis situations increase the salience and magnitude of CEO resilience effects. CEO resilience, in turn, decreases the potentiality of crisis occurrence following a bell shape pattern.*

### ***3.1 The external Stakeholder path***

In line with James & Wooten (2010), I consider that communicating effectively is a vital competence CEOs must display in the aftermath of a crisis and I suggest their resilience level directly influences this competence.

Post-crisis communication is worth considering because (1) it is an aspect of organizational life on which CEOs have substantial latitude of action, (2) it has major impact on the duration and severity of a crisis and (3) theoretical elements indicate that resilience can affect it.

First, **CEOs control crisis communication content**, and contextual factors only marginally influence their actions. If they rely on internal communication personnel and/or external PR specialists, especially in the case of crisis management, CEOs remain clearly in command. They decide how and to whom they will cater their messages and arbitrate between alternatives. For example, one of such alternative rises from the simultaneous consultation of their legal and PR teams: while the former urge them not to recognize any wrongdoing from the firm – *which could be detrimental in case of lawsuits-* and to engage into highly defensive strategies, the latter exhort them to empathize with the affected stakeholders, show

consideration and adopt more accommodative strategies. In fine, CEOs decide and devise the communication strategies followed by their organization.

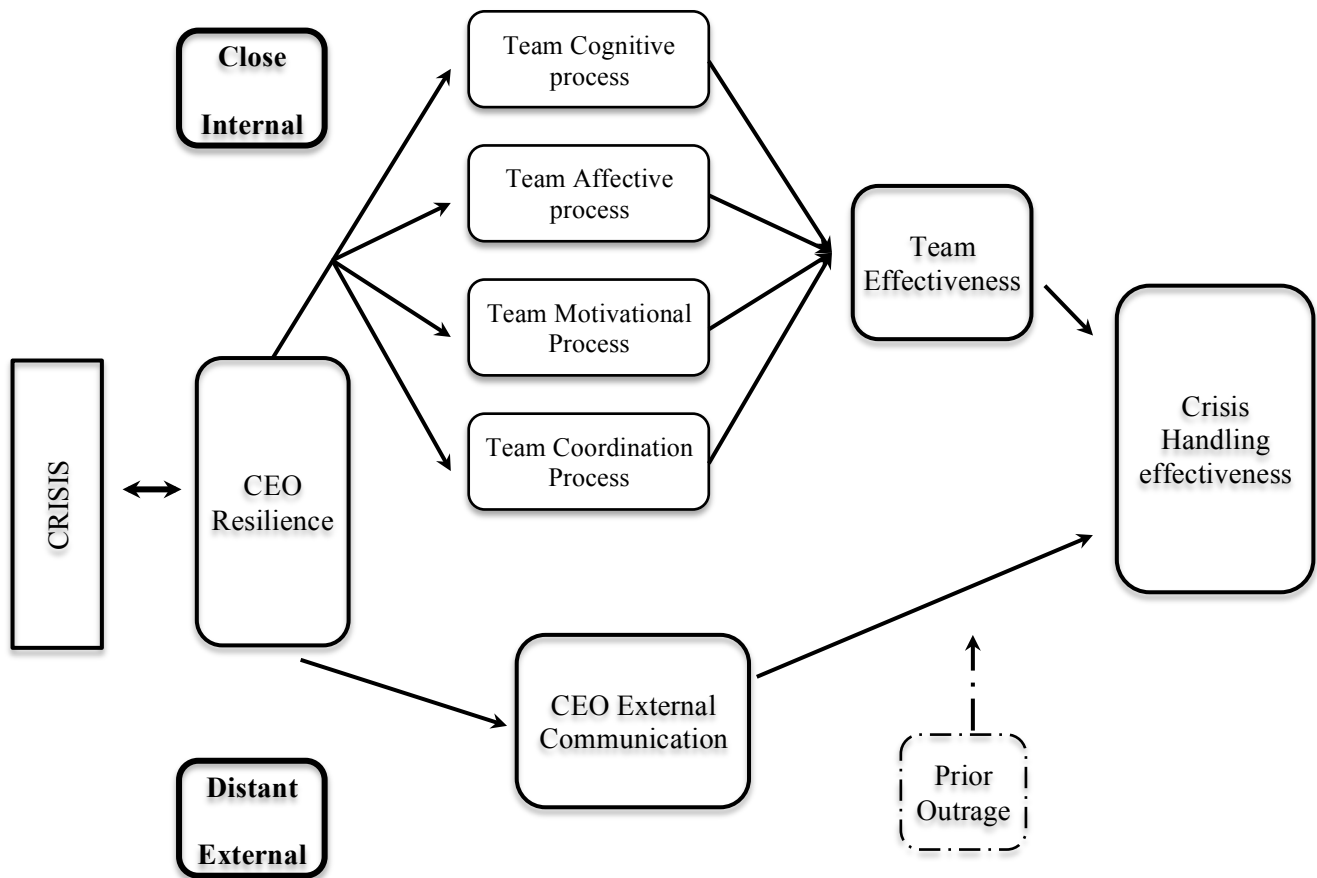
Second, **crisis communication content is not anecdotic and incidental**. It matters and can dramatically influence the fate of an organization. The impression management literature is rife with examples of verbal accounts that frame stakeholders' perception and condition their reaction to the organization (Elsbach, 1994; Elsbach & Kramer, 1996).

Third, **resilience conditions the capacity of CEOs to read the stakes and deliver an effective message** to the affected stakeholders in the crisis aftermath. A contingency perspective is adequate in assessing the effectiveness of a CEO message, as certain types of crises call for specific and distinct type of answers. The congruence or match between the crisis type and CEO response strategies is thus key. The match can be specified in accordance with prior empirical research (Marcus & Goodman, 1991) and the recommendations formulated in the Situational Crisis Communication Theory –referred as SCCT- (Coombs, 2004, 2007). Researches on crisis communication management have argued and documented that certain types of post crisis communication are more efficient than others and SCCT proposes a framework to match communication content and crisis types.

More specifically, SCCT revolves around three components: a classification of crises situations, a classification of crisis response strategies and a rationale to match the two. Attribution theory provides the theoretical foundation for SCCT crises classification and SCCT classifies crises according to the level of responsibility attributed to the firm by different stakeholders.



Figure 21-A Model of CEO Resilience Diffusion in the Crisis Aftermath



The more a firm is viewed as responsible, the more its reputation is at risk and the more it can suffer from negative pressures and consequences. Coombs (2004, 2007) identifies three clusters of crises based on the increasing level of responsibility attribution: a **victim cluster**, an **accidental cluster**, and a **preventable cluster**. In evaluating the responses formulated by the organizations facing crises, communication scholars resort to a continuum ranging from defensive strategies, in which the interest of the organization is put first, to accommodative strategies, in which the interest of the victims is put first.

Using the two ends of this continuum, Marcus & Goodman (1991) have demonstrated that in case of accidents, where the firm is considered more as a victim than as a wrongdoer, defensive strategies are the most effective. Conversely, in the case of scandals, where

responsibility is strongly attributed to the firm, accommodative strategies work best. SCCT provides a more precise and nuanced version of the defensive-accommodative continuum by detailing three clusters of response strategies.

Ordered from the most defensive to the most accommodative, stand (1) the **deny cluster** with the ***Attack the accuser-** confront antagonistically the person or group that claim a crisis exists-*, ***Denial-** claim there is no crisis-* or ***Scapegoat-** blame the supplier of the crisis-* strategies (2) the **diminish cluster** with the ***Excuse** –minimize organizational responsibility by offering pretexts-* or ***Justification** strategies – minimize perceived damage by rationalizing behavior-* (3) the **rebuild or deal cluster** with the ***Compensation** –offer measures to repair damages-* or ***Apology** -publicly accept responsibility and request forgiveness-* strategies.

SCCT prescribes the following matches: (1) Firms with no prior exposure to crises exposed to victim crises should resort to deny strategies, (2) Firms exposed to accidental crises and firms with prior exposure to crises exposed to victim crises should resort to diminish strategies and (3) Firms with prior exposure to crises and exposed to accidental crises and Firms exposed to preventable crises should resort to rebuild / deal strategies. This prescribed match has been documented to be the most effective alignment (Besova, 2008; Fussell et al, 2010; Cooley & Cooley, 2011).

Given that resilience conditions the breadth of vision and the cognitive abilities of CEOs, it is likely to affect the effectiveness of their communication and the previously mentioned congruence in the following manner:

Low resilient CEOs are very affected by a crisis and are prone to dysfunction. They perceive crisis as a major threat and this perception paralyze them and is long lasting. Perceiving a situation as a threat narrows the attention and the repertoires CEOs can mobilize

(Fredrickson; 1998, 2001). Viewing the glass as desperately half empty, low resilient leaders get stuck in a negativity spiral, which logically lead them to adopt escape strategies that work against the interests of their organizations. Indeed, facing a crisis, human beings feel the desire to evacuate the problem and simply make the crisis go away, leading them to suboptimal decisions or actions (James & Wooten, 2010).

Given their absence of support, the disorganized nature of their routines and their relatively low self-confidence, low resilient CEOs are very sensitive to this desire and are very likely to give in. For example, following the outburst of a crisis, they often appear ‘unreachable for comment’ due to mental fatigue or they engage in erratic communication following highly defensive or highly accommodative strategies. The absence of resilience resources, which would help them overcome the initial psychological shock, leave them deprived of the required energy to address stakeholders timely and effectively. I therefore expect their communication strategy to match poorly the crisis situation they have to face.

Masataka Shimisu, Tepco CEO in date of Fukushima Dai-Chi nuclear disaster, provides a telling example of such breakdown and the catastrophic consequences that followed. Two days after the nuclear disaster, Shimisu attended a press conference where he apologized; in the night of 2011 March the 14<sup>th</sup>, three days after the outburst, Shimisu was ready to abdicate and proposed that every TEPCO employees retreat from Fukushima Dai-chi premises" to be told by Japanese Prime Minister that "pulling out was not an option". From then on and for a month Shimisu became unavailable for comment and according to Tepco headquarters was hospitalized for dizziness and high blood pressure resulting from overwork (Shirouzu, Sanchanta & Inagaki, 2011). External stakeholders were left with an appalling vacuum in leadership and Reuters was voicing the concerns shared by many stakeholders in the following terms *"The head of the Japanese power company at the center of one of the world's worst nuclear disasters has all but vanished from the public eye. And many Japanese*

*[...] are beginning to ask where he is and questioning how much he is in control of the crisis."*<sup>15</sup>

This distress of the CEO was such that he did not honor his duties externally and *"left it to TEPCO spokespeople in Tokyo to be the public face of the company and answer increasingly aggressive questions, and criticism, from reporters frustrated at the lack of information"*<sup>16</sup>. After being away without official leave for a month, he came back in command and visited the Fukushima prefecture to survey damage. That month delay was viewed by many as unacceptable and has caused significant hardship to the company. Facing a loss of 15 Billions Dollars, Shimisu resigned in May 2011 with a very poor result in the crisis-handling phase.

Conversely, extremely resilient CEOs are only marginally affected by a crisis but they are prone to reach poor crisis – communication alignment for this very reason. By only seeing the glass half full, they are likely to apprehend the situation through "rose colored glasses" (Lovallo & Kahneman, 2003; Keiningham et al, 2006). They are not stuck in a negativity spiral but they nonetheless misread the situation and the stakes. Extremely resilient CEOs display great poise; their over-optimism and overconfidence may cause them to underestimate the seriousness of a crisis and follow suboptimal communication strategies.

Tony Hayward's handling of BP communication strategy following the Deepwater Horizon oil spill provides a shining example of the damages extreme resilience can cause. Hayward (1) failed to seize the severity of the crisis and delayed action during the initial weeks of the oil spills and (2) communicated poorly showing a lack of empathy to the point of being photographed at yacht racing while the crisis was unfolding and claiming in the gulf

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<sup>15</sup> Obayahi, Y., Uranaka, T., & edited by Thatcher, J.; Where is Japan's nuclear power CEO?; Reuters published on Sun Mar 20, 2011 and accessed on March 2015, <http://www.reuters.com/article/2011/03/20/us-japan-quake-absent-ceo-idUSTRE72J2DK20110320>

<sup>16</sup> Obayahi, Y., Uranaka, T., & edited by Thatcher, J.; Where is Japan's nuclear power CEO?; Reuters published on Sun Mar 20, 2011 and accessed on March 2015, <http://www.reuters.com/article/2011/03/20/us-japan-quake-absent-ceo-idUSTRE72J2DK20110320>

region that ‘he wanted his life back’; this latter quote triggered his downfall and led to his resignation only 99 days after the crisis begun (Valvi & Fragkos, 2013).

In contrast, moderately resilient CEOs are affected by the crisis, which protect them from overconfidence; but, to the difference of low resilient leaders, they benefit from sufficient resilience resources and are not paralyzed by the situation. The picture they get is more comprehensive and accurate, and they suffer less from common decision making biases such as status quo heuristics (Hammond et al, 1998). Their perception of the glass as successively half empty and half full, triggered by a sufficient amount of resilience resources, renders their communication responses more enlightened and more effective. Hence, I propose:

***Proposition 2:*** *The match between response strategies and crisis type is weaker in firms run by low or highly resilient CEOs than in firms run by moderately resilient CEOs.*

SCCT contends that aligning crisis response strategies with crisis types will enable organizations facing a crisis to mitigate the negative influence of bad publicity and preserve their reputation. Given that effective communication is crucial to prevent the costly escalation of a crisis (disgruntled stakeholders, customer loss, distraction of management attention and financial settlements...), crisis type- response strategies match directly affects crisis handling effectiveness. A perfect alignment, which addresses effectively the various concerns of stakeholders, decreases the intensity of opposition and crisis duration. This, in turn, enables the organization to reach quicker its pre-crisis state of equilibrium and has a linear positive impact on crisis handling effectiveness. Hence, I propose:

***Proposition 3:*** *Crisis type-communication strategy match is positively associated with crisis handling effectiveness.*

This relationship between the crisis type-communication strategy match and crisis handling effectiveness is however likely to be influenced by the strength of prior outrage and the sympathy capital the CEO enjoys in the public eye. This prior outrage stems from an accumulation of previous misconducts (building up to reach a critical threshold) or from the perception of a discrepancy between the facts and the story told by the CEO, which Wernicke (2010) labeled CEO hypocrisy. In any case, this capital determines whether external stakeholders will give CEOs the benefit of the doubt, accept their message and give them their trust or, to the contrary, whether they will increase their distrust, their opposition and enjoy the feeling of *schadenfreude* (Feather, 1994, 1999; Wiesenfeld, et al, 2008).

*Ceteris paribus*, a CEO whose communication is congruent with the crisis type will enjoy less adversity in the case of low prior outrage (regardless of its origin), which will translate in quicker recovery and better crisis handling effectiveness. Hence, I propose:

***Proposition 4:*** *CEO prior outrage negatively moderates the relationship between crisis type-communication strategy match and crisis handling effectiveness.*

### ***3.2 The internal stakeholder path***

Confronted to crises, CEOs have not only the duty to reassure external stakeholders through effective communication in order to mitigate adverse effects and reputation loss but they also have to lead their employees through the storm. CEO position at the top of the decision chain and the power that is associated with it make them the focus of attention and the actors who enjoyed the highest influence and latitude in the decision making process (Rajagopalan, 1996; Rajagopalan & Datfa, 1996).

The internal stakeholder path of this model depicts the diffusion of CEO Resilience within the TMT (considered in this manuscript as the crisis handling team). Fulfilling their responsive role (Pfeffer & Salancik, 1978 chap 10), CEOs influence the discussion agenda,

the framing of the issues and the number and identities of the decision makers (Pitcher & Smith, 2001; Jones & Cannella, 2011). While this assertion is true regardless of the context, this influence is reinforced in the context of crisis, where pressure and ambiguity cause TMT members to expect more from the CEO (Dutton & Jackson, 1987).

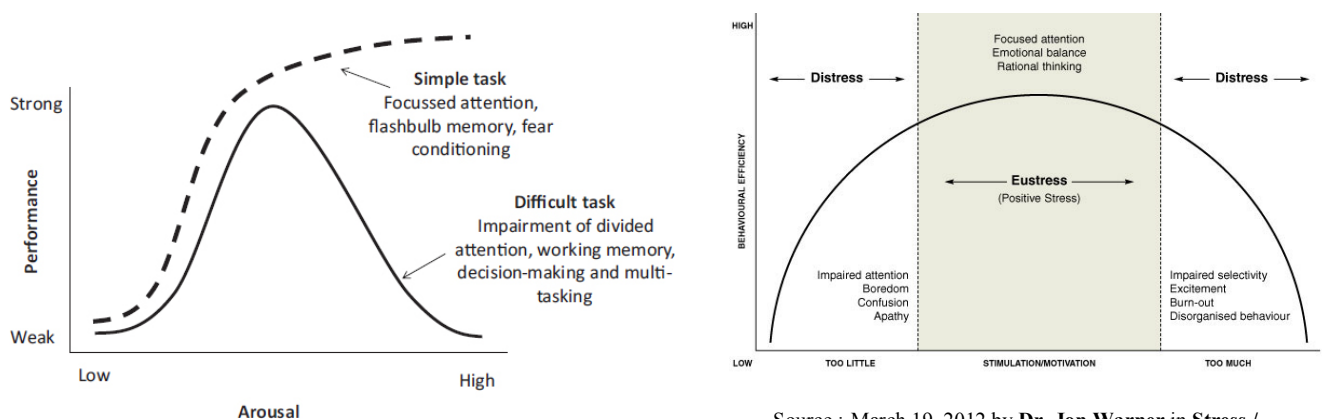
For being the most influential ones, CEOs do not operate in a vacuum and decisions pertaining to crisis handling are not made in isolation but results from a consultation at the apex of the organization through the constitution of a crisis cell. Crises causing a complete disruption of traditional routines and sense making, it falls upon the CEOs to 1) reassign responsibilities 2) help team make sense of this unusual situation and 3) keep TMT member accountable. By performing those tasks effectively and showing their inner circle or entourage, that they can cope with the situation, CEOs act as buffer against crisis stress, safeguard the motivation of their team and inspire trust in their close followers.

The main line of reasoning is that the effectiveness of the crisis-handling phase rests upon TMT effectiveness, which is conditioned by CEO abilities that are directly influenced by resilience in times of crisis. To link CEO resilience with TMT effectiveness, a leadership model is required to specify the various links and processes at play. Zaccaro et al (2001) propose such a model anchored in a functional view of leadership, a view fully consistent with the contingency orientation adopted in the external path of my model. Indeed, a functional view of leadership boils down to specify that *"the leader's main job is to do, or get done, whatever is not being adequately handled for group needs "* (McGrath, 1962) and that *"if a leader manages, by whatever means, to ensure that all functions critical to both task accomplishment and group maintenance are adequately taken care of, then the leader has done his or her job well"* (Hackman & Walton, 1986).

As in the SCCT model (Coombs, 2004, 2007) where specific types of crisis are linked to specific types of answers, functional leadership comes down to switching from an emphasis on *"what leaders should do [to] what needs to be done for effective performance"* (Hackman & Walton, 1986). SCCT and functional leadership focus thus both on the requirements of the situation and the ability of the team leader (here the CEO) to address those properly.

I will also resort to the eustress and distress dichotomy and terminology as well as the construct of trust. A succinct definition of those terms and their origin will help clarify those concepts meaning in this manuscript. On the one hand, stress was defined by Hans Selye (1936) as the *"non-specific neuroendocrine response of the body"*, which he later refined as the *"non-specific response of the body to any demand made on it"*. Acquainted with the work of Levi (1971) who first drew the line between "positive" and "negative" stress, Selye (1974) coined the term distress and eustress to indicate whether the physiological response was led by negative or positive stressors, a distinction and terminology widely used since then (Lazarus & Folkman, 1984; Lazarus, 1993; Simmons & Nelson, 2007). Eustress and distress are often portrayed in the following manner inspired by the original work of Yerkes and Dodson (1908) with their experiment of mice in a maze - Figure 22- and labeled as the Yerkes-Dodson Law.

**Figure 22-Yerkes-Dodson Law**



Source : Yerkes & Dodson, 1908

Source : March 19, 2012 by Dr. Jon Warner in *Stress / Pressure Control* [blog.readytomanage.com/stress-diagram/](http://blog.readytomanage.com/stress-diagram/)



On the other hand, trust has been defined in the literature as *"a state involving confident positive expectations about another's motives with respect to oneself in situations entailing risks"* (Boon & Holmes, 1991) and includes four dimensions: **competence** – *followers believe in leaders abilities-*, **openness** – *followers feel the information provided by leaders is honest and feel their advice will be heard-*, **concern** – *followers feel their leader cares about them and understands their feelings-* and **reliability** – *followers know what to expect from their leader-* (Mishra,1996).

In their model, Zaccaro et al (2001) propose that CEO capacities impact 4 processes which condition team effectiveness namely (1) team cognitive process (2) team motivational process (3) team affective process and (4) team coordination process. In the following propositions, I will describe the influence of resilience on those dimensions, which are ordered according to their importance for crisis handling activities.

For the sake of clarity and parsimony, those different influences are summarized in Table 18.

**Table 18**-Summary of Internal Path CEO Resilience Diffusion

	CEO RESILIENCE	Low	Moderate to High	Extremely High
<b>Impact on Team processes</b>				
<b>1</b>	<b>COGNITIVE PROCESS</b>	<b>-</b>	<b>+ +</b>	<b>+/-</b>
	Shared mental model	Not provided	Very Good	Good
	Info Processing	Disorganized	Decentralized	Centralized
<b>2</b>	<b>AFFECT PROCESS</b>	<b>-</b>	<b>+ +</b>	<b>++</b>
	Probability of Conflict	High	Low	Very Low
	Emotional Contagion	High	Low	Low

			Head	Field	Head	Field
3	TEAM MOTIVATION	-	++	++	++	+/-
	Task Commitment	-	+	+	+	-
	Collective Efficacy	-	+	+	+	+
4	TEAM COORDINATION	-	++		++	
Total 1, 2, 3 & 4 ⇔ Team effectiveness						
	TEAM EFFECTIVENESS	POOR	GOOD		AVERAGE	
	POST CRISIS PERFORMANCE	-	+ +		+	

### 3.2.1 CEO Resilience and Team cognitive process

Crises represent extreme events, which cause a complete disruption of the TMT regular perception of its context; TMT members experience a total collapse of their conventional way of understanding their environments (Meyer, 1982; Weick, 1988; Weick, 1993) also called breakdowns (Patriotta, 2003). The feeling of chaos that TMT members experience (Weick, Sutcliffe, & Obstfeld, 2005), which is uncomfortable and paralyzing, triggers a willingness to restore their comprehension of the situation, a prerequisite for them to later be able to act upon it effectively. In such situations, leaders play a key role, helping team members restore meaning of their context by engaging into sense making and sense giving activities on behalf of the team. As **sense maker**, they engage into placing “*items into frameworks, comprehending, redressing surprise, constructing meaning, interacting in the pursuit of mutual understanding, and patterning*” (Weick, 1995), and as **sense giver** they engage into incorporating and arranging the diverse elements to build a compelling and credible story accounting for the situation (Weick, 1995). Defined as the “the ability of the CEO to hold well under pressure and enjoy sustained competence under stress”, CEO

resilience influences their capacity to establish shared model in times of crisis and the information processing scheme they will adopt:

Low resilient CEOs confronted with crises dysfunction; perceiving crises as a significant threat narrows their span of attention as well as their answer repertoire (Fredrickson; 1998, 2001). Not coping at all with stress, they suffer from a complete collapse of their sense making abilities and are thus fully unable to honor their duties internally and to lead their followers in a quest for meaning. Unable to cope with their own level of stress, they appear unable to act as buffer for their entourage and add confusion to the confusion by not being present when their followers most need them and their insights (see the case of Masatake Shimisu previously mentioned). By not being able to make sense of the situation themselves, they cannot give sense to their TMT followers and will not favor the emergence of a shared model, which is necessary for the team to adapt and respond to the new contextual contingencies (Zaccaro et al, 2001).

This lack of CEO leadership and support affect also the team information processing capacities negatively. Indeed, CEOs also structure their TMT and define the degree of latitude offered to the different team members (information search, areas of responsibility, definition of solutions and alternatives). Basically, CEOs act upon the degree of centralization of information processing within the TMT and crises (which trigger stress, threat and temporal urgency) have been proposed to favor rigidity (Staw et al, 1981) and documented to promote centralization of information processing (Isenberg, 1981; Gladstein & Reilly, 1985; Argote, Turner, & Fichman, 1989). In case of low personal resilience, CEO absence or erratic response to crises lead them to give in and increase confusion within the TMT. Therefore, low CEO resilience causes disorganization in the information processing stage. By (1) not fostering any shared mental model in times of crisis and (2) causing disorganization in

information processing, low resilient CEOs are likely to induce poor TMT cognitive effectiveness.

Conversely, moderately resilient CEOs are affected by the crisis, which raises their awareness level, but, to the difference of low resilient leaders, they benefit from sufficient resilience resources to channel stress positively for themselves and engage productively into sense making. They are thus fully capable of meeting their followers' expectations by engaging into sense giving but in a very collaborative way. Acknowledging the danger of the crisis, they are likely to provide and seek the support of their followers and reach very good level of team model sharedness. Moreover, their acute feeling of some of their vulnerabilities and some of key environment cues, lead them to resist the temptation to favor centralized information processing and they prefer opting for relatively decentralized information processing structure. Doing so enable them to induce better information sharing (Larson, Foster-Fishman, and Franz, 1998), generate more problem solutions (Kahai, Sosik, and Avolio, 1997) and avoid a too drastic restriction of their field of vision (Fredrickson; 1998, 2001). By (1) fostering and enabling the emergence of a shared mental model in times of crisis and (2) allowing decentralization in information processing, moderately to high resilient CEOs are likely to induce good TMT cognitive effectiveness.

Similarly, extremely resilient CEOs are only marginally affected by a crisis as they enjoy very high stress absorptive capacities. They do not give in and focalize the attention of their followers, within the TMT and beyond. As such, they buffer stress effectively and take a very active role in the crisis damage and containment stage. Following their lead in crisis situations is reassuring for the TMT as the CEO appears (symbolic role) and is (responsive role) clearly in charge. Extremely resilient CEOs engage very easily into sense making and display great poise and talent in delivering this sense to their followers. However, given their high level of resources, they are wishing and capable of playing the preeminent role in times

of crises. They will thus be likely to let their followers play the second fiddles, which will bear consequences on (1) the sharedness of mental model, which for being clearly embraced by their followers might be slightly weaker than the one induced by moderate to high resilient CEOs – *if the former have faith in their leader ability to ship the boat, the latter believe they can all make it-* and (2) the information processing scheme, which is likely to be centralized around the CEO figure.

The stronger desire for uniformity experienced by team members in times of stress and crises (Kerr & Tindale, 2004) will be catered for, and the decision making process will suffer from a rarefaction of alternative options voiced by TMT members (Levi, 2011). This could lead to groupthink (Janis, 1982), which heightened the probability of faulty decisions. One precision should be introduced here: though easily engaging into sense making, extremely resilient CEOs experience a small delay in paying attention and noticing the cues announcing a crisis (Weick, Sutcliffe, & Obstfeld, 2005) and might thus engage into sense making slightly later than moderate to high resilient CEOs.

As illustration, Tony Hayward, in the immediate aftermath of Deepwater Horizon oil spill failed to seize the severity of the crisis and delayed action during the initial weeks of the oil spills (Valvi & Fragkos, 2013). Taken together, these elements suggest that extreme CEO resilience might decrease the positive influence of CEO resilience over team cognitive effectiveness.

All in all, the previous arguments suggest that:

***Proposition 5:*** *The relationship between CEO resilience and TMT Cognitive effectiveness is curvilinear (inverted U-Shaped), with higher TMT Cognitive effectiveness at moderate-to high CEO resilience than at low or extremely high CEO resilience.*

### 3.2.2 CEO Resilience and Team affect process

Affect process are also disrupted in times of crises. Zaccaro et al (2001) draws on the difference between affective and cognitive conflict and assert that, on the one hand, cognitive conflict is beneficial to limit groupthink and generate alternatives increasing decision making quality, but, on the other hand, affective conflict, including personal disputes and emotional dissonance, impairs effective decision making effectiveness and team morale (Katz, 1977; Amason & Schweiger, 1997). In a recent study, Hon & Chan (2013) empirically demonstrated that *"team relationship conflict is positively associated with hindrance-related stress, which in turn, is negatively associated with job performance and satisfaction"*. Moreover, in times of crisis, emotion level is high and the negative emotions can quickly spiral out of control through the process of emotion contagion. CEOs have the possibility to limit those negative effects but their effectiveness in (1) reducing conflict possibilities and (2) attenuate emotional contagion stems from their resilience. More specifically:

Moderate to extremely resilient CEOs have the resources to meet their duty internally, which bears positive consequences on their team climate. They are present and demonstrate their capacity to be in charge. Appearing at the helm, dependable, competent and reliable, they benefit from the trust of their followers (Mishra, 1996). Given their cognitive capacities (sense making and sense giving), they reassign responsibilities, and give their followers a clear framework to operate. As such, given that the rule of the new game are clear and that the CEO alleviates part of the stress experienced by the TMT, affective conflict is unlikely. Resilient CEOs facing crises display most of the competences attributed to "toxic handlers" (Frost & Robinson, 1999; Koninckx & Teneau, 2010): They propose solutions, are capable of listening empathetically (slightly less for extreme resilient profiles) and are very competent in reframing and communicating difficult information. Moreover, by providing clear guidance, resilient CEOs have also a positive impact on emotional contagion (Strauss, 1944; Sugiman &

Misumi, 1988) as they facilitate healthy emotional climate through the enforcement of explicit norms (Zander, 1971).

In contrast, low resilient CEOs abandon their team in times of stress with no clear guidance, reassignment of roles or of responsibility. By leaving their position vacant, and not providing any clear meaning pattern for the TMT to rely on (deficient sense making and sense giving capacities), they cause serious distress, which heightened the probability of affective conflict. In the most stringent case, they will be away and TMT members will need to get reorganized internally, while facing ambiguity, complexity and time pressure. This extra strain is likely to cause some power struggle at the top and emotions are likely to run wild within the crisis handling team. In sum, low resilient CEOs do not perform any *"toxic handling"* activities (Frost & Robinson, 1999; Koninckx & Teneau, 2010) but magnify the toxicity of the situation through their own collapse and cause significant distress. Taken together, these elements suggest that:

***Proposition 6: CEO resilience positively impacts TMT affect effectiveness.***

### ***3.2.3 CEO Resilience and Team Motivation process***

Zaccaro et al (2001) contend that CEO leadership affect team motivation through two venues (1) collective efficacy and (2) team task commitment. Collective efficacy characterizes the extent to which team members believe they can collectively make it (Bandura, 1986; Zaccaro, Blair, Peterson, & Zazanis, 1995). Being positive and confident into one's ability is of crucial importance as it acts as a fulfilling prophecy: believing one can

make it increase one's chance of success and vice versa (Moss Kanter, 2004)<sup>17</sup>. This feeling of self-efficacy directly relates to the amount of stress experienced by the TMT.

Low resilient CEOs are very affected by a crisis and do not handle stress properly and it leads them to pass most of their stress to their followers. This lack of coping at the top puts extra burden to close TMT Members who have to take the lead in troubled times. Even if individuals will react differently to the added stress, it seems sensible to consider that overall the TMT stress climate (conceptualized as the shared appraisals of TMT members concerning stress (Reichers & Schneider, 1990; Lansisalmi et al., 2000)) will toggle from a balanced one pre-crisis to a distressed one in the crisis aftermath. Kozusznik, Rodriguez & Peiró (2015) have recently documented that, in such situation, the team degree of dedication and vigor decreases which equates low collective efficacy.

Low CEO resilience will thus decrease TMT collective efficacy. Team task commitment is also negatively affected by low CEO resilience. Team task commitment designates the commitment of team members to accomplish their collective tasks: In high committed teams, people are bond together and share a feeling of responsibility for the group's outcomes (Yukelson, Weinberg & Jackson, 1984; Guzzo, 1995). Given the lack of direction and the absence of coherent reassignment of responsibilities from low resilient CEOs, members of the crisis team find it difficult to be involved for others, since no consistent pattern for their goal and action is put up.

Moreover crisis teams are constituted on an ad hoc basis and entail not only TMT members (their majority labeled "head" in Table 18) but they also include some middle operational managers on the field (labeled "field" in Table 18). Making those distant contributors cooperate effectively without clear guidance is highly unlikely. Given that low

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<sup>17</sup> « If at First You Don't Succeed, Believe Harder » at lunch with Rosabeth Moss Kanter by Claudia H. Deutsch New York Times September 19, 2004



CEO resilience negatively affects (1) TMT collective efficacy and (2) team task commitment, it overall negatively affects team motivation.

Conversely, moderately to extremely high resilient CEOs are affected by crises which raise their awareness level, but, to the difference of low resilient leaders, they benefit from sufficient resilience resources to channel stress positively for themselves and for others. They buffer some of the stress and pass a reduced amount to their followers. Those latter are thus more likely to experience eustress and reach de facto higher team collective efficacy. Moreover, given the capacity of moderately to extremely resilient CEOs to meet their internal stakeholders need for guidance and benefit from their trust in return (as detailed in the previous chapters), they are likely to positively influence team task commitment: They indeed clearly reassign role and responsibilities and keep people accountable.

A caveat should be introduced here concerning operational field managers joining the crisis team. For moderately to high resilient CEOs, the positive influence on team task commitment is valid for this population as well. Given that they engage into decentralized decision making (rationale provided in paragraph 3.2.1 CEO Resilience and Team cognitive process), the participative approach will be appreciated by the middle managers handling crisis containment initiatives in the field; they will feel consulted, valued and will thus be fully committed. Concerning extremely high resilient CEOs, whom benefit from a wide pool of resource, they are likely to demise those inputs from outside their inner circle and consider those remote followers as mere executants causing some commitment loss. Taken together, these elements suggest that:

***Proposition 7:*** *The relationship between CEO resilience and TMT motivation is positive and is curvilinear (inverted U-Shaped) for extra TMT internal crises handlers.*

### ***3.2.4 CEO Resilience and Team coordination process***

Finally, team coordination is a central tenet for effective crisis team handling teams. Making sure that the right people are on board, that responsibilities are clearly assigned and that the various team members know how they fit in the big picture is the duty of the crisis leader. Most of the rationale in this section rests upon the reasoning provided in the CEO resilience influence on cognitive effectiveness section.

By not honoring their duties internally, being absent or behaving erratically, low resilient CEOs add confusion and burden for their followers. In case of vacancy, new lines of reporting need to be built in emergency, and information processing follows an inefficient and disorganized pattern (for the rationale presented in section 3.2.1 CEO Resilience and Team cognitive process). This lack of clarity will be detrimental to an effective flow of information top-down and bottom-up and the message delivered to and provided from remote middle managers handling crisis on the ground will be affected. Mixed signals will be perceived on the field and decision makers at the headquarter will be likely to disregard valuable options voiced from distant team members.

Conversely, by maintaining healthy functioning under pressure and showing that they are in charge, moderately to extremely high resilient CEOs will delineate clear line of reporting, which should provide TMT as well as remote crisis handlers, a sound and safe grounding for their functioning. This aspect directly flows from the CEO sense making and sense-giving activities mentioned in paragraph 3.2.1 CEO Resilience and Team cognitive process). Taken together, the previous arguments suggest that:

***Proposition 8: CEO resilience positively affects TMT Coordination.***

**Aggregating propositions 5,6, 7 and 8 directly suggests that:**

***Proposition 9:** Overall, the relationship between CEO resilience and TMT effectiveness is curvilinear (inverted U-Shaped), with higher TMT effectiveness at moderate-to high CEO resilience than at low or extremely high CEO resilience.*

**And as team effectiveness directly conditions crisis-handling effectiveness, it also logically flows that:**

***Proposition 10:** Overall, the relationship between CEO resilience and crisis handling effectiveness is curvilinear (inverted U-Shaped), with higher TMT effectiveness at moderate-to high CEO resilience than at low or extremely high CEO resilience*

#### **4 FINAL COMMENTS**

This model provides a venue to conceptualize CEO resilience diffusion in times of crisis and details the different impacted processes, be they external (through effective post crisis communication) or internal (through effective management of crisis team cognitive, affective, motivation and coordination effectiveness).

This model theorizing consistency is guaranteed by an anchoring into two contingency based approaches: Situational crisis communication theory (Coombs, 2004, 2007) to derive propositions for the external path and a conceptual leadership model designed by Zaccaro et al (2001), following a functional leadership orientation, for the internal path.

For the sake of parsimony and given its already complex nature, the model adopts a restricted focus. It starts with the occurrence of the crisis and ends with the damage and containment stage. Further investigation and extension concerning the influence of CEO resilience over pre-crisis stages (signal detection, preparation and prevention stages) and post-

crisis stages (recovery and learning stages) as proposed by James & Wooten (2010) appear warranted.

Moreover, this third essay represents a theoretical piece and is conceptual in essence. The different examples (Masataka Shimisu, Tony Hayward) are to be understood for what they represent, namely mere illustrations. They are not *stricto sensu* necessary for the demonstration but they add color to it. This model validity rests now upon a true empirical testing, which provides venue for future research. While testing the external path appears feasible resorting to text analysis and secondary data, testing the internal one will prove certainly more arduous and challenging methodologically wise.

Finally, I took benefit of an extreme case scenario (crisis situation). As such, this setting magnifies the salience of CEO resilience effect (Eisenhardt, 1989). I however envision that the proposed paths and elicited effects are not, however, limited to those severe situations. They probably also play out under normal functioning as long as stress is present and will cause variable consequences in line with the stressors type and intensity.

# CONCLUSION

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## 1 REMINDER OF THE RESEARCH OBJECTIVES AND MAIN CONTRIBUTIONS

Does CEO resilience matter? How can we account for its influence? Those are the central questions this dissertation addressed. After having delineated the construct of CEO resilience, defined a way to operationalize it resorting to unobtrusive measures, circumvented CEO access difficulties and delved into S&P 500 biography, I found strong empirical support for CEO resilience effect (1) on firm performance and (2) on firm dynamism. In a nutshell, claiming that CEO resilience matters, appears nowadays substantiated by sound empirical evidence.

This work contributes to the upper echelons or strategic leadership literature by documenting the effect of a new CEO characteristics, extending a vast and productive body of literature already encompassing **locus of control** (Anderson and Schneier, 1978, Miller, Kets de Vries and Toulouse, 1982...), **hubris** (Hayward & Hambrick, 1997), **charisma** (Fanelli, Misangyi et al, 2009; Flynn and Staw 2004; Tosi, Misangyi and Tosi, 2004), **overconfidence** (Malmendier and Tate, 2005a, 2005b) and **narcissism** (Hambrick and Chatterjee, 2007, 2011).

Adding resilience to the picture was of paramount importance. Few will contest that stress is on the rise: organizations today have to face heightened level of complexity, ambiguity and turbulence (Hamel & Breen, 2007) and in such situations, holding well under pressure and displaying sustained competence under stress are key and may draw the line between successful and failing organizational initiatives. Investigating CEO resilience influence on certain firms' outcomes was both timely and much needed.

## CONCLUSION

This thesis opening chapter took stock of prior art pertaining to the literature the thesis is mostly contributing to (upper echelons), the literature from which it is borrowing the concept of resilience (mainly developmental psychology) from and the rather vast array of theories the three essays mobilize (RDT, ABV and SCCT). This initial step clearly positioned this work in a research tradition, provided a sound grounding for my conceptualization of resilience and attested for the value added residing in coupling upper echelons with different theoretical lenses to increase explanatory power.

The foundations being laid, I then adopted a funnel structure originating in my broad research question: Does CEO resilience matter? Indeed, in my first essay, I started by investigating the two extremes of the upper echelons chains (CEO resilience-firm performance) enriched by some firm level and environment level moderators. Then, in my second essay, I slightly zoomed in and moved one step closer to CEOs by examining the influence of CEO resilience on firm internal and external strategic dynamism, which was proven to mediate the CEO resilience-firm performance relationship. Having found strong empirical support for my initial hypotheses, I finally zoomed further in and devised, in my third essay, a process model accounting for the diffusion of CEO resilience in times of crisis. Overall, the dissertation essays are stand alone but complementary pieces in developing and testing the influence of CEO resilience; more specifically:

In chapter 2 (essay1), CEO resilience influence on firm performance is conceptualized wearing upper echelons as well as RDT lenses, and tested resorting to a S&P 500 panel data of 243 CEO-year observations over the 2002-2006 period. Given its scope, the first essay follows a very orthodox agenda in strategic leadership research and tie a personal psychological CEO attribute to firm performance; it also pays a fair tribute to firm (slack, diversification level) and environment (munificence, dynamism, complexity) constraints. The

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major contribution of this first empirical piece lies in the evidence provided for the existence of a curvilinear (bell-shape) relationship between CEO resilience and firm performance.

That both variables relate to each other is a significant empirical finding: some authors had postulated an influence of resilience on performance (Siebert, 2005; Kanter, 2006; James & Wooten, 2010...) but empirical support was lacking. This paper clearly addressed this gap. Honestly, Peterson et al (2009) documented that CEO positive psychological traits (aggregating hope, optimism and resiliency) influence transformational leadership rating, which in turn positively relates to performance to plan. However, their focus was not on resilience per se (but on resiliency which they viewed as a trait). They adopted a cross sectional design and did not ground their reasoning nor contributed to upper echelons literature. The shape of the curve is also noteworthy; indeed the bell shape might be slightly counterintuitive since it indicates that one can be too much resilient or "over resilient".

This latter feature is not widespread in the literature and one would more frequently expect a direct and linear positive effect of CEO resilience. In contrast and in line with some leadership scholars who contend that any strength can be overplayed (White, 2009; Kaplan & Kaiser, 2013), my study supports (theoretically and empirically) the fact that there is a threshold above which too many resources cause highly resilient CEOs to become overconfident, resort too much to power in their interactions with stakeholders and overlook some environmental cues. This hubris in turn negatively affects firm performance.

The levels of environment complexity and of firm slack were also found to moderate this relationship: while the former was in line with my hypothesis (namely that CEO resilience matters more in more complex environment), the latter displayed an unexpected pattern: it reversed the relationship (from a bell shape to a U shape) in case of high potential slack. This surprising pattern led me to hypothesize a compensating effect (Williams &

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Karau, 1991) from the TMT at the low end of the resilience spectrum and a risk premium/efficiency gain at the high end.

Overall, this first essay provided robust and strong evidence for the impact of CEO resilience on firm performance and clearly responded to my research question: yes, CEO resilience matters and it makes a significant difference; from low to high level of resilience, performance increases by approximately 150 percent!

Chapter 3 (essay 2) moved one step closer to the CEO and explained how CEO resilience impacts firm performance. I benefited from the attention-based view of the firm (Ocasio 1997) and tested the influence of CEO resilience over internal and external strategic dynamism. I also probed the mediating effect of strategic dynamism over CEO resilience-firm performance relationship. Based on a S&P 500 panel data of 243 CEO-year observations over the 2002-2006 period, my study documented that CEO resilience impacted strategic dynamism following a U shape pattern and that its influence travelled through external strategic dynamism to affect firm performance. By identifying an extra block in the CEO resilience- firm performance sequence, this second empirical piece enhanced our understanding of CEO resilience influence and enriched the quality of the picture outlined in the first essay.

That low and extremely high resilient CEOs engage in more numerous acquisitions and divestments than their moderated counterparts is enlightening. I propose that they do so for different reasons: while the former freeze under stress, suffer from a high level of attention disruption, give in to various stakeholders' claims and engage into a "fuite en avant", the latter adopt a narrow attention scope (they are far more likely to overlook some environmental clues that they perceive as menial and adopt a restricted field of vision), exaggerate probabilities attached to available strategic options and engage thus in more dynamic strategy than their



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more moderate counterparts. In that regard, extremely resilient CEOs acquisition behavior fit the hubris hypothesis put forward by Roll in 1986 and empirically supported by Hayward and Hambrick in 1997. Moreover, this finding is fully consistent with prior research and essay 1 contribution: combining the fact that CEO resilience relates to firm strategic dynamism following a U shape and the fact that strategic dynamism negatively affects firm performance (Agrawal et al, 1992; Sirower, 1994), directly leads to the bell shape pattern documented in essay 1.

Chapter 4 (essay 3) opened the black box and proposed a theoretical model accounting for the diffusion of CEO resilience in times of crises. Selecting on crisis would have been problematic for the first empirical essays, as bidirectionality exists in the relationship between crisis occurrence and CEO resilience (one causing the other and vice versa). However restricting the reasoning on crisis occurrence for this theoretical piece is beneficial as it enables (1) to analyze an extreme case, which magnifies the stakes and the effects of CEO resilience (Eisenhardt, 1989) and (2) to devise a manageable model.

This conceptual piece rests upon the premises that there is an optimal level of congruence between the requirement of a situation and the signals emitted by crisis leaders externally (towards the press, general public...) and internally (TMT or crisis handling team); it therefore adopts a contingency orientation and builds upon two contingency theories: SCCT for the external path (Coombs, 2004; 2007) and a functional leadership theory for the internal path (Zaccaro et al, 2001). The devised model represents a first attempt to apprehend how CEO resilience reaches stakeholders externally through post crisis communication and internally through a direct impact on team cognitive, motivational, affective and coordination processes. The major rationale at play resides in the impact of CEO resilience on the likelihood to reach a perfect match or alignment. By highlighting the intricacies at play in the diffusion of CEO resilience, essay 3 adds an extra building block to our understanding of

CEO resilience influence and proposes a framework that will prove useful for further empirical investigations.

## 2 LIMITATIONS AND FUTURE RESEARCH

Given that each essay already underscored their own set of limitation (use of unobtrusive indicators, assumed stress...), I acknowledge in this section the limitations inherent to the whole dissertation and stress how they present opportunities for future research.

### *2.1 A focus on CEO=> overlooking middle Managers*

First, the focus of my thesis is on the apex of the organization and more precisely on CEOs as they enjoy significant symbolic, responsive and discretionary power (Pfeffer & Salancik, 1978) and impact the fate of their organizations (Hambrick & Mason, 1984; Bantel & Jackson, 1989). However, resilience plays a role throughout the organization and at different level of analysis to affect, in fine, firm performance. A key mechanism identified in the third essay is the amount of stress that is internally transmitted to different stakeholders down the chain and it appears reasonable to expect that the resilience of a given manager impact the extent to which his/her subordinates' own resilience potential is solicited. Hence, the possibility of a cascading effect, which was sketched but not fully investigated in my theoretical piece. Following this line of reasoning naturally results in identifying one of the major missing actors in this thesis: the middle managers.

Researchers hold different views concerning middle managers roles: while some adopt a rather negative view stressing their nuisance power in applying strategic decisions (Guth and MacMillan, 1986; Meyer, 2006; Sillince and Mueller, 2007), others prefer to emphasize the positive and stress how middle managers can positively affect their organization effectiveness and innovation (Bower, 1970; Kanter, 1982). Despite those divergent views, a consensus exists concerning the different roles fulfilled by middle managers in the strategic

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decision process and specifically concerning the typology formulated by Wooldridge and Floyd in 1990. In their paper, Wooldridge and Floyd propose that middle managers fulfill four major tasks (1) they gather and synthesize information, (2) they justify and champion alternatives, (3) they facilitate organizational adaptability and (4) they translate goals into action and sell initiatives to staff. Concerning the fourth task, it is worth noticing that middle managers also sell initiatives to top managers (a process labeled issue selling by Dutton & Ashford, 1993 and refined by Dutton et al, 1997). The fourth role involves thus selling initiatives both down and up.

In sum, middle managers represent an interface between different groups and act as mediator between the top management team and operational clusters (Wooldridge and Floyd, 1990); they are thus experiencing pressure not only from top management but also from their respective teams. Moreover they have *"since at least the start of the 21st century, seen their jobs enlarged, their responsibilities widened, the pace and intensity of their work increased, their working hours lengthened and their performance monitored more closely"* (Buchanan et al, 2013). Taken together the previous elements indicate that middle managers are very much exposed to pressure and stress; investigating their resilience potential would deserve being pursued as the dysfunctioning influence pattern documented for CEOs might play out at lower levels. As illustration and preliminary indication that similar processes might play out, three testimonies from middle managers attending a MBA leadership seminar are shared hereafter. They consist of quotes extracted from their 2015 final leadership assignments:

Author 1: On a symptom of low resilience-Fuite en avant:

*"Recently I had a one-on-one meeting with my manager to capture her thoughts and feelings on the transformation program I'm currently working on. Prior to the meeting I was aware of*

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*the different opinions my manager and the CFO (program sponsor) had concerning her involvement and additionally my manager was not pleased about the way things were going. Despite my knowledge and although I'm not the program manager, I felt offended when she mentioned the program is badly managed. Instead of keeping my composure and trying to understand her thoughts about the situation, I got upset and started to defend the program. I had lost my composure and most importantly I didn't succeed in realizing the goal of the meeting."*

### Author 2: On a symptom of low resilience-Freeze:

*"I often tried to avoid conflicts and struggled to confront colleagues when needed, therefore delaying difficult decisions, sending confusing messages, and finding myself cornered with only bad choices left "*

### Author 3: formerly performing and high resilient leader facing change:

*"For the past five years, my team and I have been very successful. [...] My leadership committee, composed of my seven direct reports, and I were highly regarded by our other 132 staff and the whole company alike. Every single success year after year was a reason for celebration and promotion for the leadership team members. Then, end 2013, a major competitor entered the market slashing prices and aggressively poaching our customers. Our year-on-year double-digit growth rate then started to erode. With the pressure now mounting, morale of the leadership team started to falter and fighting with the other departments surfaced out and came up frequently. Then I noticed **a shift in my leadership team way of functioning**. I was expecting proactivity and dynamism and got nothing in return. Brainstorming sessions and periodic review meetings would happen and look miserably alike. All would agree on my observations. No dissenting voice would ever be raised and no different thought from mine or from that of the general management would be proposed. However, **I did not want to fail; I refused that this attitude negatively impacted our overall***

*performance. And for the past several months, I needed someone or something to put the blame on and desperately looked out for solutions. "*

### ***2.2 Generalizability, cultural bias and a possibility to refine the resilience instrument.***

My thesis, in line with major past empirical upper echelons research (Hambrick et al, 1993; Finkelstein & Hambrick, 1996; Tosi et al, 2004), resorts to a sample of S&P 500 CEOs. The hypotheses are thus tested on a sample of CEOs presiding large US public firms. While the longitudinal design and rigorous statistical methodology attest for the generalizability of my results across corporations, a caveat should be introduced concerning a possible cultural bias and its link to potential future refinement of the resilience instrument used in my empirical studies.

Strictly speaking, I have documented that CEO resilience of large US public firm impact their firm strategic dynamism and firm performance. It seems reasonable to expect that the reasoning provided in this particular US context can be translated to other region of the world: big corporations are mostly globalized and their CEOs can be assumed to face similar pressure, challenges and stress, and there is no culture related limitation present in my reasoning. Moreover some scarce empirical research have also documented that resilience also matter in non US settings: Luthans et al (2005) and Luthans et al (2008), in a follow-up study, showed that in private and public firms in China, worker resilience was the best predictor (compared to hope and optimism) of employees performance (as rated by their supervisor). Given that USA and China are pretty far away culturally wise (they differ widely for 3 of the 5 cultural dimensions proposed by Hofstede see Table 19 hereafter), I am pretty confident this influence probably holds worldwide and feel that generalizability/ external validity is satisfactory.

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**Table 19 China and US Hofstede Cultural Dimensions**

	PDI	UAI	IDV	MAS	LTO
China	80	32	20	66	118
US	40	46	91	62	29
High	104	112	91	110	118
Mean	60	68	45	49	42
Low	11	8	6	5	-10
STDEV	21	24	24	19	25
China	H	L*	L*	H	H*
US	L	L	H*	H	L

**Notes:**

1. PDI= Power Distance, UAI= Uncertainty Avoidance, IDV= Individualism vs. Collectivism, MAS= Masculinity vs. Femininity, LTO= Long-Term vs. Short-Term Orientation
2. M=mean, L= lower, H=higher, L\*=significantly lower, H\*= significantly higher.
3. Data derived from the website: <http://www.geert-hofstede.com/>

**Source :** Shi, X. & Wang, J. 2011. Cultural distance between China and US across GLOBE Model and Hofstede Model. *International Business and Management*(1): 11.

The cautious statement that I wish to make pertains to the instrument used to operationalize resilience. Based on the RSA (Friborg et al, 2003), resilience is viewed as a pool of resources and four resources were measured namely (1) personal competence, (2) social competence, (3) social support and (4) personal structure. Each category was then standardized so that they had the same weight and the four categories were aggregated to generate a single score; this score was updated annually sticking to the conceptualization of resilience as a quasi state. The equal weight given to different resources was sensible as there was neither indication nor previous reference stressing that it should be otherwise.

Yet, one could as well conceive that certain national cultural context or CEO background could call for different mix of resources. For instance given the importance of individualism and short-term orientation in a US context, self confidence and personal structure categories could weight more than social competence and social support, and vice versa in a Chinese context where social competence – input to Guanxi- and social support could matter much more. Similarly, a consideration of the social capital of French Elite would call for a heavier weight on the social support dimension as being member of an influence network appears key (Baray & Bournois, 2010; Melkonian & Bournois, 2010). Not being able

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to fend off this possible influence of national culture, I want to share this thought with the reader so that he/she is fully aware of this limitation and of the existing (yet rather tedious) possibility to weight differently the distinct resources.

### 3 MANAGERIAL IMPLICATIONS

For embracing a hypothetico-deductive and positivist orientation and being fundamentally descriptive; this thesis bears also some significant implications for practice. Given that (1) resilience matters and does so differently according to contextual contingencies, and that (2) low resilience causes dramatic consequences for the affected individuals and their organizations, **monitoring and promoting a resilient state within the workplace appears warranted.**

Several managerial guidelines emerge from this work as a whole and concern three set of actors: (1) the board of directors (2) CEOs and Top Managers themselves and (3) HR Managers.

#### *3.1 Implications for the board of directors.*

Back in 2000, Bennis and O'Toole were advocating the Board of directors to "not hire the wrong CEO" and, to do so, to assess soft qualities in their selection process. Resilience appears as one of these soft capabilities that deserve being evaluated. Essay 1 presented evidence that an increase from low to moderate-high CEO resilience lead to a surge in firm performance and essay 2 documented how CEO resilience impacts the amount of strategic dynamism, a CEO engages in. Taken together, those empirical papers strongly call for the board to take into account the resilience potential of candidates in the CEO appointment tournament. To assess candidate potential, I would recommend Directors (1) incorporate the Resilience Scale for Adult (Friborg et al, 2003) questionnaire in the package of psychometric tests CEO applicants take in the screening stage and (2) pay special care evaluating, in a more

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subtle manner, the resources mix of candidates (self confidence, social competence, social support, family coherence and degree of personal structure) during the job interviewing process.

My thesis also indicates the weight directors should allocate for this capacity in the final candidate evaluation. For instance, in highly complex environments, resilience matters far more than in less complex ones (essay 1) and should thus be allocated more importance. Similarly, in case of crisis prone industries and given the magnitude of the consequences stemming from low resilience (essay 3), CEO resilience weight should be maximized. Moreover, depending on the level of strategic dynamism directors are seeking and the degree of munificence of the industry, they can foresee how CEOs will behave acquisition/divestment wise. Should they look for high level of strategic dynamism (number of acquisitions/divestments) in a high munificent environment, they should opt for extremely resilient profile appears (essay 2). In every other situations, board should be aware of the drawbacks associated with "over resilience" at the top which slightly hinders firm performance and negatively affects decision making quality (essay1 and 2) and team task commitment (essay 3)

In sum, by documenting how different levels of CEO resilience relate to firm performance and strategic dynamism in different contexts, my empirical essays (chapter 2 and chapter 3) provide a way for board to assess the fit between CEO resilience and their firm contingencies. They would therefore benefit from monitoring CEO resilience regularly in order to take actions in case of misalignment: for slight ones, and given that resilience is developable, this could boil down to provide some level of support to address deficiencies (for instance pairing the CEO with a better communicator in annual shareholders' meeting was seen in the past) and for most severe ones, this would come down to anticipate on the consequences and engage into the succession process.



### **3.2    *Implication for CEOs themselves: Self management and resilience nurturing***

Whether at the apex of the organization or on the factory floor, pressure is a given, stress and our reactions to it are not. Since resilience is a psychological quasi state and is developable (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), the more you practice it, the better you get at it. CEOs have therefore the possibility to increase their resilience by nurturing it. Different programs have been designed over the years and resilience training is on the rise. Reviewing the different propositions (Siebert, 2002; 2055; Coutu, 2002; Seligman, 2011) is beyond the scope of this conclusion but I will draw the readers' attention to some salient and critical elements as guidance for personal resilience development:

**Manage your health.** Stress takes a toll on CEOs' health. Top managers and increasingly middle managers as well experience a hectic life (repeated cognitive challenge stemming from ambiguity and complexity handling, long-distance travelling, heavy work load and working hours.) and their health is likely to suffer (Bournois & Rousillon, 2010). Self-managing this asset by exercising, maintaining routines, getting enough sleep, eating a balance diet and avoiding alcohol and drugs appears as a prerequisite, which is sometimes met with difficulty (Siebert, 2005).

**Set limits.** Today's workplace is characterized by increased information speed, complexity and job demands. Setting limits does not equate work life balance as, in the C-suite, achieving it is merely impossible (Beeson, 2011). Pepsico CEO Indra K. Nooyi<sup>18</sup> puts it nicely when she claims: *"You know, stay at home mothering was a full time job. Being a CEO for a company is three full time jobs rolled into one. How can you do justice to all? You can't"* and further on she touches upon this limit setting when she recalls her mother saying to her *"You might be president of PepsiCo. You might be on the board of directors. But when you enter this house, you're the wife, you're the daughter, you're the daughter-in-law, you're the*

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<sup>18</sup> Quotes extracted from an interview given in 2014 and retrived from <http://www.theatlantic.com/business/archive/2014/07/why-pepsico-ceo-indra-k-nooyi-cant-have-it-all/373750/>

## CONCLUSION

*mother. You're all of that. Nobody else can take that place. So leave that damned crown in the garage. And don't bring it into the house".* Limit setting pertains to different domains such as the usage of technology, the availability for different stakeholders during the day, the time allocated for holidays and family related matters. What matters is not much who set the limits and its level but the fact that the limit exists. This feature relates positively to the personal structure and family coherence dimensions of the RSA.

**Build a support network.** This is probably one of the most valuable and powerful injunctions, which resilient CEOs follow strictly. For experiencing tremendous pressure, CEOs also have the possibility to benefit from a wide and rich support network. Once again, Indra K. Nooyi, PepsiCO CEO, illustrates it well when she states: *"We cannot have it all. Do you know what? Coping mechanisms. Train people at work. Train your family to be your extended family [...] you have to co-opt a lot of people to help you. [...] If you don't develop mechanisms with your secretaries, with the extended office, with everybody around you, it cannot work "*. This investment in support network ranges from delegating basic tasks to employees (cooking, child caring...) to emotional support (keeping close friend, family involvement, spouse...) and selecting energizing people at work to join one's inner circle or entourage (Groysber & Abrahams, 2014). CEO resilience depends on their ability to build this support network and it relates directly to the social competence, support and family coherence dimensions portrayed in the RSA.

### **3.3 Implication for HR: Stress Management and Resilience.**

My empirical findings attest for the critical influence of Resilience at the top in the efficient functioning of organizations. This pattern at the organization apex can be extended to the whole organization, and strongly calls for the establishment of stress management and resilience program within corporations. As the recent examples of Foxconn and France

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Telecom illustrate, not managing stress effectively can lead to dramatic consequences both for the organization and their employees. For managing stress effectively, HR professionals need information and managers aware of their duties in that regard. My first recommendation would thus be to start by training all managers on stress management issues (what it is, its different sources, how to detect it) and emphasizing their responsibilities as both stress initiators and stress relievers. The second one would be to institutionalize the practice of stress evaluation/monitoring minimum once a year at the occasion of the annual review, to integrate the team stress climate score as a component of managers' evaluation and to analyze it in pair with regular performance indicators. In turns, thanks to the information provided, hotspots for action could be identified and improvement actions proposed (coaching, support, career moves between teams, management replacement...).

As for the selection of CEOs, recruiters would also benefit from assessing candidate resilience during the recruitment process in order to match them with the requirement of the job. There are some environments, which will always be highly pressured, knowing that the people have a priori the resources to cope with such situation is both efficiency and ethically wise recommended.

Finally, I would like to stress that employee resilience potential directly relates to the quality of the work performed by HR professionals: a successful recruitment (namely an adequate match between a candidate and a position) improves self confidence, the definition and enforcement of clear rules (technology usage, ethics code in the workplace) alleviate uncertainty and contribute to the establishment of safe routines for the employees. Reasonable expectations and people-oriented initiatives (flexible arrangement, amenities such as nursery benefiting parents/employees...) also contribute in enhancing family cohesion and social support. Taken together, the previous elements show that HR professionals have strong latitude in influencing the level of resilience of their employees.

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# RESUME GENERAL DE LA THESE

## INTRODUCTION

Cette thèse se focalise sur la figure du dirigeant et sur sa résilience, une capacité cruciale en période d'incertitude, de changement rapide et de pression. Elle adopte une perspective positiviste, recourant à un raisonnement de type hypothético-déductif, afin de contribuer de manière incrémentale au courant de recherche "upper echelons". La perspective "upper echelons" formulée initialement par Hambrick et Mason (1984) présente un modèle linéaire de traitement de l'information. Elle se fonde sur la notion de rationalité limitée (Simon, 1957; Cyert & March, 1963) et son point de départ consiste en une situation de surcharge informationnelle: quand les dirigeants appréhendent une situation stratégique, qui génère des stimuli à la fois nombreux, complexes et ambigus, ils n'ont ni le temps ni la capacité de la comprendre pleinement. Dans leur champ de vision, qui est limité, ils sélectionnent certains éléments et les interprètent. Leur personnalité, leur cognition ainsi que leurs valeurs agissent comme autant de filtres qui conditionnent leurs choix stratégiques et ces choix, in fine, affectent la performance de leur entreprise. Dans cette mesure, on peut affirmer que les organisations reflètent leurs dirigeants (Hambrick & Mason, 1984) et pour les comprendre, il est donc important d'étudier les personnes à leur tête.

Trois décennies après ce papier fondateur, de nombreux chercheurs ont répondu à l'appel de Hambrick et Mason, et leurs travaux respectifs ont démontré l'influence de différentes caractéristiques des dirigeants sur la teneur de leurs choix stratégiques et la performance de leurs entreprises. Parmi les aspects de leur personnalité étudiés et démontrés comme empiriquement importants, nous pouvons lister **le lieu de contrôle** ou "*locus of control*" (Anderson & Schneier, 1978, Miller, Kets de Vries & Toulouse, 1982...), **l'hubris** (Hayward & Hambrick, 1997), **le charisme** (Fanelli, Misangyi & Tosi 2009; Flynn and Staw 2004; Tosi,

Misangyi et al., 2004), **la présomption** ou "*overconfidence*" (Malmendier & Tate, 2005a, 2005b) et **le narcissisme** (Chatterjee & Hambrick, 2007, 2011).

Aucun de ces attributs n'adresse spécifiquement la capacité du dirigeant à faire face à un contexte globalisé, caractérisé par une concurrence exacerbée, une vitesse de changement et une complexité inégalée (Hamel & Breen, 2007). En adoptant la résilience des PDGs comme objet d'étude, ma thèse apporte une brique supplémentaire à l'édifice "upper echelons" et met l'accent sur une qualité vitale en ces temps d'intense pression et de stress.

Bénéficiant des précédentes recherches en psychologie, qui ont documenté que la résilience relève de la "magie ordinaire" (Masten et al, 1990; Vaillant, 1993), peut faire l'objet d'apprentissage (Reivich & Shatte, 2003; Coutu, 2002; Seligman, 2011), et résulte des interactions entre les ressources de l'individu et celles de son environnement (Werner & Smith, 1982 ; Masten et al, 1990 ; Cyrulnik, 1999; Luthar et al, 2000), je ne conceptualise pas la résilience comme un trait de caractère (Anthony, 1974; Block & Block, 1980; Peterson et al, 2009) mais comme un quasi état psychologique: cette désignation reconnaît le caractère fluctuant de cette capacité positive tout en la différenciant des purs états psychologiques, qui, à l'image des humeurs, s'altèrent rapidement (Luthans et al, 2005; Luthans et al, 2006; Youssef & Luthans, 2007). Emboitant le pas à Carmeli, Friedman et Tishler (2013), j'adopte une vision nuancée de la résilience et la définis, dans ce manuscrit, comme la capacité du dirigeant à résister à la pression et à maintenir son niveau de compétence sous stress. Deux dimensions sont donc présentes dans cette définition (1) une capacité à faire face et (2) une capacité à retrouver l'équilibre et à s'adapter positivement aux difficultés (Carmeli et al, 2013).

Bien que la résilience ait été un objet d'intense recherche en psychologie depuis les années 70 (Garmezy, 1974; Anthony, 1974; Werner & Smith, 1982; Cyrulnik, 1999; Luthar et

al, 2000), et qu'elle ait été largement étudiée au niveau organisationnel pour comprendre comment les entreprises ou les communautés résistent aux crises (Dutton et al, 2006; Powley, 2009; Waldman et al, 2011), la résilience des dirigeants a été, quant à elle, relativement moins couverte. Ce constat a conduit Luthans et Youssef (2007) à souligner que la résilience "était seulement apparue récemment dans les recherches en management". Quelques publications se sont intéressées aux sources de résilience des équipes dirigeantes (Carmeli et al, 2013; Stephens et al, 2013) mais au niveau individuel, la seule étude traitant ce jour et indirectement de l'influence de la résilience du dirigeant (décrite comme un trait et testée de manière cross-sectionnelle) est celle de Peterson et al (2009). Pour avoir été l'objet de spéculation quant à son effet sur la performance (Siebert, 2005; Kanter, 2006; James & Wooten, 2010), la résilience du dirigeant n'a cependant pas bénéficié d'une étude empirique longitudinale quant à ses effets sur les choix stratégiques et la santé de l'entreprise. Ma thèse répond à ce besoin en adressant la question de recherche générale suivante :

"La résilience du PDG a-t-elle une importance?"

Après avoir proposé dans le premier chapitre de ma thèse une revue de littérature afférente aux recherches de tradition "upper echelons" et à celles traitant de la résilience, je réponds à la question de recherche ci-dessus en adressant trois sous-questions connexes, qui sont abordées dans trois essais différents. Ma thèse adopte donc un format en trois articles: deux articles empiriques et un article conceptuel.

Le premier essai (chapitre 2) aborde la relation entre les deux extrêmes du continuum "upper echelons" à savoir la résilience du dirigeant et la performance de son entreprise. Capitalisant sur les éclairages de la théorie de la dépendance à l'égard des ressources (Pfeffer & Salancik, 1978), il propose que cette relation est curvilinéaire et de forme concave. Il aborde également l'influence de différents modérateurs au niveau organisationnel (niveau de réserve financière, degré de diversification) et du secteur d'activité (niveau de munificence, de

dynamisme et de complexité) et teste les hypothèses proposées en recourant à un échantillon de PDGs d'entreprises américaines membres du S&P 500 entre 2002 et 2006.

Le second essai (chapitre 3) est également empirique et allie une perspective "upper echelons" avec la théorie "attention based view" (Ocasio, 1997). Il se rapproche du dirigeant en explorant l'impact de sa résilience sur ses choix stratégiques et notamment sur le degré de dynamisme stratégique – interne ou externe- dont il fait preuve. Il propose que la relation hypothétique entre ces variables est curvilinéaire de forme convexe et le rôle de médiateur du dynamisme stratégique dans la séquence résilience-performance de l'entreprise est également analysé. Les hypothèses sont également testées en recourant à un échantillon de PDGs d'entreprises américaines membres du S&P 500 entre 2002 et 2006.

Le troisième essai (chapitre 4) développe, quant à lui, un modèle conceptuel qui s'intéresse aux mécanismes de diffusion de la résilience du dirigeant à ses équipes en interne et à destination des acteurs extérieurs en temps de crise. L'objectif est ici de toucher du doigt les processus à l'œuvre, de les mettre en lumière, en recourant à deux types de théories contingentes : la Situational Crisis Communication Theory ou SCCT (Coombs, 2004, 2007) pour la diffusion externe et un modèle d'interaction entre leader et followers proposé par Zaccaro et al (2001) pour la diffusion interne.

**Figure 23**-Résumé de la structure de la thèse

## La résilience du PDG a-t-elle une importance ? Une perspective upper-echelons.

### *Résultats des recherches antérieures*

- Le bagage du dirigeant (*que ce soit son éducation, son expertise métier ou son ancienneté*) et sa personnalité (*que ce soit son lieu de contrôle, son hubris, son charisme ou son narcissisme*) affectent la performance de son entreprise.
- Ces caractéristiques affectent également ses choix stratégiques (degré de dynamisme stratégique, premium payé lors des acquisitions, investissement en R&D...).
- Le niveau de pression auquel doivent faire face les dirigeants a drastiquement augmenté et résulte d'une nécessité de réactivité accrue, d'un champ d'action beaucoup plus vaste et complexe.
- La résilience définie comme la capacité du dirigeant à résister à la pression et à maintenir son niveau de compétence sous stress paraît cruciale en ces temps incertains. Pour avoir été l'objet de spéculation quant à son effet sur la performance, la résilience du dirigeant n'a cependant pas bénéficié d'une étude empirique longitudinale quant à ses effets sur les choix stratégiques et la santé de l'entreprise.

#### **Essai 1: Papier empirique**

Quel impact a la résilience du dirigeant sur la performance de son entreprise ?

Est ce que les caractéristiques de l'entreprise (*niveau de réserve ou de diversification*) et de son environnement (*munificence, dynamisme et complexité*) modèrent cette relation?

*=> considère les deux extrêmes du continuum upper echelons*

#### **Essai 2: Papier empirique**

Quel impact a la résilience du dirigeant sur ses choix stratégiques et plus précisément sur le degré de dynamisme stratégique interne et externe?

Est ce que le degré de munificence de l'environnement modère cette relation?

Le dynamisme stratégique agit-il comme un médiateur dans la relation résilience-performance ?

*=> Se rapproche du dirigeant.*

#### **Essai 3: Papier conceptuel**

Comment peut-on conceptualiser la diffusion, à la fois interne et externe, de la résilience du dirigeant en temps de crise ?

*=> Ouvre la boîte noire.*

### **Résultats principaux: La résilience des dirigeants a une incidence.**

1-L'impact de la résilience du PDG sur la performance de son entreprise est curvilinéaire et de forme concave. La complexité de l'environnement renforce cette relation et le niveau de réserve potentielle (*potential slack*) l'inverse en cas de haut niveau de réserves.

2- L'impact de la résilience du PDG sur le niveau de dynamisme stratégique est tel que le PDG bénéficiant d'un faible ou extrêmement fort niveau de résilience adoptent un dynamisme stratégique plus élevé que ses homologues bénéficiant d'un niveau de résilience modéré. Le niveau de dynamisme stratégique externe agit également comme médiateur dans la relation résilience-performance.

3- La diffusion de la résilience du dirigeant en temps de crise suit deux chemins distincts, interne et externe, qui conditionnent, in fine, l'efficacité de la réponse apportée.



## **PREMIER ESSAI- L'IMPACT DE LA RESILIENCE DU DIRIGEANT SUR LA PERFORMANCE DE SON ENTREPRISE : CONCEPTUALISATION ET PREUVES EMPIRIQUES.**

Ce premier essai explore l'influence de la résilience du dirigeant sur la performance de son entreprise et adopte comme objet d'étude les deux extrêmes du continuum "upper echelons". La résilience du dirigeant, considérée comme un quasi état psychologique (Luthans et al, 2005; Luthans et al, 2006; Youssef & Luthans, 2007) est définie comme la capacité du dirigeant à faire face à la pression et à maintenir son niveau de compétence sous stress. Deux dimensions sont donc présentes dans cette définition (1) une capacité à faire face et (2) une capacité à retrouver l'équilibre et à s'adapter positivement aux difficultés (Carmeli et al, 2013).

Afin d'opérationnaliser la résilience du dirigeant, je recours à une échelle psychologique la "Resilience Scale for Adulthood" –RSA- (Friborg et al, 2003) et estime ce niveau de résilience comme la résultante d'un ensemble de ressources ou facteurs protecteurs propres à l'individu et à son environnement, dont l'influence positive en temps de stress a été démontrée. Cette capacité est considérée comme une variable continue qui s'échelonne donc de faible à élevée. Ces ressources sont au nombre de quatre: (1) La confiance en soi ou "personal competence" -*I am pleased with myself and I believe in my own abilities*- (2) l'aptitude sociale ou "social competence" --*I am good in getting in touch with new people*-, (3) le niveau de soutien ou "social support" -*I have some friends who can back me up*- and (4) l'aptitude à être organisé ou "personal structure" -*rules and regular routines make my life easier or I prefer to plan my actions*- (Friborg et al, 2003)<sup>19</sup>.

Dans ma thèse, les dirigeants qui bénéficient d'un niveau faible, modéré ou extrêmement élevé de facteurs protecteurs, sont respectivement désignés comme étant

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<sup>19</sup> Une cinquième ressource, la cohésion familiale ou "*family coherence*", est présente dans le RSA... Cependant compte tenu de difficultés de mesures, cette dernière a dû être abandonnée.

faiblement, modérément ou extrêmement résilients. Je propose que ce niveau de résilience vu comme un ensemble de ressources, influence les deux dimensions de la résilience à savoir (1) la capacité à faire face et (2) la capacité à s'adapter (Carmeli et al, 2013) de la manière suivante:

**Table 20-**Impact de la résilience sur la capacité à faire face et la capacité à s'adapter.

<b>Résilience</b> <i>Ensemble de ressources</i>	<b>Résilience (1)</b> <i>Capacité à faire face</i>	<b>Résilience (2)</b> <i>Capacité à s'adapter</i>
Faible	-	-
Modéré à élevé	+	++
Extrêmement élevé	++	+/-

Il est utile de préciser ici que ces deux dimensions interviennent successivement: la capacité à faire face conditionne la capacité à s'adapter. Les individus peu résilients bénéficient de ressources limitées qui les conduisent à ne pas gérer la pression et le stress résultant, ce qui, en retour, les empêche de comprendre leur contexte et de s'y adapter. Les individus modérément à hautement résilients appréhendent la sévérité de la situation et bénéficient d'un ensemble de ressources suffisant pour gérer leur stress, ce qui se traduit par (1) une compréhension adéquate du contexte et (2) de très bonnes capacités d'adaptation puisque leur diagnostic et leur capacité à répondre sont satisfaisants. Les individus extrêmement résilients, quant à eux, endurent tellement bien la pression (capacité à faire face très élevée) qu'ils ont tendance à négliger les signaux faibles émis par leur contexte; la qualité de leur diagnostic s'en trouve quelque peu altérée et cela se traduit par une capacité d'adaptation moindre: pour bénéficier d'extraordinaires capacités de rebond, ils peuvent cependant les mobiliser dans la mauvaise direction ou à mauvais escient. Considérer certains individus comme trop résilients n'est pas un thème répandu dans la littérature sur le sujet. Cependant, cela semble raisonnable à la lumière des travaux de chercheurs en leadership, qui ont démontré les dangers d'un recours trop poussé ou d'un niveau trop élevé de capacités

traditionnellement considérées comme des forces (Kaiser & White, 2008; Kaiser, 2009; White, 2009; Kaplan & Kaiser, 2013). Par exemple, la confiance en soi poussé à son plus haut niveau peut devenir de la présomption (Malmendier & Tate, 2005) ou de l'hubris (Hayward & Hambrick, 1997; Chatterjee & Hambrick, 2007), l'humilité de l'immobilisme... Considérer qu'il existe un seuil au delà duquel la résilience peut devenir moins bénéfique paraît donc sensé.

Il est également possible de faire sens du tableau précédent en recourant à des métaphores telles la fable du chêne et du roseau chez la Fontaine, la figure de Kairos dépeinte par Aesop ou le visage de la Fortuna chez Machiavel (1506).

La résilience du dirigeant ainsi définie, je la relie dans ce premier essai avec la performance de l'entreprise. Pour se faire, je considère l'entreprise comme un système ouvert et capitalise sur les apports de la théorie de la dépendance à l'égard des ressources (Pfeffer & Salancik, 1978). Cette théorie souligne que les organisations ne sont pas auto-suffisantes et dépendent pour leur fonctionnement et croissance d'un certain nombre de ressources fournies par leur environnement. Elles gèrent des transactions avec de multiples acteurs, qu'ils soient internes (employés...) ou externes (fournisseurs de capitaux, actionnaires, fournisseurs...), et de ces acteurs dépendent leurs perspectives de développement. Le degré de dépendance de l'organisation vis-à-vis de ces acteurs varie en fonction de la disponibilité et du degré d'importance de la ressource échangée, qui détermine le pouvoir de chacun des intervenants.

De manière à être performante, une organisation cherche à faire correspondre ses choix stratégiques aux caractéristiques de son environnement. Pour atteindre cet alignement, le PDG tente de maximiser le pouvoir de son entreprise en diminuant sa dépendance vis à vis des fournisseurs de ressources critiques et en augmentant la dépendance d'autres acteurs vis à vis de l'entreprise elle-même. Pfeffer et Salancik (1978) argumentent que le dirigeant assume trois

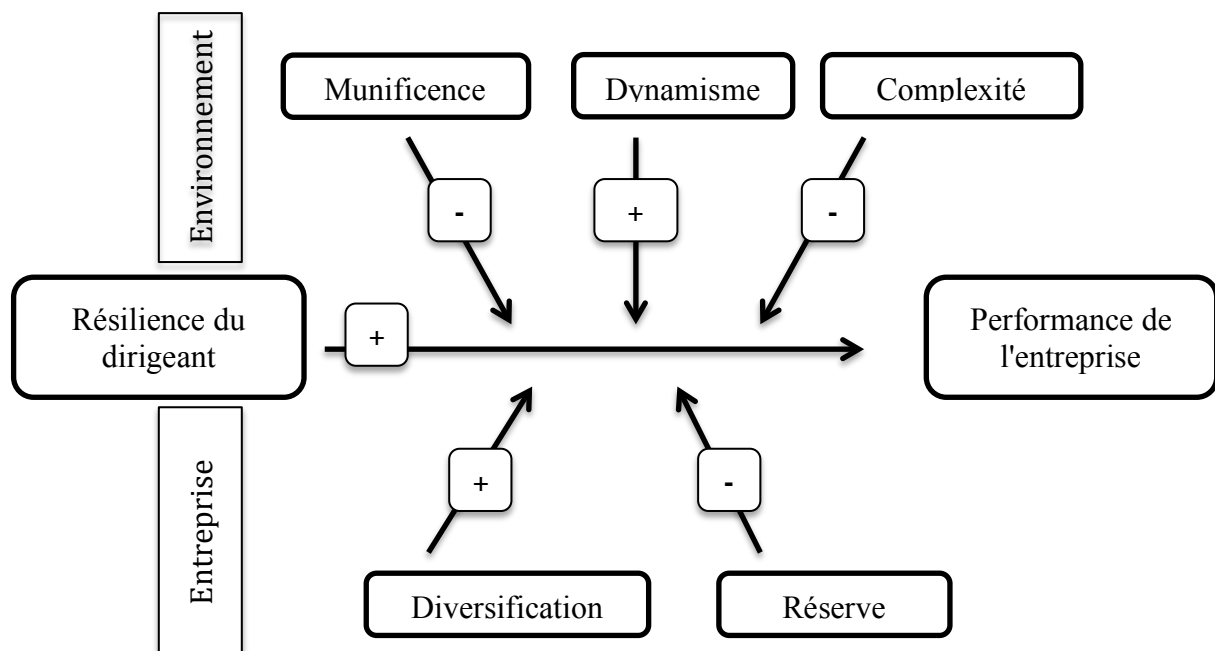
rôles dans cette quête : un rôle symbolique (il personnifie l'entreprise, signe les contrats, reçoit les différentes parties prenantes), un rôle réactif (il arbitre entre les diverses demandes souvent contradictoires des acteurs et décide celles qui seront honorées) et un rôle discrétionnaire (il utilise son influence pour façonner et changer les règles du jeu en sa faveur par le truchement de lobbying, cooptation ou acquisitions).

Ma première hypothèse propose que la résilience du dirigeant influence sa faculté à honorer ces trois fonctions et donc la performance de son entreprise suivant une relation curvilinéaire de forme concave. De manière synthétique le raisonnement sous jacent est le suivant: bénéficiant de peu de ressources, les individus faiblement résilients confrontés à une situation problématique sont rapidement dépassés par les événements; cela se traduit par une mauvaise communication (si communication il y a) vis à vis des différentes parties prenantes (rôle symbolique), une compréhension déficiente des enjeux se traduisant par un immobilisme ou des choix erratiques (rôle réactif) et une faible capacité à modifier les règles du jeu compte tenu d'un montant de ressource insuffisant (rôle discrétionnaire).

A l'opposé, les individus bénéficiant d'un montant intermédiaire à élevé de ressources sont affectés par la situation mais demeurent lucides et ont les moyens de rebondir. Cela se traduit par une capacité à être présent et à communiquer efficacement, à lire les signaux faibles et à y répondre de manière idoine, et à utiliser leur sphère d'influence à bon escient. Les individus bénéficiant d'un montant extrêmement élevé de ressources dans cette même situation ont tendance à trop recourir au passage en force et être perçus comme arrogants (rôle symbolique), à sous estimer la force de leurs opposants (rôle réactif) mais peuvent jouir d'une sphère d'influence large plutôt bénéfique pour leur rôle discrétionnaire (à la condition que cette-dernière soit mobilisée dans la bonne direction).

Fidèle à la théorie de la dépendance à l'égard des ressources, je considère ensuite l'influence d'un certain nombre de modérateurs dans cette relation, tant au niveau organisationnel (niveau de réserve, diversification) qu'au niveau du secteur d'activité (niveau de munificence, de dynamisme et de complexité). Les hypothèses défendues sont que le niveau de réserve (qui impacte directement la capacité du dirigeant à aplanir les différents) ainsi que le niveau de munificence (l'abondance de ressources déterminant la quantité et l'intensité des frictions) rendent la résilience du dirigeant moins discriminante et modèrent négativement (affaiblissent) la relation résilience du dirigeant-performance. A contrario, le niveau de diversification (qui détermine la charge informationnelle et cognitive du dirigeant), de dynamisme et de complexité de l'environnement rendent la résilience du dirigeant plus discriminante et devraient modérer positivement (renforcer) la relation résilience du dirigeant-performance.

**Figure 24**-Essai 1: modèle théorique.



Ce modèle théorique est testé de manière longitudinale sur un ensemble de données de 61 PDGs d'entreprises américaines membres du S&P500 entre 2002 et 2006; les tests portent

sur un nombre total de 243 observations PDG-année. La résilience du dirigeant est mesurée en recourant à des indicateurs non-intrusifs reflétant quatre dimensions du RSA : (1) la taille de la photographie du dirigeant dans le rapport annuel pour la confiance en soi, (2) la participation du dirigeant à la gouvernance d'organisations non gouvernementales, caritatives ou n'ayant aucun lien avec son secteur d'activité pour l'aptitude sociale, (3) la participation du dirigeant aux conseils d'administrations de différentes entreprises, agences gouvernementales fédérales, syndicats industriels liés à son secteur d'activité et clubs exclusifs pour le niveau de soutien (4) la taille de l'équipe dirigeante pour l'aptitude à être organisé. Chaque dimension est ensuite standardisée et elles sont ensuite agrégées pour constituer le score de résilience de l'individu, qui est mesuré annuellement.

La variable dépendante à savoir la performance de l'entreprise est mesurée par la rentabilité des actifs. Les variables modératrices ont été mesurées en accord avec les recherches précédentes : indice d'entropie de Jacquemin et Berry (1979) pour le niveau de diversification géographique ou de portefeuille d'activité, ratio de liquidité générale pour le niveau de réserve disponible et ratio de couverture des intérêts pour le niveau de réserve potentielle; calcul des scores de munificence, dynamisme et complexité selon la méthodologie formulé par Dess et Beard en 1984 et très largement utilisée depuis (Keats & Hitt, 1988; Boyd, 1990; Bamford et al, 2000).

Un certain nombre de variables de contrôles tant au niveau individuel (âge, présidence du conseil d'administration, ancienneté, niveau d'éducation) organisationnel (taille de l'entreprise, rentabilité pour l'année précédente) et pour adresser des biais potentiels (corrections pour un possible effet d'association et de biais de sélection) ont également été utilisés. Adoptant la méthodologie suivie par Hambrick & Chatterjee (2007; 2011), j'ai eu recours à la méthode d'estimation GEE et utilisé la routine xtgee fournie par stata 11.0.

Les résultats des tests empiriques soutiennent l'existence d'une relation curvilinéaire concave entre la résilience du dirigeant et la performance de son entreprise ( $P < 0,05$ ) et cette influence n'est pas anecdotique: passer d'un niveau de résilience faible à un niveau modérément élevé améliore la performance de 150%.

Concernant les modérateurs internes à l'entreprise, les hypothèses liées au niveau de diversification et de ressources disponibles n'ont pas été corroborées. En revanche le niveau de réserve potentielle joue un rôle, qui n'est cependant pas dans la direction escomptée puisqu'un haut niveau de ressource potentielle inverse la relation.

Concernant les modérateurs issus de l'environnement, là encore, les hypothèses liées au niveau de munificence et de dynamisme n'ont pas été corroborées. En revanche, le niveau de complexité modère bien positivement la relation résilience-performance. Cela confirme mon hypothèse à cet égard et montre que plus un environnement est complexe, plus la résilience du dirigeant est discriminante.

Ce chapitre contribue au courant de recherche "upper echelons" de plusieurs manières et documente l'impact de la résilience du dirigeant sur la performance de son entreprise. Premièrement, il propose une définition de la résilience du dirigeant ainsi qu'une opérationnalisation de cette-dernière; deuxièmement, il présente des résultats empiriques issus d'une étude longitudinale et établit l'existence d'une relation curvilinéaire concave entre résilience et performance: affirmer que la résilience du dirigeant compte et que l'on peut être trop résilient apparaît ce jour comme exact.

Troisièmement la forme de l'impact du niveau de réserves potentielles qui n'est pas en lien avec mes attentes est intéressante: un haut niveau de réserve potentielle inverse la relation qui devient convexe. Cela implique que les dirigeants extrêmement résilients ne souffrent pas d'un excès de résilience et que leur performance dans ce contexte précis est supérieure à celles

de leurs homologues un peu moins résilients. Cela me conduit à émettre l'hypothèse que les dirigeants extrêmement résilients osent plus et ce faisant obtiennent de meilleurs résultats. Cette courbe implique également que les dirigeants extrêmement peu résilients sont un tantinet plus efficaces que leurs homologues un peu plus résilients; cela est assez troublant et m'a conduit à émettre l'hypothèse qu'en étant systématiquement dysfonctionnant, les dirigeants les moins résilients permettaient à leurs équipes d'anticiper et de compenser leur absence de compétence en temps de pression (Williams & Karau, 1991). Ces hypothèses nécessitent cependant d'être testées et une investigation plus poussée s'avère nécessaire.

Finalement en mêlant théorie de la dépendance à l'égard des ressources et perspective "upper echelons" et en démontrant l'influence de deux modérateurs, mes résultats peuvent être d'intérêt pour tout conseil d'administration et consultant en recrutement lors de succession de dirigeants.

## **SECOND ESSAI- L'IMPACT DE LA RESILIENCE DU DIRIGEANT SUR LE DEGRE DE DYNAMISME STRATEGIQUE : IDENTIFICATION D'UNE VARIABLE MEDIATRICE DANS LA RELATIONS RESILIENCE DU DIRIGEANT-PERFORMANCE.**

Le premier essai présentait un premier éclairage sur l'influence de la résilience du dirigeant en se focalisant sur les deux extrêmes du continuum "upper echelons". Cependant, le résultat empirique surprenant concernant l'impact du niveau de réserve comme modérateur m'a conduit à émettre l'hypothèse que les dirigeants extrêmement résilients osaient plus que leurs homologues moins résilients... Est-ce vraiment le cas ?

Afin de répondre notamment à cette question, ce second essai propose de se rapprocher du dirigeant et d'analyser l'impact de sa résilience sur ses choix stratégiques et plus exactement sur le degré de dynamisme stratégique de son entreprise. Le degré de dynamisme stratégique désigne le niveau de changement d'une année sur l'autre dans l'orientation stratégique d'une



entreprise: peu dynamique, la stratégie peut-être qualifiée de persistante puisqu'elle comporte peu de variation, alors qu'à l'opposé, une stratégie est qualifiée de versatile puisqu'elle évolue beaucoup d'une année sur l'autre. Les recherches passées ont démontré que différentes variables environnementales (Birkinshaw, Morrison and Hullan, 1995), ou propres à l'entreprise (taille de l'entreprise pour Chen et Hambrick (1995); niveau de réserve pour Singh (1986)) influençaient le niveau de dynamisme stratégique. Par exemple, la taille de l'entreprise l'impacte négativement et le niveau de réserve positivement.

De plus, cette orientation stratégique est aussi déterminée par la personnalité des dirigeants et certains profils sont plus à même de modifier cette orientation que d'autres. L'ancienneté du dirigeant dans l'entreprise réduit ce dynamisme (Miller, 1991) et cette tendance demeure identique pour l'équipe dirigeante dans son ensemble (Finkelstein & Hambrick, 1995). Le niveau d'éducation favorise l'innovation stratégique (Wiersema & Bantel, 1992), tout comme le niveau de narcissisme (Chatterjee & Hambrick, 2007). Dans cet essai, je recours à deux mesures du dynamisme stratégique: un dynamisme stratégique interne représenté par la variation d'allocations de ressources par année, et un dynamisme stratégique externe représenté par le nombre d'acquisitions ou de cessions effectuées par an.

La résilience du dirigeant, définie comme la capacité du dirigeant à faire face à la pression et à maintenir son niveau de compétence sous stress, peut avoir une influence sur les choix stratégiques du dirigeant. Pour la conceptualisation et l'opérationnalisation de la résilience, et afin de rester concis, nous renvoyons le lecteur au résumé fourni dans le premier essai. Le stress réduit le champ de vision du décideur (Postman & Brown, 1952; Smock, 1955) ainsi que ses capacités à trouver des solutions innovantes en l'incitant à recycler des solutions connues (Cowen, 1952). Cela représente un des fondements de l'hypothèse de rigidité induite par une menace proposée par Staw et al (1981); cette hypothèse stipule qu'une

menace génère une réduction du champ d'attention, une diminution des capacités à prendre une décision et une simplification dans l'interprétation de l'information.

On peut dès lors escompter que la résilience du dirigeant conditionne la quantité de décisions prises ainsi que leur diversité. En examinant l'impact de la résilience sur le dynamisme stratégique, je me focalise principalement sur le rôle réactif du dirigeant (Pfeffer et Salancik, 1978 chap 10), et fonde mon raisonnement sur une intégration d'une perspective "upper echelons" (Hambrick & Mason, 1984; Bantel & Jackson, 1989) et de l' "attention-based view of the firm" formulée par Ocasio en 1997.

Ocasio (1997) exhorte les chercheurs à prendre en compte l'attention du décideur pour comprendre les choix stratégiques des entreprise et les invite à considérer (1) la manière dont les décideurs focalisent leur attention ("the focus of attention"), (2) les caractéristiques de la situation affectant cette attention ("the situated attention") et (3) la manière dont l'organisation régule et structure l'attention de ses membres ("the structural distribution of attention").

Les deux premiers niveaux sont pertinents pour mon raisonnement puisque la résilience, un aspect individuel, est influencée et causée par une situation stressante. L'attention du dirigeant apparaît comme un élément important qui est négativement affecté en cas de faible résilience mais demeure constant en cas de niveau de résilience adéquat. Le mécanisme à l'œuvre est le suivant : la résilience, un quasi état émotionnel, affecte les capacités cognitives du dirigeant, qui déterminent l'attention portée à certaines demandes et stimuli, et cette attention, à son tour, conditionne la qualité des décisions.

Les dirigeants peu résilients bénéficient de peu de ressources et tolèrent mal la pression, ce qui parasite leur attention et les rends particulièrement vulnérables à une restriction de leur champ de vision et de leur capacité à traiter l'information (Staw et al, 1981). Face à la pression, ils se figent et cela induit deux possibilités sur leurs choix stratégiques: soit ils ne

font rien et retardent leurs décisions, soit ils s'engagent dans de multiples directions, pouvant paraître incohérentes, puisque résultant d'une attention et de capacités d'analyse déficientes.

La première option paraît peu probable car elle n'est ni durable ni agréable: remettre à plus tard ne fait qu'empirer la situation et la pression augmente. En revanche, je propose que les individus peu résilients suivent la seconde option et s'engagent dans une certaine fuite en avant pour faire disparaître le stress induit par la pression. Cela devrait se traduire par un niveau extrêmement élevé de dynamisme stratégique interne comme externe.

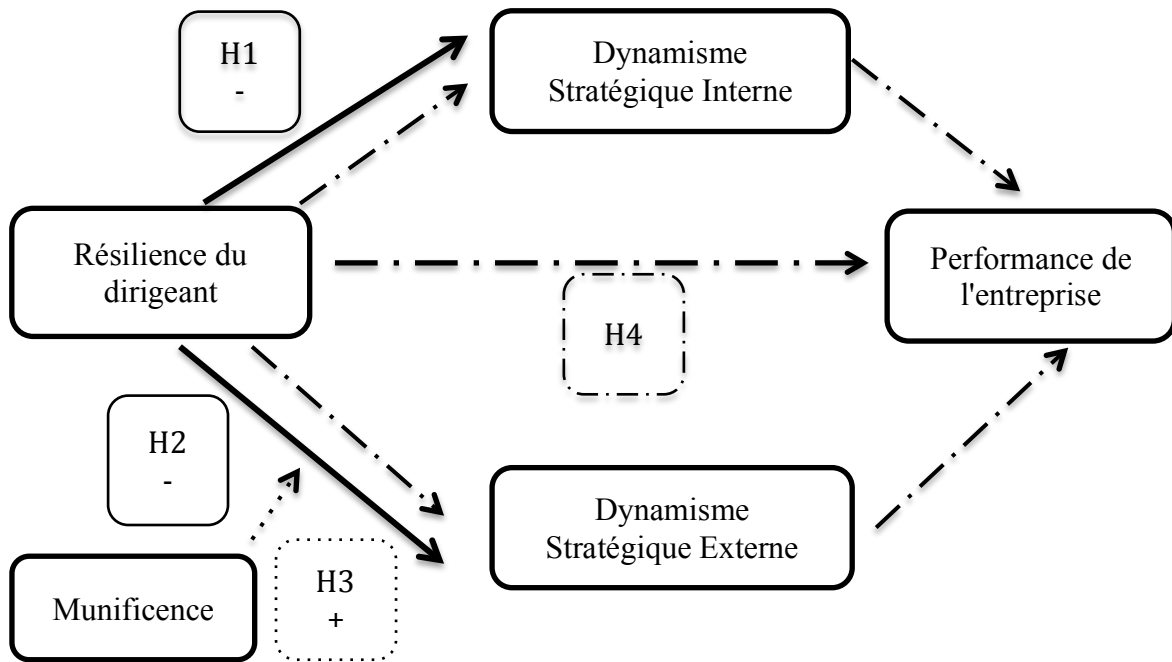
A l'opposé, les individus extrêmement résilients bénéficient d'une excellente capacité à absorber la pression, ce qui les rend très résistants au stress mais également nourrit leur hubris, qui peut s'avérer dévastateur (Hayward & Hambrick, 1997). Ils sont plus à même de négliger les signaux faibles (restriction de leur champ de vision) et de surestimer leurs chances de succès. Cela devrait se traduire par un niveau élevé de dynamisme stratégique. Compte tenu de leur capacité à évacuer le stress rapidement, j'envisage que leur degré de dynamisme stratégique interne sera plus faible que dans le cas de faible niveau de résilience. En revanche, étant donné que leurs ressources et sphère d'influence leur facilitent l'accès à des opérations d'acquisition/cession, la magnitude de leur dynamisme stratégique externe devrait être plus élevée qu'en cas de faible résilience.

Les individus modérément résilients, quant à eux, sont équipés pour faire face à la pression mais sont suffisamment vulnérables pour la percevoir. Ce faisant, cela les incite à augmenter leur niveau d'attention si bien que leur analyse est plus qualitative et leur réponse plus appropriée. En tant que tel, ils devraient paraître plus persistants dans leurs choix et cela devrait se traduire par un niveau de dynamisme stratégique, interne comme externe, plus faible. Je propose donc que le niveau de résilience des dirigeants influence le degré de dynamisme stratégique, interne comme externe, de leur entreprise de manière curvilinéaire en suivant une courbe de forme convexe (H1 & H2).

Je propose également que le niveau de munificence de l'environnement modère la relation entre résilience du dirigeant et dynamisme stratégique externe (H3). Dans les contextes où les ressources sont abondantes, la dynamique est positive et les possibilités de se lancer dans de nombreuses acquisitions plus nombreuses : cela encourage la fuite en avant des dirigeants peu résilients et nourrit l'hubris des dirigeants les plus résilients tentés de se lancer dans des acquisitions en chaîne (Roll, 1986; Hayward & Hambrick, 1997). En somme, en cas de munificence élevé, la relation convexe est renforcée. En revanche, en cas de faible munificence, elle est affaiblit au point de s'inverser: les options sont beaucoup plus restreintes et les choix sont difficiles (licenciement, cessions..) ce qui conduit les individus peu résilients à un certain immobilisme; quant aux individus extrêmement résilients, ils sont également sujet à une certaine inertie, non parce qu'ils n'ont pas les ressources pour faire bouger les lignes, mais parce qu'ils n'en ont pas la volonté, préférant recourir aux recettes qui ont fait leur succès passé.

Le dynamisme stratégique affectant négativement la performance de l'entreprise (Agrawal, Jaffe and Mandelkar, 1992; Sirower, 1994), et ayant lié résilience du dirigeant et dynamisme stratégique, je propose donc finalement que le dynamisme stratégique agit comme un médiateur dans la relation résilience du dirigeant-performance de l'entreprise (H4).

Figure 25-Essai 2: modèle théorique



Ce modèle théorique est testé de manière longitudinale sur un ensemble de données de 61 PDGs d'entreprises américaines membres du S&P500 entre 2002 et 2006; les tests portent sur un nombre total de 211 observations PDG-année pour le dynamisme interne et de 247 pour le dynamisme externe.

La résilience du dirigeant est mesurée en recourant à des indicateurs non-intrusifs reflétant quatre dimensions du RSA comme indiqué dans le premier essai. Les variables dépendantes à savoir (1) le dynamisme stratégique interne et (2) le dynamisme stratégique externe sont respectivement représentées par la variation d'allocations de ressources par année et le nombre d'acquisitions ou de cessions effectuées par an. Le score de munificence a été calculé selon la méthodologie formulée par Dess et Beard en 1984.

La performance de l'entreprise est mesurée par la rentabilité des actifs. Un certain nombre de variables de contrôles tant au niveau individuel (âge, présidence du conseil d'administration, ancienneté, niveau d'éducation) organisationnel (taille de l'entreprise, rentabilité pour l'année précédente, niveau de diversification, dynamisme et complexité de

l'environnement) et pour adresser des biais potentiels (corrections pour un possible effet d'association et de biais de sélection) ont également été utilisées.

Adoptant la méthodologie suivie par Hambrick & Chatterjee (2007; 2011), j'ai eu recours à la méthode d'estimation GEE et utilisé la routine xtgee fournie par stata 11.0. La présence de médiation a été testée suivant la méthode proposée par Baron & Kenny (1986).

Les résultats des tests empiriques soutiennent l'existence d'une relation curvilinéaire convexe entre la résilience du dirigeant et le dynamisme interne ( $p < 0.001$ ) ou externe ( $p < 0.001$ ) de l'entreprise. La modération du degré de munificence est également confirmée ( $P < 0.1$ ). La médiation est avérée pour le degré de dynamisme externe mais pas pour le degré de dynamisme interne.

Ce chapitre contribue au courant de recherche "upper echelons" et documente que les dirigeants modérément résilients, à la différence de leurs homologues peu ou extrêmement résilients, sont plus persistants dans leurs orientations stratégiques, ce qui se traduit par une meilleure performance. Pour répondre à la question de l'introduction, les dirigeants extrêmement résilients osent effectivement plus. Cet article complète opportunément le premier essai en élicitant une des voies par lesquelles transite la résilience du dirigeant pour affecter la performance de son entreprise: la relation concave observée entre résilience du dirigeant-performance provient partiellement (1) d'une relation convexe entre résilience et dynamisme stratégique externe et (2) une relation linéaire négative entre dynamisme stratégique externe et performance de l'entreprise.

### **TROISIEME ESSAI- OUVRONS LA BOITE NOIRE : UN MODELE CONCEPTUEL EXPLIQUANT LA DIFFUSION DE LA RESILIENCE DU DIRIGEANT EN TEMPS DE CRISE.**

Alors que les deux précédents essais empiriques ont analysé l'influence de la résilience du dirigeant dans un contexte générique, ce qui a évité de sélectionner sur l'occurrence d'une crise qui aurait été problématique puisqu'une causalité inverse existe, ce troisième essai présente l'avantage de se positionner dans un contexte stressant. Une crise représente une situation dont la gestion nécessite la prise de décisions rapides dans des contraintes de temps et d'incertitude draconiennes, qui de fait, augmentent considérablement le montant de pression ressentie par les dirigeants (Dutton & Jackson, 1987; Pearson & Clair, 1998).

Par l'intermédiaire d'un modèle conceptuel, ce troisième essai propose une théorie qui explique la diffusion de la résilience du dirigeant en temps de crise et son impact sur son efficacité à gérer cette dernière.

Le modèle débute avec l'occurrence d'une crise et se focalise sur la dialectique qui s'en suit entre le dirigeant (puis l'équipe dirigeante en charge de la gestion de crise) et les autres parties prenantes. Les hauts niveaux de criticité, d'urgence et d'ambiguïté qui caractérisent les crises (Dutton & Jackson, 1987) sont extrêmement déstabilisants pour les membres affectés. Faire sens du chaos et faire en sorte (1) que les diverses parties prenantes aient l'information nécessaire et (2) que l'équipe dirigeante continue de fonctionner sont de la responsabilité du dirigeant. Il a alors l'obligation de fournir une information qui va permettre aux parties prenantes de comprendre la situation, qu'elles soient internes (employés...) ou externes (actionnaires, public, media...).

Je propose que la résilience du dirigeant suit deux chemins distincts à destination de ces deux groupes : 1) un chemin dédié aux acteurs externes qui pourrait également être désigné par l'étiquette "leadership de crise externe" et 2) un chemin dédié aux acteurs internes qui pourrait également être désigné par l'étiquette "leadership de crise interne". Par l'intermédiaire

de ces deux canaux, la résilience du dirigeant oriente la perception des divers acteurs et affecte la force et la durée de la crise en question.

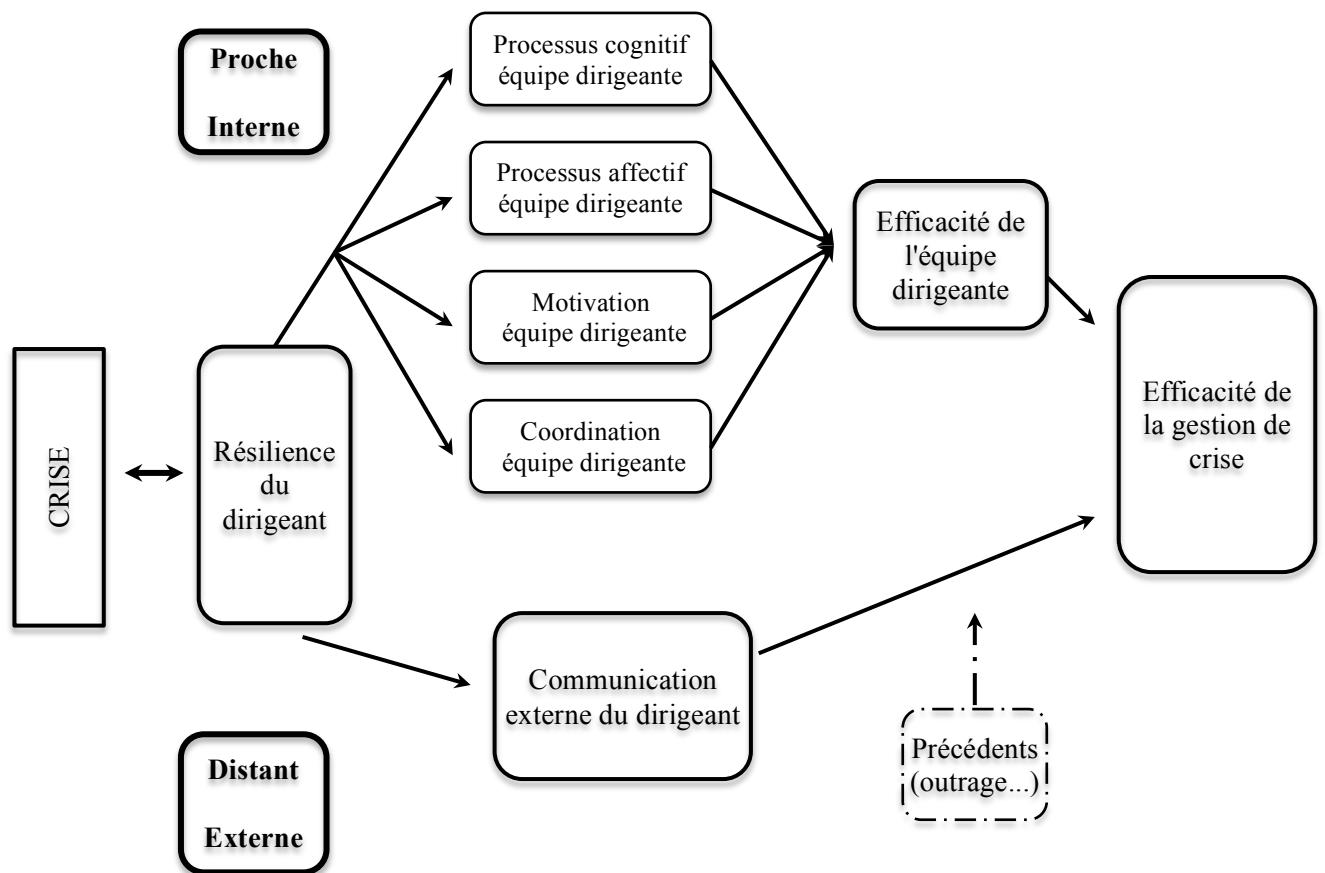
Si une crise magnifie les effets de la résilience du dirigeant et la met en lumière, cette relation est également bidirectionnelle. En effet, il est raisonnable d'imaginer que la résilience du dirigeant affecte elle-même la probabilité d'occurrence des crises. La logique proposée ici est que le niveau de résilience du dirigeant affecte à la fois la limitation de sa conscience (Neale & Bazerman, 1985; Chugh & Bazerman, 2007) et la limitation de sa rationalité (Simon, 1957; Cyert & March, 1963) de telle manière que les individus peu résilients souffrent le plus de rationalité limitée -puisque' ils prennent trop de signaux en considération- et que les individus extrêmement résilients souffrent le plus de conscience limitée -puisque'ils sont les plus susceptibles de négliger les signaux faibles.

Je suggère donc que l'occurrence d'une crise augmente l'importance et la magnitude des effets de la résilience des dirigeants et que cette résilience affecte également la probabilité d'occurrence de crises selon une courbe concave.

Le modèle détaille ensuite les deux chemins susmentionnés en recourant à deux théories contingentes: la Situational Crisis Communication Theory (Coombs, 2004, 2007) pour la diffusion externe et un modèle d'interaction entre leader et followers proposé par Zaccaro et al (2001) pour la diffusion interne.



Figure 26-Essai 3: modèle théorique



Le chemin externe se focalise sur la communication externe des dirigeants et considère tout d'abord qu'il s'agit d'une compétence cruciale post crise (James & Wooten, 2010). La communication post crise doit être considérée parce que (1) elle est déterminée par le dirigeant, (2) elle a un impact majeur sur la durée et la sévérité de la crise (Elsbach, 1994; Elsbach & Kramer, 1996) et (3) elle est en partie conditionnée par la résilience du dirigeant. Mon raisonnement s'appuie ici sur la Situational Crisis Communication Theory formulée par Coombs, (2004, 2007) qui spécifie une congruence entre types de crises (ordonnées selon leur niveau d'attribution de responsabilité : victime, accident ou prévisible) et réponses adéquates (ordonnées selon la reconnaissance de culpabilité: Négation, modération ou acceptation/compensation).

En détaillant l'impact des différentes ressources à disposition du dirigeant, j'arrive à la proposition que cette congruence entre type de crise et réponse apportée sera meilleures dans

le cas de dirigeants modérément résilients que dans celui de dirigeant faiblement ou extrêmement résilients. Cette congruence se traduit, par définition même de la, par un impact positif sur l'efficacité de la gestion de crise. Je propose cependant que cette influence est négativement modérée par le niveau d'hypocrisie attribuée au dirigeant lui-même fonction du niveau de précédents outrages du dirigeant (Wernicke, 2010).

Le chemin interne est assez complexe et utilise comme fondement un modèle leader-followers proposé par Zaccaro et al (2001). Dans leur modèle, Zaccaro et al (2001) proposent que les capacités du leader influencent quatre processus qui conditionnent l'efficacité d'une équipe à savoir (1) la cognition de l'équipe, (2) l'affection au sein de l'équipe, (3) la motivation au sein de l'équipe et (4) la coordination au sein de l'équipe. Les capacités du leader sont directement liées en temps de crise à son niveau de résilience, je détaille ensuite en diverses propositions l'impact de la résilience sur ces différents processus. Un résumé peut être trouvé sous forme de tableau ci dessous.

**Table 21**-Résumé de la diffusion interne de la résilience du dirigeant.

	Résilience du Dirigeant	Faible	Modérée à élevée		Extrêmement élevée	
Impact sur les processus internes de l'équipe dirigeante.						
1	Cognition	-	+ +		+/-	
	Sens donné et partagé quant aux événements	Non fourni	Très bon		Bon	
	Traitement de l'information.	Désorganisé	Décentralisé		Centralisé	
2	Affection	-	+ +		++	
	Probabilité de conflits	Elevée	Faible		Très faible	
	Contagion émotionnelle	Elevée	Faible		Faible	
			Siège	Terrain	Siège	Terrain
3	Motivation	-	++	++	++	+/-
	Implication à la tâche.	-	+	+	+	-
	Efficacité collective	-	+	+	+	+
4	Coordination	-	++		++	
Total 1, 2, 3 & 4 ⇔ efficacité de l'équipe dirigeante						
	Efficacité de l'équipe dirigeante	Faible	Bonne		Moyenne	
	Efficacité de la gestion de crise	-	+ +		+	

Au final, le modèle théorique proposé dans ce troisième essai permet de conceptualiser la diffusion de la résilience du dirigeant en temps de crise et détaille les différents processus affectés, qu'ils soient externes (par l'intermédiaire d'une communication post crise efficace) ou internes (par la gestion performantes de l'équipe de gestion de crise). Il s'appuie sur deux théories contingentes et tire profit d'un cas extrême, celui d'une crise. Les mécanismes mis à jour ne se cantonnent vraisemblablement pas uniquement à ce type de situation et sont probablement à l'œuvre dans tout contexte stressant. Ce dernier essai esquisse un effet en chaîne ou en cascade à l'intérieur de l'entreprise et ouvre la voie de futures investigations empiriques.

## CONCLUSION

La résilience du Président Directeur Général a-t-elle une importance ? Comment peut-on expliquer cette influence? Voilà les deux questions principales que cette thèse adresse. Après avoir circonscrit le concept de résilience du dirigeant, proposé une manière de l'opérationnaliser en recourant à des indicateurs non intrusifs pour contourner les difficultés d'accès à cette population, et plongé dans les biographies des PDGs des grandes entreprises américaines (S&P 500), j'ai trouvé des preuves empiriques solides d'un effet de la résilience du dirigeant sur la performance de son entreprise et sur le niveau de degré de dynamisme stratégique adopté par cette-dernière. Affirmer que la résilience du dirigeant compte, paraît aujourd'hui exact et soutenu par des données empiriques tangibles.

En documentant l'impact d'une nouvelle qualité du dirigeant, ma thèse, dans son ensemble, contribue de manière incrémentale au courant de recherche "upper echelons". Pour se faire, elle a progressé en suivant quatre étapes. Tout d'abord, elle a délimité les fondements théoriques nécessaires à mes travaux en proposant une revue des littératures afférentes aux travaux "upper echelons" traitant des caractéristiques des dirigeants, aux travaux de

psychologie traitant de la résilience, et aux travaux issus des trois courants théoriques principaux mobilisés en complément ("Resource Dependence Theory", "Attention Based View" et "Situational Crisis Communication Theory"). Ensuite, elle a suivi un cheminement en entonnoir et a adopté des lentilles de grossissement toujours plus importantes lors des trois essais suivants.

Premièrement, elle a débuté en scrutant les deux extrêmes du continuum "upper echelons", proposé et vérifié la présence d'un effet curvilinéaire concave entre résilience du dirigeant et performance de son entreprise, et l'existence de modérateurs tels que le niveau de réserve potentielle et le degré de complexité de l'industrie. Ensuite, elle s'est rapproché du dirigeant en augmentant la focale et en questionnant l'influence de sa résilience sur ses choix stratégiques et corroboré l'existence d'une relation curvilinéaire convexe entre résilience et dynamisme stratégique, interne comme externe. Le degré de dynamisme externe s'est avéré de plus être médiateur dans cette relation. Finalement, ma thèse a essayé, dans un troisième essai, d'ouvrir la boîte noire, de camper le décor dans une situation extrême et stressante, celle d'une crise. L'objectif était de mettre en lumière les mécanismes à l'œuvre afin d'expliquer la diffusion de la résilience du dirigeant aux différentes parties prenantes, qu'elles soient internes ou externes. Cet apport conceptuel permet de faire sens des tendances élicitées dans les deux précédents essais empiriques.

Les réserves que je pourrais apporter à ce travail et qui représentent des possibilités de recherches futures sont de deux ordres : 1/ tout d'abord, mes travaux se focalisent sur la figure du dirigeant et sa résilience. Le rôle des managers intermédiaires ("middle managers"), et l'impact de leur résilience propre, a donc été quelque peu négligé. Je touche du doigt cette problématique dans le troisième essai en esquissant la possibilité d'un effet en cascade mais le sujet méritera à coup sûr d'être analysé dans des recherches ultérieures et 2/ bien que représentant une amélioration significative par rapport aux variables démographiques

précédemment utilisées en recherche "upper echelons", l'instrument utilisé pour mesurer la résilience peu paraître quelque peu éloigné des dirigeants. De même, le poids associé à certaines ressources pourrait varier selon certains contextes: plus de poids de l'aspect "confiance en soi" dans un contexte nord américain que dans un contexte asiatique par exemple.

Je ne pouvais conclure ce résumé général sans aborder quelques implications managériales de mes travaux. Mes résultats sont le fruit d'une orientation positiviste et d'une logique hypothético déductive; ils sont donc par essence de nature descriptive. Des enseignements pratiques peuvent tout de même être tirés pour trois catégories d'acteurs: 1) les conseils d'administration, qui, en fonction de leurs objectifs stratégiques, peuvent bénéficier de mes travaux pour évaluer la congruence entre leurs désirs et le potentiel de résilience des PDGs (présents ou à venir) 2) les dirigeants eux-mêmes, qui, conscients de l'impact de leur résilience, peuvent bénéficier d'une meilleure réflexivité et s'engager à mieux ou à davantage nourrir cette-dernière et 3) les professionnels RH, qui, en étendant mes résultats au reste de l'organisation, peuvent capitaliser sur mes travaux afin de définir les conditions nécessaires pour évaluer, encadrer et promouvoir la résilience de leurs équipes managériales.

**Title :** Does CEO resilience matter ? An upper echelons perspective.

**Abstract :** Focusing on CEO resilience, this dissertation contributes to the upper echelons or strategic leadership research tradition and highlights a capacity, which is crucial in times of uncertainty, rapid change and pressure. Adopting a three essay format (two empirical and one theoretical pieces), it questions the influence of CEO resilience. The first chapter contextualises my work by reviewing previous "upper echelons" contributions pertaining to CEO characteristics and resilience literature. The first essay then investigates the impact of CEO resilience on firm performance and demonstrates the existence of a bell shape curvilinear relationship, relationship moderated by financial slack and industry complexity.

The second essay confirms the existence of a U shape curvilinear relationship between CEO resilience and strategic dynamism and establishes the mediating role of strategic dynamism in the CEO resilience-company performance sequence. The third essay, which is conceptual, provides a model for internal and external diffusion of CEO resilience in times of crisis. Finally the concluding chapter of my thesis stresses some limitations, proposes future research avenues, and put forward some managerial implications.

**Keywords :** Upper echelons, resilience, leadership, CEO, performance

**Titre :** La résilience du Président Directeur Général a-t-elle une importance? Une perspective "upper echelons".

**Résumé :** En mettant l'accent sur la résilience des Présidents Directeurs Généraux, cette thèse contribue au courant de recherche « upper echelons » et met en lumière une capacité, qui est cruciale en période d'incertitude, de changement rapide et de pression. Adoptant un format en trois essais (deux essais empiriques et un essai théorique), elle questionne l'influence et la diffusion de cette résilience au plus haut niveau. Afin de contextualiser mes travaux, je propose tout d'abord une revue de littérature des contributions « upper echelons » ayant trait aux caractéristiques des dirigeants et des recherches afférentes au concept de résilience. Le premier essai documente ensuite l'impact de la résilience des dirigeants sur la performance de leur entreprise et corrobore l'existence d'une relation curvilinéaire de forme concave, relation

modérée par le niveau de réserve financière de l'entreprise et le niveau de complexité de son secteur d'activité. Le second essai corrobore l'existence d'une relation curvilinéaire de forme convexe entre résilience du dirigeant et degré de dynamisme stratégique et établit le rôle de médiateur de ce-dernier dans la relation résilience du dirigeant-performance de l'entreprise. Le troisième essai, de nature conceptuelle, propose un modèle de diffusion interne et externe de la résilience du dirigeant en temps de crise. Dans le chapitre de conclusion de ma thèse, après avoir souligné quelques limites de mon approche et proposé des pistes de recherche, je fournis quelques implications managériales de mes travaux.

**Mots clés :** Upper echelons, résilience, leadership, dirigeant, performance