The Role of Broader Context in Shaping the Rationality of Strategic Decision Making

by

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Abstract

This paper investigates both the overall and the individual impact of four alternative perspectives, namely Decision, Environmental, Firm and Top Management Characteristics on the Rationality of Strategic Decision Making. The results from a multi-method field study of 143 Strategic Decisions indicate that rationality is shaped by three of the four perspectives, with decision-specific characteristics playing a dominant role. With respect to the individual impact of contextual variables, Decision's Magnitude of Impact, Past firm Performance, Firm Size and Top Management Team's Level of Education are related to rationality while Decision Uncertainty, Environmental Dynamism, Environmental Hostility, CEO's tenure in position and CEO's need for achievement are not. In the light of these findings, we discuss their implications and suggest ideas for future research.

Keywords: Rationality, Comprehensiveness, context variables, Strategic Decisions, Integrated Framework.

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INTRODUCTION

An important theme of research within the "strategy" domain has been the process of Making Strategic Decisions (Elbanna, 2006; Papadakis & Barwise, 1997; Rajagopalan, Rasheed, & Datta, 1993). Some researchers have shown interest in identifying the major characteristics/dimensions of the process (e.g. Elbanna & Younies, 2008; Dean & Sharfman, 1993b; Hart, 1992; Hickson, Butler, Cray, Mallory, & Wilson, 1986) while some others have linked process dimensions (e.g. rationality, politicization, intuition, etc.) to either organizational (e.g. Miller, 2008; Mueller, Mone, & Barker, 2007; Goll & Rasheed, 2005; Khatri & Ng, 2000; Goll & Sambharya, 1998; Priem, Rasheed, & Kotulic, 1995) or decision outcomes (e.g. Nooraie, 2008; Elbanna & Child, 2007b; Atuahene-Gima & Li, 2004; Baum & Wally, 2003; Hough & White, 2003; Dean & Sharfman, 1996). Additionally, a third sub-stream of research has attempted to identify the influence of the broader context on process characteristics (e.g. Elbanna & Child, 2007a; Atuahene-Gima & Murray, 2004; Brouthers, Brouthers, & Werner, 2000; Papadakis, Lioukas, & Chambers, 1998; Papadakis, 1998; Brouthers, Andriessen, & Nicolaes, 1998; Dean & Sharfman, 1993a; Fredrickson, 1985; Stein, 1980).

This study is concerned with the factors of the broader context that influence the Rationality of the Strategic Decision Making Process, a process dimension that has received a central role in the literature (Elbanna, 2006; Wilson, 2003; Dean & Sharfman, 1996; Eisenhardt & Zbaracki, 1992). However, despite this centrality, our knowledge on the key influences on the rationality of Strategic Decision Making continues to be incomplete for four major reasons.

Firstly, researchers often reach to contradictory results with respect to the impact of *individual* contextual variables on the rationality of making SDs. See for

example the inconsistent findings regarding environmental characteristics and rationality (refer to Elbanna and Child, 2007a, for a review), past performance and rationality (refer to Papadakis 1998, for a review), and decision uncertainty and rationality (refer to Dean and Sharfman, 1993a for a review). This wide range of contradictory results stresses the need for further empirical investigation as regards the role of context in strategic decision rationality (Elbanna and Child, 2007a).

A second limitation of the available body of research is that with few exceptions (e.g. Elbanna & Child, 2007a; Papadakis et al., 1998; Dean & Sharfman, 1993a; Hitt & Tyler, 1991) most of the existing studies have used oversimplified models in their attempt to explain Decision Making rationality. The early results of Hitt and Tyler (1991) suggested that an integration of the factors identified by different perspectives, contributes to our understanding on SDM process. Two years later, in another US study, Dean and Sharfman (1993a) synthesized knowledge from four alternative perspectives and examined the direct relationships between *individual* variables and rationality. Their results suggested that rationality is shaped by a multiplicity of contextual factors. These results were further echoed by Papadakis et al. (1998) study. Further, in a recent research in the Egyptian Context, Elbanna and Child (2007a) following Schwenk's (1995) recommendations adopted an integrative framework and investigated the *overall impact* of decision-specific characteristics, environmental and firm variables on decision rationality. Results indicated that rationality is shaped by all three perspectives but not at equal terms, with environmental variables being less important than decision and firm-variables. A future opportunity according to the authors is the inclusion in their model of the Top Management Characteristics and the examination of which of the four perspectives matters most in strategic decision making rationality.

In addition, what we observe is that Papadakis et al. (1998) and Dean and Sharfman (1993a) investigate only the *direct* relationships between *individual* contextual variables and rationality while Elbanna and Child (2007a) investigate the *overall impact* of three different perspectives on rationality. We argue that future studies should investigate both effects simultaneously. This will provide answers to the questions of which context variables matter in shaping rationality (individual impact) and also the degree to which they matter (overall impact).

A third limitation is that as on any other topic in management, research on Strategic Decisions is highly concentrated in the US and the UK. It may be that the findings of these studies have to be modified so as to be applicable in other national settings (Brouthers et al., 2000; Bower, 1997; Schwenk, 1995). In the last 12 years, as shown in a very recent literature review (Papadakis, Thanos, & Barwise, 2009), we have seen an increase in the number of studies that use non-US data, from both developed countries (Netherlands, Japan, Germany) and developing countries (China, Egypt, Taiwan, Malaysia). These studies have either supported the "culture free" or the "culture specific" argument. Therefore, several researchers encourage research that is carried out outside the US context and takes into account the potential influential role of national culture on decision making processes (e.g. Elbanna, 2006; Rajagopalan, Rasheed, Datta, & Speitzer, 1997; Bower, 1997; Schwenk, 1995).

In response to these concerns, we designed a study in which we adopted an integrative framework and examined both the *individual* and the *overall impact* of four different perspectives namely, the decision, the environmental determinism, the firm characteristic and the Top Management perspective on the rationality of strategic decision making. We support the view that such an attempt will seed further light on the role of context in shaping rationality.

The research took place in Greece. The location of the study gives prompt to discussions regarding the influence of national culture on strategic decision making processes. Greece, has been characterised as an "advancing economy/or an economy in transition" a term used to denote countries which have the characteristics of both developed and developing countries (Makridakis, Caloghirou, Papagiannakis, & Trivellas, 1997) but do not belong to either of these categories. Recent research (Caloghirou, Protogerou, Spanos, & Papagiannakis, 2004; Spanos, Prastacos, & Papadakis, 2001) suggests that because of the competitive forces and the affiliation of the country in the European Monetary Union, Greek companies have moved towards more team-based decision making and rational approaches. Due to this, we expect our findings to be of value to newly accepted EU countries which will follow in the following years the Greek example.

The rest of the paper is organised as follows. In section 2, we review the literature and develop the hypotheses to be tested. Section 3 refers to the research method and the operationalization of the variables. In section 4 we report the results and in section 5, we discuss them. Finally, in the last section, we explore their implications, the limitations of our study and offer suggestions for future research.

FRAMEWORK DEVELOPMENT AND HYPOTHESES

As previously stated, several researchers (e.g. Brouthers et al., 2000; Dean & Sharfman, 1993a; Hitt & Tyler, 1991; Stein, 1980) have studied the effects of context on strategic decision making processes. Schneider and De Meyer (1991) in an attempt to provide an integrative framework for studying the effects of context, propose the following categorization of factors: 1) managers' individual characteristics, 2) internal organizational context; and 3) environmental factors. In addition, Pettigrew (1990)

states that future studies should also explore the role of the nature of the decision problem in shaping process. Rajagopalan and her colleagues in their reviews (Rajagopalan et al. 1993; 1997), argue that despite the substantial differences among the various strategic decision processes models, a careful review of these models suggests that contextual factors can be categorized into four distinct perspectives. These include the decision, the environmental determinism, the firm characteristics and the strategic choice perspective. Papadakis et al. (1998), Dean and Sharfman (1993a) and Elbanna and Child (2007a) have argued along similar lines regarding the categorization of the context variables.

Responding to all the above, we developed an integrative framework that encompasses the four aforementioned perspectives. Figure 1 depicts the proposed model. As shown in the model, we selected nine variables which represent the four alternative context perspectives. Of course, we do not claim that this list of variables is exhaustive but we believe that it gives a valid representation of each perspective. The fact that the selected variables have been the subject of past empirical research provides us with the opportunity to contrast and compare our results with that of previous investigations. In the following paragraphs, we briefly summarize each perspective and advance the relevant hypotheses with respect to the *overall* and *the individual impact* of context variables on rationality.

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Insert Figure 1 here

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The Decision-Specific Characteristics Perspective

The first perspective refers to the *nature* of the decision. Despite the fact that the relationship between decision-specific factors and decision process has received limited attention (Rajagopalan et al., 1997; 1993), there is growing evidence that

decisions with different characteristics are handled through different processes (Elbanna & Child, 2007a; Papadakis et al., 1998; Dean & Sharfman, 1993a; Dutton, Walton, & Abrahamson, 1989; Bourgeois & Eisenhardt, 1988; Hickson et al., 1986; Fredrickson, 1985; Fahey, 1981; Mintzberg, Raisinghani, & Theoret, 1976). More specifically, Fredrickson (1985) argues that when decisions are interpreted as threats as opposed to opportunities, executives tend to follow more rational decision making processes. Similarly, Hickson et al. (1986) and Fahey (1981) support the notion that the nature of the decision influences the processes followed. In two more recent studies, Papadakis et al. (1998) and Elbanna and Child (2007a) conclude that decision-specific characteristics play a dominant role in determining rationality. Based on the above discussion, we develop the following hypothesis.

H1. Decision-specific characteristics will account for a significant amount of variance in rationality, above and beyond the variance explained by Environmental, Firm and Top Management characteristics.

Past studies have measured various decision-specific characteristics such as: decision magnitude of impact/importance, decision uncertainty, decision motive and frequency of occurrence (Nooraie, 2008; Elbanna & Child, 2007a; Dean & Sharfman, 1993a; Dutton, 1986; Fredrickson, 1985; Fahey, 1981; Beach & Mitchell, 1978), decision uncertainty. In this study, we examine decision magnitude of impact and decision uncertainty which are the most widely used in the literature.

Magnitude of Impact

Within an organization, there are some strategic decisions which imply more important consequences than others. It is often argued that executives appear to follow more rational approaches when dealing with decisions which have a

widespread magnitude of impact on their organization (Dean & Sharfman, 1993a; Hickson et al., 1986). Stein (1980) and more recently Nooraie (2008) have argued along similar lines regarding the dominant role of decision's magnitude of impact in shaping rationality. Thus:

H1a. The Decision's Magnitude of Impact will be positively related to Rationality.

Decision Uncertainty

The second characteristic refers to the uncertainty surrounding a strategic decision. It should be noted that we refer to the uncertainty surrounding a specific decision (information to be collected, actions to be taken, difficulty of predicting the decision outcome) and not to the general environmental uncertainty which constitutes a dimension of the external environment. Dean and Sharfman (1993a) argue that there are two opposing lines of research with respect to the relationship between decision uncertainty and rationality. They also argue that these contradictory results are due to the different definition of uncertainty.

On the one hand, there are some studies which argue in favor of a positive relationship between decision uncertainty and rationality (e.g. Bourgeois & Eisenhardt, 1988; Leblebici & Salancik, 1981). These studies seem to be based on Galbraith's (1977) definition of uncertainty which defines it as the gap between the information one possesses and the information one needs to perform a task (Dean & Sharfman, 1993a, p. 593). On the other hand, there are some studies which argue that there is a negative relationship between decision uncertainty and rationality (e.g. Dean & Sharfman, 1993a). These studies seem to be based on the premise that in highly uncertain decisions, executives will act in a more inspirational manner, thus relying more on their judgment and intuition (Hickson et al. 1986). Although we recognize its value, for the purposes of this study we will support the first line of

research because our definition of uncertainty approximates Galbraith's definition. Thus:

H1b. Decision Uncertainty will be positively related to Rationality.

The Environmental Determinism Perspective

This perspective emphasizes factors such as environmental dynamism, hostility, heterogeneity and instability. At the level of theory, it is linked to the influential work on population ecology of Hannan and Freeman (1977), according to which adaptation to the environmental forces is vital for the firm's success. Indeed, population ecologists go one step further and consider leadership to be but a passive agent. Unfortunately until today, the impact of the external environment characteristics on the degree of rationality is not yet clear (Elbanna & Child, 2007a; Rajagopalan et al., 1997). For instance on the one hand Fredrickson and his colleagues (Fredrickson & Iaquinto, 1989; Fredrickson, 1984; Fredrickson & Mitchell, 1984) argue that firms operating in stable environments follow rational decision making approaches. Contrarily, Eisenhardt and her colleagues (e.g. Eisenhardt, 1989; Bourgeois & Eisenhardt, 1988) argue that in high velocity firms executives follow more rational approaches. However, despite the inconsistent findings, several researchers argue that the characteristics of the external environment affect the degree of rationality (e.g. Elbanna & Child, 2007a; Priem et al., 1995; Dean & Sharfman, 1993a; Kukalls, 1991; Miller, Droge, & Toulouse, 1988; Miller & Friesen, 1983). Therefore, we develop the following hypothesis.

H2. Environmental Characteristics will account for a significant amount of variance in rationality, above and beyond the variance explained by Decision-Specific, Environmental, and Firm Characteristics.

Relying on past theoretical and empirical work, we will discuss two environmental characteristics.

Environmental Dynamism

As previously stated, the relationship between dynamism and rationality is not yet clear. For the purposes of this study, we will support the line of research which holds that in more dynamic environments, firms adopt more rational approaches (Priem et al., 1995; Eisenhardt, 1989; Bourgeois & Eisenhardt, 1988). This decision was based on the premise that our definition of dynamism approximates the way that these studies (e.g. Priem et al., 1995) have measured environmental dynamism. Thus:

H2a. Environmental Dynamism will be positively related to Rationality.

Environmental Hostility

The second environmental characteristic examined is that of the environmental hostility/munificence which refers to an environment's ability to support sustained growth (Goll & Rasheed, 2005; Dess & Beard, 1984; Khandwalla, 1977). Although there is limited evidence on the relationship between hostility/munificence and rationality, the available body of research suggests that the two aforementioned constructs are positively related (Goll & Rasheed, 1997; Rajagopalan et al., 1993; Dess & Beard, 1984). For example, Miller and Friesen (1983) find that there is a positive relationship between environmental hostility and rationality in the decision making processes for successful firms. Goll and Rasheed (1997) argue along similar lines. Thus:

H2b. Environmental Hostility will be positively related to Rationality.

The Firm Characteristics Perspective

This perspective has its roots back in Romanelli and Tushmans' (1986) influential work, according to which organizational factors such as structures, systems and

resources may constrain strategic-decision making. Several studies (e.g. Elbanna & Child, 2007a; Atuahene-Gima & Murray, 2004; Brouthers et al., 2000; Nutt, 2000; 1998; 1993; Jones, Jacobs, & van't Spijker, 1992; Smith, Gannon, Grimm, & Mitchell, 1988; Miller, 1987; Fredrickson, 1985) provide empirical support to the argument that aspects of the organizational context such as structure, formal planning systems, company size, past firm performance, organizational culture and corporate control/type of ownership exert an influence on strategic decision making processes. For example, in an early study, Miller (1987) argues that there is a positive relationship between formal integration and rationality in strategy making. More recently, Papadakis et al. (1998) state that organizational factors such as firm size and performance, planning formality and type of ownership have an important impact on rational decision making processes. These results were further echoed by Elbanna and Child (2007a). The above discussion leads to the following hypothesis.

H3. Firm Characteristics will account for a significant amount of variance in rationality, above and beyond the variance explained by Decision-Specific, Environmental, and Top Management characteristics.

Relying on past research, we examine two firm-specific characteristics which have received a central role in the SD literature.

Past Firm performance

The relationship between past firm performance and rationality has been the subject of considerable debate for more than two decades. The evidence that we have until now is not generizable. From the one point of view, there exist some studies which sustain that there is a positive relationship between rationality and past firm performance (e.g. Papadakis, 1998; Jones et al., 1992; Smith et al., 1988). However,

there is an opposite, smaller thought of research, which supports that superior performance lowers the extent to which organizations search and analyze the relevant information (e.g. Fredrickson, 1985; Bourgeois, 1981). Given the past research in the Greek context (Papadakis et al., 1998; Papadakis, 1998) and that the majority of the studies argue in favor of a positive relationship, we will support the first line of research for the purposes of this study. Thus:

H3a. Past Firm Performance will be positively related to Rationality.

Firm Size

Dean and Sharfman (1993a) and Hickson et al. (1986) found that there is no relationship between firm size and rationality. However, the vast majority of the studies (e.g. Elbanna & Child, 2007a; Papadakis et al., 1998; Miller, Burke, & Glick, 1998; Fredrickson & Iaquinto, 1989) argue towards the existence of a positive relationship between the aforementioned variables. Thus:

H3b. Firm Size will be positively related to Rationality.

The Strategic Choice or Top Management Perspective

The last perspective examined emphasizes factors such as the demographic and psychographic characteristics of the decision makers (CEOs and members of the Top Management Team). At the level of theory, it can be linked to the influential work on the role of strategic choice (Child, 1972) or the "upper echelon" perspective suggested by Hambrick and Mason (1984). According to these theorists, the strategic choices of an organization reflect the idiosyncrasies of decision-makers. The available body of research indicates that the characteristics of the decision makers exert an influence on the process of making strategic decisions (Goll & Rasheed, 2005; Papadakis & Barwise, 2002; Brouthers et al., 2000; Miller et al., 1998; Hitt & Tyler, 1991). For example, Hitt and Tyler (1991) showed with empirical evidence that executive

characteristics such as age, educational background and experience explain a significant amount of variance in the processes followed. Further, Miller et al. (1998) argued that cognitive diversity within the TMT exerts a negative influence on the degree of comprehensiveness and the extensiveness of strategic planning. Two years later, Brouthers et al. (2000) in a Dutch setting, concluded that SD processes were influenced as less by environmental factors than by decision-makers' characteristics. More recently, Goll and Rasheed (2005) argued that the average length of tenure and the level of education of the TMT are positively related to rationality in strategic decision making. The above discussion leads to the following hypothesis.

H4. Top Management Characteristics will account for a significant amount of variance in rationality, above and beyond the variance explained by Decision-Specific, Environmental, and Firm characteristics.

Reflecting past work, we decided to study both the characteristics of the CEO and the Top Management Team.

Tenure in the CEO position

Tenure in position has been reported to be associated with several processes and outcomes such as product differentiation and capital intensity (Rajagopalan & Datfa, 1996), receptivity to innovation (Bantel & Jackson, 1989) and commitment to the status quo situation (Hambrick, Geletkanycz, & Fredrickson, 1993). Tushman and Romanelli (1985) argue that the longer an executive stays in a firm, the more likely it is that "*habit becomes a substitute for thought*". As a result, Fredrickson and Iaquinto (1989) hypothesized that tenure in position will be negatively related to comprehensiveness/rationality in strategic decision making. However, their results suggested that a positive relationship exists between these two constructs. More recently, Goll and Rasheed (2005) argued along similar lines. Thus:

H4a. CEO's tenure in position will be positively related to Rationality.

CEO's need for achievement

Individuals with high need for achievement tend to be ambitious, competitive and express the desire to exercise control over the events affecting their lives (Miller et al., 1988). Based on this desire for controlling the context in which they operate, "Achievers" favor structural centralization and emphasize formalized decision making techniques (Lewin & Stephens, 1994). Miller et al. (1988) go one step further and based on McClelland's (1961) thoughts, argue that executives with high need for achievement attempt to achieve their goals in an orderly and systematic way, thus they follow more rational approaches. Hodgkinson and Sparrow (2002, p. 203) argue along similar lines. Based on this discussion, we develop the following hypothesis.

H4b. CEO's need for achievement will be positively related to Rationality.

Top Management Team's Level of Education

The level of education of the Top Management Team is another influential factor. It has been argued that it increases receptivity of innovation, improves firm performance and lowers political activity within an organization (Michel & Hambrick, 1992; Kimberly & Evanisko, 1981). In addition some academics (e.g. Goll & Rasheed, 2005; Bantel & Jackson, 1989) argue that Top Management team level of education affects rationality, such that more educated teams employ more rational approaches. Thus:

H4c. Education level of the TMT will be positively related to Rationality.

RESEARCH METHOD

Data Collection

The research can be characterized as a multi-method, in-depth field research study (Snow & Thomas, 1994). The data sources include: a) initial interview with the CEO,

b) semi-structured interviews with the key participants in the Decision Making Process (DMP), c) completion of two different questionnaires (one general from the CEO and one decision-specific from the "key participant"), d) supplementary data from archival sources (e.g. annual financial statements, internal documents, reports). The field research involved the investigation of 143 Strategic Decisions (SDs) and was undertaken in Greece. Identification of SDs was based on an initial interview with the CEO. The researcher also had to agree that this decision is of strategic nature. He (all the CEOs were men) was asked to fill the first, general, questionnaire providing information about the company, its external environment (e.g. environmental hostility, dynamism), as well as other important organizational aspects (e.g. past performance, characteristics of the Top Management Team, CEO Psychological characteristics). Then the CEO was asked to name the most important investment decisions which have taken place in the recent years.

The CEO was then asked to give a brief description of each decision and the process followed in making it, name all the key participants (this methodology was followed by Hickson et al. 1986), as well as the manager with the most intimate knowledge of the process. At the same time attention was exercised to gain access to any archival sources documenting the decision and its process, prior to the main interview with the designated manager. We deliberately focused on decisions of an investment nature as these are better documented than others (Marsh, Barwise, Thomas, & Wensley, 1988). Archival data were used in parallel to our interview data and helped us form a clearer picture of the decision-making process. This aided our understanding and helped us checking managers for possible memory failure and *ex-post rationalization* symptoms (Huber & Power, 1985).

Then semi-structured interviews were conducted with the most knowledgeable manager (Huber and Power, 1985). We followed the so-called "funnel sequence" (Bouchard, 1976) whereby the interview started with a semi-structured discussion, primarily based on a number of open-ended questions. When this "informal" discussion was completed, interviewees were handed the second decision-specific questionnaire designed to measure the dimensions of the Decision Making Process and the Decision-Specific characteristics. Their responses were always checked against the initial CEO interview and the picture emerging from the archival data. In cases were answers departed from what these sources suggested, we were able to question the manager's recollections. A thorough discussion followed and the manager usually justified his/her option of view.

Sampling Issues

The sampling frame comprised all manufacturing enterprises in Greece with more than 100 employees, drawn from four industrial sectors (food, chemicals, textiles and electrical), a total population of 291 companies of which 81 participated in the survey. The response rate achieved (approximately 28%) is high considering the intrusive nature of the research and the fact that top management was asked to devote several hours of its time. Further, approximately 65% of the companies studied employed between 100 and 500 persons, 21% between 501 and 1000 and only 14% of the companies had more than 1000 employees. In most cases, two SDs were studied in each firm, resulting in a sample of 143 SDs. The type of SD varied widely including: Expansion in production equipment (24%), product introduction (20%), acquisitions (16%), new plant (15%), modernisation of production systems (9%), IT investment (9%), marketing strategy (5%), and set up of a new firm (2%).

Nevertheless, to ensure that the results from the sample can be generalised to the population, we examined whether respondents and non respondents firms differ with respect to three objective measures (number of employees, total assets and return on assets). This choice of measures was based on two reasons: a) they are objective data available from sources external to the survey process, b) similar indices are taken into account by other researchers in the decision making field (e.g. Elbanna and Child, 2007a; Goll and Rasheed, 2005). In all instances t-tests were not significant ($p > .1$) providing support to the argument that non-respondent bias is not an issue in this study.

Reliability and Validity Considerations

A study based on participant recall, though the dominant method of studying DMPs, may suffer from inherent limitations (Bouchard, 1976; Huber & Power, 1985; Kumar, et al. 1993). Several tactics were employed to alleviate possible biases (Huber & Power, 1985; Kumar et al., 1993). First, archival records documenting the process and its characteristics were collected prior to each main interview. Second, all the interviews were recorded. This allowed going back and listening to the original discussion at later stages. Third, particular caution was exercised to minimize distortion and memory failure problems by selecting recently taken decisions (Mintzberg et al., 1976), by interviewing only major participants having an intimate knowledge of the process (Kumar, Stern, & Anderson, 1993), by adopting a 'funnel sequence' method in conducting interviews (Bouchard, 1976), by cross-checking interview-derived information against other managers' recollections (e.g., CEOs), by using additional informants in cases of incomplete information, and by cross-checking interview data with other company sources available (e.g., documents, reports, minutes of meetings). Furthermore, some variables (e.g., company size, CEO tenure

in position, past-firm performance, TMT level of education) were measured independently. As regards past-firm performance, we gathered both objective (we calculated ROA from the annual financial statements) and subjective (CEOs recollections as regards ROA) data, which were found to be highly correlated ($r=0.62$, $p< .001$). This result reinforced our belief in the validity of the data.

In addition actions were taken to minimize *common method bias*. We followed the following precautions. Firstly, two different questionnaires (general and decision-specific) were used and they were answered by different managers (i.e., dependent and independent variables were answered by different persons, following the reccommendations of Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Also certain variables are archival (i.e. past performance, firm size, CEO tenure in position, TMT level of education). Second, the items used in the analysis were distributed throughout a lengthy interview. Third, scale anchors were reversed in several places to reduce and compensate for the development of response patterns (Walter, Lechner, & Kellermanns, 2008; Brouthers et al., 2000).

Operationalization and Measurement of Variables

We made an effort to use well-known and tested measures of variables. Appendix A lists all the variables employed in the course of this study along with their reliability levels and the sources from which they were derived.

Dependent variable. To measure rationality/comprehensiveness, we employed the scale developed by Fredrickson (Fredrickson & Iaquinto, 1989; Fredrickson, 1985, 1984; Fredrickson & Mitchell, 1984). The reliability level of the scale is very satisfactory and higher than that reported by other researchers (e.g. Miller, 2008; Miller et al., 1998; Smith et al., 1988; Fredrickson & Mitchell, 1984)**.**

Decision-Specific Characteristics. Decision Specific characteristics were categorized along two dimensions: *magnitude of impact* and *decision uncertainty*. These dimensions were chosen because they are central to the decision-making literature and empirically distinct. The Appendix A presents details on variable measurement, sources in the literature from which these were drawn, and their reliability levels.

Environmental Characteristics. Regarding the environmental context, two dimensions are considered, notably environmental *dynamism*, and environmental *hostility*. These are described in the Appendix A along with their operationalization and measurement details. Cronbach alpha coefficients are satisfactory, providing reliability levels similar to those reported in other studies which used the same measures.

Firm Characteristics. In line with previous studies (e.g. Elbanna and Child, 2007a; b) we employed two variables, namely *past firm performance* (Return on Assets) and *company size* (number of employees). We assessed past performance with both subjective and objective data, which yielded similar results when they were entered in the regression models. We present only the results for objective performance[3].

Top Management Characteristics. Following the recommendations of other researchers (e.g. Papadakis & Barwise, 1997; Bower, 1997) we evaluated both the characteristics of the CEO and the Top Management Team. With respect to the former, we employed two variables, namely *CEO tenure in position* and *CEO's need for achievement*. As regards TMT, we measured Top Management Team's level of education.

[3] Results when using subjective performance are reliably upon request from the first author.

RESULTS

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Insert Table 1 here

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Table 1 reports the means, the standard deviations and the correlations for the variables assessed in the course of this study. From table 1, we observe that all correlations between the independent variables are well below .6, suggesting that multicollinearity is not a problem in this study. We also used the Variance Inflation factor (VIF) test to check for multicollinearity among the predictor variables. For all the regression models the VIF values are well below 10, the tolerance statistics are far above from .2 and the average VIF is around 1, providing a further reason to believe that multicollinearity is not an issue in this study (Field, 2005, p. 196). Furthermore, with the exception of CEO characteristics (tenure in position and need for achievement), the rest of the independent variables are correlated either positively (magnitude of impact, environmental dynamism, performance, firm size, and TMT level of education) or negatively (decision uncertainty, environmental hostility) with rationality.

Following Elbanna and Child (2007a) and Hitt and Tyler (1991), we used Hierarchical Regression Analysis to test hypothesis 1. Two equations were generated. First, rationality was regressed against the seven variables of environmental, firm and top management characteristics (Model 1.5, Table 3). We then added the two decision-specific variables into the equation. This added 22 per cent ($p<.001$) to the explained variance of rationality. Thus, Hypothesis 1 was supported. The same procedure was followed to test hypotheses 2, 3 and 4. The addition of environmental variables into the equation (Model 2.5, Table 3) added 1 percent (not statistically significant) to the explained variance of rationality. Thus, Hypothesis 2 was not

supported. Similarly, the addition of firm variables into the equation (Model 3.5, table 3) added 7 per cent ($p< .01$) to the explained percentage of variance. This lends support to Hypothesis 3. Finally, the addition of TMT variables (Model 4.5, table 3) added 4 per cent ($p< .05$) to the explained percentage of variance, which provides support to hypothesis 4.

Consistent with Elbanna and Child (2007a), we ran the regressions in all possible entry orders to see how those results compared. The variance in rationality explained separately by the decision-specific, environmental, firm and Top Management characteristics is 21 per cent ($p< .001$, Model 1.1), 5 per cent ($p<. 05$ Model 2.1), 8 per cent ($p< .01$, Model 3.1) and 9 per cent ($p< .01$, Model 4.1) respectively. The above results indicate that the relative importance of decision-specific variables in predicting rationality is more than the other three perspectives.

In line with the above, the inclusion of decision-specific characteristics in the hierarchical regression models, with firm (Model 1.2), environmental (Model 1.3) and Top Management (Model 1.4) variables added 24 per cent ($p< .001$), 20 per cent ($p< .001$) and 22 per cent ($p< .001$) respectively to the explained variance. Contrarily, the inclusion of environmental variables, with firm (Model 2.2), decision-specific (model 2.3) and Top Management characteristics (Model 2.4) added 4 per cent ($p< .05$), 3 per cent (not statistically significant) and 3 per cent (not statistically significant) to the explained variance. As far as the firm perspective is concerned, its inclusion in the hierarchical regression models with environmental (Model 3.2), decision-specific (Model 3.3) and Top Management (4.3) characteristics, added 7 per cent ($p< .01$), 10 per cent ($p< .001$) and 6 per cent ($p< .05$) to the explained variance.

Finally, including Top Management variables in the firm (Model 4.2), decision-specific (Model 4.3) and environmental (Model 4.4) added 6 per cent ($p< .05$), 9 per

cent ($p< .01$) and 7 per cent ($p< .05$) respectively to the explained variance. These results provide further empirical support to the argument that Decision-Specific characteristics play a dominant role in shaping rationality, followed by Firm and Top Management characteristics. Also, it seems that the environmental model is not operative.

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Insert Table 2 here

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Finally, to test hypotheses 1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b and 4c, we run a regression analysis treating rationality as a dependent variable and the nine contextual variables as independent. Table 3 shows that the nine variables explain 38% ($p< .001$) of the variance in rationality. This percentage appears to be close to that of previous studies (Elbanna & Child, 2007a; Dean & Sharfman, 1993a). Magnitude of impact ($\beta = 0.47, p< .001$), Past Performance ($\beta = 0.18, p< .05$), Company Size ($\beta = 0.21, p< .01$) and the Education Level of the Top Management Team ($\beta = 0.19, p< .05$) exert a statistically significant impact on rationality. The remaining variables, namely Decision Uncertainty, Environmental Dynamism, Environmental Hostility, CEO Tenure and Need for Achievement appear to have no measurable effect on rationality. These results confirm Hypotheses 1a, 3a, 3b and 4c and do not support 1b, 2a, 2b, 4a and 4b.

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Insert Table 3 here

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DISCUSSION

We will first discuss the *overall* impact of the different perspectives on rationality and then, we will proceed with the discussion regarding the *individual* impact of contextual factors.

With respect to the overall impact of the four different perspectives, our study suggests that rationality of strategic decision making cannot be explained in terms of a single perspective. Thus, consistent with other studies (Elbanna & Child, 2007a; Brouthers et al., 2000; Dean & Sharfman, 1993a; Hitt & Tyler, 1991) we find support for the use of integrative frameworks. Our results showed that rationality is shaped by three layers of context, namely Decision, Firm and Top management context, but not at equal terms. Interestingly though, the environmental determinism perspective appears to have no measurable effect on rationality. This result cast doubts on the allegations of the population ecologists who argue that the strategic decision processes are nothing more but adaptations to the characteristics of the external environment.

We believe that this finding deserves further discussion. By reviewing the literature, we observe that the impact of environmental variables on strategic decision processes might be related to the national setting in which the studies take place. For instance, the vast majority of the US studies suggest that the environmental context (e.g. Priem et al., 1995; Dean & Sharfman, 1993a; Kukalls, 1991; Fredrickson & Iaquinto, 1989; Miller et al., 1988; Fredrickson, 1984; Fredrickson & Mitchell, 1984; Miller et al., 1983) plays a significant role in shaping rationality. However, results from other national settings appear to contradict this point. Brouthers et al. (2000) for instance, studied the factors that influence the Strategic decision making processes in the Dutch Financial Services Industry. Their results showed that conversely to the US context (e.g. Hitt and Tyler, 1991) the environmental factors explained less of the variance in strategic aggressiveness than managerial characteristics. In a similar vein, Elbanna and Child (2007a) studied 169 Strategic Decisions made by Egyptian manufacturing firms with more than 100 employees. In their words (p. 579) "*the*

relative importance of environmental variables in predicating decision rationality is less than decision and firm-specific characteristics". According to the authors, this finding can be attributed to the national setting of the study since some of the executives who participated in the research shared the opinion that they were working under external conditions which were beyond their control. Thus, the characteristics of the external environment exerted little influence on the process followed.

We argue that the case of Greece might be similar or even worse. Schneider and De Meyer (1991) argue that Latin European managers, in contrast to other Europeans, are characterized by an attitude of having limited control over the external environment. It may be that the perception of having no control over the environment is responsible for the lack of influence of the external environment on rationality. Indeed, Greek economy is in a state of constant transition for the past 30 years. The affiliation of the country in the European Union and the new EU legislation according to which union members are allowed to have free access to each other's market, created a new competitive landscape where Greek managers felt that they have even less control over the external environment. Brouthers et al. (1998, p. 136) argue that in this new EU context, Dutch firms because of their small size feel more threatened by large multinational firms operating in the Netherlands. The relative small size of Greek firms may imply similar consequences and provide a further reason to support the argument that Greek managers feel that the changes of the external environment are far beyond their control.

Our descriptive statistics are quite indicative in verifying the above statement. The mean score for the environmental hostility dimension is equal to 3.96[4], higher than the 3.59 reported by Elbanna and Child (2007a) who used the same scale of

[4] In our survey we used 5-point Likert type scales and the mean score of environmental hostility is 2.84. We adjusted the 5-point likert type scale to a seven point likert type scale, so as to compare our results with Elbanna and Child (2007a).

measurement. This provides a further reason to believe that the lack of statistically significant impact of environmental variables on rationality is attributable to the perception of Greek managers that the external environment is far beyond their control. We will now discuss the *individual impact* of each of the context variables on rationality.

Our results indicate that the most important predictor of decision rationality is the *decision's magnitude of impact*. It seems that in decisions with important consequences for their organizations executives appear to follow more rational approaches. This finding concurs with the vast majority of the research which argues that decision importance is positively related to rationality of strategic decision making (e.g. Nooraie, 2008; Papadakis et al., 1998; Hickson et al., 1986; Stein, 1980).

With respect to *decision uncertainty*, we found that it has no significant impact on rationality. As previously stated, past research regarding the relationship between decision uncertainty and rationality has produced conflicting results. On the one hand, Dean and Sharfman (1993a) state that decision uncertainty is negatively related to rationality, while on the other hand, Bourgeois and Eisenhardt (1988) and Leblebici and Salancik (1981) argue that they are positively related. Our results do not support either line of thought. Differences in the results might be attributable to the different national setting (Greece and US), to the different operationalization of decision uncertainty or to differences in the analytical framework and the Research method among the studies.

As regards environmental *dynamism* and *hostility*, we found that arguments such as "*organizations in hostile or dynamic environments follow more rational decision making approaches* (Goll & Rasheed, 1997; Priem et al., 1995; Bourgeois & Eisenhardt, 1988; Dess & Beard, 1984)" receive no empirical support in the Greek

context. As stated in the previous paragraphs, this is probably due to the lack of perceived control over the external environment.

Past firm Performance was found to be positively related to the degree of rationality, providing support to the stream of research which states that high levels of performance lead to more rational decision making approaches (Papadakis, 1998; Jones et al., 1992; Smith et al., 1988) and refute the opposite line of research according to which superior performance lowers the extent of rationality (Fredrickson, 1985). It seems, at least in the Greek Context, that superior performance enables companies to invest resources in their internal structures, systems and people, thus being in a position to resort in more rational approaches (Papadakis, 1998). As far as the second characteristic of the firm perspective is concerned (*company size*), we found that larger firms have the resources to follow more rational decision making approaches as opposed to smaller firms, thus lending support to the results of other studies (e.g. Elbanna & Child, 2007a; Miller et al., 1998; Fredrickson & Iaquinto, 1989; Mintzberg et al., 1976).

Finally, we found no empirical support for a relationship between the characteristics of the CEO and the rationality of strategic decision making. Neither, CEO's *tenure* in position, nor *CEO's need for achievement* exerted any influence on the process followed. This lack of relationship contradicts an important line of research which argues that the CEO characteristics matter in Strategic Decision Making (e.g. Hodgkinson & Sparrow, 2002; Lewin & Stephens, 1994; Miller et al., 1988). It is also against the results of early studies carried out in the Greek context (e.g. Bourantas, Anagnostelis, Mantes, & Kefalas, 1990; Bourantas & Mantes, 1988), which showed that the vast majority of the Greek companies are highly bureaucratic, centralised and run by individual and powerful individuals. Before rushing into any

conclusions, we should examine the third variable of the Top Management Perspective. Contrarily, with CEO's characteristics, Top Management Team's *level of education* is positively associated with rationality, thus providing support to the results of other researchers (e.g. Goll & Rasheed, 2005; Bantel & Jackson, 1989).

These results need further investigation as they appear to be context related. The lack of association between CEO's characteristics and rationality can be probably attributed to the changing environmental forces. As stated in the introduction, Greece's affiliation in the European Union, created a new environment full of opportunities and threats. It may be that in this new environment, Greek firms realised that they had to modernise their decision making systems and turn into more team-based decision making approaches. Evidence from recent Greek studies provide support to the above argument (Caloghirou et al., 2004; Makridakis et al., 1997).

CONCLUDING REMARKS, LIMITATIONS AND POSSIBLE EXTENSIONS

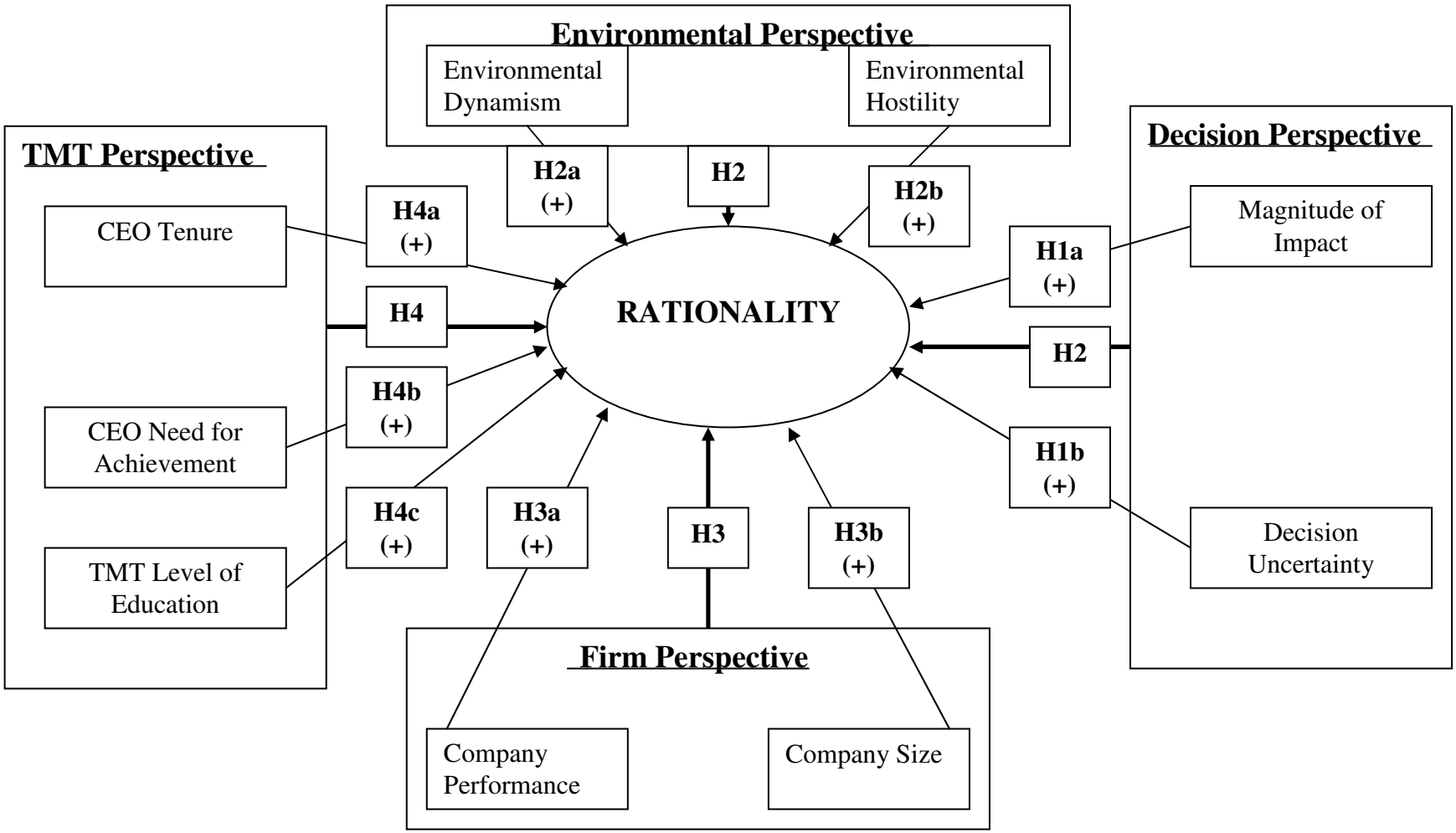
This study makes several contributions to our knowledge on Strategic Decisions. Firstly, it examined in a single study the overall and the individual impact of four alternative perspectives on the rationality of strategic decision making. Thus, it provided answers not only to the question of which context variables matter in shaping rationality (individual impact) but also to how much each perspective matters (overall impact) relative to each other. To the best of our knowledge, this is the first time that it is attempted in the literature. Results indicated that rationality cannot be explained by a single perspective. Also, it was shown that the different perspectives do not matter at equal terms, with the decision-perspective having a dominant role. Another contribution is that we bring data outside the US context, from an economy

in transition. This gave us the opportunity to discuss the potential impact of culture on decision making processes.

However, our results must be interpreted bearing in mind some limitations. The most important is that the cross-sectional design raises doubts on the causal relationships between the variables. A second limitation is that although we tried to be as representative as possible with respect to the selection of the variables, it may be that we did not include in our model some important context variables such as reward systems and aspects of the organization structure. Third, our research was carried out in Greek manufacturing firms. Therefore, generalizations to other national settings or other types of firms (e.g. Services firms) should be made with considerable caution. In addition to the above, we examined only direct effects and did not examine whether interactions between the context variables add to the explained percentage of variance. Brouthers et al. (2000) found empirical support to the argument that certain interactions between environmental and managerial characteristics are important components of the strategic decision making process. The examination of whether interactions between the four perspectives add to the explained variance represents a fruitful avenue of research.

Finally, we would also like to offer two other suggestions for further research. The first is concerned with research from different national settings. We believe that such attempts will enhance our knowledge on Strategic Decision Making. Furthermore, our research was concerned with Rationality only. Given that we now have empirical evidence (Elbanna & Younies, 2008; Dean & Sharfman, 1993b) stating that SDM process is multidimensional, we feel that future studies should also incorporate other important process dimensions such as intuition and political behaviour.

FIGURE 1
Contextual Influences on the Rationality of Strategic Decision Making



TABLES

TABLE 1

Means, Standard Deviations, Reliabilities and Intercorrelations for Variables Assessed in this Study

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1.	**Rationality**	3.20	.65	1									
2.	**Magnitude of Impact**	3.35	.70	.43***	1								
3.	**Decision Uncertainty**	2.46	1.09	-.20**	-.08	1							
4.	**Environmental Dynamism**	3.56	1.03	.14*	.09	-.13	1						
5.	**Environmental Hostility**	2.84	.79	-.19*	.00	.12	-.16*	1					
6.	**Firm Performance**	0.08	.13	.19*	-.02	.02	.16*	-.15	1				
7.	**Company Size (log)**	2.62	.32	.20**	-.08	.04	-.17*	-.03	-.04	1			
8.	**CEO Tenure**	8.99	6.68	-.11	.18*	.10	-.09	.07	.00	-.14	1		
9.	**CEO Need for Achievement**	2.22	.63	.01	-.05	.02	.23**	-.06	-.02	.15*	.11	1	
10.	**TMT Level of Education**	79.69	25.72	.28***	-.03	-.34	-.00	-.22	.03	.18*	-.22	-.17*	1

Note: n=143,
*$p < .05$,
**$p < .01$,
***$p < .001$

TABLE 2
Hierarchical Regression Models for Predictors of Decision Rationality

Model 1.1			*Model 1.5*				
Predictors	R^2	F	*Predictors*	R^2	F	ΔR^2	ΔF
SD-Specific variables	.21	18.89***	Environmental, Firm and TMT variables	.17	3.85**		
			SD-Specific variables	.38	9.16***	.22	23.29***
Model 2.1			*Model 2.5*				
Predictors	R^2	F	*Predictors*	R^2	F	ΔR^2	ΔF
Environmental variables	.05	3.49*	SD-Specific, Firm and TMT variables	.37	11.38***		
			Environmental variables	.38	9.16***	.01	1.23
Model 3.1			*Model 3.5*				
Predictors	R^2	F	*Predictors*	R^2	F	ΔR^2	ΔF
Firm variables	.08	6.08**	SD-Specific, Environmental and TMT variables	.32	8.94***		
			Firm variables	.38	9.16***	.07	7.11**
Model 4.1			*Model 4.5*				
Predictors	R^2	F	*Predictors*	R^2	F	ΔR^2	ΔF
TMT variables	.09	4.32**	SD-Specific, Environmental and Firm variables	.34	11.61***		
			TMT variables	.38	9.16***	.04	3.16*

TABLE 2 continued

Model 1.2					*Model 1.3*					*Model 1.4*				
Predictors	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF
Firm variables	.08	6.08**			Environmental variables	.05	3.49*			TMT variables	.09	4.32**		
SD-Specific variables	.32	15.93***	.24	23.80***	SD-Specific Variables	.24	11.16***	.20	17.99***	SD-Specific variables	.30	11.86***	.22	21.29***
Model 2.2					*Model 2.3*					*Model 2.4*				
Predictors	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF
Firm variables	.08	6.08**			SD-Specific variables	.21	18.89**			TMT variables	.09	4.32**		
Environmental variables	.12	4.71**	.04	3.15*	Environmental variables	.22	11.16***	.03	2.92	Environmental variables	.11	3.47*	.03	2.09
Model 3.2					*Model 3.3*					*Model 3.4*				
Predictors	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF
Environmental variables	.05	3.49*			SD-Specific variables	.21	18.89**			TMT variables	.09	4.32**		
Firm variables	.12	4.71**	.07	5.70**	Firm variables	.32	15.93***	.10	10.42***	Firm variables	.14	4.46**	.06	4.37**
Model 4.2					*Model 4.3*					*Model 4.4*				
Predictors	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF	*Predictors*	R^2	F	ΔR^2	ΔF
Firm variables	.08	6.08**			SD-Specific variables	.21	18.89**			Environmental variables	.05	3.49*		
TMT variables	.14	4.46**	.06	3.20*	TMT variables	.30	11.86**	.09	5.87**	TMT variables	.11	3.47**	.07	3.37*

Note: n=143,
*$p < .05$,
**$p < .01$,
***$p < .001$

TABLE 3
Regression of Rationality with Predictor Variables (Individual Impact)

	Rationality
Variables	**Beta**
Magnitude of Impact	**.47*** **
Decision Uncertainty	**- .08**
Environmental Dynamism	**.07**
Environmental Hostility	**- .08**
Past Performance	**.18***
Company Size	**.21****
CEO Tenure in Position	**- .11**
CEO Need for Achievement	**.03**
TMT Level of Education	**.19***
R^2	**.38**
Adjusted R^2	**.34**
F	**9 .16*** **

Note: n=143,
*p< .05,
**p< .01,
***p< .001

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APPENDIX A: OPERATIONALIZATION OF VARIABLES

Rationality (Alpha=0.93): This construct is based on Fredrickson's (1984) rationality/comprehensiveness dimension. Five stages in the SD process are measured (i.e. the situation diagnosis, alternative generation, alternative evaluation, making of the final decision, and decision integration). For each of these stages Fredrickson's eight rationality elements are measured on five-point Likert-type scales (i.e. extent of scheduled meetings, assignment of primary responsibility, information seeking activities, systematic use of external sources, employees involved, use of specialized consultants, years of historical data review, and functional expertise of people involved). The rationality elements for each stage are summed to create five additive variables, each representing the rationality/comprehensiveness dimension of the respective stage. Summation of these five variables results in an overall measure of rationality/comprehensiveness of the process.

Magnitude of Impact (Alpha=0.80) is a composite variable consisting of eight five-point Likert-type scales measuring the impact of SD on the following organizational areas: (i) profit, (ii) quality of products/services, (iii) total production, (iv) cost, (v) sales, (vi) market share, (vii) call for changes in existing programs and (viii) organizational adjustment required to serve the decision. Ideas drawn from: Schneider and De Meyer (1991) and Beach and Mitchell (1978).

Decision Uncertainty (Alpha=0.58): Composite variable consisting of three seven-point Likert-type scales measuring the uncertainty about actions to be taken, general uncertainty surrounding the decision, and uncertainty concerning the information to be collected. The source of this variable is Beach and Mitchell (1978).

Environmental Dynamism (Alpha=0.85): Composite variable consisting of eight distinct scales referring to three derived sub-constructs: (1) dynamism in marketing practices, (2) competitor dynamism and (3) customer dynamism. Each scale was measured in a seven-point Likert-type scale ranging from '1' (no change) to '7' (very frequent changes). This scale is taken from Achrol and Stern (1988).

Environmental Hostility (Alpha=0.74): Composite variable consisting of three five-point Likert-type scales measuring the degree of environmental (1) riskiness, (2) stressfulness, (3) dominance over the company. It was derived from Khandwalla (1977).

Past-Firm Performance: Return on Assets (ROA) averaged for 5 years, to decrease the chance of a 1-year aberration results (Bourgeois, 1980). Another consideration was to control for industry effects on performance. Since four industrial sectors are represented in the sample each of the resulting ROA measures was divided by the mean ROA of the respective sector, in an attempt to control for sectoral influences.

Company Size: Keeping in line with previous research (e.g. Elbanna and Child, 2007a,b; Fredrickson, 1984), we assessed Size by the number of full-time employees.

CEO's Tenure in Position: This variable was gathered from archival data (company records) and refers to the number of the years that the CEO is working in the company (Rajagopalan & Datfa, 1996; Michel & Hambrick, 1992).

CEO's Need for Achievement (Alpha=0.70): Composite variable consisting of six 7-point Likert-type scales measuring an active attitude towards decision-making and personal setting (Steers & Braunstein, 1976; Eysenck & Wilson, 1975).

TMT Level of Education: Percentage of Managers, down to the level of departmental heads who are university graduates. This scale is taken from Papadakis et al. (1998) and was gathered from archival data (company records).