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# INFLUENCES ON STRATEGIC DECISION EFFECTIVENESS: DEVELOPMENT AND TEST OF AN INTEGRATIVE MODEL

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*This paper draws upon three broad perspectives on the strategic decision-making process in order to develop a more completely specified model of strategic decision effectiveness in a different context, namely Egypt. The key variables in this model consist of three strategic decision-making process dimensions (rationality, intuition, and political behavior); seven moderating variables concerning decision-specific, environmental, and organizational factors; and strategic decision effectiveness as an outcome variable. A two-stage study was conducted in which the first stage provided exploratory insights and the second stage investigated hypotheses on the impact of strategic decision-making process dimensions on strategic decision effectiveness and the moderating role of broader contextual variables. The second-stage study produced three major findings: (1) both rational and political processes appear to have more influence on strategic decision effectiveness than does intuition; (2) strategic decision effectiveness is both process- and context-specific; and (3) certain results support the 'culture-free' argument, while others support the 'culture-specific' argument.* Copyright © 2007 John Wiley & Sons, Ltd.

## INTRODUCTION

Previous research into the strategic decision-making process has produced some inconsistent findings. This may be due to the application of oversimplified models to a complex phenomenon. Therefore, several scholars have advocated the desirability of combining different perspectives of decision making when investigating the strategic decision-making process (e.g., Bateman and Zeithaml, 1989; Bryson and Bromiley, 1993; Elbanna, 2006; Schneider and Meyer, 1991). Hough and White (2003), for example, stress that integrative models of the strategic decision-making process should be used to examine simultaneously the effects of context, managerial actions, and managers' cognitions. Hitt and Tyler (1991) support the need to integrate the different perspectives of strategic decision making, adding that such integration would provide a better understanding of strategic decision-making processes.

It has been argued that account should be taken of both contingency variables and environmental characteristics when examining the effects of process variables on strategic decision-making effectiveness. Hart and Banbury (1994: 256), for example, state that research into the link between process and organizational outcomes 'must examine or control for key contingency factors.' They report that empirical work on the association between the strategic decision process and organizational outcomes has taken a contingency perspective since the early studies of Miller and Friesen (1983) and Fredrickson and

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Mitchell (1984). This trend has continued to the present (e.g., Baum and Wally, 2003). Contingency variables include characteristics of decisions themselves, such as their intrinsic importance, as well as organizational features such as company size. In regard to the former, Rajagopalan *et al*. (1997) argue that several decision-specific factors can affect the link between decision process and organizational outcomes. Further empirical evidence supporting the impact of problem characterization on decision processes and outcomes was found in studies by Cowan (1989) and Dutton and Duncan (1987). There have also been investigations into the potential moderating effects of environmental factors on the relationship between decision process dimensions and process/economic outcomes (e.g., Fredrickson, 1984; Hough and White, 2003). These studies, however, have generated contradictory results (Rajagopalan *et al*., 1997), and have therefore failed to produce meaningful generalizations (Sharfman and Dean, 1991).

Thus, one can argue that the use of a model with process variables as the main predictors, and contingency and contextual variables as moderators, may predict more variance in strategic decision-making effectiveness than previous models that, for example, tested simple bivariate relationships. Nevertheless, most existing strategy-making process models fail to capture this level of complexity and variety (Hart and Banbury, 1994).

Moreover, there is a gulf between the synoptic and incremental perspectives in strategic decision research. The former views the process from a rational-analytic perspective, while the latter emphasizes the incremental-political aspects of the process. Bridging this gulf also requires an investigation of the strategic decision-making process from several perspectives. One of the contributions of the study reported here is that it uses a multidimensional empirically grounded representation of strategic decision-making process characteristics to examine the process–outcome relationship. This is an advantage over related empirical efforts that focus on specific process dimensions (e.g., Fredrickson, 1984; Khatri and Ng, 2000). We combine both the synoptic and incremental-political perspectives. Procedural rationality is chosen to represent the synoptic perspective, while intuitive synthesis and political behavior are both taken to represent the incremental-political perspective.

The investigation reported here was also informed by a further consideration. While the strategic decision-making process appears to differ between different countries and there is little evidence of universalism (Wilson, 2003), research on this topic is quite limited outside the United States and the United Kingdom. This reflects '*the overwhelming geographical bias*' of work in the field of strategic management (Pettigrew, Thomas, and Whittington, 2002: 8). Therefore, Whittington, Pettigrew, and Thomas (2002) recommend seeking out and taking account of international diversity, rather than avoiding it. These considerations suggest that investigating strategic decisions in different countries represents a promising research direction (Brouthers, Brouthers, and, Werner, 2000).

The location of the investigation in Egypt is expected to give rise to certain characteristics of the strategic decision-making process that are specific to that context by dint of culture or other national attributes. Comparative cross-cultural investigations by Hofstede (1991) and Trompenaars (1973) suggest that Egyptian managers are likely to be relatively respectful of leadership and hierarchical distance, fatalistic, and inclined to act according to the particular relationship involved rather than in accord with general rules or standards. From their review of relevant studies, Hickson and Pugh (2001) characterize Egyptian managers as sensitive to personal relationships (especially with superiors), cautious, and slow to take decisions. Egyptian commentators tend to confirm this picture (e.g. Leila, Yassin, and Palmer, 1985; Youssef, 1994), though this may reflect the fact that most studies have been conducted within the state-owned or controlled, and hence highly bureaucratic, sector of the Egyptian economy. Overall, these features might be expected to reduce strategic decision-making process effectiveness.

Taking into account all the foregoing considerations, this paper seeks to contribute to knowledge in the area of strategic decision making by developing a model for the purposes of this study taking into account the following three recommendations: first, to encompass different perspectives in order to develop a more complete model of the strategic decision making (Child, Chung, and Davies, 2003; Rajagopalan, Rasheed, and Datta, 1993; Schwenk, 1995); second, to investigate the strategic decision-making process dimensions in



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relation to the synoptic and incremental-political debate (Camillus, 1982; Elbanna, 2006; Grant, 2003; Langley, 1989); third, to conduct research in a non-American or non-British setting, in this case Egypt (Papadakis, 1998; Whittington *et al*., 2002).

## THEORETICAL MODEL AND HYPOTHESES

The model informing our investigation is depicted in Figure 1. It posits that the strategic decision-making process has a direct influence on strategic decision effectiveness, and that this relationship is moderated by (1) decision-specific characteristics, (2) environmental factors, and (3) firm characteristics. The variables included in the model are ones that are associated with the different perspectives mentioned and have been the subject of theoretical interest and/or empirical support. The fact that they have been of interest to many researchers increases the scope for comparing the findings of our study with those of previous investigations.

The concepts contained in each component of this model are now explained, together with the theoretical rationale for their inclusion in relation to strategic decision effectiveness and the hypotheses that express this rationale.

### Strategic decision effectiveness and strategic decision-making process dimensions

#### *Strategic decision effectiveness*

In strategic decision-making research, some authors investigate organizational performance (e.g., Goll and Rasheed, 1997), while others choose decision level as a focus instead of organizational level and examine strategic decision outcomes, such as effectiveness (e.g., Butler *et al*., 1993); success (Rodrigues and Hickson, 1995) and quality (e.g., Amason, 1996). It is significant that the largest body of empirical research on organizational outcomes deals with organizational performance, which is generally not explicitly portrayed as decision effectiveness.

#### *Rationality*

'Rationality is the reason for doing something and to judge a behaviour as reasonable is to be able to say that the behaviour is understandable within a given frame of reference' (Butler, 2002: 226).

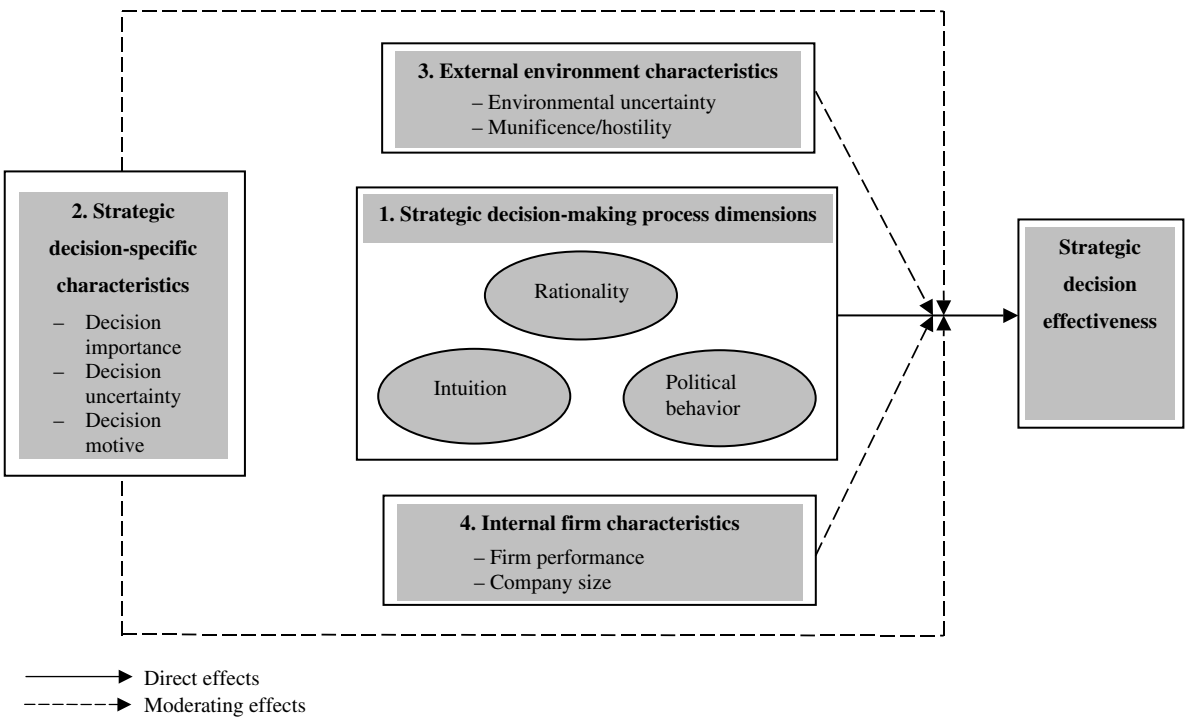


Figure 1. Integrated model of strategic decision-making effectiveness



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Rational processes have long been recognized as a central aspect of strategic decision making and have been intensively subjected to both theoretical and empirical investigation in the literature of decision making.

Although evidence on the relationship between rationality and strategic decision effectiveness is limited, the preponderance of results supports a positive relationship between planning and superior performance (Miller and Cardinal, 1994; Schwenk and Shrader, 1993). The explicit positive relationship between rationality and strategic decision effectiveness reported by Dean and Sharfman (1996), together with Janis's (1989) suggestion that public policy decisions employing rational methods are more successful than those that did not, leads to the following hypothesis:

*Hypothesis 1.1: The use of rationality in strategic decision making will be positively related to strategic decision effectiveness.*

### *Intuition*

To date, researchers have emphasized rational processes rather than intuitive processes. Although some authors have argued that intuition has an important role in strategic decision making (e.g., Butler, 2002), there has been little empirical research on this role. Most of the relatively few empirical studies do not examine the relationships between intuition and organizational *outcomes*. For example, Eisenhardt (1989), Judge and Miller (1991), and Wally and Baum (1994) investigate the impact of intuition on the pace of strategic decision making, but they do not directly investigate the relationship between intuition and organizational outcomes. In one of the very few applied studies that have addressed the role of intuition on organizational outcomes, Khatri and Ng (2000) found that the use of intuition in the strategic decision-making process is negatively related to organizational performance in a stable environment. Moreover, one of the basic assumptions about management in general and decision making in particular, is that rational processes yield choices that are superior to those coming from intuitive processes (Khatri and Ng, 2000).

In view of the above, we advance the following hypothesis:

*Hypothesis 1.2: The use of intuition in strategic decision making will be negatively related to strategic decision effectiveness.*

### *Political behavior*

The political perspective on strategic decision making assumes that decisions emerge from a process in which decision makers have different goals, forming alliances to achieve their goals in which the preferences of the most powerful prevail. Political behavior among the actors concerned has long been recognized as an aspect of decision making (Child and Tsai, 2005) and has received considerable attention from researchers. Studies by Janis (1989), Eisenhardt, Kahwajy, and Bourgeois (1997), Dean and Sharfman (1996), and Nutt (1993) all suggest a negative link between political behavior and organizational outcomes. This gives rise to:

*Hypothesis 1.3: The presence of political behavior in strategic decision making will be negatively related to strategic decision effectiveness.*

## The moderating role of strategic decision-specific characteristics

Rajagopalan *et al*. (1993: 366–369) indicate that while some conclusions can be drawn about the influence of different decision characteristics on the decision-making process, their performance implications remain unexplored. They go on to say that 'perhaps the major contribution of studies in this link is a heightened awareness of the need for closer examination of the interrelationships between decision-specific factors and process characteristics.'

### *Decision importance*

Papadakis, Lioukas, and Chambers (1998) find that the perceived magnitude of impact of a strategic decision is among the strongest explanations of decision-making behavior. Given that not all strategic decisions are equally important, executives may deal with these decisions in different ways. For example, it is expected that decision makers will feel a greater need to demonstrate rationality for the most important decisions. There are symbolic as well as functional reasons behind



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this (Dean and Sharfman, 1993). Rational procedures such as collecting and analyzing information are used to symbolize capable management (Langley, 1989; Mueller, 1998). A cost/benefit analysis supports the above view. Economic arguments suggest that more attention should be allocated to issues involving the highest cost or risk (Winter, 1981). Executives are also expected to be more rational when making decisions crucial to the success of their organizations (Hickson *et al*., 1986). Papadakis *et al*. (1998) lend empirical support to this argument, finding that decision makers act more rationally when decisions imply important consequences. We may therefore argue that decision makers are likely to be less intuitive and political when making decisions key to the success of their organizations. Based on this discussion, and in conjunction with considering Hypotheses 1.1, 1.2, and 1.3, which suggest a positive relationship between rationality and strategic decision effectiveness and negative links between both intuition and political behavior and strategic decision effectiveness, we suggest the following three hypotheses:

*Hypothesis 2.1: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for important decisions than for unimportant decisions.*

*Hypothesis 2.2: The relationship between intuition and strategic decision effectiveness will be negative, but weaker for important decisions than for unimportant decisions.*

*Hypothesis 2.3: The relationship between political behavior and strategic decision effectiveness will be negative, but weaker for important decisions than for unimportant decisions.*

### *Decision uncertainty*

Decision making, especially of the non routine kind such as strategic decisions, is liable to involve uncertainty. As Butler (2002) points out, coping with decision uncertainty forms the nub of decision making. 'The degree of choice will therefore be limited not only by action determinism and the constraints of the intra-organizational political process; it will also be inhibited by limited and/or ambiguous information' (Child, 2002: 113). Uncertainty as used here refers to a specific decision, as opposed to environmental uncertainty in general (e.g., Papadakis *et al*., 1998).

Some authors have treated uncertainty as a mystery that cannot be resolved by rational processes, in which case uncertainty will decrease rational processes. For example, Daft and Lengel (1986) propose that high uncertainty attaching to a decision may result in processes that are more intuitive, e.g., to employ judgment and experience rather than computational routines. Dean and Sharfman (1993) lend empirical support to this view, finding that uncertainty on strategic issues is negatively related to procedural rationality. In the light of these studies, and Hypotheses 1.1 and 1.2, the following hypotheses are advanced:

*Hypothesis 2.4: The relationship between rationality and strategic decision effectiveness will be positive, but weaker for high-uncertainty decisions than for low-uncertainty decisions.*

*Hypothesis 2.5: The relationship between intuition and strategic decision effectiveness will be negative, but stronger for high-uncertainty decisions than for low-uncertainty decisions.*

Papadakis *et al*. (1998) report that decision uncertainty is positively associated with politicization. They argue that when uncertainty exists about the actions to be taken and/or the information to be collected, one may expect to find both a clash of opinions during the initial stages of problem formulation and a surge of political activities during the issue resolution process. This is consistent with Lyles (1981) who, on the basis of case evidence, argues that uncertainty about some aspects of an issue (i.e., its definition) may increase politicality in the problem formulation process. The above discussion and the assumption that political behavior leads to unsuccessful decisions (Eisenhardt *et al*., 1997) gives rise to:

*Hypothesis 2.6: The relationship between political behavior and strategic decision effectiveness will be negative, but stronger for high-uncertainty decisions than for low-uncertainty decisions.*



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*Decision motive*

The way in which decision makers categorize and label a strategic decision as an opportunity or as a crisis, strongly affects the subsequent processes of decision making (Schneider and Meyer, 1991). There is evidence that executives behave in a different way if they perceive a decision to be motivated by an opportunity rather than by a crisis (Jackson and Dutton, 1988). For example, using the case history of a large externally triggered strategic decision in a chemical company, Papadakis, Kaloghirou, and Itarelli (1999) show that when managers saw the decision as a crisis they avoided political debate, concentrating on facts and ideas. When the crisis subsided, however, a number of political activities emerged. Mintzberg, Raisinghani, and Theoret (1976) observe that managers are more rational when the decision is related to a crisis, while they tend to respond to opportunities without using formal and analytical processes. Fredrickson (1985) provides further empirical support for this position. In the light of the above discussion and Hypotheses 1.1, 1.2, and 1.3, the following hypotheses are advanced:

*Hypothesis 2.7: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for decisions perceived by decision makers as crises than for decisions perceived as opportunities.*

*Hypothesis 2.8: The relationship between intuition and strategic decision effectiveness will be negative, but weaker for decisions perceived by decision makers as crises than for decisions perceived as opportunities.*

*Hypothesis 2.9: The relationship between political behavior and strategic decision effectiveness will be negative, but weaker for decisions perceived by decision makers as crises than for decisions perceived as opportunities.*

## External environment characteristics

*Environmental uncertainty*

Among environmental characteristics, uncertainty has attracted most interest in the study of strategic decision making (Goll and Rasheed, 1997). According to contingency theory, strategic decision processes are affected by environmental attributes. Fredrickson (1983) argues that in a stable environment synoptic processes should be used (e.g., rationality), whereas in an unstable environment incremental processes (e.g., intuition) should be adopted. This is because in a stable environment data are more available and reliable, there is less pressure to collect new data, and the cost of data gathering is reasonable. Hence, decisions based on facts may lead to better performance than decisions based on judgment or hunches (Khatri and Ng, 2000).

In contrast to contingency theory, several studies find that it is rational/comprehensive processes rather than incremental processes that are related to superior performance in a high-velocity environment. Eisenhardt (1989), for example, finds that in a dynamic environment fast decision makers use more information than slow ones. Moreover, she reports that fast decision making was associated with better performance, since with faster decision making more decisions could be made, leading to more learning and the capture of fleeting opportunities. Other studies have not supported either line of thought mentioned above. For example, Dean and Sharfman (1996) show that environmental instability does not moderate the link between procedural rationality and organizational outcomes. Although the empirical studies in this field seem to produce contradictory results, the preponderance of previous studies that have investigated the association between both rationality and intuition and organizational outcomes have supported the contingency view stated above (e.g., Fredrickson, 1984; Fredrickson and Iaquinto, 1989; Hart, 1992; Priem, 1994). Based on this discussion, and in conjunction with Hypotheses 1.1, 1.2, and 1.3, we suggest the following three hypotheses:

*Hypothesis 3.1: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for companies facing low environmental uncertainty.*

*Hypothesis 3.2: The relationship between intuition and strategic decision effectiveness will be negative, but weaker for companies facing low environmental uncertainty.*

*Hypothesis 3.3: The relationship between political behavior and strategic decision effectiveness will be negative, but weaker for companies facing low environmental uncertainty.*



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*Environmental hostility–munificence*

Environmental hostility vs. munificence is regarded as one of the most important factors for explaining strategic behavior (Castrogiovanni, 1991). While there is only limited empirical research examining the specific impact of environmental hostility or munificence on decision making, it does suggest the importance of this factor (Wan and Hoskisson, 2003). For example, Goll and Rasheed (1997) support the role of environmental munificence as a moderator of the relationship between strategy-making processes and organizational performance. They found that a rational decision process is strongly associated with organizational performance in environments that are high in munificence. One reason for this result may be that environmental munificence provides both the resource that a rational approach requires and favorable conditions for a successful outcome. We therefore advance the hypotheses that:

*Hypothesis 3.4: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for companies facing high environmental munificence.*

*Hypothesis 3.5: The relationship between intuition and strategic decision effectiveness will be negative, but weaker for companies facing high environmental munificence.*

In the period during which the empirical part of the present study was conducted (October 2001–September 2002), the Egyptian economy was suffering from many problems (e.g., lack of liquidity, a declining exchange rate, and an increasing rate of unemployment), giving rise to what one could call a hostile environment. These problems forced many companies to withdraw and liquidate their business and left many others struggling to stay solvent.

In a hostile environment, organizations have to respond to intense pressures. Here, decision makers may perceive that the survival of the organization is at stake (Ashmos, Duchon, and Bodensteiner, 1997) and immediate action should be taken, for instance, seeking a merger to stave off bankruptcy (Mintzberg *et al*., 1976). In this environment, some alternatives may negatively influence decision makers themselves, e.g., layoffs and a drop in income. Therefore, political tactics may be much more important in such situations: decision makers will have more desire to use such tactics not only to enhance their power or get more benefits but also, and most importantly, to secure their current positions and the benefits they actually possess. If their interests conflict with organizational goals, they will be more concerned for their self-interest than for the goals of the organization (Dean and Sharfman, 1996). This discussion suggests the following hypothesis:

*Hypothesis 3.6: The relationship between political behavior and strategic decision effectiveness will be negative, but weaker for companies facing high environmental munificence.*

## Internal firm characteristics

*Firm performance*

Performance in this study was defined as how a firm performs in comparison to companies similar in size and industry, not only on financial indicators of performance, but on nonfinancial indicators as well. Several authors have argued that firm performance may moderate the relationship between the strategic decision-making process dimensions and organizational outcomes (e.g., Fredrickson, 1985). Bourgeois and Eisenhardt (1988) find that in high-velocity environments high-performing firms follow more rational decision-making processes, leading to the conclusion that the more rational the strategic decision-making process, the better the performance of the firm. Findings reported by Rodrigues and Hickson (1995) suggest that the success of a decision is also a function of the availability of both resources such as money, material and technology (a product of good performance), and information (a dimension of rationality). These findings suggest a positive interaction between rationality and performance, which in turn influences strategic decision success. On the basis of the above discussion, we suggest Hypotheses 4.1 and 4.2:

*Hypothesis 4.1: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for companies with high performance than for companies with low performance.*

*Hypothesis 4.2. The relationship between intuition and strategic decision effectiveness will be*



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*negative, but weaker for companies with high performance than for companies with low performance.*

Bourgeois (1981) argued that organizational performance will act as a conflict resolution mechanism within the company. Papadakis (1998) indicates that a number of studies have suggested the existence of a positive link between organizational performance and consensus among decision makers (e.g., Bourgeois, 1980; Child, 1974; Dess, 1987). Papadakis (1998) hypothesized that organizational performance will be negatively related to political behavior in strategic decision-making processes. Papadakis *et al*. (1998) report significant relationships between profit growth and both politicization and dissension. This discussion suggests a negative interaction between political behavior and performance, which in turn influences strategic decision success. Given the above, we suggest the following hypothesis:

*Hypothesis 4.3: The relationship between political behavior and strategic decision effectiveness will be negative, but weaker for companies with high performance than for companies with low performance.*

*Company size*

Many researchers have argued that company size can affect the strategic decision-making process (e.g., Fredrickson and Iaquinto, 1989; Snyman and Drew, 2003), such that larger firms will employ more formal and rational processes. Hart and Banbury (1994) report a moderating role of company size on the relationship between strategy-making process capability and performance. Specifically, process capability was positively associated with performance in larger firms but not in smaller firms. Khatri and Ng (2000) suggest that company size may interact with intuition; small organizations are more likely to rely on intuition than large ones. Similarly, Brouthers, Andriessen, and Nicolaes (1998) report that managers in small firms tend to rely on their intuition and ignore information gathered and analyses performed. These findings lead to Hypotheses 4.4 and 4.5:

*Hypothesis 4.4: The relationship between rationality and strategic decision effectiveness will be positive, but stronger for large companies than for small companies.*

*Hypothesis 4.5: The relationship between intuition and strategic decision effectiveness will be negative, but weaker for large companies than for small companies.*

As the number of employees hired by the firm grows, the distance between top management and organizational members increases; additional levels of management are created and the strategy-making process becomes less centralized (Pugh *et al*., 1963) and more complex (Chandler, 1962). Hart and Banbury (1994) argue that small firms can formulate and implement strategy simultaneously due to the small size of top management teams and their direct contact with operations. In such firms, strategy making relies on the idiosyncratic capabilities of a single (or a few) individual(s). Brouthers *et al*. (1998) argue that in small firms information flows easily, power is centralized and there are no separate departments or multilayered organizational structures. Hence, political activity is likely to be less in smaller firms. By contrast, Papadakis *et al*. (1998) find that size has no significant relationship with politicization and problem-solving dissension. Inconsistency in the results of prior research may be attributed to a variety of differences among them (e.g., unit of analysis and methodology). In this study we lean toward the view of Brouthers *et al*. (1998) and Eisenhardt (1989) that there tends to be an interaction between organization size and political behavior, which in turn influences strategic decision effectiveness. This leads to Hypothesis 4.6:

*Hypothesis 4.6: The relationship between political behavior and strategic decision effectiveness will be negative, but stronger for large companies than for small companies.*

## METHODOLOGY

Given the contradictory conclusions of previous research, the effect of context, and the absence or paucity of reported investigations on strategic decision making in the Egyptian setting, an exploratory approach appeared to be warranted as a foundation for hypothesis testing. As suggested by Churchill (1995), an initial exploratory 'first stage'



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of investigation was conducted in advance of the main study for the following purposes: (1) to clarify concepts and develop measures; (2) to assist the development of hypotheses; and (3) to expose practical problems in carrying out the research.

## Data collection

The investigation was designed as a multi-method field study (Snow and Thomas, 1994). Qualitative and quantitative methodologies were both employed in the two stages of the study to achieve as complete and realistic a portrayal of the strategic process as possible (cf. Jick, 1979). Data collection in the first stage lasted approximately three months from mid-October 2001 to mid-January 2002, during which 128 questionnaires were collected addressing 117 strategic decisions. One questionnaire was collected from each company with the exception of 11 companies from which two separately completed questionnaires were collected so as to check for interrater reliability. In Egypt a widespread suspicion of academic research adds to the often-found difficulty of obtaining completed questionnaires from more than one senior manager in a company. In addition, 36 semi-structured interviews were conducted.

The second stage furnished the data for the results reported in this paper. The target population was limited to private Egyptian manufacturing companies located in greater Cairo and employing more than 100 people. Data collection lasted approximately two months from mid-July 2002 to mid-September 2002. Because the outcomes of strategic decisions are a function of the people who are actually involved in making them (Amason, 1996), the data for this study were collected from executives who were closely involved in making the decisions regardless of their positions (e.g., Hickson *et al*., 1986).

Four hundred questionnaires were dropped off in the second stage. From these 400 questionnaires, 206 replies were personally collected (an initial response rate of 52%). Out of the 206 questionnaires, 37 were excluded for reasons such as incomplete schedules or non-relevant respondents. The remaining 169 usable questionnaires represent a final response rate of 42 percent. In the second half of December 2002, eight respondents completed the final format of the questionnaire again for test–retest reliability purposes.

All respondents were male. The positions they held were director (35%), CEO (31%), general manager or managing director (20%), and chairman or president (14%). The firms were located in nine industries, with none accounting for more than 23 percent of the sample.[1] Textiles and clothing, chemicals, and food and beverage were the most representative industries in the sample, accounting for 62 percent of the firms. The decision areas in the sample also varied widely: investment in capital equipment (30%), product introduction or discontinuation (23%), marketing strategy (22%), restructuring (13%), production strategy (6%), and human resource strategy (6%).

Following Churchill's (1995) suggestion, the data from both stage one and two samples were examined for their distributions of company size and no significant difference was found between them. This suggests that our sample is representative of the population. Unfortunately, in Egypt reliable statistics on the total population of private manufacturing firms are not available.

The questionnaire was reviewed independently at several stages of its development. Three academics and eight PhD students in several British universities examined preliminary drafts. Five academic staff, fluent in both Arabic and English, checked the translation. Seven Egyptian executives participated in a pilot study and provided feedback on intelligibility.

## Unit of analysis

The strategic decision was selected as our unit of analysis because, within the same organization, strategic decision-making processes are likely to differ from one decision to another (Papadakis and Lioukas, 1996). This unit of analysis is also consistent with a focus on decision outcomes rather than on organization performance more broadly. This choice avoids the problem of ambiguity in the causal ordering that would accompany the selection of organizational performance as a focus. It also provides for a close link between the strategic decision-making process and its outcome, which is essential in the light of the many exogenous effects on organizational performance (Pearce, Freeman,

[1] The ninth industrial category is a miscellaneous one, accounting for three respondents only.




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and Robinson, 1987). The main strategic decisions sampled are: investment in capital equipment; introduction, development, or discontinuance of a product; geographical expansion; diversification; restructuring; divestment; and layoffs.

## Operationalization of variables

It is problematic to transfer management concepts to another country without taking into account the effect of its culture (Schneider, 1989). The study variables were therefore reoperationalized on the basis of the results of the first stage so as to be more applicable to the Egyptian context. This also enabled us to take account of results concerning the reliability and validity of the constructs.[2]

### *Test–retest reliability (stability)*

The Pearson correlation coefficients between the answers of the eight respondents who completed the identical questionnaire on the same decisions on two different occasions range between 0.83 and 0.99. This result suggests that the measures used are stable (Kline, 1993).

### *Internal consistency*

The results of alpha coefficients range between 0.72 and 0.92 for all scales (except decision importance: 0.63), suggesting a satisfactory degree of internal consistency.

### *Interrater reliability*

It was possible to obtain two responses from each of 11 companies in the first stage of the research. Ten out of the 11 cases demonstrated significant correlations (correlation coefficients range between 0.33 and 0.66) at the one percent level or better. This suggests that our data may enjoy a modest level of interrater reliability (Clark-Carter, 1997).

### *Common method bias*

The possibility of common method bias was also tested using Harman's one-factor test (Podsakoff *et al*., 2003). A principal components factor analysis on the items measured yielded 16 factors with eigenvalues greater than 1.0, and these accounted for 72 percent of the total variance. Since several factors, rather than one single factor, were identified, and as the first factor did not account for a high proportion of the variance (only 18%), a substantial amount of common method variance does not appear to be present.

### *Construct validity*

To examine construct validity, Campbell and Fiske (1959) suggest scrutinizing both convergent and discriminant validity. Factor analysis was used for this purpose. Due to the large number of items (64) in the measuring instruments, which seriously violates the assumption of the recommended six-to-one ratio for obtaining stable factor solutions (Bauer *et al*., 2001), we ran four sets of factor analysis (e.g., Hart and Banbury, 1994). These four sets comprise one for each of the strategic decision-making process dimensions and strategic decision effectiveness; the decisional; organizational; and environmental perspectives. The principal components extraction method and promax oblique rotation with Kaiser's criterion of eigenvalues over one were employed.

Rotated factors patterns suggest that the measurement instruments of this study meet the convergent and discriminant criteria of validity with one minor exception.[3] One item — 'openness about interests' — is loaded significantly on two factors, namely, political behavior and rationality. In view of the evidence from both previous research and from the stage one interviews, and the fact that 'openness about interests' is more significantly loaded onto political behavior, we decided to include this item in the composite measure of political behavior.

It is also worth noting that the factor analysis produced two unexpected results. First, although confidence in making the right choice (Dean and Sharfman, 1993) and clarity of goals (Beach and Mitchell, 1978) should in theory both load on decision uncertainty, they actually loaded significantly on decision motive. Second, while time pressure should theoretically load on decision motive (Billings, Milburn, and Schaalman, 1980; Mintzberg *et al*., 1976), it loaded significantly on decision importance. Since these results may be

[2] Details of how the variables were operationalized and original sources for the measures employed can be obtained from the first author.

[3] Details are available from the first author on request.




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due to the effect of culture, more research is required to verify them.

In conclusion, the measures employed in this study enjoy a satisfactory degree of both validity and reliability in comparison with those of other related studies. We can therefore offer our results with a reasonable degree of confidence with respect to measurement error.

## RESULTS

Table 1 presents the means, standard deviations, and correlation coefficients for the entire stage two sample ($N = 169$). All correlation coefficients are below 0.60, which does not suggest serious multicollinearity problems. Moreover, for all regression models except the moderated ones, the tolerance statistics are all well above 0.10. Since multicollinearity does not affect $\Delta R^2$ (Nunnally and Bernstein, 1994) and investigation of $\Delta R^2$ was our main interest in the moderated models, we can safely conclude that there is not a substantial multicollinearity problem within the data entered into the regression models. Table 1 shows that rationality is significantly correlated with strategic decision effectiveness, whereas both intuitive and political processes are negatively correlated. This appears to support the strategic decision-making process model.

Table 2 presents two regression models of strategic decision effectiveness. Regressing strategic decision effectiveness on the strategic decision-making process dimensions (Model 1 in Table 2) indicates that the strategic decision-making process dimensions explain 40 percent ($p \leq 0.01$) of the variance in strategic decision effectiveness. Rationality ($\beta = 0.44$, $p \leq 0.01$) and political behavior ($\beta = -0.33$, $p \leq 0.01$) are significant predictors of strategic decision effectiveness; while intuition is not ($\beta = -0.02$, n.s.). In the hierarchical regression model (Model 2 in Table 2), in which all broader contextual variables are entered into the equation as a first step before entering the strategic decision-making process dimensions, rationality and political behavior are also significant predictors of strategic decision effectiveness, while intuition is not. This indicates that rationality and political behavior are robust predictors of strategic decision effectiveness. The above results lend strong support to Hypotheses 1.1 and 1.3, but Hypothesis 1.2 is not supported.

Hierarchical moderated regression analysis was used to test the remaining hypotheses. This type of analysis examines the moderating effects of one variable on the relationship between two or more other variables (Darrow and Kahl, 1982; Hair *et al*., 1995). The hierarchical moderated regression analysis procedures, as used in this study, consist of two steps. The first step was to enter the main effects of the three strategic decision-making process dimensions and the seven broader contextual factors as one block into the equation (as per Model 2 in Table 2). This step represents the base model, which shows the main effects (Model 1 in Table 3). The second step involved seven further models that each entered interaction terms, which were calculated as the product of each of the strategic decision-making process dimensions and a broader contextual variable (Models 2–8 in Table 3). In each case, we examined the change in $R^2$ between the restricted model (main effects) and the full model (main and interaction effects). If the interaction term of a particular variable produced a significant $\Delta R^2$ (i.e., if it significantly increased the amount of variance explained in the criterion or dependent variable), then this variable was considered to be a moderator of the relationship between the strategic decision-making process dimensions and strategic decision effectiveness.

As shown in Models 2, 5 and 8, respectively, in Table 3, decision importance ($\Delta R^2 = 0.01$, n.s.), environmental uncertainty ($\Delta R^2 = 0.02$, n.s.) and company size ($\Delta R^2 = 0.02$, n.s.) were not found to be statistically significant moderators. These results do not provide support for Hypotheses 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 4.4, 4.5, or 4.6. Table 3 also indicates that four of the seven moderated regression models produce statistically significant changes in $R^2$. These are decision uncertainty ($\Delta R^2 = 0.03$, $p \leq 0.05$), decision motive ($\Delta R^2 = 0.04$, $p \leq 0.01$), environmental hostility ($\Delta R^2 = 0.03$, $p \leq 0.05$), and performance ($\Delta R^2 = 0.06$, $p \leq 0.01$). These findings suggest that Hypotheses 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 3.4, 3.5, 3.6, 4.1, 4.2, and 4.3 might be supported if the nature of the interactions are as hypothesized.

In order to better understand which of the strategic decision-making process dimensions interacted with decision uncertainty, decision motive, environmental hostility, and performance, an additional analysis was conducted. This consisted of entering each interaction term one at a time following



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Table 1. Descriptive statistics and correlations among variables

| Variables | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Rationality | 5.46 | 1.22 | 1 | | | | | | | | | | |
| 2. Intuition | 4.53 | 1.65 | −0.27** | 1 | | | | | | | | | |
| 3. Political behavior | 2.43 | 1.26 | −0.31** | 0.36** | 1 | | | | | | | | |
| 4. Decision importance | 5.13 | 1.12 | 0.19* | 0.02 | 0.09 | 1 | | | | | | | |
| 5. Decision uncertainty | 2.32 | 1.43 | −.29** | 0.19* | 0.32** | 0.08 | 1 | | | | | | |
| 6. Decision motive | 5.71 | 1.14 | 0.44** | −0.09 | −0.40** | −0.03 | −0.42** | 1 | | | | | |
| 7. Environmental uncertainty | 4.13 | 1.21 | −0.20** | −0.04 | −0.03 | 0.15 | 0.12 | −0.12 | 1 | | | | |
| 8. Environmental hostility | 3.59 | 1.63 | −0.35** | 0.16* | 0.14 | 0.13 | 0.15 | −0.23** | 0.43** | 1 | | | |
| 9. Firm performance | 5.18 | 0.99 | 0.54** | −0.14 | −0.28** | 0.15 | −0.28** | 0.47** | −0.13 | −0.35** | 1 | | |
| 10. Company size (log) | 2.45 | 0.42 | 0.21** | −0.25** | −0.20** | 0.08 | −0.11 | 0.04 | 0.15 | −0.09 | 0.18* | 1 | |
| 11. Decision effectiveness | 5.84 | 1.13 | 0.55** | −0.26** | −0.48** | 0.04 | −0.39** | 0.52** | −0.05 | −0.29** | 0.57** | 0.11 | 1 |

* Significant at the 0.05 level; ** significant at the 0.01 level

the base model (e.g., Brouthers *et al*., 2000). This ensures that a significant change in $R^2$ from the base model can be unquestionably attributed to that interaction term.[4] As shown in Table 4, the interaction between decision uncertainty and rationality ($\Delta R^2 = 0.02,\ p \leq 0.05$) significantly contributed to the base model, while the interactions between decision uncertainty, and both intuition ($\Delta R^2 = 0.01$, n.s.) and political behavior ($\Delta R^2 = 0.00$, n.s.) did not. Given this, Hypothesis 2.4 might be supported if the nature of the interaction was as suggested, while Hypotheses 2.5 and 2.6 were not supported.

Table 4 also shows that the interactions between decision motive and both rationality ($\Delta R^2 = 0.03$, $p \leq 0.01$) and political behavior ($\Delta R^2 = 0.02$, $p \leq 0.05$) significantly contributed to the base model, while the interaction between decision motive and intuition did not ($\Delta R^2 = 0.01$, n.s.). Therefore, Hypothesis 2.8 is not supported. The relationship between rationality and strategic decision effectiveness is positive, but stronger for decisions perceived by decision makers as crises ($r = 0.62,\ p \leq 0.01$) than for decisions perceived as opportunities ($r = 0.18$, n.s.) (see Table 5). This supports Hypothesis 2.7. However, the relationship between political behavior and strategic decision effectiveness is negative, but stronger for decisions perceived by decision makers as crises ($r = -0.53,\ p \leq 0.01$) than for decisions perceived as opportunities (r = −0.03, n.s.). This is not consistent with Hypothesis 2.9.

To gain further insight into the nature of the moderating effects, subsample analysis was conducted for those singular interactions terms that generated significant differences between the restricted and full models (e.g., Amason and Sapienza, 1997; Brouthers *et al*., 2000; Goll and Rasheed, 1997). The overall sample was split at the median of the moderating variable and correlation analysis was carried out for the relationship between the strategic decision-making process dimensions and strategic

Table 2. Regression models for predictors of strategic decision effectiveness

| Variables | Hierarchical regression model | |
|---|---|---|
| | Model 1 | Model 2 |
| *Broader contextual variables* | | |
| Decision importance | | −0.01 |
| Decision uncertainty | | −0.11 |
| Decision motive | | 0.14* |
| Environmental uncertainty | | 0.10 |
| Environmental hostility | | −0.07 |
| Firm performance | | 0.29** |
| Company size | | −0.09 |
| *Strategic decision-making process dimensions* | | |
| Rationality | 0.44** | 0.24** |
| Intuition | −0.02 | −0.05 |
| Political behavior | −0.33** | −0.22** |
| $R^2$ | 0.41 | 0.53 |
| Adjusted $R^2$ | 0.40 | 0.50 |
| $F$ | 37.80** | 18.10** |
| $\Delta R^2$ (from Model 1 to 2) | | 0.08 |
| $\Delta F$ (from Model 1 to 2) | | 9.96** |

* Significant at 0.05 level; ** Significant at 0.01 level

[4] In the case of nonsignificant moderators, i.e., decision importance, environmental uncertainty and company size, entering each interaction term one at a time after the base model did not significantly increase the variance in the base model. This confirmed our findings that decision importance, environmental uncertainty, and company size do not moderate the relationship between the strategic decision-making process dimensions and strategic decision effectiveness.

Table 3. Models of regression analyses for determining moderating variables of the relationship between the strategic decision-making process dimensions and strategic decision effectiveness

| | Main effects Model 1 | Decision importance Model 2 | Decision uncertainty Model 3 | Decision motive Model 4 | Environmental uncertainty Model 5 | Environmental hostility Model 6 | Performance Model 7 | Company size Model 8 |
|---|---|---|---|---|---|---|---|---|
| $R^2$ | 0.53 | 0.54 | 0.56 | 0.57 | 0.55 | 0.56 | 0.59 | 0.55 |
| Adjusted $R^2$ | 0.50 | 0.50 | 0.52 | 0.53 | 0.51 | 0.52 | 0.55 | 0.51 |
| $F$ | 18.10** | 14.15** | 15.11** | 15.60** | 14.64** | 15.12** | 16.92** | 14.39** |
| $\Delta R^2$ from main effects model | | 0.01 | 0.03 | 0.04 | 0.02 | 0.03 | 0.06 | 0.02 |
| $\Delta F$ | | 1.00 | 2.94* | 3.93** | 2.00 | 2.95* | 6.60** | 1.49 |

* Significant at 0.05 level; ** significant at 0.01 level




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Table 4. Models of regression analyses for singular interactions

| | Main effects M 1 | Decision uncertainty | | | Decision motive | | | Env. hostility | | | Firm performance | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Rationality M 2 | Intuition M 3 | P. behavior M 4 | Rationality M 5 | Intuition M 6 | P. behavior M 7 | Rationality M 8 | Intuition M 9 | P. behavior M 10 | Rationality M 11 | Intuition M 12 | P. behavior M 13 |
| $R^2$ | 0.53 | 0.55 | 0.54 | 0.53 | 0.56 | 0.54 | 0.55 | 0.56 | 0.54 | 0.54 | 0.59 | 0.55 | 0.56 |
| Adjusted $R^2$ | 0.50 | 0.52 | 0.50 | 0.50 | 0.53 | 0.51 | 0.52 | 0.53 | 0.50 | 0.50 | 0.56 | 0.52 | 0.53 |
| $F$ | 18.10** | 17.45** | 16.46** | 16.36** | 18.40** | 16.80 | 17.34 | 18.09 | 16.49 | 16.48 | 20.20** | 17.42 | 18.05 |
| $\Delta R^2$ From main effects Model | | 0.02 | 0.01 | 0.00 | 0.03 | 0.01 | 0.02 | 0.03 | 0.01 | 0.01 | 0.06 | 0.02 | 0.03 |
| $\Delta F$ | | 5.64* | 0.57 | 0.07 | 10.51** | 2.33 | 5.11* | 8.96** | 0.71 | 0.69 | 19.77** | 5.52* | 8.76** |

* Significant at 0.05 level; ** significant at 0.01 level

decision effectiveness. For decision uncertainty, the sample was median split into low- and high-decision uncertainty groups. Then a subsequent correlation analysis was performed to examine the correlations between rationality and strategic decision effectiveness in both. As shown in Table 5, the relationship between rationality and strategic decision effectiveness was positive, but weaker ($r = 0.16$, n.s.) for low-uncertainty decisions than for high-uncertainty decisions ($r = 0.60$, $p \leq 0.01$). Thus Hypothesis 2.4 is not supported regarding the direction of moderation by decision uncertainty.

Table 4 reveals that the interactions between environmental munificence/hostility and both intuition ($\Delta R^2 = 0.01$, n.s.) and political behavior ($\Delta R^2 = 0.01$, n.s.), did not significantly contribute to the base model. This does not lend support to Hypotheses 3.5 and 3.6, while the interaction between environmental hostility and rationality significantly contributed to the base model ($\Delta R^2 = 0.03$, $p \leq 0.01$). However, as shown in Table 5, a subsequent correlation analysis made it clear that the relationship between rationality and strategic decision effectiveness was stronger in low-munificent environments ($r = 0.66$, $p \leq 0.01$) than in high-munificent environments ($r = 0.27$, $p \leq 0.05$). This is not consistent with Hypothesis 3.4.

The interactions between firm performance and each of the strategic decision-making process dimensions significantly contribute to the base model ($\Delta R^2 = 0.06$, $p \leq 0.01$ for rationality; $\Delta R^2 = 0.02$, $p \leq 0.05$ for intuition; and $\Delta R^2 = 0.03$, $p \leq 0.01$ for political behavior) (see Table 4). Examination of the correlations indicates that the relationship between rationality and strategic decision effectiveness is positive but weaker for companies with high performance ($r = 0.11$, n.s.) than for companies with low performance ($r = 0.63$, $p \leq 0.01$). This fails to support Hypothesis 4.1. Consistent with our prediction, the relationship between intuition and strategic decision effectiveness is negative but weaker for companies with high performance ($r = -0.06$, n.s.) than for companies with low performance ($r = -0.29$, $p \leq 0.05$); and the relationship between political behavior and strategic decision effectiveness is negative, but weaker for companies with high performance ($r = -0.34$, $p \leq 0.01$) than for companies with low performance ($r = -0.53$, $p \leq 0.01$). Therefore, Hypotheses 4.2 and 4.3 are supported. Table 6 summarizes the support offered for each hypothesis.

## DISCUSSION

### Strategic decision-making process dimensions

In contrast to rationality and political behavior, the use of intuition in strategic decision making was not related to strategic decision effectiveness. Our findings on intuition appear to conflict with those of Khatri and Ng (2000), who reported intuitive synthesis to be significantly related to organizational outcomes. Although the present study assessed intuition through Khatri and Ng's measures, there are many differences between the designs of the two studies in terms of sample, data analysis methods, the inclusion of other strategic process variables,

Table 5. Correlations between the strategic decision-making process dimensions and strategic decision effectiveness, differentiated by moderators

| The strategic decision-making process dimensions | Decision uncertainty | | Decision motive | | Environmental munificence | | Firm performance | |
|---|---|---|---|---|---|---|---|---|
| | Low | High | Crisis | Opportunity | Low | High | Low | High |
| Rationality | 0.16 ($n = 79$) | 0.60** ($n = 70$) | 0.62** ($n = 73$) | 0.18 ($n = 84$) | 0.66** ($n = 81$) | 0.27* ($n = 76$) | 0.63** ($n = 78$) | 0.11 ($n = 81$) |
| Intuition | | | | | | | −0.29** ($n = 78$) | −0.06 ($n = 81$) |
| Political behavior | | | −0.53** (n = 73) | −0.03 (n = 84) | | | −0.53** ($n = 78$) | −0.34** ($n = 81$) |

* Significant at 0.05 level; ** significant at 0.01 level




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Table 6. A summary of the results of hypothesis testing

| Hypothesis | Results | Hypothesis | Results | Hypothesis | Results | Hypothesis | Results |
|---|---|---|---|---|---|---|---|
| H.1.1 | Supported | H.2.4 | Partially supported | H.3.1 | Not supported | H.4.1 | Partially supported |
| H.1.2 | Not supported | H.2.5 | Not supported | H.3.2 | Not supported | H.4.2 | Supported |
| H.1.3 | Supported | H.2.6 | Not supported | H.3.3 | Not supported | H.4.3 | Supported |
| H.2.1 | Not supported | H.2.7 | Supported | H.3.4 | Partially supported | H.4.4 | Not supported |
| H.2.2 | Not supported | H.2.8 | Not supported | H.3.5 | Not supported | H.4.5 | Not supported |
| H.2.3 | Not supported | H.2.9 | Partially supported | H.3.6 | Not supported | H.4.6 | Not supported |

'Partially supported' indicates that the relationship between the strategic decision process dimension and strategic decision effectiveness is as hypothesized, but that the nature of the interactions is not.

and outcome variables. Any of these differences may be responsible for the discrepancy in their results. For example, Khatri and Ng's regression equation includes a single dimension of decision process (intuition), while our regression equation contains three dimensions (rationality, intuition, and political behavior). Entering intuition alone into the regression equation in our study showed a significant relationship between intuition and strategic decision effectiveness ($\beta = -0.26$, $p \leq 0.01$). Following Khatri and Ng, in the first step of hierarchical regression analysis the logarithm of company size was entered to control for size and intuition was entered in the second step. Interestingly, when this was done, intuition again demonstrated a significant association with strategic decision effectiveness ($\beta = -0.25$, $p \leq 0.01$). It would appear therefore that taking account of one decision process variable alone, such as intuition, can give rise to an inflated interpretation of its significance for strategic decision effectiveness. This justifies the application of a more comprehensive and integrated model in the present investigation.

An important contribution of this paper lies in its examination of the moderating effects of the seven contextual variables. These are now discussed in turn.

### *Decision importance*

The lack of the moderating role of decision importance may be due to the high average level of importance of the decisions in the study (mean = 5.13). Perhaps there is a threshold of importance associated with relatively rational, intuitive, or political processes (e.g., Dean and Sharfman, 1996), which in turn influences the success of decisions. It may be that most of the decisions in this study are above this threshold and therefore that the variation in importance among the decisions was not sufficient to significantly affect the relationship between the strategic decision-making process dimensions and strategic decision effectiveness.

### *Decision uncertainty*

Whereas decision uncertainty moderated the relationship between rationality and strategic decision effectiveness, we found no support for the moderating role of decision uncertainty on the linkage between political and intuitive processes, and strategic decision effectiveness. This suggests that decision uncertainty may differently influence the link between the strategic decision-making process dimensions and strategic decision effectiveness.

### *Decision motive*

Similar to the generally weak results for intuition, decision motive did not moderate the relationship between intuitive processes and strategic decision effectiveness. By contrast, decision motive significantly moderated the relationship between political behavior and strategic decision effectiveness, though not as hypothesized. We suggest that in the Egyptian context political tactics may be more than merely the desire of ambitious executives to influence events according to their interests and to enhance their power and standing. In some situations, political activity may be a vital requirement



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for decision makers to retain their current positions, or to avoid problems current in Egypt at the time the study was conducted, such as downsizing, layoffs, and a sudden drop in income. Decision makers are more likely to face such problems at times of crisis than of opportunity. Therefore, political tactics assume greater importance in such situations; and decision makers will be motivated to use such tactics not only to enhance their power or to get more benefits but also, and most importantly, to secure their current positions and the benefits they currently enjoy.

### *Environmental uncertainty*

Consistent with Dean and Sharfman (1996), this study reported that environmental uncertainty did not moderate the relationship between the strategic decision-making process dimensions and strategic decision effectiveness. However, this finding contradicts other studies in which environmental uncertainty or stability was found to moderate the relationship between decision processes and organizational performance (e.g., Bourgeois and Eisenhardt, 1988; Fredrickson, 1984; Goll and Rasheed, 1997). It should be noted that all the above studies, apart from Dean and Sharfman (1996), examine organizational performance, which is generally not explicitly assessed in terms of decision effectiveness. This suggests that variations between the constructs of outcome used in previous research may be a possible source of the inconsistencies in the results obtained.

The absence of a moderating effect from environmental uncertainty could also be due to another factor, specific to the national context of the study. There is reason to suspect that the degree of familiarity with an environmental condition such as uncertainty may affect the extent to which it moderates the relationship between the strategic decision-making process and decision effectiveness. Getting used to living with environmental uncertainty appears to lead Egyptian managers to discount it when making strategic decisions. This is suggested by evidence from the interviews conducted during the first preliminary stage of our research. The interviews revealed that Egyptian executives have become used to working under conditions of environmental uncertainty and hostility. They appear to take these conditions for granted in decision making within the Egyptian setting. For example, one executive stated that 'the Middle East region including Egypt, which is at its heart, is a completely unstable area. If we base our assessments on the surrounding environment, we will never ever develop because we are living in the world's 'hottest' region.'

### *Environmental hostility*

Although both the present study and Goll and Rasheed (1997) find that environmental hostility–munificence moderates the relationship between rationality and organizational outcomes, the nature of the interaction was different in each case. Goll and Rasheed report that the relationship between rationality and organizational performance was weaker in hostile or low-munificent environments than in high-munificent environments, while our findings show that the relationship between rationality and strategic decision effectiveness was stronger in hostile environments than in munificent ones. As argued earlier, there may be many reasons for these contradictory results, such as the differences between the two studies in their samples (159 firms out the 645 largest manufacturing firms in the United States vs. 169 small and medium manufacturing firms in Egypt); their context (the United States vs. Egypt); and their constructs of organizational outcomes (organizational performance vs. strategic decision effectiveness).

### *Performance*

The most striking finding is that firm performance rather than environmental characteristics, such as environmental uncertainty, appears to be the most important moderator of the relationship between the strategic decision-making process dimensions and strategic decision effectiveness. Performance was a significant moderator for the link between all three dimensions of decision process and strategic decision effectiveness. This supports the argument for the primacy of the internal firm characteristics perspective over the external environmental characteristics perspective. However, the nature of the moderating role of performance was not consistent with our hypotheses in the case of rationality. While a rational decision process was used more in better-performing firms, among poorer-performing firms, when a rational process was used rather than



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intuition or politicking, more effective decisions resulted. These findings suggest that firms under pressure to improve their performance will tend to employ more rational decision-making processes.

There is a scarcity or even absence of empirical research on the moderating role of performance in the relationship between strategic decision effectiveness and decision processes in general, and rationality in particular. More research is therefore needed to verify the results concerning the moderating role of performance. There are some clues from our study that national context may play a significant role concerning the conditions under which different strategic decision processes lead to effective outcomes. As noted in the Introduction, in a country like Egypt, there are low expectations coming from its culture and institutions that rationality will be the principle applied to major organizational decisions, as opposed to the intuition of a hierarchical leader and the favoritism associated with personalized political behavior. These contextual characteristics could provide an explanation as to why it appears more likely that rationality is applied in a way that has effective results only under extreme conditions, namely at times of crisis in which there is insufficient organizational slack to permit the 'luxury' of following intuition or behaving politically.

### *Company size*

Finally, contrary to the prediction of this study, the results showed that company size was not a significant moderator. This supports the argument of Papadakis *et al*. (1998) that the evidence on the role of company size in the context of strategic decision making is far from clear or generalizable and that there is therefore a need for more research to explain this role. For instance, variations in the ways a company is structured may moderate any size effect.

## CONCLUSION

The findings suggest a revision of our initial model of the antecedents and outcomes of the strategic decision-making process dimensions in privately owned Egyptian manufacturing companies. The revised model, shown in Figure 2, portrays the dominant role of rational and political processes in strategic decision effectiveness. It also indicates that the relationship between decision process and outcomes is not a simple one and that more attention should be directed toward the role of the '*third factor*' or moderating variables on this relationship. To the best of our knowledge, it is the first time that the essential role of decision-specific characteristics as moderators of the relationship between decision processes and its success has been verified.

It is worth noting that some of the empirical findings of this study are consistent with the general body of research evidence on strategic decision making. For example, the relationships between both rationality and political behavior and strategic decision effectiveness accord with the preponderance of evidence pointing to a positive relationship between rationality and organizational outcomes and a negative relationship between political behavior and organizational outcomes. This would support the 'culture- (or context-) free' argument. Yet there were other findings that might be interpreted as 'culture/context-specific.' In particular, there is a need for more research in order to verify the moderating role of environmental uncertainty in different cultures. It is also indicative to compare the results of our study with those reported by Papadakis *et al*. (1998). The two studies employed similar methods (sample-based quantitative analysis using multiple regression) and similar models (integrative models of strategic decision making) in different contexts (Egypt and Greece). Both studies concluded that decision-specific characteristics played a central role in relation to strategic decisions, with environmental factors playing a less significant role. This similarity adds to the confidence that can be placed in both studies.

Although this study was very carefully designed, it has three significant limitations. First, the perceptual measures employed may not truly reflect the phenomenon of interest. It is likely that some information, such as political tactics and unsatisfactory decision outcomes, went unreported. Therefore, the results should be interpreted with caution. We attempted to reduce this limitation in several ways: (1) scale anchors were reversed in several places to reduce response bias; (2) multiple sources of data were used, i.e., triangulation of evidence; (3) assurances of complete anonymity and confidentiality were given. Second, while it has been argued that the 'upper echelon' of organizations has an important direct effect on the strategic



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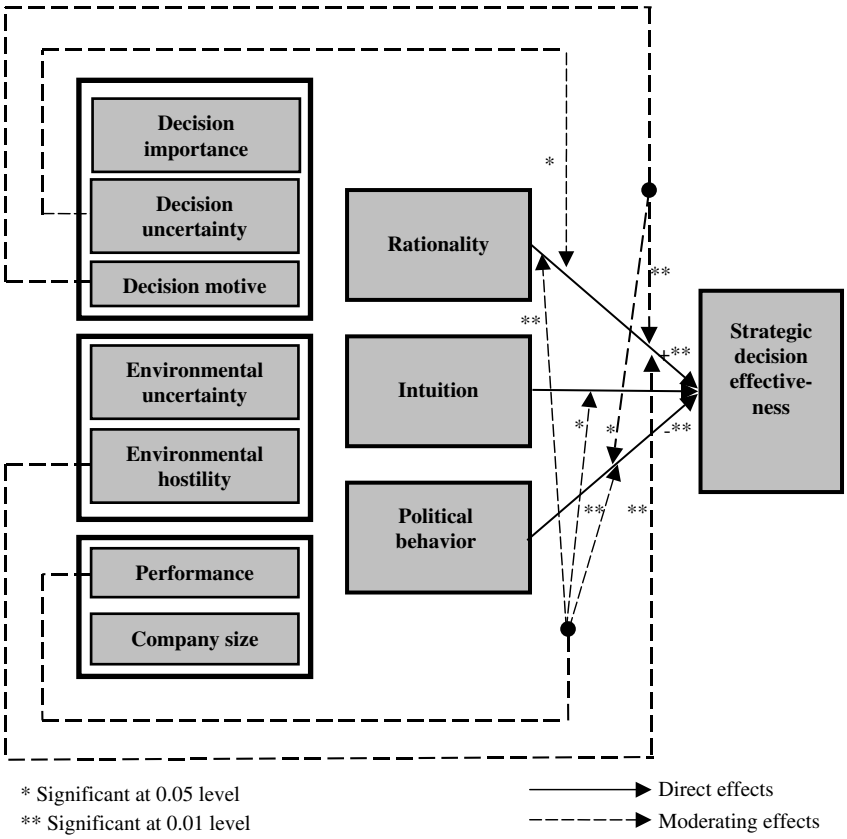


Figure 2. A model of antecedents and outcomes of the SDMP dimensions

process (e.g., Child, 1972; Hambrick and Mason, 1984), restrictions on data availability led to an exclusion of the strategic or management choice perspective.

Third, this study relies on questionnaires completed by a single respondent in each firm. This method is in keeping with that of much previous work on the subject (e.g., Brouthers *et al*., 2000; Goll and Rasheed, 1997; Hart and Banbury, 1994; Jones, Jacobs, and Spijker, 1992; Wally and Baum, 1994). Although the use of multiple informants can help to minimize bias, the difficulty of conducting multiple-informant surveys often generates reliance on single respondents (Sabherwal and King, 1995). Because of this difficulty, we generally collected data from a single informant for each decision and, as noted earlier, used the instances of multiple respondents to test for interrater reliability, together with testing for common method bias. Nevertheless, the single respondent design requires caution in interpreting the results; and it would have been preferable to have multiple respondents in order to minimize effects of systematic response bias.

Further research could build upon this study in several ways. First, additional variables could be incorporated. For example, greater understanding of why and how different decision processes are followed might be furnished by including a strategic choice perspective informed by a cognitive mapping of the mental models employed by strategic decision makers in their interpretation of contextual variables (Huff, 1990). This would provide a cognitive insight into the interactions of process and contextual variables as understood by strategic decision makers themselves rather than as recorded indirectly by researchers. Second, future research could consider additional moderating variables, such as top management characteristics, and incorporate some of the suggested moderating variables as multidimensional constructs in research design. This promises to provide a richer understanding of the moderating roles in strategic decision making particularly or organizational phenomena in



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general (e.g., Goll and Rasheed, 1997). Third, this study indicates that greater attention needs to be given to the role of process capability (Hart and Banbury, 1994). This may help to explain the weak impact of intuition, assuming that this result continues to be found. It may be that in some kinds of environment, especially those with 'high context' cultures (Hall and Hall, 1990), intuition has to be used, but cautiously and in combination with rational processes (Khatri and Ng, 2000). Another possibility is that intuition may be relied upon once a rational approach has been applied to the groundwork and provided a basis of data and analyses (Sauter, 1999). The possible complementarity of intuition and rationality deserves further investigation.

The work presented here could be built upon in other promising ways as well. For example, in order to complete the model of strategic decision effectiveness, it would be desirable to assess how well decisions are implemented because of the potentially significant impact of implementation on strategic decision effectiveness (Bourgeois and Brodwin, 1984; Dean and Sharfman, 1996; Nutt, 1993; Wilson, 2003). Moreover, because the answers of respondents may be affected by how far they agreed with the decision process and outcome during the period when it was made, it is recommended that future investigations include the degree to which respondents agreed with the decision under investigation, as a potentially moderating variable.

Last, but not least, this study indicates that the role of the national context on decision making is worth examining further. For example, we suggested earlier that the degree of familiarity with an environmental condition such as uncertainty may affect the extent to which it moderates the relationship between the strategic decision-making process and decision effectiveness. Getting used to living with environmental uncertainty appears to lead Egyptian managers to discount it when making strategic decisions. Further theorizing is needed to more precisely articulate the strategic decision-making process and the relative weight of its determinants in specific contexts. This requires the development and testing of further integrative models, taking the potential effect of context systematically into account. Progress in this respect could significantly improve our understanding of strategic decision making, and in turn the quality of its practice.

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