The Early Bird Catches the Worm or Decide in Haste and Repent at Leisure? An Examination of the Relationship between Decision Speed and Decision Quality across Multiple Environmental Contexts

ABSTRACT

Rapid technological innovation, shortening product life cycles, and increasingly fierce competition place great pressure on top managers to execute rapid strategic change. A key question in strategic management though, is whether decision speed helps or harms the quality of top management team strategic decision-making? There is a shortage of theory and evidence concerning the consequences of decision speed across different environmental contexts, owing to prior research focusing solely on the effects of speed in dynamic environments. We propose and test a model that shows the effects of decision speed under conditions of environmental hostility, munificence, and dynamism, as well as the joint conditions of hostility-munificence and dynamism. We do so because environments are multidimensional, and an environment which is dynamic and hostile is very different to one which is dynamic and munificent. Analyzing dyadic data from multiple top managers on 117 strategic decisions, we demonstrate that decision speed has both positive and negative effects on decision quality according to different combinations of environmental hostility, munificence, and dynamism. Our findings help overcome a major obstacle hindering theory development by providing new theoretical insights into the implications of decision speed across multiple different environmental contexts.
**Keywords**: decision speed, environmental hostility-munificence, environmental dynamism

“The basis of competition is speed. It’s about how quickly you take the decision. Speed is almost as important as the content of the decision.” (Chief Officer of a global financial services company).

Increasingly fierce competition, rapid technological innovation, ever-increasing globalisation, and shortening product life cycles (Kownatzki, Walter, Floyd, & Lechner, 2013; Nadkarni & Herrmann, 2010) place great pressure on top managers to make strategic decisions rapidly. A central and unanswered question in strategic management research, is whether decision speed helps or harms the quality of top management team strategic decision-making?

Developing theoretical insights into the factors that help or harm strategic decision quality is vital, because the success or otherwise of strategic decisions ultimately determine whether firms prosper or fail (Elbanna & Child, 2007). Whilst prior research provides some indication of a positive link between decision speed and firm performance in dynamic environments (Eisenhardt, 1989; Judge & Miller, 1991), there is also evidence of decision speed damaging new venture success (Forbes, 2005) and leading to bankruptcy (Perlow, Okhuysen, & Repenning, 2002). Theory development is presently hindered by a lack of theory and evidence concerning whether the effects of decision speed vary between positive and negative according to the environmental context. Notwithstanding the important theoretical insights provided by prior studies of decision speed; these adopt a unidimensional conceptualization of the external environment, focusing on decision speed in dynamic environments. Thus, prior work has not included other important environmental dimensions such as hostility and munificence (Kownatzki et al. 2013; Rajagopalan, Datta, & Rasheed, 1993). It is possible that some of the contradictions in prior research are due to the absence of other equally important dimensions of the external environment, and as stated by Elbanna
there has been “a lack of clear and systematic treatment of environmental variables: In the sense of focusing on some environmental variables…and failing to consider the effect of others.” We therefore answer multiple calls for studies of strategic decision-making to be more sensitive to the contingent role of context (e.g. Bamberger, 2008; Elbanna & Child, 2007a; Papadakis, Thanos, & Barwise, 2010; Shepherd & Rudd, 2014). To do so we examine the contingent influence of environmental hostility, munificence, and dynamism, as well as their joint effects (see figure 1). We do so because environments are multidimensional, and an environment which is dynamic and hostile is markedly different from one which is dynamic and munificent (Goll & Rasheed, 1997). This is because hostility and munificence determine the levels of resources available and influence managerial discretion (Hambrick & Finkelstein, 1987). Whilst it is assumed that speed is advantageous in dynamic environments (Eisenhardt, 1989; Judge & Miller, 1991), we provide new theoretical insights by highlighting the role of hostility-munificence in changing the nature of the speed-dynamism interaction.

Furthermore, much of the prior work on strategic decision speed focuses on the firm level, whereas there has been much less development of theory concerning the micro level implications of decision speed (Kownatzki et al., 2013). As such the link between decision speed and decision quality has not been demonstrated. As a step towards developing new theoretical insights into decision speed at the micro level, we adopt individual strategic decisions as our level of analysis, to provide a close link between the speed of the decision process, and the outcomes of this process. This focus enables us to provide fine-grained theoretical insights into the top management behaviors that ultimately drive firm level outcomes such as performance and adaptation. We use decision quality as our dependent variable because using firm performance risks misaligning levels of analysis, and because
performance is impacted by such a vast array of extraneous influences, the effects of one single strategic decision may be masked. Finally, prior empirical research has shown that top managers do not have consistent strategic decision processes, rather they vary from one decision to the next (Hickson, Wilson, Cray, Mallory, & Butler, 1986; Elbanna and Child, 2007; Papadakis & Barwise, 2002; Papadakis, Lioukas, and Chambers, 1998), which further necessitates a focus upon individual decisions.

We test our model using a sample of 117 recent strategic decisions, and we utilize multi-informant dyadic data, with different top management team informants for our independent and dependent measures. The insights we develop contribute to decision speed theory by identifying that speed is not a universally positive phenomenon, and has both positive and negative implications for decision quality. We do so by advancing knowledge of multiple environmental contingencies. Finally, the theoretical insights developed in this article are likely to be of great interest to practicing managers involved in the strategy process, as we are able to highlight the environmental conditions that render decision speed both helpful, and harmful, for the quality of strategic decisions.
THEORETICAL BACKGROUND

Strategic Decision Speed

Decision speed is defined as the duration between the first deliberate consideration of action, and when a commitment to act is made (Eisenhardt, 1989). Schumpeterian perspectives of competitive advantage emphasise the importance of decision speed relative to rivals—decisions must be made quickly enough to keep pace with the rate of change in the external environment (D’Aveni, 1994; Galbraith, 1973; Thompson, 1967) in order to drive effective adaptation. Hence, the ability to make strategic decisions quickly is a key source of competitive advantage for many firms because fast decision-making enables firms to respond rapidly to rivals’ competitive moves (Bourgeois & Eisenhardt, 1988; Souitaris & Maestro, 2010), to capitalize on fleeting opportunities before they disappear (D’Aveni, Dagnino, & Smith, 2010), and to gain first mover advantages by becoming early adopters of new technologies and processes (Makadok, 1998).

A substantial body of social-psychology literature has studied the pitfalls of rapid decision-making at the individual level. The heuristics and biases programme of research (Kahneman & Tversky, 1973; Kahneman, Slovic, & Tversky, 1982; Tversky & Kahneman, 1974) highlights cognitive biases that decision-makers fall victim to when making rapid decisions under laboratory conditions. This programme of research has led to a sceptical view of rapid decision making (Hodgkinson, Sadler-Smith, Burke, & Claxton, 2009). However, it is noteworthy that Eisenhardt (1989) showed that speed does not necessarily preclude some aspects of analysis—decision-makers can use real time operational information and consider decision options simultaneously, to expedite analytical approaches.
A key focus in the strategy literature has been the link between decision speed and firm performance, particularly in dynamic environments (e.g. Baum & Wally, 2003; Eisenhardt, 1989; Judge & Miller, 1991; Souitaris & Maestro, 2010). Eisenhardt (1989), in her seminal study of eight high technology organizations, observed a relationship between fast strategic decision-making and subsequent sales growth and profitability in high velocity environments. And in an earlier paper, Bourgeois and Eisenhardt (1988) proposed a positive relationship between speed and performance, based on four case studies of firms also operating in the high-velocity microcomputer industry. The evidence provided in the Eisenhardt studies was later corroborated by Judge & Miller (1991) and Baum & Wally (2003). Judge & Miller (1991) extended the work Eisenhardt by determining that decision speed has a positive association with performance in high velocity environments, but not in low velocity environments. Baum & Wally (2003), using hypothetical scenarios, then found a positive relationship between decision speed and firm growth and profit. However completely at odds with this body of findings, Forbes (2005) provides evidence to the contrary—finding that new firms making fast strategic decisions were less likely to survive, and Perlow et al., (2002) report evidence of a speed ‘trap’ in which the case study firm became trapped in a cycle of ever faster decision making, which ultimately led to bankruptcy.

It is therefore apparent that whilst there is some indication of a link between decision speed and firm performance, the evidence on the whole, is equivocal. Indeed, many of the studies providing evidence of a positive link are based on small samples; Eisenhardt (1989) used a sample of 8 firms, and Judge & Miller (1991) use a sample of 32 firms. As such, the link between decision speed and decision quality remains unclear, and there are several major problems hindering theory development. First, studies have examined strategic decision speed at the organizational level, which assumes organizations have consistent strategic
decision processes for the period over which performance is studied. However, several large scale empirical studies have since shown that strategic decision-making processes vary significantly within firms. That is to say, firms do not have consistent processes for making strategic decisions, they differ according to the unique characteristics of each decision being made (Elbanna & Child, 2007b; Hickson et al., 1986; Papadakis et al., 1998). Second, using organizational performance as a dependent variable is problematic because it is affected by a vast array of extraneous influences—meaning the effect of one single strategic decision is likely to be masked (Dean & Sharfman, 1996). Finally, utilizing performance presents the issue of misaligning levels of analysis—studying the speed of individual strategic decisions assumes one level of analysis, whereas studying performance assumes another (Elbanna, 2006).

An additional problem that has hindered theory development concerning the micro level implications of decision speed, is a singular focus on the contingent effects of environmental dynamism, thereby omitting other important dimensions of the external environment. Overall the strategic decision-making literature has not systematically accounted for the multiple different dimensions of the external environment, and studies usually focus on one dimension and omit others (Elbanna, 2006). This means that much of the prior work on decision speed has not accounted for the extent to which the external environment provides opportunities for sustained growth and stability—conditions that profoundly influence the latitude of top managers to execute effective strategic change.

The Contingent Influence of the External Environment
As shown in figure 1, we incorporate three of the most important dimensions of the external environment (Dess & Beard, 1984; Shepherd & Rudd, 2014). We include dynamism to capture the level of change and unpredictability in the external environment, but we also include hostility-munificence to capture the extent to which the environment provides resources and opportunities for sustained firm growth. We do so to tackle a major shortcoming in the extant decision speed literature, which has only examined a single dimension of the external environment in isolation. This is highly problematic because environments which are dynamic and hostile are likely to pose significantly different challenges, and inhibit managerial discretion (Hambrick & Finkelstein, 1987), than compared to an environment which is dynamic and munificent.

**Environmental dynamism.** A dynamic environment is one “with a highly unpredictable and unstable rate of change” (Mitchell, Shepherd, & Sharfman, 2011: 687). Dynamism is synonymous with instability, turbulence, and velocity; and refers to the level of environmental unpredictability, manifest in the rate of change and the level of uncertainty about forces that are beyond the control of the organization (Aldrich, 1979; Dess & Beard, 1984). Hence, in such environments, the ability to act without hesitation is vital to be able to seize opportunities such as increases in demand or changes in customer preferences, before rivals do (Stevenson & Gumpert, 1985). Empirical evidence suggests that speed is more advantageous in dynamic environments (Eisenhardt, 1989; Judge & Miller, 1991; Souitaris & Maestro, 2010). This is because making fast decisions speeds up executive learning, and enables them to capitalize on opportunities quickly (Judge & Miller, 1991). An analogy that is often used is that of World War II fighter pilots, and firms that make rapid decisions “are like World War II fighter pilots—they win by making faster decisions which pre-empt the
opposition’s moves” (Bower & Hout, 1988: 110). Advantages in dynamic environments are
seldom long term, and thus it is imperative to keep pace with the rate of change, because once
behind, it can be impossible to catch up.

**Environmental hostility-munificence.** A hostile environment is threatening and
dangerous, with limited opportunities for firm growth (Miller & Friesen, 1983), and is
manifest in low sales growth. In contrast, munificence refers to the environment’s capacity to
sustain firms and is manifest in high sales growth (Dess & Beard, 1984). Cautious strategic
decision-making is critical in hostile environments because one false move could mean the
downfall of the company. As such, rushing into hasty, ill-conceived decisions could pose a
severe risk to firm survival. Opportunities to rectify ineffective choices may be a long time in
arriving, and cautious analytical approaches may best serve firms in hostile environments.
Elbanna & Child (2007a) find that rationality has a more positive relationship with decision
effectiveness in hostile environments. There is however a degree of dissensus between
Elbanna & Child (2007) and Goll & Rasheed (1997), whom show that rationality has a
stronger association with performance in munificent environments, and theorize that
munificence provides the resources to support analytical activities.

Unfortunately, prior research has not examined interactions between speed and
hostility-munificence, but Baum & Wally (2003), using a field experiment with hypothetical
choices, do show evidence of a link between munificence and faster executive decision
making. We take this a stage further, and ask whether faster decision-making is more
advantageous in munificent environments—because it is likely that speed enables firms to
seize the abundant opportunities engendered by munificence ahead of competitors, as well as
expediting executive learning.
Furthermore, it is likely that different combinations of hostility-munificence and dynamism will profoundly alter the effects of decision speed. Whilst existing studies of speed have so far not allowed for the possibility of three way interactions, prior strategic decision research hints that such complex interactions markedly affect strategic decision outcomes. Mitchell et al., (2011) find that combinations of dynamism and hostility determine the extent to which top managers make erratic decisions, and Goll & Rasheed (1997) show that rationality most strongly influences performance under conditions of dynamism and munificence. High levels of dynamism and hostility are likely to interact to restrict managerial discretion (Hambrick & Finkelstein, 1987), placing an even greater premium on cautious, heavily analytical decision-making (Miller & Friesen, 1983) to make sure strategic choices are diligently scrutinized, because one false move could bring about the firm’s downfall. However, in dynamic and munificent environments top managers have far greater manoeuvrability, and executing decisions rapidly means they can capitalize on more opportunities, and promptly rectify any ineffective strategic choices.

RESEARCH HYPOTHESES

Speed, Decision Quality, and Environmental Dynamism

The relationship between decision speed and decision quality is likely to be contingent on the environment in which the decision is made (Shepherd & Rudd, 2014). In dynamic environments change occurs rapidly, and firms that are slow to respond risk missing fleeting opportunities before they disappear. Once a firm falls behind competitors, it can be impossible to catch up (Eisenhardt, 1989). Hence, being able to make strategic decisions quickly in dynamic environments can lead to (1) early adoption of product or service
innovations, or improved business models that offer competitive advantages (Jones, Lactot, & Teegan, 2000); (2) early adoption of efficiency-gaining processes and technologies (Baum, 2000), and; (3) pre-emptive organizational restructuring that enhance economies of scale and knowledge utilization (Baum & Wally, 2003).

It may be the case however, that fast decision-making damages decision quality in dynamic environments. Sacrificing information search and analysis to expedite decision-making risks inadequate appraisal of decision options, and may mean sub-optimal alternatives are selected (Kahneman et al., 1982).

Overall though, we anticipate that fast strategic decision-making is most appropriate in dynamic environments where momentary opportunities disappear suddenly. This is because under such conditions, actions of competitors can be impossible to accurately predict, demand can be hard to forecast, and trying to second-guess customer requirements futile. This is especially true of industries characterized by sudden and dramatic technological innovations. Even if the initial choice proves to be ineffective, decision-makers may still benefit from learning opportunities that enable them to rectify their actions. Hence, in dynamic environments, the most effective option for firms may be to act quickly, and maintain preparedness to adapt should the decision initially prove unsuccessful (Baum & Wally, 2003). The preceding arguments suggest the following hypothesis:

_H1: Decision speed has a stronger, more positive relationship with decision quality when environmental dynamism is high than when it is low._

**Speed, Decision Quality, and Environmental Hostility-Munificence**
Hostile environments are declining industries with limited opportunities for growth, meaning firms are severely resource constrained (Castrogiavanni, 1991). Fast decision-making in hostile environments is dangerous because one false move could bring about the company’s demise. Hostile environments provide only scarce resources, intensify challenges, reduce profitability, and in general give top managers much less discretion. Such environments pose numerous threats to firms (Goll & Rasheed, 2005), and empirical evidence indicates cautious, analytical approaches are most effective in hostile environments. Indeed, in such environments organizations must dedicate greater time and resources to planning, so as to develop a comprehensive understanding of opportunities and threats (Khandwalla, 1977). Miller & Friesen (1983) find that successful firms respond to hostility by increasing analysis in strategy making, and Elbanna & Child (2007a) find the relationship between procedural rationality and decision effectiveness is strongest in hostile environments. This is likely to be because in hostile environments, top managements’ focus should be on resource conservation and pursuing only those strategic options which are competitive and economical (Miller & Friesen, 1983). Hence acting quickly without thorough analysis and deliberation risks wasting precious and scarce resources.

The prior arguments suggest a degree of mutual exclusivity between analysis and speed. However, Eisenhardt (1989) found that decision speed does not necessarily preclude analysis, and that executives are able to incorporate some aspects of analysis into fast decision making, by using real time operational information and considering multiple decision options simultaneously. However, this may not be adequate in the face of severe hostility. When environmental forces pose immediate threats to firm survival, and when it is a challenge merely to stay afloat, firms will need to engage in a much more diligent appraisal of opportunities and threats. This is because in hostile environments, competition extends
over an ever-increasing range of dimensions, such as quality, price, product/service attractiveness, and delivery; making thorough analysis absolutely essential (Miller & Friesen, 1983). To conduct such analysis effectively and comprehensively is likely to mean engaging consultants, commissioning market research, and embarking on feasibility studies. All of these activities take time and will slow the process, but are essential when one false move could mean the firm going bust. Expediting decision-making means sacrificing these analytical processes. However, in the face of such environmental adversity, top managers may panic and rush into a hasty, but ill-conceived choice.

It could also be argued that speed is *more* vital in hostile environments. Because of the very limited prospects for growth, firms must be able to act quickly before opportunities are lost—it may be a long wait before the next one arrives. Thus, effective firms may be those that are prepared to move quickly to seize scarce opportunities as soon as they arrive.

However, it is important to note that in hostile environments decision-makers have far fewer opportunities for learning than in munificent environments. Because top managers learn from the strategic decisions they make, if they make too few, they will not develop the complex, domain relevant cognitive schemas that facilitate effective, rapid decision-making (Dane & Pratt, 2007). Hence, expediting decision processes is risky in hostile environments as decision-makers may lack the expertise required for the effective functioning of fast, non-conscious cognitive processes (Dane & Pratt, 2007; Salas, Rosen, & Diaz-Granados, 2010). Therefore, a decision made rapidly, particularly in an environment where decision-makers have had limited opportunities for learning, may lead to erratic decisions (Mitchell et al., 2011).

Finally, in hostile environments, opportunities to rectify ineffective decisions may be a long time in arriving and as such, every decision must be thoroughly scrutinised and
understood prior to its implementation. Because firms operating in hostile environments are severely resource constrained, they may also lack resources to reverse ineffective decisions. Therefore in hostile environments, cautious decision-making, relying heavily on systematic analysis and evaluation of each opportunity is likely to prove most effective. The preceding arguments suggest the following hypothesis:

\[ H2a: \text{Decision speed has a negative relationship with decision quality when environmental hostility is high.} \]

Munificent environments provide an abundance of resources and growth opportunities (Aldrich, 1979; Dess & Beard, 1984). Such environments offer frequent learning opportunities to develop complex cognitive schemas, which facilitate effective rapid decision-making (Dane & Pratt, 2007). Thus top management teams operating in munificent environments are more likely to be adept at making fast strategic decisions.

Furthermore, Elbanna & Child (2007a) show that rationality has a less positive relationship with decision effectiveness in munificent environments, which suggests the basis of competitive advantage in such environments is the ability to act quickly, to exploit the abundance of opportunities. Competition is much less intense in munificent environments, and hence firms do not need to dedicate extensive time and resources to analysing competitors and trying to predict likely responses to new strategic initiatives. Furthermore, firms operating in munificent environments have plentiful resources, and are thus able to take remedial action to reverse or correct a strategic decision if its implementation proves unsuccessful.
The costs of picking the ‘wrong’ decision option in munificent environments are far less than compared to hostile environments, and decision-makers can act quickly without the need for extensive options analysis and evaluation (Baum & Wally, 2003). The preceding arguments suggest the following hypothesis:

**H2b: Decision speed has a stronger, more positive relationship with decision quality when environmental munificence is high than when it is low.**

**The Joint effects of Environmental Dynamism and Hostility-Munificence on the Relationship between Decision Speed and Decision Quality**

We theorize that making fast strategic decisions in environments high in both dynamism and hostility will have a deleterious effect on decision quality, owing to three key reasons. First, hostile and dynamic conditions represent a ‘wicked environment’ (Hogarth, 2001), where environmental irregularity hinders the development of complex domain relevant schemas required for fast and effective decision-making (Dane & Pratt, 2007; Salas et al., 2010). Top managers will have had inadequate opportunities to learn to interpret and make sense of the multiple meanings inherent in hostile and dynamic environments. The absence of complex domain relevant schemas renders rapid cognitive processes, such as intuition (Wally & Baum, 1994), much less reliable.

Second, the inability to predict demand, customers, and competitors—coupled with declining or stagnant demand—is likely to severely restrict managerial discretion (Hambrick & Finkelstein, 1987), and limit the ability of top managers to mount effective strategic change. The combination of dynamism and hostility is likely to place an even greater premium on heavily cautious, analytical processes. This is because the high levels of
unpredictability coupled with intense, multifaceted competitive forces, need to be carefully, diligently, and comprehensively scrutinized prior to committing to a course of action.

Third, and finally, because of the level and pace of change brought about by dynamism, decision-makers may panic and execute decisions quickly. However, severe resource constraints, owing to hostile trading conditions, hinder the ability of top managers to subsequently reverse or adapt ineffective strategic choices. It is easy to see how in the face of rapid, unpredictable and adverse environmental conditions, top managers may be tempted to execute decision rapidly, but given the complexity and high stakes of such environments, cautious, heavily analytical decision-making is likely to be most effective. The preceding arguments suggest the following hypothesis:

\[ H3a: \text{Decision speed has a negative relationship with decision quality when environmental dynamism and environmental hostility are both high.} \]

Conversely, in environments high in munificence and dynamism, we expect decision speed to enhance decision success. Executing decisions rapidly means firms can capitalize on more opportunities, and promptly rectify any ineffective strategic choices. Munificence and dynamism combine to bolster managerial discretion (Goll & Rasheed, 1997; Hambrick & Finkelstein, 1987), borne out of demand growth and ever-changing customer and competitor trends, which create multiple and frequent opportunities for top managers to take execute positive organizational change.

Low levels of competitive complexity and intensity make strategic decision making relatively straight forward, and reduce the need for heavily rational, analytical decision processes. Furthermore, because munificence endows firms with a surfeit of resources, false
moves are easily rectified. Hence, rushing into a decision poses much less risk than when firms operate in resource scarce environments. Finally, because munificent dynamic environments provide frequent learning opportunities for top managers, they are more likely to have developed complex domain relevant schemas required for effective and rapid cognitive processing (Dane & Pratt, 2007). The preceding arguments suggest the following hypothesis:

\[ H3b: \text{Decision speed has a stronger, more positive relationship with decision quality when environmental dynamism and environmental munificence are both high.} \]

**RESEARCH DESIGN AND METHODOLOGY**

**Organizational Context**

We used a field study to collect data from multiple top management team informants in each of the 117 participating firms, in relation to a recent strategic decision made within the firm. We sent questionnaires to 236 medium and large sized United Kingdom based services and manufacturing organizations. We randomly sampled all UK industries to improve the generalizability of our findings.

**Unit of Analysis**

We use individual strategic decisions as our unit of analysis instead of organizations because prior empirical research (e.g. Elbanna & Child, 2007b; Hickson et al., 1986; Papadakis et al., 1998) has demonstrated that strategic decision-making processes differ substantially according to the specific issue at stake, even within the same organization.
Strategic decisions in our sample include a new strategy (27%), corporate restructuring (16%), a merger or acquisition (21%), a new product or service (18%), new market entry or exit from a market (13%), and significant investment in capital equipment (5%).

**Procedures**

Top managers in 236 United Kingdom-based medium and large, manufacturing and service organizations were contacted by telephone and each subsequently sent two surveys, one each for two members of the top management team who had significant involvement in making a recent strategic decision in their organization. Informants completed and returned their responses entirely independently to minimize cross contamination. Both informants were asked to provide a detailed description of the strategic decision to enable us to check both were referencing the exact same decision. In 117 cases, fully completed first informant and second informant surveys were received back, representing a 50% response rate.

**Key Informant Check**

We examined both informants’ competency (Kumar, Stern, & Anderson, 1993) by asking each of them to rate their involvement in making the decision, and their confidence in answering the questionnaire. The mean average score of first informants rating their involvement in making the strategic decision is 6.42 (5.8 for the second informants), and 6.31 for their confidence in answering the questionnaire (6.01 for the second informant), using a 7 point Likert scale in each case.

**Sample**
First informants were all top managers, and comprised CEOs/Managing Directors (59%), Executive Directors (25%), Chairmen (10%), and Chief Officers (6%). Second informants were also top managers and comprised Executive Directors (85%), CEO/Managing Directors (10%), and Chief Officers (5%). The mean average top management team size in our sample is 5.65, the mean average number of employees for the organizations in our sample is 178, and the mean average age of the organizations is 25 years.

**Questionnaire Measures**

To allay common method bias, we use the first informants’ responses for our independent variables, and our second informants’ responses for our dependent variable. All constructs are multi-item reflective measures using 7-point Likert scales. The measures were taken from the following sources: Decision speed (Clark & Maggitti, 2012); decision quality (Amason, 1996); environmental dynamism (Mitchell et al., 2011); environmental hostility-munificence (Elbanna & Child, 2007a; 2007b); procedural rationality (Dean & Sharfman, 1996; Elbanna & Child, 2007a; 2007b) and; political behavior (Dean & Sharfman, 1996; Elbanna & Child, 2007a; 2007b).

**Control Variables**

We control for procedural rationality and political behavior, because a substantial body of empirical evidence shows these are key determinants of the success or otherwise of a strategic decision (e.g. Bourgeois & Eisenhardt, 1988; Dean & Sharfman, 1996; Eisenhardt & Bourgeois, 1988; Elbanna & Child, 2007a). We also use a dummy variable to control for heterogeneity in the types of strategic decisions in our sample.
ANALYSES AND RESULTS

Table 1 shows scale characteristics and intercorrelations between variables. We note the almost orthogonal relationship between dynamism and hostility-munificence, providing clear evidence that these are two unique and distinct dimensions of the external environment.

Internal Consistency

The results of alpha coefficients range from 0.71 to 0.91 (see table 2) for all scales, suggesting a satisfactory degree of internal consistency.

Convergent Validity

In accordance with the recommendations of Campbell & Fiske (1959) we assessed both convergent and discriminant validity. Convergent validity was assessed using confirmatory factor analysis to determine whether construct measures load on a priori defined constructs. The factor loadings of the first informants’ measures ranged from 0.60 to 0.91 for decision speed, from 0.51 to 0.92 for procedural rationality, from 0.47 to 0.71 for political behavior, from 0.58 to 0.92 for environmental dynamism, and from 0.62 to 0.82 for environmental hostility-munificence. The factor loadings for the second informants’ measures of decision quality range from .81 to .98. Overall, the measures demonstrate satisfactory levels of convergent validity.

Discriminant Validity

We followed Fornell & Larcker’s (1981) procedure to establish the discriminant validity of our measures, using confirmatory factor analysis (CFA). To establish sufficient discriminant
validity we calculated the average variance extracted (AVE) for each construct and compared it to the shared variance with each of the other constructs. To establish sufficient discriminant validity the AVE of each construct should be greater than its shared variance with other constructs. In all instances, the average variance extracted from the constructs far exceeds the shared variance between any two constructs. The highest shared variance was 0.21 (between procedural rationality and decision quality). Moreover, the AVE for each of these constructs (decision quality 0.91, procedural rationality 0.71) both far exceeds their shared variance. These results demonstrate the measures clearly attain sufficient discriminant validity.

Common Method Variance

Although common method variance is unlikely to be an issue in our study because we collected the dependent and independent measures from different sources, we did test for its influence by applying two tests. First, we apply marker variable analysis, as applied by Verhoef & Leeflang (2009). Specifically, we use an item (‘please indicate the impact decision-makers initially expected this decision to have on product/service quality’), which should not be related to the variables in our study. We then calculate correlations between this item and the variables in our questionnaire. We find no significant correlations, indicating an absence of common method variance.

Second, we use Harman’s one-factor test (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Following the Kaiser criterion, a principal components factor analysis yielded six factors with Eigen values greater than 1.0, and these accounted for 70% of total variance. The identification of six factors, as opposed to one single factor, and because the first factor did not account for a high proportion of the variance (21%), we conclude that a significant amount of common method variance does not appear to be present.
Finally, common method variance is unlikely to be a major concern in our sample because interaction effects are not artefacts of common method variance—rather, interaction effects are much more difficult to detect in the presence of common rater variance because it diminishes the effects of interaction terms (Siemsen, Roth, & Oliveira; 2010).

Hypothesis Testing

We test our hypotheses, using Ordinary Least Squares regression, by regressing the second informants’ measures of decision quality onto blocks of the first informants’ predictor variables. We estimated four nested models, to show the additional explanatory power of the interaction terms. The predictor variables were means centred to aid interpretation (Echambadi & Hess, 2007; Aiken & West, 1991). Variance inflation factor scores varied from 1.02 to 1.18 over the regressions, suggesting multicollinearity is not a major concern. Table II presents the results of these regression analyses.

Hypothesis 1 proposes a moderating effect of environmental dynamism whereby the relationship between decision speed and decision quality is more positive when the environment is dynamic. Results displayed in table II (step 3) reveal the interaction between decision speed and environmental dynamism is in the predicted direction ($\beta_{interaction} = .21, p < 0.05$) and together with the other interaction term, explains a significant amount of additional variance in the dependent variable ($\Delta R^2 = .07, p < 0.05$). Thus, hypothesis 1 is supported. To facilitate interpretation of this interaction, we plotted relationships, indicating high and low levels of environmental dynamism by values one standard deviation above and below the mean (Aiken & West, 1991). Figure 2 illustrates the significant moderator effects of environmental dynamism on the relationship between decision speed and decision quality.
Hypothesis 2a proposes a moderating effect of environmental hostility whereby the relationship between decision speed and decision quality is negative when the environment is hostile. Results displayed in table II (step 3) reveal the interaction between decision speed and environmental hostility is in the predicted direction ($\beta_{\text{interaction}} = -.19, p < 0.05$), and together with the other interaction terms, explains a significant amount of additional variance in the dependent variable ($\Delta R^2 = .07, p < 0.05$). Thus, hypothesis 2a is supported. To facilitate interpretation of this interaction, again we plotted relationships, indicating high and low levels of environmental hostility by values one standard deviation above and below the mean (Aiken and West, 1991). Figure 3 illustrates the significant moderator effects of environmental hostility on the relationship between decision speed and decision quality.

Hypothesis 2b proposes a moderating effect of environmental munificence whereby the relationship between decision speed and decision quality is more positive when the environment is munificent. Environmental hostility-munificence is measured on a continuum, and hence we re-performed our regression analyses, this time reverse scoring environmental hostility-munificence. The decision speed and environmental munificence interaction is in the predicted direction ($\beta_{\text{interaction}} = .19, p < 0.05$), and together with the other interaction terms, explains a significant amount of additional variance in the dependent variable ($\Delta R^2 = .07, p < 0.01$). Thus, hypothesis 2b is supported. To facilitate interpretation of this interaction, we plotted relationships, indicating high and low levels of environmental munificence by values one standard deviation above and below the mean (Aiken & West, 1991). Figure 4 illustrates the significant moderator effects of environmental munificence on the relationship between decision speed and decision quality.

Hypothesis 3a proposes a moderating effect of environmental dynamism and hostility, whereby the relationship between decision speed and decision quality is negative when the
environment is dynamic and hostile. The three-way interaction is in the predicted direction ($\beta_{\text{interaction}} = -.25, p < 0.01$), and explains a significant amount of additional variance in the dependent variable ($\Delta R^2 = .07, p < 0.01$). Thus, hypothesis 3a is supported. To facilitate interpretation of this 3-way interaction, we plotted relationships, indicating high and low levels of environmental dynamism and of hostility, by values one standard deviation above and below the mean (Aiken & West, 1991). Figure 5 illustrates the combined moderator effects of environmental hostility and dynamism on the relationship between decision speed and decision quality.

Hypothesis 3b proposes a moderating effect of environmental dynamism and munificence whereby the relationship between decision speed and decision quality is positive when the environment is munificent and dynamic. As for hypothesis 3b, we re-performed our regression analyses, this time reverse scoring environmental hostility-munificence. The three-way interaction is in the predicted direction ($\beta_{\text{interaction}} = .25, p < 0.01$), and explains a significant amount of additional variance in the dependent variable ($\Delta R^2 = .07, p < 0.01$). Thus, hypothesis 3b is supported. To facilitate interpretation of this 3-way interaction, we plotted relationships, indicating high and low levels of environmental dynamism and of munificence, by values one standard deviation above and below the mean (Aiken & West, 1991). Figure 6 illustrates the combined moderator effects of environmental munificence and dynamism on the relationship between decision speed and decision quality.

**DISCUSSION**

In this study we provide a major refinement of decision speed theory, and we address three major problems that have hindered past attempts at theory development: (i) an exclusive
unidimensional focus on the moderating effects of only environmental dynamism—thereby neglecting other key dimensions, such as hostility-munificence, (ii) an organizational level of analysis, and (iii) the reliance on small samples, with some using hypothetical scenarios. Therefore, we addressed these limitations by (i) developing new theory concerning the contingent influence of not only environmental dynamism, but also environmental hostility-munificence as well as the joint effects of dynamism and hostility-munificence, (ii) refocussing the debate onto the effects of decision speed at the decisional level of analysis, and (iii) using a relatively large sample of real and recent strategic decisions. In doing so we address a key question in strategic management of whether decision speed helps or harms decision quality?

**Theoretical Implications**

The clear theoretical insight from our study is that decision speed plays a key role in shaping the quality of individual strategic decisions. Thus, top managers can influence the success, or otherwise, of strategic decisions by varying the speed of their decision processes. However, the moderating effects of environmental dynamism and hostility-munificence have significant ramifications for organization theory. We provide new theoretical insights highlighting how the influence of decision speed is markedly more positive in dynamic and munificent environments, than in dynamic and hostile environments. Whilst the theoretical insights provided in our study are preliminary rather than conclusive, our findings indicate the need for separate theories of decision speed for environments which are dynamic and hostile, and for environments which are dynamic and munificent. Furthermore, our findings highlight the need for a multidimensional approach to theorizing about the effects of the external environment. Much of the prior work in the strategic decision making domain
focuses on one single dimension of the external environment. However, this approach leaves the effects of other key environmental dimensions—such as hostility-munificence—unaccounted for. Our findings provide new theoretical insights into the complex and multidimensional nature of the external environment, and the ways in which these differing dimensions interact.

Our study therefore provides theoretical advances on the work of Eisenhardt (1989) and Judge & Miller (1991), which both used relatively small samples, by providing new theoretical insights showing how hostility-munificence alters the speed-decision quality relationship, as well as altering the interaction between speed and dynamism. We do so using a relatively large sample of recent and real strategic decisions.

Another important theoretical insight arising from our study is that quick strategic decision-making is not universally positive or desirable. Whilst decision speed improves decision quality in dynamic environments, and in munificent environments, it damages decision quality in hostile environments. Our findings enrich strategic decision-making theory by simultaneously lending support for the strategic choice (Child, 1972) and environmental determinism perspectives (Hannan & Freeman, 1977). Our findings show that top managers do have a degree of discretion in their ability to influence decision success, but they must ensure the speed with which they execute strategic change is carefully aligned with the prevailing environmental conditions. Environmental dynamism and munificence greatly enhance managerial discretion, whereas hostility severely constrains it.

**Practical Implications**
Top managers face increasing pressure to execute rapid strategic change, driven by ever increasing globalisation, rapid technological innovation, and shortening product life cycles (Kownatzki et al., 2013). Hence, it is tempting to advocate decision speed as a panacea for coping with the tumult of change facing organizations. However, extreme caution should be exercised in environments that are both dynamic and hostile. Our results show that decisions that are made rapidly amidst environmental dynamism and hostility, are most likely to go astray. In contrast, being able to execute strategic decisions rapidly is a vital competency in environments which are munificent, dynamic, and especially so in environments which are both munificent and dynamic. In summary, fast decision-making can be both advantageous and perilous, depending on the levels of environmental dynamism and hostility-munificence.

The key challenge for top managers is thus being attuned to trends in the external environment, and ensuring they have the necessary skills to be able to expedite or slow the decision process accordingly. Intuition is likely to be a key driver of decision speed (Wally & Baum, 1994), however top management teams can only rely on their intuitive judgments when they have the requisite expertise (Dane & Pratt, 2007; Simon, 1987). An important implication therefore is that top managers should be trained in order to develop their expertise. The development of expertise requires a great deal of effort and commitment, and estimates suggest that at least 10 years or 10,000 hours of repeated exposure to challenging problems in the workplace is the minimum period for expertise to develop (Ericsson & Charness, 1994; Ericsson, Krampe, & Tesch-Römer, 1993; Hodgkinson et al., 2009; Simon & Chase, 1973). Thus top managers, and those aspiring to be top managers, should take proactive steps such as seeking out feedback, and reflecting on prior strategic decisions so as to learn the reasons for success or failure. Top managers could also use formal training.
methods, such as case studies and simulation (Ericsson, Prietula, & Cokely, 2007), to develop their capability to recognize the conditions that are most likely to push them into relying on intuition, and to spot whether they have the sufficient expertise to render their intuitive judgments reliable. Finally, the degree of team cohesiveness is likely to be a key determinant of top managers ability to mount organization-wide strategic change on a timely basis (Hambrick, 1994), and thus top teams should base recruitment and reward decisions with the explicit aim of enhancing levels of team cohesiveness and reducing power asymmetries, so as to foster rapid decision-making capabilities.

**Limitations and Directions for Future Research**

We very carefully designed our study to provide valid and reliable results concerning the relationship between strategic decision speed and decision quality. We are not aware of any existing studies of decision speed that have used a large sample of real and recent strategic decisions, obtained data from multiple informants and examined its effects on decision quality; whilst modelling interactive effects of three key dimensions of the external environment. We also control for important influences on decision quality, including procedural rationality and political behavior. We sampled a range of manufacturing and services industry sectors to enhance the generalizability of our findings. These were all critical methodological safeguards that serve to reduce the possibility of alternative explanations for the influence of strategic decision speed.

However, our study does have some limitations. Our study is cross-sectional and a longitudinal research design would have strengthened our claims concerning the causal link between taking strategic decisions quickly, and the consequences of these actions (Bowman, Singh, Krampe, R. T., & Tesch-Römer Thomas, 2002). In addition, the mean average size of
the organizations in our sample is 178 employees, thereby limiting our ability to generalize our findings to larger organizations.

Future research could extend and build upon our findings in several interesting ways. A next logical step is to establish the antecedents of decision speed, at the decisional level of analysis. A multi-theoretic approach (e.g. Elbanna & Child, 2007b; Papadakis et al., 1998) is required, as decision speed is likely to be determined by factors pertaining to the top management team, decision-specific characteristics, firm characteristics, as well as the prevailing environmental conditions. Because top management team and firm level factors are the only two contextual factors that top managers are able to influence, research elucidating the team and firm level drivers of decision speed is likely to be of particular benefit for strategic management theory and practice.

The strategic decision-making literature contains a plethora of dimensions of the external environment. Our study focuses on three of the most important and central in order to capture the level and pace of change, as well as the level of resources and growth opportunities provided by the external environment. However, future research may consider other important dimensions such as uncertainty. Furthermore, separating uncertainty into different types e.g. technology uncertainty, demand uncertainty, and competitor uncertainty is likely to provide a fine-grained understanding of how speed interacts with the external environment (Shepherd & Rudd, 2014). Finally, a lack of replication has hindered the development of strategic decision-making theory. To address this, future research should seek to replicate the findings of our study, using different samples. As a minimum, our study highlights the pivotal role of decision speed in shaping decision quality, and future research should control for its influence, which would in itself lead to greater implicit replication.
CONCLUSION

We provide a major refinement of strategic decision speed theory, and we show that fast strategic decision-making can help, but can also hinder decision quality, using a large sample of real and recent strategic decisions. We show that hostility-munificence markedly changes the interaction between decision speed and environmental dynamism in shaping decision quality. With many businesses operating in increasingly dynamic and hostile environments, our findings provide important guidelines to help top managers improve the quality of the strategic decisions they make.
REFERENCES


Fornell, C., & Larcker, D. F. 1981. Structural equation models with unobservable variables and measurement error: algebra and statistics. *Journal of Marketing Research*, 18: 382—388.


FIGURES AND TABLES

FIGURE 1.

Theoretical Model

Decision speed ➔ Environmental dynamism ➔ Decision quality

Decision speed ➔ Environmental hostility-munificence ➔ Decision quality

H1

H2a & 2b

H3a & 3b

Control variables
- Procedural rationality
- Political behavior
- Decision type

Direct Effect

Moderating Effect

FIGURE 2.

Interaction between Speed and Dynamism

Decision quality vs. Speed and Dynamism

Low Speed

High Speed

Low Dynamism

High Dynamism
FIGURE 3.

Interaction between Speed and Hostility

FIGURE 4.

Interaction between Speed and Munificence
FIGURE 5.

Interaction between Speed, Dynamism, and Hostility

FIGURE 6.

Interaction between Speed, Dynamism, and Munificence


**TABLE 1.**

Means, Standard Deviations, Internal Consistencies, AVEs, and Intercorrelations

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>s.d.</th>
<th>Coefficient Alpha Reliabilities</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Decision quality (second informant)</td>
<td>5.68</td>
<td>1.25</td>
<td>0.91</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Decision speed (first informant)</td>
<td>5.34</td>
<td>1.29</td>
<td>0.83</td>
<td>0.13</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Environmental dynamism (first informant)</td>
<td>4.43</td>
<td>1.30</td>
<td>0.82</td>
<td>0.06</td>
<td>-0.13</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Environmental hostility-munificence (first informant)</td>
<td>4.34</td>
<td>1.25</td>
<td>0.78</td>
<td>0.08</td>
<td>0.10</td>
<td>0.09</td>
<td>0.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Procedural rationality (first informant)</td>
<td>4.87</td>
<td>1.14</td>
<td>0.82</td>
<td>0.32**</td>
<td>-0.03</td>
<td>0.01</td>
<td>0.07</td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>6. Political behavior (first informant)</td>
<td>2.46</td>
<td>0.99</td>
<td>0.71</td>
<td>-0.26**</td>
<td>-0.15</td>
<td>-0.11</td>
<td>-0.02</td>
<td>-0.18†</td>
<td>0.56</td>
</tr>
<tr>
<td>7. Decision Type (Dummy)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.144</td>
<td>0.00</td>
<td>-0.01</td>
<td>-0.12</td>
<td>0.09</td>
<td>0.09</td>
</tr>
</tbody>
</table>

n = 117

†p < .10
*p < .05
**p < .01
### TABLE 2.

**Results of Regression Analyses for Dependent Variable Decision Quality**

<table>
<thead>
<tr>
<th>Block 1: Controls</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedural rationality</td>
<td>.27**</td>
<td>.27**</td>
<td>.24**</td>
<td>.26**</td>
</tr>
<tr>
<td>Political behavior</td>
<td>-.24*</td>
<td>-.22*</td>
<td>-.26**</td>
<td>-.24**</td>
</tr>
<tr>
<td>Decision type (dummy)</td>
<td>.14</td>
<td>.15†</td>
<td>.17†</td>
<td>.18†</td>
</tr>
</tbody>
</table>

**Block 2: Direct effects**

| Decision speed             | .11     | .09     | .12     |
| Environmental dynamism     | .05     | .02     | .03     |
| Environmental hostility-munificence | .06   | .12     | .08     |

**Block 3: Two way Interactions**

| Decision speed × environmental dynamism (hypothesis 1) | .21* |
| Decision speed × environmental hostility-munificence (hypotheses 2a & 2b) | -.19* |
| Environmental dynamism × environmental hostility-munificence | .19† |

**Block 4: Three way Interactions**

| Decision speed × environmental dynamism × environmental hostility-munificence (hypotheses 3a & 3b) | -.25** |

| ΔR²       | .02     | .07     | .07     |
| F for ΔR² | .82     | 5.07**  | 5.53**  |
| R²        | .17     | .19     | .26     | .33     |
| F         | 7.91    | 4.34    | 4.77    | 5.24    |

n = 117

Standardized regression coefficients are shown

† p < .10
* p < .05
** p < .01