Corporate Directors, Accountability,

and Cognitive Complexity

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Abstract

This paper focuses on boards of directors and how directors' preparations for board meetings are influenced by the expectation that they are to interact with the CEO. The board is analyzed as a triadic decision situation in which shareholders, directors, and CEOs come together for decision-making purposes. It is argued here, that the level of cognitive complexity shown by directors in preparation for meetings depends on three things. (1) their accountability for participation in the meetings, (2) what form of accountability they face (split or non-split), and (3) who they expect to meet with (shareholders or CEOs). It is also argued, that directors preparing meeting using lower levels of cognitive complexity are more likely to vote with CEOs and are more likely to converge in their strategy recommendations with CEOs. These arguments are tested in a between-subjects 2x2x3 factorial experiment using MBA students as participants.

Boards of directors have been the center of considerable academic attention in recent years. In particular, attention has focused on the relationship between directors and CEOs and how it influences directors' effectiveness as a governance mechanism. Agency theorists argue that separation of ownership from control on performance in large corporations might lead to self-utility maximizing behavior by CEOs and subsequent suboptimization of shareholder value (e.g., Berle and Means, 1932; Fama and Jensen, 1983). Persistent suboptimal performance is generally attributed directors' inability or unwillingness to discipline self-interested CEOs and make sure their interests are aligned with shareholders (Walsh and Seward, 1990).

The inability of boards to exercise their legally mandated governance role arises from CEOs' domination of the board (e.g., Baliga, Moyer, and Rao, 1996). The main reasons CEOs can dominate boards are that they generally control board composition and tenure, set board agenda, and control information flows (Mace, 1971; Lorsch and MacIver, 1989; Demb and Neubauer, 1992). Responding to boards' perceived weakness several suggestions for board reform have surfaced. Most of them emphasize changes in boards' structure and composition thought to increase board's ability to effectively control CEOs. Commonly suggested changes focuses on increasing directors' independence of CEOs by increasing the presence of non-employee outside directors, allocating CEO and Chairperson positions to different individuals, increasing boards' demographic diversity, and selecting directors who are socially and economically independent of the CEO (Westphal, 1996).

However, the relationship between structural independence and board effectiveness has been difficult to establish empirically (e.g., Walsh and Seward, 1990; Pettigrew, 1992). Westphal (1996) notes, that studies using different indicators (e.g., firm performance, adoption of takeover defenses, and relative product diversification) of boards' ability to effectively protect

shareholders interests generally have produced weak or insignificant results. Westphal (1996) argues, that behavioral processes mediating the relationships between board structure and effectiveness might explain the disappointing findings. CEOs might respond to structural changes limiting their powers by initiating interpersonal influence processes to neutralize independent board monitoring. Indeed, Westphal (1996) showed empirically that CEOs react to increased structural board independence by initiating ingratiating behavior and persuasion attempts. The use of these interpersonal influence tactics decrease board challenging behavior (measured in terms of how many times in a year directors have debated, challenged, or disagreed with the CEO on a strategic issue). Moreover, board challenging behavior is positively associated with CEO compensation contingency and negatively associated with level of diversification. Higher levels of diversification and lower levels of CEO compensation contingency are generally associated with ineffective boards. In other words, CEOs' use of interpersonal influence tactics changes the critical dynamics within the board and these changes have specific measurable strategy consequences.

This paper adopts a different perspective on the weak associations between structural changes and board effectiveness. While Westphal (1996) focused on specific behaviors as changing board dynamics, it is argued here that it might not be necessary in the first place to engage in these behaviors. The simple expectation that directors are going to participate with the CEO in a board meeting might change the way they prepare and approach such a meeting and, as a consequence, how they behave during the meeting. If they expect to interact with the CEO and the CEO has presented them with a strategy proposal, they might chose ex ante (deliberate or not) not to reflect as thoroughly as possible on relevant strategy issues, but simply accept the CEOs' proposal. The social relationship among boards of directors is characterized as a triadic

decision situation in which directors' accountability is split between CEOs and shareholders. Drawing on social psychological accountability research (e.g., Tetlock, 1983b; Tetlock, Skitka, and Boettger, 1989), it is argued that directors, by the way they cognitively prepare the board meeting, decide in advance if they are going to behave challenging.

Accountability in Triadic Decision Situations

Tetlock (1992) notes that accountability – the need to justify one's views to others – is perhaps the most important and universal feature of natural or non-experimental decision environments. Accountability is important because of its presumed role as "the social psychological link between individual decision-makers on the one hand and social systems on the other" (Tetlock, 1992: 337). Accountability is the critical rule and enforcement mechanism that coordinates relationships among autonomous individuals and, in a wider sense, provides the foundation for organized social life. The analogy to board effectiveness and directors' accountability to shareholders is obvious. Accountability is the critical mechanism allowing separation of ownership from control over performance in large corporations.

Experimental studies have shown that accountability impact cognition in various decision situations. Tetlock (1983a), Tetlock (1985), and Tetlock and Kim (1987) found that accountability reduce the primacy effect, the over-attribution effect, and the over-confidence effect. That is, accountability has positive effects on cognitive complexity. However, accountability is less desirable in other decision situations. Tetlock and Boettger (1989), Tetlock and Boettger (1994), and Hattrup and Ford (1995) showed that accountability increases the dilution effect, the status quo effect, and stereotyping in some social decision processes. Finally,

accountability has also been shown to have an effect on complexity of thought and different strategies for coping with accountability has been identified (Tetlock, 1983b). Tetlock, Skitka, and Boettger (1989) identified three different strategies used to cope with accountability and commitment. Participants who are unconstrained by past commitments and accountable to audiences with known views rely on cognitively economic acceptability heuristics and adopt the views of their audiences (strategic attitude shifting). Participants who are unconstrained by past commitments and accountable to audiences with unknown views relied on preemptive self-criticism by thinking in flexible, multidimensional ways. Finally, accountable participants constrained by previous commitments relied on defensive bolstering and devoted most of their mental effort to defending their position.

The reviewed studies of accountability form an important basis for understanding the effect of accountability on cognitive complexity, however, to address the problem of board effectiveness directly, further development of the paradigm is necessary. Previous research focus only on dyadic decision situations characterized by accountability being either present or not present, however, it is problematic to use such a binary perception of accountability in studies of boards of directors. Boardrooms, and many other important social decision arenas, are characterized by comprising three sets of actors that directly or indirectly influence the decisions made: shareholders, CEOs, and directors. Simmel (1950) argued that triads, defined as social relationships among three actors in which each operates as an intermediary between the two other, not dyads, are the basic social structure. A triadic decision situation is defined here as a decision situation in which the individual decision-makers are embedded in triadic social relationships. A fundamental characteristic of triadic decision situations is the possibility of split accountability. Lorsch and MacIver (1989) found in a survey of more than 900 Standard and

Poor's 400 directors that while directors did mention 'shareholders in general' as their primary referent when making decisions, 'CEOs' opinion' was third after 'company's long-term future.' Focusing only on directors' accountability to shareholders and CEOs, it is suggested here that because CEOs are more salient than 'shareholders in general' during board meetings, the priority might switch. This point is developed further below.

<u>Formal Authority, Informal Power, and Accountability</u>

The boardroom as a triadic decision arena is characterized by the presence of formal authority and informal power. The distribution of formal authority and informal power within the triad influences how accountability is realized. Accountability is distributed equally (each actor has an equal claim on the other actors' accountability) among actors within non-hierarchical triads, whereas, it is distributed unequally within hierarchical triads. The positions occupied by the three actors are not endowed with the same amount of authority creating a hierarchical distribution of accountability. The distribution of authority in the boardroom is determined by corporate law and is relatively clear: directors and CEOs are accountable to shareholders, and CEOs are accountable to directors. The distribution of authority within the triad reflects the formal organization of the triad and the legal distribution of authority is furthermore legitimized through shared institutionalized social norms and role expectations carried by the triads' individual actors. Shareholders, directors, and CEOs know how the triad formally is supposed to work. Zucker (1977) documents the power and magnitude of institutionalized understandings of social relations in an experiment focusing on the role of

institutionalization on cultural persistence. Participants invoked notions of 'organization' and 'being in office' embedded them in particular social relationship that influenced their perception and understanding of objective autokinetic visual effects.

The formal authority structure within hierarchical triadic social relationships may be completely or partially circumvented by informal power structures (Crozier, 1964; Pfeffer, 1981). As a result, competing sets of understandings of the triadic relationship may develop, become institutionalized, and further complicate issues of accountability. If the formal authority-based accountability structure is supplanted by a different informal power-based accountability structure, then actors will have to take both into consideration before acting within the triad's realm. In other words, issues of authority and power symmetry in the triad must be addressed when studying triadic accountability. This problem exists also in the boardroom. Directors are often depicted as stretched between their legal, fiduciary responsibility to the shareholders electing them and their actual, informal responsibility to the CEOs who, most likely, were instrumental in their nomination and election to the board (e.g., Mace, 1972; Lorsch and MacIver, 1989). In other words, directors are often in a position in which boards' formal authority structure dictates accountability to shareholders and their informal power structure accountability to CEOs. Directors' dependence on CEOs stretches beyond the directorship itself and to dependence on CEOs for important information about the corporation (Lorsch and MacIver, 1989). These dependencies infuse CEOs with power (Emerson, 1962; Pfeffer and Salancik, 1978).

The importance of split accountability and the strategies directors use to cope with split accountability are emphasized by the fact that the interests of the CEO may not always coincide with those of the shareholder (e.g., Fama and Jensen, 1983; Baliga, Moyer, and Rao, 1996).

Directors relying heavily on the acceptability heuristic when interacting with CEOs could cause complaisance in the boardroom and subsequent destruction of shareholder value. It is reasonable to assume that directors who, ceteris paribus, show high levels of cognitive complexity by thinking about the issues to be addressed in multidimensional and flexible ways are better able to behave in challenging ways when meeting in the boardroom. Challenging the CEO in a social arena that emphasizes consensus and agreement requires arguments that can be presented in a non-partisan way. Thinking in multi-dimensional and flexible ways over pertinent strategy issues assists this endeavor.

The problem of split accountability and potential conflict of interests is augmented by the structure of the social arena. CEOs are generally in close proximity of the directors as CEOs in most companies also are directors and, moreover, in about 80% of large corporations also the Chairperson (Lorsch and MacIver, 1989). The relationship between directors and shareholders, on the other hand, is mostly of a more distal nature. Directors are not necessarily shareholders and prominent shareholders not necessarily directors. Shareholders might be socially present in the sense that directors do understand they are the final referents, however, CEOs are physically present and physical presence may strengthen their influence. The triadic relationship is often characterized by the director-CEO dyad being materialized, whereas, the director-shareholder and, less important in this context, the shareholder-CEO dyads are of a more abstract nature. They exist primarily in the institutionalized understanding of the triadic relationship. Westphal (1996) showed the importance of physical presence as it allows the CEO to initiate interpersonal influence attempts that decreases board challenging behavior. It is argued here, that the mere expectation of meeting with the CEO in boardroom changes how directors prepare the meeting in a way that delimit their ability to behave challenging. Expectations of materialization of the

director-CEO dyads interact with claims on accountability and determine how directors cope

with accountability. Directors' choice of strategies for coping with accountability depend on

whether they prioritize being accountable to proximal CEOs and their potential illegitimate

interests or they prioritize being accountable to distal shareholders and their legitimate interests.

Accountability in triadic decision situations such as boardrooms is an inherently complex

phenomenon and it is necessary to include several determining factors in studies of how this

complex situation impacts individual decision-makers' cognitive complexity. The formal and

informal structure of the triad needs to be determined to find out who is accountable to whom,

the actors' interests to address issues of compatibility, and the triadic influence structure to

predict which of the incompatible intra-triadic dyadic accountability relations will be

emphasized. This paper focuses on how directors' expectations about which intra-triadic dyad

will materialize influence the way they cognitively prepare meeting in the triadic decision

situation. In the following section, testable hypotheses are developed addressing these issues.

Development of Hypotheses

The core argument is that directors' mere expectation of which intra-triadic dyad

materializes, i.e., the director-CEO or director-shareholder dyad, influence the level of cognitive

complexity used to prepare the meeting. This argument builds on commonly used assumptions

about individual cognition and decision-making. Individual decision-makers are assumed to be

cognitive economizers (Tversky and Kahneman, 1974) and approval and status seekers (Tetlock,

1992). Individuals economize their cognitive efforts and mental resources in the sense that they

prefer, ceteris paribus, lower as opposed to higher levels of cognitive effort and to use less as

opposed to more mental resources in judgment and choice situations. Studies of heuristics and

biases suggests that this a reasonable, though not universally true, assumption (e.g., Kahneman, Slovic, and Tversky, 1982 and Bazerman, 1986). However, individuals also seek external (social environment) and internal (self) approval and status and will therefore be motivated not to economize cognition beyond what is required to maintain and protect their social image and self-identity (Tetlock, 1992). Decision-makers facing multiple and intensive cognitive demands in highly visible or competitive decision environments are particularly likely to economize their cognitive efforts and resources and, at the same time, be concerned about approval and status. Directors, who are often CEOs themselves, face multiple and intensive cognitive demands, and are thought to be concerned about maintaining approval and status (e.g., Fama and Jensen, 1983; Lorsch and MacIver, 1989).

Directors face an abstract and cognitively expensive claim from shareholders to make sure corporate strategies and policies are aligned with their interests. The claim is cognitively expensive because of the inherent ambiguity and uncertainty associated with connecting specific strategy and policy proposals (means) to shareholder wealth maximization (end). The CEOs' claims, on the other hand, are cognitively easier to accommodate. All that is needed is to support or at least not object to their strategy and policy proposals. Directors have often been described as passive tools of CEOs interests, 'rubber stamps,' and 'ornaments on corporate Christmas trees' suggesting the use of the acceptability heuristic is indeed a realistic strategy (Vance, 1983; Mace, 1971; Pfeffer, 1972; Herman; 1981).

Tetlock (1983b) and Tetlock, Skitka, and Boettger (1989) showed that accountable participants use different strategies to cope with accountability depending upon whether they know the view or preferences of their audience. Participants use the acceptability heuristic and shift their attitudes strategically when audience' preferences are known while preemptive

criticism through increased flexible and multidimensional thinking is the preferred strategy when audiences preferences are unknown. The same coping strategies are expected used to cope with split accountability, however, in a different way. Specifically, the choice of strategies of attitude shifting or strategies of preemptive self-criticism depends both on issues of accountability (present or not present, split or not split) and on what intra-triadic dyad is expected to materialize.

Accountability. Directors will show higher levels of cognitive complexity when preparing to meet with either shareholders or CEOs if they are held accountable for their participation in the meeting. This is a replication of the main result of previous studies of accountability (e.g., Tetlock, 1983b; Tetlock, Skitka, and Boettger, 1989). However, an alternative hypothesis needs to be addressed. Studies of social loafing suggest that group members who are not individually accountable for the performance of the group relax and reduce their cognitive efforts (Latané, Williams, and Harkins, 1979). Relaxation impacts performance in two ways: performance on simple tasks is impaired, whereas, performance on complex tasks is enhanced (Jackson and Williams, 1985). Directors might experience the same psychological process and actually be more effective board members if they are not held individually accountable for the outcome of the difficult board functions. Accordingly, given the relative complexity of the board function, and of the task the participants in the experiment (see below) are asked to perform, directors may actually perform better in the unaccountable condition, that is, show higher levels of cognitive complexity. Therefore, an alternative social loafing hypothesis is that because directors are more relaxed in unaccountable situations they will be more likely to think in multi-dimensional and flexible ways as compared to subjects in accountable situations.

Hypothesis 1A (H1A): Directors who are held directly accountable for their participation in the board meeting will prepare the meeting using higher levels of cognitively complexity (accountability hypothesis).

Hypothesis 1B (H1B): Directors who are held directly accountable for their participation in the board meeting will prepare the meeting using lower levels of cognitively complexity (social loafing hypothesis).

Split Accountability

Directors are in a split accountable situation when they face potentially diverging claims from shareholders and CEOs. The split accountable situation is furthermore characterized by the shareholders' abstract claim being cognitively more expensive than the CEOs' specific proposals (see above). The CEO proposal provides directors with a socially acceptable and cognitively relatively easy solution, and it is therefore attractive to reduce the use of cognitive resources by automatically anchoring on this proposal and supporting it. It is more costly to criticize it and come up with alternatives. That is, the director has to negotiate between accepting the CEO's proposal relatively effortlessly or spend more time and energy criticizing it and coming up with alternatives. The CEO's proposal represents an alternative informal power structure and accepting it automatically (i.e., accepting it with less cognitive effort) represents invoking a different, but socially acceptable, understanding of the triadic decision situation. It is an act of deciding whom to be accountable to, and because of its cognitive attractiveness several directors would probably decide to be accountable to the CEO and therefore choose the cognitively economic strategy, that is, automatically apply the acceptability heuristic.

Hypothesis 2 (H2): Directors expecting a split accountable situation will prepare

the meeting using lower levels of cognitively complexity if there is a difference in

cognitive economy and if being accountable to either can be justified socially (split

accountability hypothesis).

Materialization of Intra-Dyadic Triad. Directors know in advance of the meeting, they

need to prepare for, what intra-dyadic triads will materialize. The director-CEO dyad is

materialized in traditional board meetings, whereas, in most cases this is not true for the director-

shareholder dyad. The director-shareholder dyad comes closest to materialization in the annual

shareholders' meetings. The problem with shareholders' meetings is that it is still difficult

directly to identify *the* shareholder. For instance, Lorsch and MacIver (1989) used the notion

'shareholders in general' in their survey and the reported importance of this constituent reflects

the abstract concept of a shareholder rather than any shareholder in particular. Nevertheless,

given that most of the important (largest and most active) shareholders participate in the annual

meetings this is probably the closest the director-shareholder triad come to being materialized in

widely held corporations. The shareholder is made as specific as possible in this study by having

the director being called to a meeting with important shareholders only (see below).

Finally, it is possible that directors meet without the focused upon triad or any of its

dyads materializes. Calls for reform of board processes have suggested that outside (non-

employee) directors should have the possibility to meet regularly without the CEO being present.

Boards are given extra points in Business Weeks' report on the best and worst US corporate

boards for providing the outside directors this opportunity (Business Week, 1997). The

effectiveness of changing board processes this way is undocumented and needs to be studied systematically before giving conclusive recommendations.

Including the director-director meeting in the experiment could also function as a test of potential social facilitation effects. Directors might react to the mere expectation that they have to meet with other directors, CEOs, or shareholders and perform their board task in the presence of these audiences. Studies of social facilitation have shown that the mere presence of other arouses subjects resulting in enhanced performance on simple tasks and impaired performance on complex tasks (e.g., Zajonc, 1965; Zajonc, 1980, and Schmitt, Gilovich, Goore, and Joseph, 1986). The differences between directors expecting to meet other directors and those who expect to meet CEOs and shareholders reflect the effects of differential claims on accountability within the intra-triadic dyad controlled for social facilitation effects. Moreover, as neither of the intra-triadic dyads are materialized, the director-director condition represents the 'pure' institutional effect – the effect of the socially shared understanding of the functioning of the triad – on cognitive complexity.

Hypothesis 3 (H3): Directors expecting to meet with shareholders are expected to prepare the meeting using the highest levels of cognitive complexity.

Hypothesis 4 (H4): Directors expecting to meet with CEOs are expected to prepare the meeting using the lowest levels of cognitive complexity.

Interaction Effects. Besides the main effects discussed above, a significant interaction effect is expected between materialization of intra-dyadic triad and split versus non-split accountability. Meeting with the CEO and having a CEO proposal results in the lowest levels of

cognitive complexity in preparation, whereas, meeting with the shareholders without a CEO proposal results in the highest levels of cognitive complexity in preparation.

<u>Hypothesis 5</u> (H5): Split accountability increases the effects of materialization of different intra-triadic dyads: high levels of cognitive complexity become higher and low levels lower.

<u>Effects on Strategy Recommendation and Voting Behavior</u>

While the main interest in this paper is how directors prepare meetings cognitively, it is also interesting to find out how they plan to vote on CEOs' proposals and if there is a convergence between CEOs recommendations and own recommendations. All participants are asked to write down their own strategy recommendation and those in the split accountable condition are also presented with CEOs' proposals and asked how they expect to vote on this proposal. Previous accountability research found that participants will use strategic attitude shifts instead of thinking in flexible multi-dimensional ways thus reducing cognitive complexity when they are accountable to an audience with known views (Tetlock, 1983b; Tetlock, Skitka, and Boettger, 1989). These findings suggest that directors will be more likely to expect to vote with the CEO and that their strategy recommendations will converge with those of the CEO the lower their level of cognitive complexity are.

<u>Hypothesis 6</u> (H6): The convergence of CEO and director recommendation and the directors expectations as to vote with the CEO are higher, the lower directors' level of cognitive complexity in meeting preparation is.

Appropriate post-hoc comparisons and tests of simple effects are carried out to disentangle the findings further.

Method

The hypotheses are tested using the experimental method. This method is very rarely used in studies of CEO-director relations because of the difficulties of getting enough directors to volunteer to participate in time-consuming experiments. Experimenters normally use available often undergraduates or graduate students as participants, and this procedure is in many situations uncontroversial. Studying CEO-director relations, this is more problematic. It is difficult to justify drawing conclusions about corporate directors' behavior using freshmen as the study population. However, this study still relies on a carefully designed board of director task administrated to MBA students to simulate what happens when directors prepare meeting with CEOs, other directors, or shareholders. While certainly not the ideal participants, it is considered justifiable for several reasons. The MBA students have extensive business experiences exposing them (they have probably not been directors themselves) to stories about how the boardroom functions. Most have been exposed to corporate governance issues in various classes, and while this might prime them to adopt formal interpretations of how the board should function, it not a problem for the conclusions drawn. In fact, it strengthens the findings suggesting formally irrelevant factors influence directors' preparations that they a based on a sample biased against such findings. The experimental design is presented graphically in Figure 1.

Insert Figure 1 here

Participants

180 MBA students from the J.L. Kellogg Graduate School of Management (Northwestern University) are randomly assigned to one of 12 conditions in the 2 (accountable/unaccountable) x 2 (split/non split) x 3 (board meeting/director meeting/shareholders' meeting). The participants are paid $10 each for participating in the experiment (kindly sponsored by the Danish Research Academy).

Procedure

The experiment begins with the experimenter explaining that the objective of the experiment is to study how directors interact in important board situations. They are told that the experiment has two phases. The first phase is designed to allow the participants to prepare a meeting that is to take place in the second phase of the experiment. They are further told that each will be assigned different roles: some will be directors, other CEOs, and other shareholders. In fact, all will be directors. They are also told, that the exact kind of meeting they have to go to will be clear from the material they will receive in the rooms the first phase is to take place in.

All the participants are shown the following vignette:

Imagine you are an outside (not an executive in the company) board of director of Comcal Inc. Comcal has been facing difficulties in recent years and financial performance has slowly decreased. Comcal, however, is not in immediate danger of bankruptcy and has a history of superior performance.

Please read appendix 1 to get a more detailed understanding of Comcal's situation.

At the last shareholders' meeting, several important shareholders urged that directors become more involved in corporate strategy formulation. The shareholders emphasized the value of directors' independent and critical evaluation of the company's situation and future direction.

To prepare for the _____ meeting, you need to do two things:

***Analyze** Comcal's strategic problems and **write down** your analysis.*

*Make a **decision** about what you would suggest Comcal (e.g., You might think that Comcal should expand internationally. Warning, this example is completely hypothetical and has no necessary relation to Comcal).*

Accountability - Unaccountability

The participants are assigned to either accountable or unaccountable conditions. In the accountable situation, the participants are told that they have been chosen to present their analysis and decision about what Comcal should do to the rest of the participants in the meeting. They are also told to write their name on their name on their 'answer.' The reason provided is that the Secretary will summarize the analyses and decisions in the break between the two phases of the experiment and the name is necessary to given it back to the right individual. In the unaccountable situation, the participants are told that they should be prepared to contribute to together with the other directors. They are asked not to write their name on their answer, but provide each piece of paper with a randomly chosen nine-digit identification code. The reason provide for the identification code is again that the Secretary will summarize and 'bullet-point' all the answers collectively and the code is necessary to keep the answers together.

Split Accountability – Non-split Accountability

The participants are assigned to either split (un)accountable or non-split (un) accountable conditions. In the split (un)accountable conditions, the participants are presented with the CEOs'

suggestions how to analyze and solve Comcal's problems. Their introduction includes the

following paragraph:

> *The CEO, Mickey Duford, has prepared a strategy proposal focusing on Comcal's lacking strengths in*

XXXX. *The proposal contains a recommendation to focus strategy on improving* XXXX.

> *Please, in addition to your own decision, state what you would consider voting if the CEO proposal were to*

be voted on at the meeting. You have to vote in two ways:

> *(1) Simple Yes or No*

> *(2) Percentage For (e.g., 70% sure I'll vote for or 25% sure I'll vote for – less than 50% indicates you*

> *probably would vote against).*

In this situation, participants are in a split (un)accountable position because both the CEO

and the shareholders have explicit claims on their accountability. The CEO to support the

suggested analysis and the shareholder to analyze critically and decide independently). In the

non-split (un)accountable situations, participants are not provided with the CEO's solution. The

only claim on accountability is therefore the shareholders' call for critical analysis and

independent decisions.

Materialization of Intra-Triadic Dyads

Participants are assigned to three conditions reflecting the materialization and non-

materialization of the two intra-triadic dyads. From the perspective of the director, two intra-

triadic dyads can materialize: director-CEO and director-shareholder. In the case where directors

meet with directors, none of the intra-triadic dyads materialize and the institutionalized

understandings of the triad dominates. Participants in the materialized director-CEO dyad are

told that the CEO has asked for an extra-ordinary board meeting to discuss Comcal's problems

and vote on which strategy to pursue. The CEO (also Chairperson) and the other directors will be present at this meeting. Participants in the materialized director-shareholder dyad are told that important shareholders have asked for a meeting with the outside directors only. The purpose of the meeting is to discuss the problems of Comcal and hear what future strategy, outside directors suggest. Participants in the non-materialized condition are told that they are to participate in an outside directors 'strategy workshop.' They are to spend a day together to discuss the problems of Comcal and come up with a strategy to solve the problems. Only outside directors will participate.

Measures. The experiment uses three different kinds of dependent measures: a one-dimensional and a two-dimensional behavioral measure and a two-dimensional cognitive complexity measure. The first behavioral measure is based on each participant's strategy recommendation. The answers will be categorized according to the functional similarity of strategy recommendation and the overall and group distributions of recommendations will form the basis for comparisons. For instance, recommendations focusing on increasing marketing efforts (e.g., moving into new market, changing marketing strategy, etc.) will be grouped together as will recommendations focusing on production efforts (e.g., increasing quality, increase product throughput time, etc.) and so on. The two-dimensional behavioral measure is based on the split accountable participants expected votes for or against the CEO's proposal and on the expected percentage each split accountable participant is on voting for the CEO's proposal. These two behavioral measures are used to test the hypothesis that expectations of a meeting with the CEO (reduced cognitive complexity) is associated with increased agreement with the CEO. This test is two-dimensional in the sense that both increased supportive voting and increased attitude shifting behavior is tested.

The two-dimensional cognitive complexity measure determines the flexibility and multidimensionality of the participants thinking. Coding participants' analyses for integrative complexity developed the two other measures. These measures have been widely used by cognitive psychologists studying the complexity of human thinking (e.g., Schroder, Driver, and Streufert, 1967) and by Tetlock and colleagues in their studies of the impact of accountability (e.g., Tetlock, 1983b; Tetlock, Skitka, and Boettger, 1989). Integrative complexity is defined in terms of differential and integrative structural properties of cognition. Differentiation refers to the number of characteristics or dimensions of the case an individual takes into consideration and integration refers to the development of complex connections among differentiated characteristics (Tetlock, 1983b). Complex integration depends, therefore, on whether the participants perceive the differentiated characteristics as existing in isolation (low integration), in simple interactions (moderate integration), or in multiple, contingent patterns (high integration). Integrative complexity coding focuses on structure rather than content. Integrative complexity is determined only by the conceptual structure underlying the positions argued for, not by the position itself.

For instance, a participant might take an undifferentiated view of the problems of the Comcal by focusing only on one aspect of the case (e.g., change the marketing strategy to focusing on industrial consumers only). More differentiated approaches would recognize at least two different perspectives on the case study (e.g., change the marketing strategy to focusing on industrial consumers only and focus on a product quality strategy in production). Integration depends on the development of connections among differentiated perspectives and differentiation is therefore a necessary condition of integration (Tetlock, Skitka, and Boettger, 1989). The

complexity of integration depends how the differentiated perspectives are integrated. Low integration refers to situations in which the participant perceives the different perspectives in isolation (e.g., focus on industrial consumers *and* focus on improving product quality). Moderate integration refers to perceiving different perspectives simple interactions (e.g., focus on industrial consumers *if* product quality can be improved). High integration refers to perceiving different perspectives in multiple, contingent patterns (e.g., create a divisional structure that allows developing specialized marketing departments to address different customers different needs and closer managerial attention to product quality and allow the divisions to base internal prices and incentive mechanisms on product quality rather than just price). Following Tetlock, Skitka, and Boettger (1989), the following scores are used (scores of 2, 4, and 6 represent transition points between adjacent levels):

Score 1: low differentiation	-	low integration
Score 3: moderate to high differentiation	-	low integration
Score 5: moderate to high differentiation	-	moderate integration
Score 7: high differentiation	-	high integration

Three trained persons coded the case analyses for integrative complexity. Two of these persons were unaware of the hypothesis and experimental conditions the protocols were drawn from. Kappa coefficients are calculated to tests interrater reliability. Kappa is a correlation that corrects for the expected level (chance level) of correlation between raters. Disagreements are resolved by using the 'double-blinded' persons' scores or by averaging the 'double-blinded' persons' scores.

Manipulation Checks

It is necessary to perform manipulation checks in experiments based on simulations. The results could be misleading if the participants either does not understand the assignment given them or if they are not motivated to take the assignment seriously and perform as if they are directors. Two forms of manipulation checks are performed. Before the experiment, twenty MBA students are pre-tested using the material designed for the experiment. They are interviewed in-depth after the session about if and how they understood the test situation. They are specifically asked to identify unclear questions and assignments, problems in understanding the case material, sufficiency of allotted time, and, perhaps most important, how they experience the test situation in general. The vast majority of these students report that the experiment is very engaging and that they find it easy to imagine they are directors preparing for a board meeting. In fact, most of them are rather disappointed they actually do not get to go through with the meeting. After the experiment, all the participants are asked to fill out a short questionnaire. This questionnaire focuses on their experience of the experiments. In particular, they are asked to rate their engagement in the experiment, their engagement in the assigned role, if they would have thought about the case in a different way if they had been assigned a different role, if it would have changed their decisions, and so on. The post-experiment manipulation checks provide the same picture of the experiments effectiveness as the pre-test did: the vast majority of the subjects are compelled by imagining themselves as directors and by the realism of the manipulations and their own answers.

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Figure 1: Experimental Design

Factorial Design **(2x2x3)**	*Accountability*			
	Accountability		Unaccountability	
	Split vs. Non Split		*Split vs. Non Split*	
Materialization of Intra-Triadic Dyads	CEO Proposal	No CEO Proposal	CEO Proposal	No CEO Proposal
Board Meeting (Director – CEO)				
Strategy Retreat (Director)				
Meeting with Shareholders (Director – Shareholder)				