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## **Dialectical Conditions. Leadership Structures as Productive Action Generators\*\***

This article introduces a model of productive leadership structures. It is based on the idea that structures should stimulate dialectical processes which activate functional and simultaneously restrict dysfunctional behavioural tendencies of the management team. The structural dialectics are part of a more comprehensive concept called “tensegrity”, which, besides the dialectic part, embraces the socio-political conditions in the leadership system which enable dialectic structures to unfold their positive energy. In the second part of the article I present the results of an empirical study conceived to test some basic hypotheses of the theoretical approach.

**Key words:** Decision-making, Leadership Structures, Top Management Teams, Contradictions, Dialectics, Tensegrity, Structuration

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\*\* The author wishes to thank the anonymous reviewers for critical comments and valuable insights. Special thanks also to Jean Ridley-Thomas for helpful discussion and suggestions as to the correct linguistic expression of my thoughts.

Article received: January 1, 2006

Revised version accepted after double blind review: October 6, 2006.

## 1. The Problem

The conventional view of social and organizational structures is as some kind of scaffolding, as static and passive frames that define and restrict the space for human action. Despite the fact that the classic texts in social theory as well as in organizational theory (from Marx to Weber, Parsons, Merton, Gouldner and Selznick), draw quite another picture of the effects and functions of social and organizational structures, this static image is nevertheless still prevalent in modern textbooks on organizational behaviour and organization theory (e.g. Pfeffer 1997; Furnham 1997; Picot/Dietl/Franck 1999; Robbins 2005). Yet in contrast to this view, social and organizational structures have eminent, dynamic properties. They not only restrict and enable but they stimulate, reinforce and amplify behaviours. In particular they possess the capability to reproduce themselves. How is this possible? To give a satisfactory answer to this question, it is necessary to develop a clear conception of the nature of the relationship between structural properties and individual action, something that notoriously accompanies and heats up social science debates (Blau 1960; Coleman 1991; Esser 1993; Matiaske 1999). In reality one is confronted with a plethora of methodological and logical considerations concerning the whole issue, but at the same time it is worth noting a remarkable lack of contributions regarding the substantial *mechanisms* which connect structural properties of the social system with the formation of individual behavioural processes. This article puts forward suggestions for the development of a theory about the effects that a special sort of structures, namely leadership structures in enterprises, have on the well-being of those enterprises.

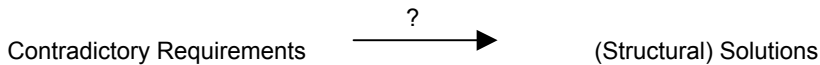
So called top management teams (TMT) have been the subject of many empirical investigations since the early 1980's. These studies actually deal with structural properties, but with very particular ones. They concentrate primarily on the composition of the top management team with regard to demographic attributes such as age, sex, length of membership, ethnic background, education and training. The benefits of this kind of research are meagre. One reason for this lies in the narrow focus. Demographics are a somewhat superficial property with, from the outset, limited bearing on the fortune of organizations. Another reason lies in the great abstinence of the TMT research from theoretical reasoning. This is evident from the broad-based references to concepts such as similarity, complementarity, conflict and communication (Nienhüser 1991; Lawrence 1997; Priem/Lyon/Dess 1999), which are used to explain the (at best, moderate) empirical relationships. (Williams/O'Reilly 1998; Jans 2003; Carpenter/Geletkanycz/Sanders 2004; Certo et al. 2006).

In order to achieve a more fundamental level of analysis of the functioning of leadership structures, we need to look firstly for structural features that are more profound than those in the TMT literature. Secondly we should try to identify some crucial mechanisms that connect structural properties and behavioural processes. Thirdly we need a theoretical frame of reference which can instruct us in the attempt to formulate informative empirical propositions. In the following text, as a proposal as to how to achieve these three steps, a model for dialectical leadership structures is introduced. In addition I shall present the results of an empirical study which was conceived to test some core hypotheses of our theoretical stance. But first I shall discuss

the significance of existing approaches to the dynamical aspects of organizational structures.

### 1.1 *Organizational contradictions and organizational structures*

Organizational structures have a regulating function. This seems a statement of the obvious. But at the same time they have other functions. Indeed they are brought into play for almost all important ends. So organizational structures should not only provide order but also innovation and calculability as well as creativity; efficiency and slack; uniformity and diversity; community and individuality; etc. Faced with these conflicting requirements and demands organizers will be easily overwhelmed. Herbert Simon once said that with regard to any organizational principle you can find the same plausibility for the opposite principle (Simon 1947; 20). A common term for this kind of problem is “organizational dilemma” (Wilson 1967). The literature has produced a number of solutions for such dilemmas, some of which in turn are of a structural nature. The research follows a straightforward scheme:



Some of the more prominent concepts are listed in Table 1. The concept of ambidexterity, for example, focuses on the conflict between alignment and efficiency. The way Duncan (1976) sees it, the problem can be solved by implementing “dual structures” whereby certain units or groups in an organisation tackle the task of alignment, i.e. they are engaged to advance the efficiency of given structures and processes, whereas other groups work on the task of adaptation, i.e. in adopting and implementing new organizational solutions. Tushman and O’Reilly (1996) extend this view. They recommend an organizational architecture of small autonomous units, whereby the role of the headquarters should be restricted to facilitate operations. Also advantageous would be to embrace multiple cultures; a strong organizational culture should serve as a common fixing point, whilst local cultures should ensure close contact with the customers. Innovativeness demands for different cultural values from both organizational and local cultures: on the one hand openness and consensus for developing the innovations, on the other, in implementing those innovations, one should be prepared “[...] to take away some of the autonomy and centralize [...]” (Tushman/O’Reilly 1996; 26).

For Gibson/Birkinshaw (2004), to look only at structural solutions is too narrow, they therefore suggest consideration of not only structures but processes and systems too. They call their construct “contextual ambidexterity” which they define as: “[...] the behavioural capacity to simultaneously demonstrate alignment and adaptability across an entire business unit. Alignment refers to coherence among all the patterns of activities in the business unit; they are working together toward the same goals. Adaptability refers to the capacity to reconfigure activities in the business unit quickly to meet changing demands in the task environment.” (Gibson/Birkinshaw 2004; 209). Certainly it is not enough to consider only the structural side of dealing with conflicting organizational demands. In addition to the aspects Gibson and Birkinshaw emphasize, many more points are of relevance, such as, for example, the instruments

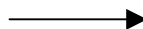
used; the actions undertaken; the policies, ideologies, know-how and values of the organizational players; and so on.

**Table 1: Conflicting Requirements and Structural Solutions**

<b>Contradictory Requirements</b>	<b>(Structural) Solutions</b>	<b>Authors</b>
Conceiving ideas versus implement-ing ideas	Parallel structures: Implementing a second organization that links the maintainance-oriented organization in flexible and shifting ways.	Kanter 1983
Alignment versus efficiency	Ambidexterity: Ambidexterity is defined as a (meta-level) capacity to balance the contradictory requirements. It can be supported by such structural measures as, for example, specialising for routine and non-routine tasks.	Duncan 1976, Gibson/ Birkinshaw 2004
Efficiency versus flexibility	Metaroutines: Routines for changing between routine and non-routine tasks. Furthermore enriching non-routine tasks, switching between and partitioning of non-routine and routine tasks.	Adler/ Goltoftas/ Levine 1999
Continuous change: planning versus improvising	Semisttructures: Combination of limited structures (e.g. clear responsibilities) with extensive interaction and freedom to improvise.	Brown/ Eisenhardt 1997
Exploration versus exploitation	Learning Organizations (LO): It is not possible to design optimal LO, but approaches to improve learning are often better than other alternatives.	March 1999
Requisite capacity in high and low uncertainty in decision making	Crisp versus fuzzy structures: Crisp structures define strict decision-making specifications, fuzzy structures provide elastic constraints.	Butler 1991

Looking at conflicting organizational demands or requirements is only one way of analysing the obvious disorderliness, perplexities, bewilderments and confusions which are part of the organizational reality. In this article I want to review these things, but from the opposite angle. My question is not how structures can dissolve organizational contradictions. Quite the contrary, I am interested in the effects of contradictory structures which in the first place will produce contradictory phenomena themselves. Of course my interest lies not in how to produce anarchy and chaos. Ultimately I hope to be able to say something about structural patterns which are able to transform the conflicting effects of their elements into beneficial outcomes for the organization.<sup>1</sup>

Contradictory  
structures



Functional and  
dysfunctional effects

<sup>1</sup> In some cases the two perspectives seem to blur. For example Sheremata (2001) describes centrifugal and centripetal *forces* which beside other things also have a structural underpinning. Actually she is not so much interested in the structural *causation* of these forces as in the structural *presuppositions* (for launching new products).

In the next section two theoretical approaches will be discussed which deal with the productive side of inconsistent and even contradictory structures.<sup>2</sup>

### ***1.2 The dynamical side of organizational structures***

In their seminal paper Hedberg/Nystrom/Starbuck (1976) formulate an appealing imperative, namely to implement imbalances in organizational structures.<sup>3</sup> They argue that it would not be wise to maximize even inherently positive attributes because this would generate quite the opposite effect than intended. The authors illustrate this idea on the basis of six organizational properties: consent, satisfaction, affluence, faith, consistency and rationality. Too much consent leads to regimentation and constrained behaviour. Missing consent can cause damaging struggles. Of course without minimal consent co-operation is impossible, but organizations look for more consent than is useful, for example by courting absurd organizational values and rituals. As a result harmony is inauthentic, conflict is suppressed, identification impeded. Therefore consent and dissent have to be balanced. This holds in the same way for the other features mentioned above. Efforts to hold balance will at the same time stimulate amplifying and stabilizing processes. It is only by this interplay that organizations can develop the capabilities which are necessary for successful leadership. Good management is like camping on seesaws. The balancing of opposites secures the appropriate matching of short-term and long-term perspectives, it leads to innovation and efficiency.

Notwithstanding the strong points Hedberg/Nystrom/Starbuck make, their stance has some highly visible weaknesses too. For example it is not clear why exactly the six attributes they analyse should be so important. In addition, the nature of each of these attributes is portrayed as very specific and very different. Rationality and affluence are conceptualized by the authors as capabilities; consent and satisfaction as behavioural variables on different levels (consent being a social phenomenon, satisfaction an individual one). Faith emerges, at least according to Hedberg/Nystrom/Starbuck, primarily through planning, whereby, surprisingly, an instrumental component comes into play. Finally, consistency is portrayed not as a distinct behavioural variable but a behavioural pattern.

Faced with this heterogeneity a theoretical integration is not easy. The practical side of attempting to promote balance is treated very selectively by the authors. For example they say nothing about how to balance satisfaction and dissatisfaction. In contrast their reflections about consent and consistency are relatively detailed. It is here that they mention some structural measures to foster balance: heterogeneity (of

<sup>2</sup> There are a lot of other concepts about structural effects in other research fields too, as for example group behaviour, leadership, conflicts, strategic management and even economic theory and, as a matter of course, systems theory. We cannot refer to this abounding literature, for a discussion of some of these approaches see Martin 2004, 2006.

<sup>3</sup> The authors thereby refer amongst others on considerations of Burns/Stalker 1961 about mechanistic and organic organizations and their influence on innovation. For a recent empirical study in this tradition c.f. Gebert/Boerner/Lanwehr 2001, for a newer elaboration of the more comprehensive stance of Hedberg/Nystrom/Starbuck c.f. Bouchikhi 1998.

organizational members and tasks); a high degree of participation; delegation of responsibilities; and reward structures which sanction deviant behaviours. Overall these contemplations remain sketchy. Nevertheless they are of great heuristic value and deserve adherence and further development.

In summary one can say that the idea of productive contradictions in Hedberg/Nystrom/Starbuck's version (1976) focuses on the *processes* which will be induced by the conflicting goals and imbalanced states of an organization. So an organization is confronted with weighty challenges and can survive only if it acquires and perpetuate virtues such as responsiveness, mobility and reactivity.

This idea is emphasized also in the inspiring theoretical contributions of Karl Weick (1979; 1993; 1995; Orton/Weick 1990; Weick/Roberts 1993). Interestingly enough Weick downplays the role of organizational structures: "A smart system does the right thing regardless of its structure and regardless of whether the environment is stable or turbulent." (Weick/Roberts 1993; 377). As structures are quite inanimate, it is the person that moves, thus the lively element in organisations has to be in the actions of the organization members and structures don't count. Following Weick's reasoning key terms are improvisation, sense-making and reframing. His concept of heedful interrelation or heedful interaction deserves special interest. "People act heedfully when they act more or less carefully, critically, consistently, purposefully, attentively, studiously, vigilantly, conscientiously, pertinaciously." (Weick/Roberts 1993; 361). Heedfulness in the concept of Weick/Roberts is the behavioural counterpart of "collective mind" or the "disposition to heed". Heedful interrelating cannot be an attribute of a static role system, it is essentially dynamic, and indeed because of its agility, ensures the success of coordinated action. In heedful interrelating every person proactively makes contributions, he or she constantly observes the situation, communicates the perceptions they make, and align their own actions to that of the other members of the action system. The collective mind manifests itself in complementary behaviours, mutual help, informing colleagues, and adapting to shifting situational demands. Heedful interrelation produces solution complexity and therewith the capacity for coping with problem complexity.

On closer examination it becomes clear that Weick does not really deny the eminent significance of structures for organizational behaviour in general and for heedful interaction in particular. Indeed according to him, structures are vital pre-conditions and often indispensable complements of behavioural processes and therefore most appropriate for actions which have to be concise, forceful, flexible and fine-tuned. It is only for structural dimensions like formalization, standardizing, etc. that Weick denies any great significance, not for more proximate structures. According to Weick one should distinguish between two types of structures, structures of meaning and structures that facilitate meaning (framework of roles, rules, procedure etc.). Both make a difference, but the more powerful, in Weick's opinion, are the structures of meaning. Be that as it may, best for heedful interrelating would be "structures for resilience", which embrace such diverse things as close personal ties, the ability to form subgroups, permeability of boundaries, norms about communication, and establishing competence through the leader (Weick/Roberts 1993; 644 ff.). From Weick's perspective, which is similar to Hedberg/Nystrom/Starbuck's approach, efforts of organizers

to design harmonious structures seem fruitless, even harmful quite often. Organizational structures certainly should give behavioural guidance, but they also have to permit dexterity, and furthermore, they have the task of vitalizing the organization. Looking from a more general point of view this comes as no surprise, as organizations are by necessity loosely coupled systems (Weick 1979). Loose coupling is an intrinsically dialectical concept, which calls attention to the fact that all organizational life is permeated by opposing forces. Organizations, for example, possess both distinctiveness as well as responsiveness. Looseness produces flexibility, coupling produces stability. “The resulting image is a system that is simultaneously open and closed, indeterminate and rational, spontaneous and deliberate.” (Orton/Weick 1990; 204 f.). To disregard structures which support distinctiveness is in the same way detrimental as disregarding structures which foster responsiveness.

In summary: Weick persuasively describes the process-character of organizing co-operation. Nevertheless structures maintain their weight for the structuring of action. Weick emphasizes the importance of cognitive structures which carry meaning and generate sense-making. Taking an outstanding role in this process is the collective mind, which can be understood as the readiness of an action system to look attentively for action necessities and the willingness to take the requisite actions in a vigilant, empathetic and determined way. The collective mind is in a sense a capability (Weick/Roberts 1993; 365). This last point deserves special notice because, as we shall see below, capabilities as attributes of a social system take an important place in the causal chain that runs from social structures via social processes up to the functioning of social systems.

### ***1.3 The causal pattern of dialectical structures***

Stances like those of Hedberg/Starbuck/Nystrom and Weick value conflict. Quite in contrast to approaches which emphasize the retarding, even destructive consequences evoked by the clash of conflicting organizational forces, they emphasize the productive, moving side. How is this to be understood? How is it possible that contradictory forces can produce beneficial outcomes? A famous concept in the social sciences that deals with just this question is the concept of “dialectics”. Of course, as with every major concept in the social sciences, there are a lot of controversies about its true meaning (Gurvitch 1965; Ioan 1990; Rosenthal 1998; Kuchler 2005). But the fundamental idea is easy to grasp: contradictory social conditions set in motion forces to overcome the unsatisfactory ones and (normally) the induced social processes lead to an overcoming of the underlying conflict and (hopefully) to social betterment, whereby the new situation ironically will breed new contradictions. So dialectical processes are a motor of action and progress. To understand the dialectical process one has to make an important distinction: “Common to almost all [definitions of dialectics] is the view that conflict, antagonism, or contradiction is a necessary condition for achieving certain results. Contradiction between ideas may be a condition for reaching truth; conflict among individuals, classes, or nations may be a necessary condition for social change. This [...] remark suggests a distinction between a dialectical method and a dialectical process, between dialectics as a feature of our thinking about the world and dialectics as a feature of the world itself.” (Elster 1986; 34). The first meaning is



very dubious and has caused much confusion (Popper 1940; Bunge 1981). It is only the second meaning which is of interest here. It describes the movements and transformations of social facts by contradictory social forces, ("Realdialektik").

**Table 2: Dialectics and similar soncepts**

Concept	Definition	Example
Complementarity	Variable $X_1$ has an effect on variable Y only in combination with variable $X_2$ .	Contingency theory of leadership, personality of the leader and favourability of the situation on performance (Fiedler 1967).
Duality	Variable $X_1$ has an effect on variable Y independent of the effect of $X_2$ on Y, whereby the effect of $X_1$ will be reinforced by the effect of $X_2$ on Y.	Dual leadership, task orientation and socio-emotional orientation (Bales/Slater 1955).
Contradiction	The variables $X_1$ and $X_2$ have insofar as they act in isolation "positive" effects on variable Y. Simultaneously an increase of $X_1$ leads to an decrease of $X_2$ (and vice versa).	Mechanistic and organic organization structures (Burns/Stalker 1961).
Dialectics	As per Contradiction <i>plus</i> the positive effects of both variables $X_1$ and $X_2$ are intensified if the intrinsically negative relationship between $X_1$ and $X_2$ is neutralized, e.g. by the simultaneous increase of $X_1$ and $X_2$ themselves.	Dialectical Leadership Structures, e.g. autonomy and accountability (see below).

To gain more clarity about the logic of dialectics it is useful to examine the relationships between a dependent variable, (some organizational outcome such as, for example, innovation), and two independent variables, (for example, contradictory structures). Quite a lot of possible logical relationships exist for this constellation. I specify some prominent examples in Table 2.

It is important to note that dialectical contradictions do not refer to purely logical, i.e. analytical, contradictions. An example for the latter is the antithetical relation between simple and complex structures. This polarity is solely a conceptually one, i.e. a linguistic truism, and therefore no source of any dialectic process. One cannot imagine (in any meaningful way) that an organization at the same time is very complex and has no complexity at all.<sup>4</sup> If one undertakes steps to simplify the relationships in an organization this will cause less complexity for purely logical reasons. In contrast, take the contradiction between autonomy and accountability. If an organization gives its managers a lot of autonomy, it can at the same time call for extensive accountability. There is no logical contradiction in this, but in fact there is a significant empirical contradiction, because concrete measures to ensure that managers take their responsibilities seriously will, more often than not, restrict the autonomy of management. And the managers themselves, once in a position of great autonomy, will ward off attempts to monitor, supervise or control their actions.

The contradictory nature of the X-variables is one aspect of dialectical mechanisms. Another aspect is their self-restricting nature. Thus it follows that if the in-

<sup>4</sup> Except in the trivial sense that some parts of an organization are highly complex and others not; if this is meant it would be more precise to speak of heterogeneity in complexity of the parts of an organization.



duced conflicts get out of hand, we have broken the boundaries of dialectics and ended up with lawlessness. In dialectical processes one force keeps the other (opposing) force in check. In our example too much autonomy calls for control, excessive accountability strives for sovereignty. The third aspect of dialectical processes is the beneficial interplay between a priori hostile behavioural tendencies: the positive effects of each will be gained, the negative effects will be constrained. Of course no dialectical process is “perfect”. One reason for this is that the balance between the two opposing forces is always at risk. A second main reason has to do with the stability of the pre-conditions which have to be fulfilled if the forces should take effect. I will discuss this problem below.

It goes without saying that the described version of dialectics is only one of a set of many other possibilities to specify its meaning. There is, for example, another version which states that to speak of a dialectical process there is no need to assume that the variables  $X_1$  and  $X_2$  (in isolation) must have positive effects, they may, (or even should), have negative effects. Another version states that in dialectical processes the combination of the antagonistic variables will have disproportionately strong effects, (either positive or negative), and Hegel, for example, speaks of an uplift (“Aufhebung”) of the contradictions to a higher level, a concept which deserves particular elaboration, which cannot be undertaken here due to lack of space.

Before presenting my own concept of dialectical structures in the next section, I want to state that special forms of dialectics also exist, such as, for example, the social dialectics described by Elster (1985), which, again for reasons of space, cannot be analyzed here. Similarly, I must forego discussing the many paradoxes and dilemmas which are generally the fabric of social and organizational life (Martin/Drees 1999; Neuberger 2000).

## 2. Dialectical leadership structures

Organizational structures deserve special attention if they have a direct and substantial impact on action centres whose actions sustainably determine the fortune of an organization. Of course the most important action centre of an organization is the top management team. It is therefore of special interest to look at structures that regulate the collaboration of the top managers. The previous section should have made clear that it would not be wise to ask for structures which give definite and unalterable order. Rather it is desirable to have incoherent structures which stimulate tensions and contradictions and generate a lively balance of forces that foster the potential for self organization and progress.

What kind of structures can do this? What structural mechanisms produce the desired behaviours? To answer these questions I introduce a model of dialectical leadership structures. The core concept in this model is “tensegrity”. Tensegrity is a term that is used in architecture and biology to designate self-supporting dynamic structures. Leadership structures have tensegrity if they stimulate dynamical conflicting forces on the one hand and give them direction and stability on the other. It is, in other words, the dialectical process which is driven by structures that is of interest here. Of course structures do not have the power to determine behaviour in an absolute sense. But they can stimulate and suppress behaviour and give behaviour a certain

direction, (more often than not without the people involved being conscious of it). Structures are “action generators”. Starbuck (1983) uses this term to denote the remarkable role programs play in organizational behaviour. Organizational programs are not simply tools, and they are not simply prescriptions. They also influence perceptions, values and beliefs and as a result are fundamental determinants of individual behaviour. Structures influence thinking and doing in a similar way, but compared to programs, structures are less rigid and give people greater degrees of freedom. Nevertheless they are powerful factors in organizational life and - especially the dialectical structures I have in mind - can give an organization energy and intelligence.

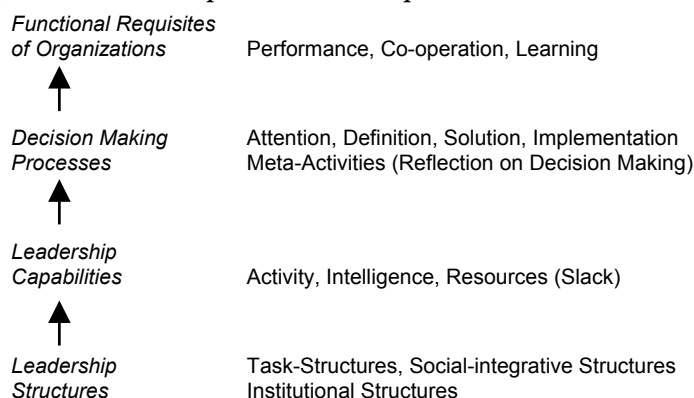
## 2.1 *Dimensions of leadership structures*

In what way do leadership structures form organizational behaviour? Structures do not deploy their power in a direct way. Instead they operate in a mediating or indirect way, so for example they can signal which behaviours will be positively or negatively sanctioned; they give chances for communication and define barriers for collaboration; they inform about expectations and power relations; and function in many more ways. A single theory of leadership cannot embrace all effects (leadership) structures can have. As described already, the main challenges for the leaders of an organization come from the contradictions, turbulences and insecurities that are the ingredients of management. To master these challenges top management needs rationality, flexibility, decisiveness and many other abilities and qualities. In other words, leaders need the capacity to manage complex and dynamic processes. So the question arises, how can leadership structures increase the capacity of leadership to lead? (see Figure 1). What robust theoretical constructs can help to describe fundamental leadership capabilities? This isn't really a difficult question, because nearly all theories about organizational behaviour refer to the same three classes of variables, namely motivations, competencies and opportunities. All action systems need these factors to accomplish goal oriented and successful actions. So we can specify the first question of our leadership model to be: “What kind of leadership structures stimulate ‘activity’ (motivation), ‘intelligence’ (competencies) and ‘resources’ (opportunities)?”. (see Martin 1995 for details).

In the end leadership is only interesting in as far as it contributes to the sustainment and development of an organization. So we have to refer to basic functional requirements of an organization. Despite heavy critique about Parsons' conceptualization of such fundamental requirements of social systems (Parsons 1951; Alexander 1985; Esser 1993), there is no real alternative than to look for standards that define the long term success of an organization. It makes sense to link these standards with the nature of an organization, namely its explicit instrumental purpose, its social character, and its strive for durability. So we have three fundamental needs of an organization (Martin 2001): *performance*, to deliver the things the stakeholders want because otherwise they will stop their contributions and the organization will dissolve, *co-operation*, because organizations are not machines which can be rationally planned but living systems which have to put up with the idiosyncracies of their participants, and *learning*, which is necessary to survive in a continuously changing world.

The leadership system contributes to these basic requirements by making authoritative decisions that (should) advance the well-being of the organization. There is a wealth of research on organizational decision-making (Cyert/March 1963; Witte/Hauschildt/Grün 1988; Mintzberg et.al. 1990; Hickson 1995), which delivers many concepts as to how to specify successful decision-making. One of the most convincing approaches is to pay attention to the quality of the core activities any decision-making process has to carry out, namely to pay (timely) attention to problems and opportunities, to carefully define the nature of the problems at hand, to develop appropriate action plans and to implement them. It is highly plausible that the quality of these activities depends very strongly on the prevailing level of leadership capabilities. Leadership is the link which connects structures with actions. So we are back to structures and to the question of what kinds of structures possess the aforementioned dialectical qualities.

**Figure 1: The causal place of leadership structures**

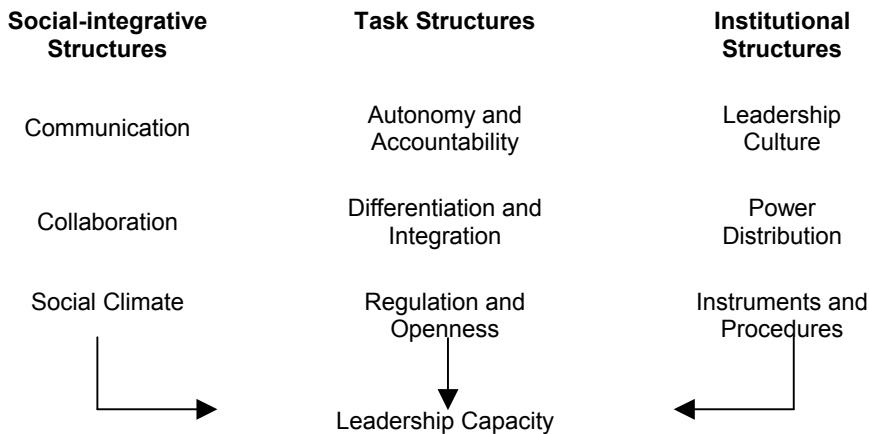


With this we have to consider some basic theoretical claims. Firstly the concepts should have a strong affinity to behavioural concepts simply because I am interested in the mechanisms which transform structural properties into behavioural processes. So it would not be useful to look at structures from the point of view of their size, functional organization or the demographical characteristics of the management group because such structures have only a very contingent and mediated relationship to behavioural processes. Secondly the structural properties should be closely related to the leadership potentials I discussed. Thirdly the concepts used to describe structures should be well-founded in organization theory.

The structural dimensions shown in Figure 2 meet all three requirements quite well. I differentiate between a task dimension and a social dimension. The social side can be further subdivided into more transient arrangements which serve social-integrative purposes in the area of immediate interactions, and into institutional structures which define the social order in a more enduring way. However, the task structures are the core of our model, because a) they define the fundamental relationships between the participants of the leadership system and b) they are the foundation from which leaders derive their self-conceptions, their motivations and their thinking. Task

structures are the best candidates for awakening the dynamic aspects of structures. Social structures have a complementary function as they can stabilize the forces that will be released by the dialectic task structures. So, for example, the balancing of conservative and progressive forces will produce massive strain which can be mitigated by a value system that favours fairness and reconciliation of interests. Besides their stabilizing function, social structures set the stage which allows for the unfolding of dialectic mechanisms in the first place. Thus it makes no sense, for example, to speak of autonomy if the prevailing power structures will prevent authentic self-realization on the part of the managers. Or to take another example, attempts to co-ordinate a differentiated task structure will fail if the management is unable to define attractive arenas for collaboration, or if the leadership climate encourages heavy competition between the managers. Tensegrity is hence the result of blending the dynamic forces of productive task structures with the order-giving features of social structures.

**Figure 2: Tensegrity of leadership structures: Core attributes**



## 2.2 Dialectical Mechanisms

Dialectical mechanisms will be generated by implementing the following contradictory task structures:

- full autonomy for each member of the top management team and contrasting with this at the same time comprehensive accountability,
- extensive differentiation (job assignment, specialization) on the one side and integration (abandonment of work division and rejection of delegation) on the other,
- regulation of responsibilities and installation of tough procedures versus openness (case wise decision-making, ad hoc rules).

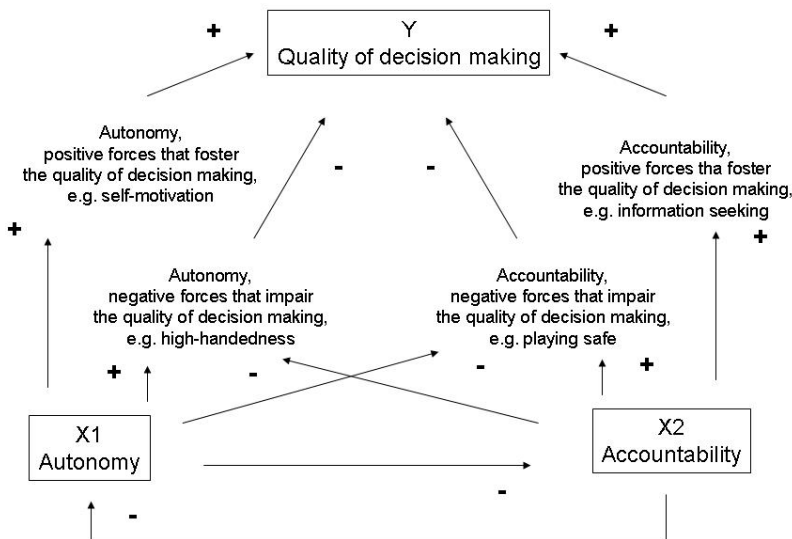
The congruence of task, authority and responsibility is one of the classic principles in normative organization theory (Remer 1989). The competencies given by a position (its authority) define the autonomy the person in that position ends up having.

Autonomy as well as accountability have profound behavioural effects which don't all err on the positive side. Indeed accountability is thought to curb the temptations which grow out of unattended freedom. On the other hand, to demand full ac-

countability whilst withholding the possibility to choose ones own way to perform a task will have devastating effects, too; for example by paralysing the people involved and inhibiting courageous action. Hence the demand for an equivalence of autonomy and accountability. Our own reasoning has another angle. I do not plead for equivalence but for maximization, i.e. for pushing both principles to a high level. The reason lies in the point I have already made, namely that establishing dialectical mechanisms makes it possible to gain the positive and to eliminate the negative effects of the stimulated behavioural tendencies.

In a more general sense the opposition between autonomy and accountability is about the relationship between self interest and social bonding. The positive effects of autonomy are well documented. Managers in particular need autonomy quite simply because without a wide behavioural scope, they cannot carry out their leadership tasks. But there are psychological and social psychological reasons too, such as, for example, the positive effects on self-perception and on social status. Accountability works in the same way. In addition accountability fosters anticipatory, vigilant thinking and therewith promotes rational decision-making. Possible negative effects of an excess in autonomy are an overestimation of ones abilities; demarcation behaviour; departmental egoism; or put more generally: the disregard of the interests of the other members of an organization. Responsibility, or to be more precise, accountability reduces such behavioural tendencies. On the other hand there is the danger of excessive demands

**Figure 3: The dialectics of autonomy and accountability**



upon accountability. This may result in much too close a commitment to established norms, rules and procedures. The consequence would be a tendency to play safe; hostility towards innovation; and immobility. But given the right balance, just as account-

ability limits the temptations of autonomy, autonomy acts as a strong force against the paralysis that may be caused by overloading accountability.

In Table 3 I have listed some more examples of positive and negative behavioural effects of task structures. It should be noted (as explained in Section 2), that dialectics have two elements. Firstly, in order to speak of a dialectical mechanism, it is not sufficient that there are oppositional structures with (positive and negative) effects on a third variable. It is also necessary that the contradictory forces have the power to counterbalance the negative forces inherent in those oppositional structures. Secondly, dialectical structures not only stop the negative effects of their opposing counterparts, they also amplify their positive effects, or, to put it like a statistician: their simultaneous occurrence produces interaction effects. So in our example one would expect that the motivational force of autonomy would be even more powerful if, at the same time, the autonomous manager anticipates a critical review of his efforts.

**Table 3: Functional and disfunctional effects of task structures**

Task Structures	Autonomy	Accountability	Differentiation	Integration	Openness	Regulation
Functional effects	Self-consciousness	Rationality	Proximity to problems	Proximity to solutions	Accessibility	Proximity to solutions
	Independence	Caution	Analysis	Syntheses	Responsiveness	Syntheses
Dis-functional effects	High-handedness	Playing safe	Control deficiency	Overload (of systems)	Overload (of persons)	Excess control
	Departmental egoism	Immobility	Deficit in comprehension	Deficit in understanding	Dissent	Conventionality

The antagonism between *regulation* and *openness* is a standard theme in organization theory (Burns/Stalker 1961; Katz/Kahn 1978; Warnecke 1992). Organization means regulation but regulation means exclusion. On the one side regulation is indispensable for co-ordinated action and it is the main thrust for efficiency, whilst on the other side it necessarily destroys options, it sets certain procedures in stone, and it blanks out alternatives and unconventional solutions. It is therefore quite natural to think of openness as a counter force that can promote the positive sides of regulation and restrict its negative sides. Open structures give access to information and decision-making opportunities, (not only for top management!). Anybody who wants to can participate, nobody will be excluded, and it will be seen as neither untimely, nor an intrusion into other people's business, if someone worries about an important item of corporate policy, even when or if he or she is not responsible for it. Open structures therefore support responsiveness. Yet it is also easy to see that too much openness can easily produce system overload. For example, if controversial opinions remain unchannelled, the resulting dissent may lead to blockade and immobility. So the regulation of task fulfilment and decision-making procedures can counteract these tendencies. Its use holds back arbitrariness, meandering and redundancies. It induces proximity to solutions and continuity. But, as mentioned above, regulation also has its big drawbacks, such as for example conventionalism and excessive control. Here openness works as

an effective dialectical countercheck. Mobility, and the access to persons, information and decision opportunities can counter bureaucratic pressure and technocratic stubbornness.

A third classic theme in organization theory is the opposition between *differentiation* and *integration* (Lawrence/Lorsch 1967). The differentiation of tasks and positions is accompanied by specialization which may engender distinctive know-how. Integration on the other hand is accompanied by generalization which produces a more comprehensive deliberating of problems in a wider context. So the dilemma is how to choose between the respective benefits of specialization and generalization. Differentiation ensures greater proximity to the operational problems, integration greater access to tangible, holistic solutions. Differentiation enhances the quality of analysis, integration the quality of synthesis. Inherently problematic with a high level of differentiation is its affinity for isolated applications and communication problems, (“specialists can be understood only by specialists”). Integrative structures can counter these problems, as they insist on synthesis and thus on feasible solutions. But the price of integration is, not infrequently, a superficial understanding of the (often not unimportant) details. For the leadership system integration may easily grow to be unmanageable: it seems Utopian to be able to handle, within a suitable timeframe, the diversity of problems of and decision-making in corporate governance without a division of labour. So one has to find a solution for these dilemmas, and the recommendation, in the place of compromise, is to exploit the potentials of dialectics and to bring both structural alternatives to bear simultaneously. Admittedly this does not reduce the strain managers have to bear, but with some auxiliary arrangement, such as for example an elaborate communication structure, the leadership’s task of balancing differentiation and integration can be mastered.

It should be noted that the three dialectical task structures foster all three leadership capabilities but with different emphasis. The dialectics of autonomy and accountability will predominantly stimulate the activity dimension. The motivating force of autonomy is well documented, and the addition of accountability will increase motivation, especially in top managers who have to be particularly dedicated anyway, and all the more so if they are under special scrutiny and if, at the end, they have to justify their decisions and actions or lack thereof.

The leadership capability “intelligence” is strongly supported by the development of expertise, which is a natural consequence of differentiation combined with the disciplining power of integration.

Last but not least, additional resources and (productive) slack will result when regulation counters openness and vice versa; when the products of informality are skillfully channelled; and when control and convention are transformed into efficiency and co-ordinated effort.



### 2.3 Mediating Substructures

Given a request for examples of concrete measures, there are many possible ways of implementing our dialectical leadership structures. In order to analyze the area between our abstract concepts and concrete arrangements we have to look for “substructures” which support the dialectical “meta-structures”. The conceptualizing of this intermediate area has to be expansive enough to allow the subsumption of a broad array of concrete phenomena but at the same time restrictive enough to handle it in a theoretical sense. As it happens, the social sciences provide some fundamental concepts, namely roles, rules and incentive structures, which serve our purpose well, not least because these concepts also tackle the problem of how structures can determine individual behaviour and how structures perpetuate themselves.

One of the most important substructures which mediate between social structures and individuals is the role. A role is defined by its relationship to other roles. Roles are structurally anchored in positions and in the subgroups to which the role taker belongs, those subgroups in turn being characterized by their relationships to other subgroups. Roles articulate the demands a social system asserts against its participants. But social demands do not suffice. Roles obtain life only by individual efforts to enact them. Therefore a concrete role is always coloured by personal aspirations. In other words, a role is determined by mediation between social and individual role definitions.

Another important class of mediating substructures are rules. Rules are manifestations of culture and of the institutions that support the social system. Rules are the means by which a social system imposes demands on individual behaviour. Yet because an individual has the freedom to choose not to meet the demands of society or organizations - to flout rules - arbitration is called upon in the end to mediate between individual and social needs. On the other hand it would be naive to underestimate the supremacy of social demands, not least because they normally penetrate the psychic system as part of an unconscious process of socialization and emotional attachment.

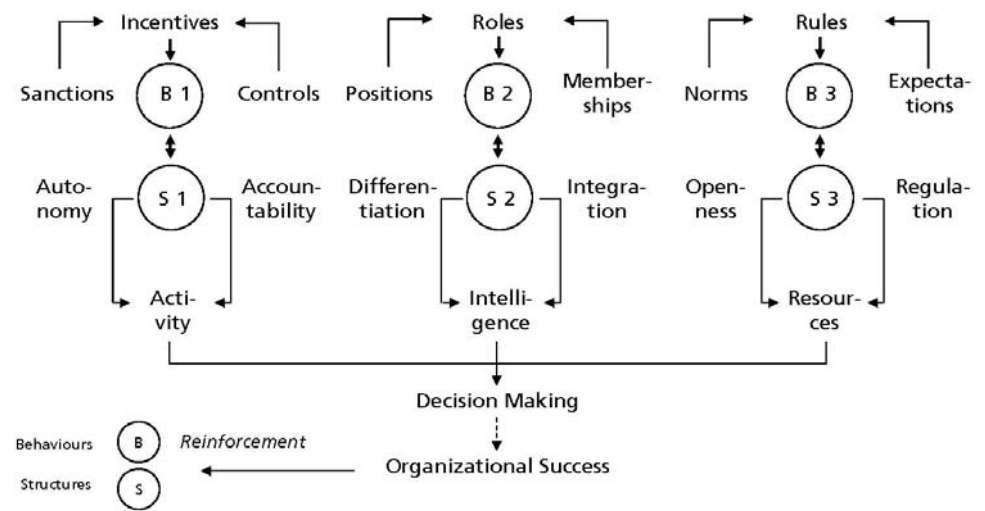
Last but not least come incentive structures: a vital element of social situations. The potency of incentive structures stems mainly from the monitoring devices they incorporate and how attractive or deterring an organization's positive and negative sanctions can be. Compared to rules, incentive structures are much more tangible, and therefore can be more easily changed through individual contracts or through collective action.

In Figure 4 the substructures “roles”, “rules” and “incentives” are assigned to the task structures of our leadership model. This assignment is only tentative, but it fits in fairly well with our theoretical discussion. Differentiation and integration are neatly tied with the definition and demarcation of positions. Openness and regulation are elementary aspects of the formal and informal rules of an organization, and the degree of autonomy and accountability the leadership team is given will be strongly determined by the incentive structures laid down.

Figure 4 not only illustrates the interaction of organizational structures and organizational behaviour processes, it also shows how it is possible for structures to per-

petuate. For this it is not necessary to refer to inflated metaphysical or linguistic ideas, as so-called theories of structuration suggest (Bourdieu 1990; Giddens 1984; Ranson/Hinings/Greenwood 1980; Donaldson 2001; Parker 2000). It is a simple truth that social structures cannot really reproduce themselves, it is always the human being that is responsible for the social conditions he or she has to live with.<sup>5</sup> This does not mean, however, that structures play no role in its sustainment. Figure 4 shows two paths for the perpetuation of structures.

Figure 4: Mediating substructures



The first path follows the experiences of the system members. These are primarily rooted in immediate practices of collaboration and only secondarily in a distanced assessment of the organizational facts. In other words, preservation and stabilization of structures emerge as a result of experience-based interaction learning, i.e. out of the concurrence of individual behaviours and structural demands and options. The balance between autonomy and accountability (S<sub>1</sub>) will therefore be maintained if the associated positive and negative sanctions (B<sub>1</sub>) reinforce interrelated behaviours. Similar considerations hold for the other two structural combinations. The balance of differentiation and integration will be stabilized with the successful interplay of the respective roles of the members of the leadership systems (S<sub>2</sub>-B<sub>2</sub>). The balance of openness and regulation will be reinforced by norms and expectations that value trustworthiness and commitment (S<sub>3</sub>-B<sub>3</sub>).

The second way that leads to a perpetuation of structures follows the path of success-based systems learning. Leadership structures will shape leadership capabilities, which will in turn affect success. So whilst failure stimulates the search for new solutions, success is seen normally as proof of being right which affirms the existing

<sup>5</sup> The reproduction of structures is a theme that is as old as social sciences, which have found quite a variety of answers (Archer 1990; Münch 2002).

structures. Of course the complexity of social systems prevents linear and error-free learning. Experience-based interaction learning has to master a lot of contingencies and success-based systems learning is hampered by several negative interventions. Due to limitations of space I cannot scrutinize this further, but it seems clear that leadership structures which are characterized by tensegrity not only improve 'doing' but also improve the ability to learn the right things.

### **3. Empirical study**

This section covers the results of an empirical study into the effects of leadership structures on strategic decision-making. Leadership structures are of special relevance in medium-sized enterprises. In small enterprises the supremacy of the owner tends to preclude all but at best a rudimentary work division amongst the company leaders. Even in medium-sized companies the dominance of the managing director more often than not prevents the advancement of real team structures, and the collaboration of the top level team managers mostly takes place on an informal basis. This makes medium-sized enterprises all the more interesting as objects of research and to investigate whether those that succeed in implementing coordinated task divisions in their top management teams produce better decisions as a result. The main reason to focus research on medium-sized enterprises is that big companies often develop idiosyncratic structures at their top level and the consequences of this for the content and form of strategic decision-making make comparisons difficult (Mills 1956; Gaugler 1969; Katzenbach 1998; von Werder 2005).

#### **3.1 Methods**

The data for our analysis stems from a survey of managing directors in medium-sized industrial firms in the region of Hamburg, (sample size N=763, participating firms n=170, response rate 22.7%). About half of the firms have between 20 and 60 employees and very few have less than 10, or more than 200. Two thirds of the firms are family owned. In about three quarters of all the firms the owner also acts as managing director/CEO.

The dependent variable of our analysis is the quality of strategic decision-making. This quality of decision-making was measured by the comprehensiveness of the decision-making process. A strategic decision-making process was classified as comprehensive or complete if all three of the core activities of decision-making, (attention, search, implementation), were evaluated as "positive" (Fredrickson/Mitchell 1984; Miller/Burke/Glick 1998). There is no expectation for the core activities of an organizational decision process to correlate very strongly. For example, to attend to a decision problem quite late on does not imply that it is impossible to search intensively for a solution. Similarly implementation may be deficient even if the solution is good, etc. (Mintzberg/Raisinghani/Théorêt 1976; Nutt 1984). Therefore it makes no sense to develop a one-dimensional scale for comprehensiveness. Instead we used an index which was composed of indices for the three core activities. We used three items to compute the index for the "implementation" variable, and two items to compute the indices for each "attention" and "search". To get a precise assessment, the managing directors were asked to evaluate a recent, concrete, strategic decision made by their

firm. The advantage of this methodological approach lies in its greater reliability. A disadvantage can lie in the possibility that the selected decision may be an untypical case. The decisions covered a broad range: from decisions on investments and launching new products to decisions on production sites, capital increases, new markets and on hiring new managers.

The items used to measure the task structure were conceived in accordance with the theoretical considerations outlined above: autonomy/accountability; differentiation/integration; openness/regulation. In addition to these three antagonistic pairs of task structures we asked for two more leadership structures a) the distribution of power, and b) the social climate in the top management team. Because our survey enclosed a broad range of questions we had to be careful not to overload the respondents with too many things. Therefore we used for every leadership structure only one item. We did this with a good conscience, because in another study ( $n=100$  medium sized enterprises) we used three-items-measures for each of the six task structures, which yielded reliabilities between  $\alpha=0.82$  and  $\alpha=0.91$ , with the exception of “openness” with  $\alpha=0.63$  (Zeise 2006). Because we wanted to throw some light on different aspects and meanings of dialectics, we had to use alternative operationalisations. I comment on this in the next section where I formulate my empirical hypotheses. (For details on the measurement devices and a description of the whole survey, see Martin 2004.)

### 3.2 Hypotheses

It is not possible to test our theoretical approach completely in one single study. Therefore I concentrate on some selected hypotheses. As described above, the opposing forces in dialectical leadership structures should promote positive effects and hold back negative effects. Leadership structures constitute the matrix for developing and using leadership capabilities. Leadership capabilities manifest themselves in the manner decisions are made. The capability “intelligence” enforces the search for relevant and profound information and as a result will give good substance to the solutions of a decision problem. The capability “activity” lays the motivational base, it stimulates the initiation of actions and encourages and supports the perseverance necessary for elaborating and implementing robust solutions. The capability “resources” enlarges the space for action and delivers the opportunities to use it. Thus follows our general hypothesis:

H: Dialectical leadership structures improve the rationality of strategic decision-making.

To test this hypothesis empirically we had to make some further specifications. We operationalized the rationality of decision-making as described above as comprehensiveness of the decision-making process. To map dialectical leadership structures, we asked the managing directors for their assessment of autonomy, accountability etc. in their top management team.

A leadership structure was categorized as dialectical if both aspects (for example autonomy *and* accountability) achieved high scores. In my model we have three potentially dialectical task structures. In reality it is not reasonable to expect that all three structures will be always of a dialectical nature. But in the light of our hypotheses H,

we should expect a marked difference whether there are no, few or many dialectical structural elements. So we come to the following hypothesis:

H<sub>1</sub>: The more leadership task dimensions are of a dialectical nature, the more decision processes will be comprehensive.

In a further step we combined the three task structures into a basic “meta”-dimension that mirrors a core organizational dilemma. On the one hand, the actions of the participants of an organization have to be predictable, on the other hand one needs – especially as a member of top management – flexibility to meet fast changing challenges. Regulation, accountability and integration provide for stability; autonomy, differentiation and openness give the space for entrepreneurial action. The respective variables were summed up to represent a combined structure of “commitment” on the one side and “freedom” on the other. Our dialectical conjecture holds true for this set of opposing forces too, namely that the combination of both will enhance efforts to be more thorough and broad-reaching when making strategically important decisions. Great freedom allows the leaders to reveal their aptitudes and to develop unconventional and, (because it allows for a deeper elaboration of solutions), well-founded ideas. The commitment forces have the function to confront awareness, beliefs, plans and actions because discussions in top management teams should not be indifferent exchanges of ideas, but lead to informed decisions which are forcefully and diligently put into practice. So the combination of freedom and commitment should stimulate greater rationality.

H<sub>2</sub>: The dialectics of freedom and commitment will increase the rationality of decision-making, i.e. it will lead to more comprehensiveness in the decision-making process.

Our expectation is that both dimensions, (i.e. freedom and commitment), should each have their individual, positive influence on decision-making. But the dialectical effect won't emerge through the *addition* of these positive effects. It is instead the effect of the *interdependence* of the leadership dimensions. So getting back to the analysis of the statistical data, we therefore anticipate an interaction effect between freedom and commitment with regard to the quality of decision making.

H<sub>3</sub>: In addition to the linear positive effects of commitment and freedom the coaction of these two variables will produce a positive interaction effect on the quality of decision-making (i.e. on comprehensiveness in the strategic decision-making processes).

Last but not least I want to include aspects of social-emotional influences and of institutional leadership structures with especial reference to their control of the distribution of power within an organization. Turning to the latter first, institutional leadership structures, as described above, play a complementary role to dialectical task structures. They facilitate or impede the emergence of the dialectical forces and can even be prerequisites of their effectiveness. In leadership structures the power dimension gains a special significance. Even though there is an egalitarian element in the task structures already, this can be easily ruined by a unilateral concentration of power, especially in cases of conflict. As a result dialectical task structures may become unstable if they are not protected by

institutional structures that give all members of the top management team sufficient power to enforce their actions. Hence our next hypothesis:

H<sub>4</sub>: The interaction of freedom and commitment will unfold its effect only if the members of the top management team have (approximately) the same power.

As for the role of the social climate in top management teams the arguments are similar. A pleasant climate will not necessarily improve the decision-making quality, (too much positive affect may even be disadvantageous, Martin 1998), but a bad climate will definitely impair it because it will amplify the tensions which are a natural consequence of dialectical structures such that they get out of balance. Regrettably we cannot test this hypothesis, because none of the managing directors in our sample reported the existence of a really bad climate in his or her team.

### 3.3 Results

The empirical results show that the dualities autonomy/accountability and differentiation/integration have profound effects on the comprehensiveness of decision-making processes. Thus hypothesis H<sub>1</sub> is confirmed, (Table 4). The results for the duality regulation/openness reveal a lean in the same direction, but they do not have the same weight.

**Table 4: Task structures and decision-making**

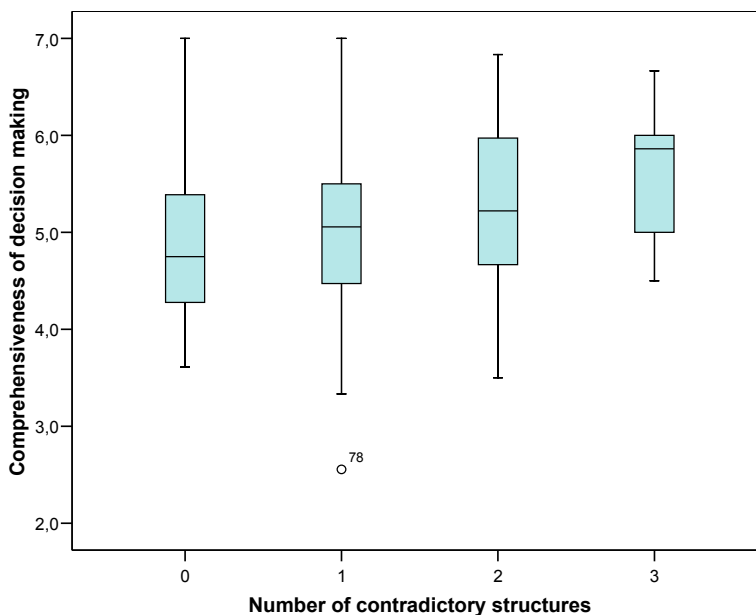
Structural Dimension	Dependent Variables	No Duality	Duality	p
Structural dimension: Autonomy/Accountability	<b>Comprehensiveness</b>	<b>4.87</b>	<b>5.29</b>	<b>.001</b>
	Attention	4.45	4.87	.044
	Search	4.69	5.34	.003
	Implementation	5.47	5.67	.208
	Cases	n=80	n=86	
Structural dimension: Differentiation/Integration	<b>Comprehensiveness</b>	<b>4.85</b>	<b>5.35</b>	<b>.000</b>
	Attention	4.45	4.91	.032
	Search	4.73	5.35	.005
	Implementation	5.37	5.80	.007
	Cases	n=87	n=79	
Structural dimension: Openness/Regulation	<b>Comprehensiveness</b>	<b>5.05</b>	<b>5.34</b>	<b>.097</b>
	Attention	4.60	4.98	.172
	Search	5.00	5.29	.316
	Implementation	5.55	5.76	.320
	Cases	n=132	n=29	
Structural dimension: Freedom/Commitment	<b>Comprehensiveness</b>	<b>4.90</b>	<b>5.48</b>	<b>.000</b>
	Attention	4.51	4.96	.004
	Search	4.76	5.60	.000
	Implementation	5.43	5.88	.009
	Cases	n=105	n=56	

Note: The duality/no duality scores are the means of the scores given according to the presence of the core activities of a decision-making process [on a scale of 1 (not present) to 7 (very strongly present)]. A dual structure is assumed if both values are high, whereby we used as criterion the median of the product of the two complementary variables. Regarding the dimension 'openness/regulation', because of a heavy skew towards the 'regulation' variable, only 29 of 161 cases could be classified under 'duality'. The structural dimension freedom/commitment was computed by the addition and subsequent multiplication of its constituent sub-dimensions. 'Duality' was assigned if the values reached the upper third. I use the preliminary term 'duality' here instead of 'dialectics' because one ingredient of dialectics is the interaction of the two opposing structures, an aspect we have yet to test below.

Hypothesis H<sub>2</sub> is also confirmed by the data. The more structural contradictions there are, the better it is for the quality of decision-making, (Figure 5). The effect is robust even if one takes further important determinants into consideration. Thus one can find the effects on decision-making of firm size ( $r=0.23$ ); social climate ( $r=0.18$ ); and the balance of power in the top management team ( $r=0.18$ ). However, the co-variance analysis shows that the effects of the dialectical task structures are not affected by these additional influences, (Table T1 in the appendix).

Hypothesis H<sub>2</sub> refers to the dimension freedom versus commitment. As can be seen from Table 3 (last row), this is also confirmed by the data. Of the firms displaying a duality between freedom and commitment in their top management team 30.4% characterize their last important strategic decision-making process as comprehensive, whereas only 10.5% of the other firms give this assessment.

**Figure 5: Contradictory task structures and comprehensiveness of decision-making processes**

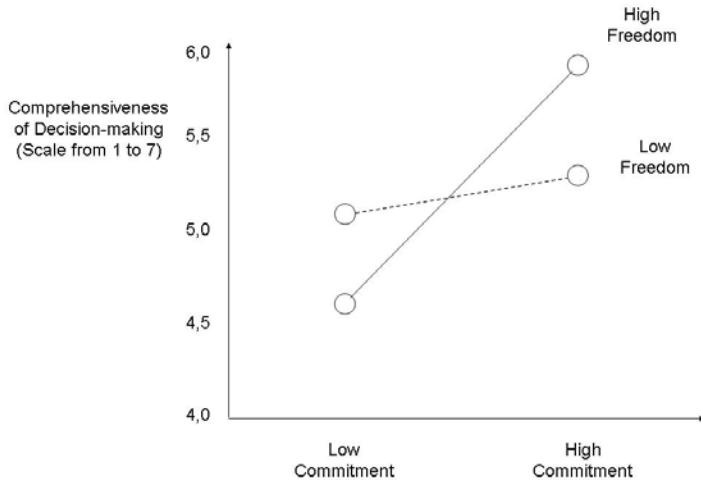


Note:  $F=6.199$ ;  $df=3, 157$ ,  $p=0.001$ ; (Frequencies 0=46, 1=59, 2=36, 3= 20). The boxplot shows the median, and the variations, (the box encloses values between the 25<sup>th</sup> percentile and the 75<sup>th</sup> percentile, the end points represent the extreme cases, the case number "78" is an outlier).

Hypothesis H<sub>3</sub> postulates an interaction effect. The data does not confirm this proposition without qualification. The essential effect on the quality of decision-making seems to come from the commitment forces and not from the interaction of the two structural dimensions. But a closer look shows that this is not the whole truth: as predicted in hypotheses H<sub>4</sub> we find the dialectic interaction occurs only when the top management team has a balanced power structure too (see Figure 6 and Table T2 in the Appendix).



**Figure 6: Dialectical task structures and comprehensiveness of decision-making processes**



Note: The figure shows the values under the conditions of balanced power structures. High commitment was assumed at values of 5 and higher on the 7 point scale of the index. The same holds for the freedom variable. For statistical details see Table T2 in the Appendix.

### 3.4 Discussion

The predicted effects were in the main confirmed by the data. One exception is the duality between openness and regulation. This may be the result of a methodological problem. Whereas the other task structures show a sufficient variation of large and small values, the managing directors rarely reported a presence of strong regulation in the top management teams. Maybe the resolution of a measurement which draws upon self-assessment is too small for such a linguistically ambiguous item as “regulation”. This problem applies more or less to all variables which are based on only one item. Therefore the index “freedom versus commitment” is much more robust than the measurement of the constituent partial dimensions.

With regard to the main effects in the variance-analysis it is obviously more the commitment dimension that promotes “disciplined” decision-making and less the freedom dimension. It may be that the freedom dimension is more important for the quality of the *content* of the decision-making debate and plays a less significant role for the *formal rationality* which is indicated by our dependent variable, the comprehensiveness of the decision-making process. Nevertheless the freedom aspect plays its part in the decision-making process too, as is proved by its interaction effect with the commitment dimension.

In assessing the results it must be borne in mind that we considered selected – albeit important – cases of decision-making. This makes the results even more remarkable, since the chance of finding stable relationships when looking at special cases is generally much smaller than when compared with looking at typical behaviours at a more aggregate level. Again the power aspect deserves special attention. Asymmetric

power structures impair rational decision-making. Against this even dialectical task structures have difficulties. This is of special relevance in small and medium sized companies, where owners or managing directors more often than not play the dominant role. In this situation it largely depends on the discretion of the managing director as to whether dialectically conceived leadership structures will advance conscientious decision-making and whether it can promote heedful interaction.

Last but not least are some methodological remarks in order. Our empirical study shares the weaknesses that characterize survey-based research. Because it gives no access to the facts themselves but asks for the judgements of key informants, who (even more problematic) are participants of the top management team, you have the obvious problem of objectivity and understanding. The respondent has to comprehend your questions and he or she must have the ability to perceive in a calm and reliable way the aspects of reality you ask for. Furthermore the respondent has to be willing to give honest answers. Another problem that can distort the validity and reliability of the data arises from using only one method and/or one source to get your information. There are two issues associated with this problem of common method variance. The first is that we may in fact not be testing our own theories about the state of the world but the theories of the respondents. The second advises us to beware the effects of social desirability. Both issues seem to be marginal in relation to our study. Thus there is no real danger that we are actually proving the theories of the respondents and not our own. We were not asking for propositions about the effects of leadership structures, but for descriptions of organizational realities with the aid of separate items and it is highly improbable that a respondent, in answering a single question, will always check to see whether his answer correlates with other answers and whether his answers suit his theories on leadership structures in general – to say nothing about the dialectical effects of leadership structures in particular. As to social desirability, it is not evident that any tendency to give desirable answers has distorted the statistical relationships in this study. For example the results regarding the decision-making process show that managers obviously do not like the ideas of normative decision theory in the same way as decision theorists do. And the correlations of the answers concerning the leadership structures are rather low and diverse, so there is no indication of a social desirability effect.

#### **4. Conclusion**

Organizational structures channel the behaviour of the organization members. Structures stimulate and inhibit, facilitate and hamper, reinforce and impair individual ambitions and behavioural processes. The focus of this article is a special structural constellation: dialectical leadership structures. Our theory recommends leadership structures with a high level of “tensegrity”, i.e. leadership structures which are created with elements that generate a lively balance between contradictory but nevertheless beneficial forces. Our empirical results document that dialectical task structures can improve decision-making processes. At the same time they show that social structures (especially an uneven balance of power) can undermine the architecture of otherwise well conceived leadership structures.

At a more general level one should not forget that leadership structures consist of a whole complexity of roles, rules and incentives and that they are influenced by the composition of the leadership team in terms of the personalities, abilities and aspirations of its members. The dialectical task structures we discussed can only function in this wider context. They nevertheless play an important role and can even – if implemented – transform otherwise unproductive behavioural styles.

Karl Weick once complained that organization theory ignores dialectical aspects that shape organizational life (Orton/Weick 1990). This article aims to make a small contribution to the broadening of the understanding of dialectical mechanisms that give leadership structures the quality of productive action generators. I proposed a theoretical framework that can and should be elaborated in further studies. For example alternative dialectical mechanisms need to be considered. Similarly the dynamic role of dialectics deserves more attention, i.e. further analysis is required of the logic that lies within the fact that new structures may overpower old structures but in doing so promote their own decline. Another task is to give a more precise description of the relationships between the substructures that support dialectical structures. As for the empirical side, it would be desirable to analyze the intervening processes of dialectical mechanisms (see for example Figure 3). Experiments may be the most appropriate for this because they allow measurement of the implied behavioural tendencies on a deeper level. Last but not least in-depth studies are needed into the considerable obstacles that may prohibit the emergence of dialectical structures and into the challenges dialectical task structures present in everyday practice.

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## Appendix

**Table T1: Number of contradictory structures and comprehensiveness of decision-making processes. (Regression analysis)**

Coefficients (a)					
	Unstandardized coefficients		Standardized coefficients	T	p
	B	Standard error	Beta		
(Constant)	3.666	.638		5.744	.000
Number of dual leadership structures	.243	.070	.280	3.469	.001
Environment: Hostility	-.080	.054	-.127	-1.495	.137
Environment: Stress of competition	.072	.062	.094	1.164	.246
Environment: Dependence	.016	.059	.022	.268	.789
Leadership structure: Power balance	.009	.046	.016	.186	.853
Leadership structure: Positive social climate	.072	.077	.079	.931	.353
Number of leadership team members	-.050	.026	-.176	-1.969	.051
Firm size: (ln) Number of employees	.223	.071	.279	3.128	.002

a Dependent Variable: Comprehensiveness of strategic decision-making processes.  
R=0.429, R-Square=0.184, Corrected R-Square=0.140.

**Table T2: Dialectical leadership task structures and comprehensiveness of strategic decision processes**

Dependent variable: Comprehensiveness of strategic decision-making processes

Leadership task structures		All cases			One-sided power structure			Balanced power structure		
Commitment	Freedom	$\bar{x}$	$s_x$	n	$\bar{x}$	$s_x$	n	$\bar{x}$	$s_x$	n
low	low	4.94	.83	69	4.89	0.84	51	5.09	0.80	18
low	high	4.90	.87	39	5.04	0.87	27	4.63	0.86	11
high	low	5.42	.90	22	5.49	0.88	13	5.32	0.96	9
high	high	5.49	.73	31	5.19	0.69	18	5.89	0.60	13

**ANOVA(a,b)**

		Method: Experimental				
Comprehensiveness		Sum of squares	df	Mean square	F	Sig.
Co-variables	(Combined)	9.678	7	1.383	2.486	.033
	Social Climate	.063	1	.063	.113	.739
	Power Balance	.006	1	.006	.012	.915
	Dependence	.317	1	.317	.570	.455
	Stress of Competition	.326	1	.326	.586	.449
	Hostility	.251	1	.251	.451	.506
	Size of Top Management	3.467	1	3.467	6.233	.017
	Firm Size (ln)	7.424	1	7.424	13.348	.001
Main effects	(Combined)	5.917	2	2.958	5.319	.009
	Commitment	4.834	1	4.834	8.691	.005
	Freedom	.477	1	.477	.858	.360
2-Way-Interactions	Commitment x Freedom	2.797	1	2.797	5.028	.031
Explained			10	1.839	3.306	.003
Residual			39	.556		
Total			49	.818		

a Comprehensiveness by Commitment, Freedom with Social climate, Balance of Power and environmental variables (Dependence, Stress of Competition, Hostility of Environment), Firm Size (logarithm of numbers of employees), Size of Top Management Team.

b Co-variables entered first.

The above table shows the values under the conditions of balanced power structures.

**ANOVA(a,b)**

		Method: Experimental				
Comprehensiveness		Sum of squares	df	Mean square	F	Sig.
Covariates	(Combined)	7.821	7	1.117	1.595	.146
	Social Climate	3.100	1	3.100	4.426	.038
	Power Balance	.887	1	.887	1.266	.263
	Dependence	.167	1	.167	.239	.626
	Stress of Competition	.366	1	.366	.522	.472
	Hostility	.624	1	.624	.892	.347
	Size of Top Management	.105	1	.105	.150	.699
	Firm Size (ln)	1.223	1	1.223	1.746	.190
Main effects	(Combined)	.996	2	.498	.711	.494
	Commitment	.994	1	.994	1.419	.237
	Freedom	.007	1	.007	.010	.921
2-Way-Interactions	Commitment x Freedom	.956	1	.956	1.365	.246
Explained			10	.977	1.396	.194
Residual			95	.700		
Total			105	.727		

a Comprehensiveness by Commitment, Freedom with Social Climate, Balance of Power and environmental variables (Dependence, Stress of Competition, Hostility of Environment), Firm Size (logarithm of numbers of employees), Size of Top Management Team.

b Co-variables entered first.

The above table shows the values under the conditions of one-sided power structures.