MINIMAL NETWORKS: A CONTRIBUTION TO THE UNDERSTANDING OF CONTROL IN TRUST-BASED ORGANIZATIONS

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ABSTRACT

This article draws on process labor theory and on theories of social control to understand how control is enforced in trust-based organizational forms. It argues that like power-based forms need a shadow structure for creating requisite variety, trust-based forms need a shadow structure for requisite homogeneity. That control structure is composed by unobtrusive forms of direct supervision and ideational control which foster integration but also entail negative side effects: they hamper learning, flexibility and adaptability. This generates a self-defeating paradox because trust-based forms are prone to emerge in environments where these three characteristics are essential for survival. Therefore, we propose a different control structure – the minimal network – that hinges on diversity instead of on similarity, building up the levels of learning, flexibility and adaptability necessary to survive and prosper in rapid-change of environments.

As the major players on a growing number of industries have been approaching the last phases of organizational growth put forth by Greiner (1972), researchers and management writers alike have been making attempts to fill in the spaces that Greiner left behind. Recently, those attempts have reached a more fundamental level, as researchers dropped the hierarchy / power coordination scheme that has had an unquestioned pervasiveness in organizational design (Hedberg et al., 1976; Powell, 1990), embracing new approaches that looked into the two other known forms of coordinated human activity – markets and networks – in search of what the future might hold.

As far as the market / price coordination scheme goes, it has still to amount to more than a fad, in spite of the remarkable contribution of Halal, Geranmayeh and Pourdehnad (1993) on internal markets, and of the examples set forth by companies like SEMCO (Semler, 1995).

Organizational trust, and its configuracional counterpart – the network – have already endured the 'fad' phase, and are now 'proper' research. In fact, trust-based organizational forms have been receiving a lot of attention from the literature (e.g. Baker, 1994; Lipnack and Stamps, 1994; Meyerson, Weick and Kramer, 1996). This is because they have been popularized as a configuration in which people would be able to take advantage of their full potential, to their own benefit and to that of the organization (Powell, 1990). However, because that same literature has created the perception that networks stand on a polar opposite from hierarchies, research on the subject has shown little concern for issues of control, even when the 'network' assumes its simplest form: the 'self-managed' work team (Korine, 1999).

When imported to the organizational environment, networks are subjected, as other configurations, to two main driving forces: differentiation and integration

(Lawrence and Lorsch, 1967). Without delving deeper into the matter than needed for the purpose of our argument, we can state that differentiation arises from human physical and cognitive limitations that lead to labor specialization (Barnard, 1936). Coordination arises from the need of having these tasks to contribute to the fulfillment of the various organizational goals (Mintzberg, 1995a).

In networks, the only stable source of differentiation is individual, because there are no permanent groups of workers / specialists. Coordination is therefore more difficult to achieve in this configuration because emergent forms of integration, like activity-based similarity, have a less fertile ground to grow than in hierarchies, where they are explicitly embedded in the organization's design (as in the case of functional structures).

Coordination and control are, however, as necessary in networks as they are in hierarchies. The organization still has goals to attain, and its integrity must still be maintained. Moreover, control is an operational necessity is most networks in business environments because of its effectiveness as performance normalization and as an efficiency seeking mechanism (Follett, 1940a).

TRUST IS NOT ENOUGH

Paradoxically (but not surprisingly), we can state that trust may be a much more relevant coordination mechanism in nominally power-based organizations / hierarchies than in trust-based organizations / networks. In fact, several authors (e.g. Stacey, 1996, Krackhardt and Hanson, 1993) have shown the importance of the informal (and, by definition, trust coordinated [Powell, 1990]) organization as an effectiveness seeking 'shadow' system in the context of an explicit, efficiency seeking, hierarchy or formal system. It is this organizational counterpart of Jung's

shadow (Morgan, 1986) that ensures that the 'efficiency' core competence of hierarchies is deployed to the 'right' / effective activities. That is to say that the informal organization is responsible for the effective allocation of the formal organization's efficiency, therefore ensuring its long-term legitimacy in the market (Krackhardt and Hanson, 1993; Drucker, 1985).

Networks, on their part, because of the kind of environments where they emerge, develop and flourish, and of the nature of the tasks they're better suited to pursue, are explicitly directed towards effectiveness (Burns and Stalker, 1961). In this instance, the shadow structure plays exactly the opposite role it plays in power-based organizations. In trust-based organizations, the shadow system is responsible for attaining efficiency, that is to say, for *exploiting* the opportunities the explicit organization surfaces during the course of its *exploration* activity. This role is as crucial to networks as its opposite is to hierarchies. As the latter kind of organization may be found efficiently pursuing a detrimental competitive / strategic direction, the former may not be able, upon finding a profit yielding competitive path, to follow it in an efficient manner. This is known as the 'opportunity trap'. The organization is keen at exploring its environment and at finding / generating growth opportunities but is utterly unable to exploit any of those opportunities adequately and, ultimately, to generate profits or to attain any other performance-based goal (Moorman and Miner, 1998).

This syndrome can be avoided by building a constraining structure to direct its members' behavior towards the attainment of the organization's goals by fostering the exploitation of internal and external opportunities. When building this restraining structure, the organization has to take great care with not 'throwing the baby away with the bath water' meaning, in light of this argument, not hampering and

obstructing the organization's explorative competence – the reason why it took the shape of a network in the first place.

Because of the need of instilling an adequate exploitation capacity into the organization without inhibiting its exploratory competence, the kind of controls used in trust-based organizations are very different from the ones used in power-based ones, although they serve the same purposes. Any control mechanism present in a network must share, at least, the characteristic of unobtrusiveness; if this is not so, then the exploration process would be seriously hampered (Amabile, 1998).

In hierarchies, the control-mix can be predominantly composed by first and second order controls or, to put it simply, by direct supervision and standardization of processes (Perrow, 1986). This is mainly due to three of this form's characteristics: (1) the kind of environments in which they are better suited to operate (stable and low perceived complexity) (Emery and Trist, 1965); (2) their high degree of mechanicism (Burns and Stalker, 1961); and (3) their confinement of sensemaking, and consequently of third order controls / control by premises to the topmost levels of the hierarchy (Weick, 1995).

This last characteristic deserves a further explanation. If we understand the environment as a series of stimuli that the organization must connect in order to construct a reality to serve as a basis for action (Smircich and Stubbart, 1985; Weick, 1979), then we must contend the issue of *who* will connect those stimuli. In mechanistic organizations (hierarchies), this 'connecting the dots' or sensemaking is performed at the top of the organization because the relatively stable environment in which this kind of organizations operate proficiently, is stable enough for nonroutine decision making to only happen at the top, turning sensemaking into a mildly

challenging activity (Weick, 1995), because the stimuli that serve as its inputs are perceived as only mildly complex.

Conversely, because of more challenging environmental demands (Emery and Trist, 1965), and because of the added complexity trust-based forms entail (Greiner, 1972; Powell, 1990), networks cannot afford the luxury of having a selected few interpret what is happening inside and outside the organization and turn it into an activity input to the remainder of the organization by the means of a knowledge replacing mechanism like the giving of orders (Follett, 1940a).

If this was to happen, then it would seriously undermine the network flexibility and richness of interpretation – the main reason why the organization operates in a trust-based form in the first place.

CONTROL BY SUPERVISION

In light of what has been said so far, it would seem reasonable to state that first and second order controls would be mainly absent from trust-based forms of organization, and that third order controls would be more pervasive. Drawing on labor process theory (Barley and Kunda, 1992), we argue that this is a rather simplistic inference, especially in what concerns first order controls.

The difference between the control mix in power-based versus trust-based organizational forms, is not as much a question of direct (first and second order) over indirect (third order) controls, as one of obtrusive over unobtrusive controls (Sewell, 1998).

In hierarchies, because of the legitimacy that the explicitness of power enjoys (Frances et al., 1991), its members' actions can be explicitly monitored and restrained

without hampering their expected contribution towards the attainment of the organization's goals.

This is not the case in networks and other trust-based organizations. Due to the nature of the tasks performed by their members and, in many instances, because of their professional culture, they do not look kindly over the explicit exercise of power over them, especially if we understand the giving of orders (upon which first and second order controls rely) as knowledge substitution (Follett, 1940a). In this case, the organization's control over its members' activities must be unobtrusive and close to invisible (or non-perceivable). Although several authors (e.g. Perrow, 1986, Pfeffer, 1981; Smircich and Morgan, 1982) argue that this can be adequately performed by premise or third order controls, we would also like to explore the possibility of instituting an invisible set of lower order controls, that allow direct power to be exercised without being perceived as such by those subjected to it.

The purpose of any kind of control is to promote integration among the organization's constituents (Barnard, 1936). This integration can be defined from two different views: integration towards a common level of performance (Olson 1968) and integration towards a common goal (Follett, 1940b). Garson (1988) proposed a set of first order controls that allows both types of integration while benefiting from a high degree of unobtrusiveness. This set of controls is based on an analysis of teamwork production technology but can be extended to purer trust-based forms (like networks) and to encompass a broader range of technologies (like those found in knowledge intensive and service industries). Additionally, Sewell (1998) found that in team-based production contexts, integration / coordination was achieved through what he labeled 'chimerical control'. Chimerical control is a control mix composed of vertical

and horizontal coordination mechanisms (both formal and informal) that are, in nature, first order controls, but that enjoy a very low degree of unobtrusiveness.

As far as its vertical axis is concerned, chimerical control relies on two practices that render its use on first order controls highly unobtrusive: (1) it shifts the unit of work planning and analysis from the individual to the group / team / section of the network, and (2) it uses the organization's production technology to turn the 'group' as a transparent (as opposed to opaque) layer between the individual and the organization (and those responsible for their integration processes).

Shifting the unit of analysis from the individual to the team / section of the network, releases the individual from the perception of being object of direct supervision. This is made possible by arrangements close to Management By Objectives (Olson, 1968), where the objectives are set at the team level, allowing for its members to organize themselves to reach those targets. This practice conveys a feeling of autonomy, which is little more than nominal (French and Bell, 1995) for two main reasons. Firstly, the team has no power to affect the objectives laid upon it (with the exception of those in the few 'excellent' companies that feed the popular business literature). Secondly, their discretion is strongly restrained by the production process design (which, once again, has little to do with their will), be it physical layout (in manufacturing industries), procedures (in service industries) or entrenched organizational habits (in 'knowledge' industries). For those in the organization's integrating bodies, there is also little change, for they continue to be able to exercise direct supervision, although now being mediated by the 'team' layer. This creates the need to make that layer as transparent as possible, so that accountability stays with the individual and does not migrate to the team, rendering integration by feedback

(rewards and punishments) close to impossible and with a low perceived degree of fairness if attempted at all.

Embedding unobtrusive surveillance mechanisms in the production process itself, seems to be a good way to meet this challenge (Sewell, 1998). This allows management to measure individual performance with the added benefit of being free from having to intervene to correct deviant behaviors, with the exception of the most salient cases. Already since the early eighties, under the motto 'what gets measured gets done', via the Total Quality movement epitomized by Deming (1986) and Juran (1988) and modeled by Japan, companies have been adopting the quality enhancing techniques and designs, of which the Seven Basic Tools (Deming, 1986) are an example. Most of these techniques rely on the public display of individual performance information that under the umbrella of a 'zero defects' goal, allows an internal 360° monitoring of that performance, extending the practice and, in many instances, the legitimacy of direct supervision from superiors to peers (Sewell, 1998).

Although one could argue that a significant number of industries are a sterile ground for such systems because of the immateriality of the production process, we argue that this is a somewhat narrow view. In service sectors, high levels of peer and customer visibility are adequate replacements for the more graphical controls found in industry. In knowledge intensive sectors, individual performance information is condensed in the relatively vague construct of 'reputation' which, among the organizations that populate those sectors, is as tangible as histograms and green light / red light indicators (Mintzberg, 1995b).

The horizontal dimension of chimerical control is concerned with the second perspective on integration: developing individual performance by positive feedback, striving to align it by that of the organization's best performers. In this instance, we

observe a direction reversal vis-à-vis the vertical dimension: the locus of analysis is returned to the individual. In addition, this dimension of chimerical control further fosters the delegation of direct supervision to peers, allowing the organization to maintain this as a control mechanism, promoting at the same time a perception of autonomy and unobtrusiveness.

Returning the locus of analysis to the individual is a necessary condition to align members' performance in an upward direction, towards that of the more proficient individuals. In fact, team production standards are of little use if the organization wants to develop its efficiency by positive feedback, because although teams can import processes that allow other teams to work faster, in some kind of internal benchmarking, their ability to take full advantage of those processes is still limited by the performance of each of its members. Therefore, although team results can create some 'meso-level' peer pressure to perform better, individual results can be more powerful. This can be explained by the identity formation and identity maintenance processes. Knowing that an individual's self concept is grounded, among other things, in his or her work, then work performance will be used as an indicator of self-worth (Pfeffer, 1997). This leads to the fact that if the individual is presented with compelling evidence of superior performance of others, then, in order to maintain its sense of self-worth (s)he will try to eliminate, or at least to narrow that gap. Extrapolating for a larger number of individuals, this process emerges as a positive feedback cycle of increasing performance.

We have to point out that there are two other possibilities of maintaining self-worth: by withdrawal or by changing the 'audience' (people to whom the subject wants to appear better than the others). Withdrawal is not at all feasible because the comparison dimension (work performance) is a too central one, so this option would

entail changing jobs, which cannot reasonably be generalized as an option, unless the gap is too wide, which would, in turn, lead to the dismissal from the organization (Schneider, Goldstein and Smith, 1995).

Changing the audience is also a limited option because of the pervasiveness of peer scrutiny in networks (Saavedra and Kwun, 1993), that usually amounts to 'lateral' direct supervision, as mentioned earlier.

We can then say that in trust-based organizational forms, first order controls are not only possible but in some ways desirable, as long as they allow a vocationally explorative organization to exploit the opportunities it uncovers.

CONTROL BY CULTURE

If first order controls are, to paraphrase Stacey (1996), the *shadow* coordination system of trust-based organizational forms, then third order controls constitute their *explicit* coordination system. With third order controls, coordination is achieved by the means of shared assumptions about reality, that lead to a cadre of shared values and beliefs upon which action is taken and decisions are made (Perrow, 1986; Weick, 1979). Sharing assumptions, beliefs and values about reality fosters social similarity, which serves as a breeding ground for what is called characteristic-based trust, therefore allowing human activity to be coordinated without having to recur to power-based organizational forms (or market-based ones, for that matter) (Powell 1990).

For the sake of our argument, we will use Pfeffer's (1997) concept of mechanisms of social control, instead of Perrow's (1986) third order controls, in order to encompass an indirect control mix broader than premise control.

Drawing on the work of Pfeffer (1997) and Picken and Dess (1997), we can distinguish four mechanisms of social control: (1) rewards and incentives; (2) commitment and socialization processes; (3) organizational culture; and (4) leadership.

Most rewards and incentives in organizations are monetary in nature and carry two effects: (1) an incentive effect and (2) an informational effect (Pfeffer, 1997). The incentive effect concerns the actual purpose of the reward: salaries buy people's time, piece work pay and commissions buy certain kinds of effort or output quantity, etc. Stated simply, the incentive effect aims at motivating a certain behavior or set of behaviors, among organizational members. The informational effect is most of the time an unintentional by-product of the incentive effect, which can have serious organizational consequences. The 'what' of organizational rewards and incentives (what does the organization reward) is an important signaling device that conveys values and, sometimes, beliefs about reality (Picken and Dess, 1997). An organization's reward and incentive policy conveys, either intentionally or not, what that organization values most. If it pays by seniority, then it values loyalty; if it pays by sales volume then it values quantity over quality; and so on. Reward and incentive policies serve therefore as an input to organizational culture (Lawler, 1998), and consequently shape the values and beliefs that organizational members will use when taking action or making decisions. Because they are perceived as the result of an exchange for their effort, the informational content of rewards and incentives is seldom viewed as a control mechanism and therefore gains a high degree of unobtrusiveness.

To conclude the discussion of rewards and incentives as mechanisms of social control, it must be stated that the introduction of merit and performance-based pay

often implies the adoption of performance measurement mechanisms (Lawler, 1990). These can double as surveillance methods that end up as an input to the kind of unobtrusive first order controls discussed in the previous section.

Compared with incentives and rewards, commitment and socialization processes have traditionally been a more deliberate way to enforce social control.

As far as organizational commitment goes, from the perspective of organizational control, its relevance comes from the fact that higher levels of commitment render the individual more permeable to socialization processes. According to Salancik (1977), commitment arises from a public and explicit choice that, because of not being attributable to external determinants (e.g. a reward), triggers a dissonance reducing process (Festinger, 1957) that ultimately changes the individual's attitudes and self-perception, rendering him more porous to the organization's assumptions, beliefs and values (Pascale, 1985). This in turn instills self-control and reduces the need for more obtrusive control mechanisms.

The process of introducing members to these assumptions, beliefs and values that make the organization's culture (Schein, 1985) is called socialization. This process starts during recruitment, where either intentionally or not, with the selection of candidates whose personal beliefs and values share a common ground with those of the organization, in order to render the indoctrination process feasible (Schneider and Bowen 1992). According to Pascale (1985), this later process is followed by a series of experiences aiming at broadening the area of intersection between personal and corporate values. This process is not symmetrical because it is accomplished not by mutual adjustment but by bringing the values and beliefs of the former closer to those of the later. The individual then becomes a full-fledged member of the organization, a bearer of its culture (Van Maanen and Schein, 1979) and because of this, as some

would argue (e.g. Barley and Kunda, 1992; Picken and Dess, 1997), a subject of its control.

Social control via culture has several advantages over other forms of control (Perrow, 1986). Firstly, as far as control by rewards goes, culture does not entail the definition of desired behaviors at the outset, allowing for a higher degree of flexibility. Secondly, regarding first order controls, culture deems unnecessary the costly and difficult to achieve tasks of supervision and surveillance. Moreover, especially in what concerns this and other first and second order controls, culture is a much more unobtrusive and invisible coordination mechanism, invoking less psychological resistance (O'Reilly and Chatman, 1996; Mitchell, 1997). This happens because sharing a specific organizational culture – a set of values and beliefs emerging from a set of assumptions about reality – means that organizational members share a similar process of making sense or constructing reality from a plethora of stimuli, consequently enacting a similar organizational environment (Weick, 1995; Smircich and Stubbart, 1985). They share a similar perception of reality and the ways with which to act over that reality. The organization's members also share the process of action and decision making. This is because, by sharing assumptions, they share the kind of stimuli they pay attention to and those that they deem irrelevant (Weick, 1995). Moreover, sharing beliefs and values also means sharing a (culturally constrained) set of alternative courses of action, that more often than not, goes on unquestioned.

By controlling inputs and the process of action and decision making, organizations end up controlling (and homogenizing) the results of those processes (Mintzberg, 1995a).

The high variability of responses and of environmental perceptions that the more popular business literature exults (e.g. Peters, 1992; Katzenbach and Smith, 1994) seems, in this light, greatly overstated (Sinclair 1992).

Leadership can also act as an unobtrusive coordination mechanism. It does so in two different ways: (1) through the process of choosing leaders and (2) through the exercise of leadership itself.

As far as the process of choosing leaders goes, Kanter (1977) has shown that, in organizations, this is frequently a process of homosocial reproduction, meaning that those who get appointed to leadership positions are those who share strongly the organization's culture. This sends a clear signal to every member equating personal success in the organization with close adherence to the values, beliefs and assumptions it espouses, which in turn enhances conformity and, consequently, control by premises (Weick, 1995).

Regarding the exercise of leadership, trust-based organizations are more favorable to transformational or charismatic leadership than to a transactional or reward-based one. Transformational leadership, with its widespread use of symbols, values and beliefs and emotions, is of a much more unobtrusive nature than transactional leadership with its emphasis on rewards and direct persuasion (Bass, 1985). Moreover, transformational leadership is fitter to those environments where networks are more likely to be the dominant organizational form than transactional leadership (Powell, 1990; Shamir et al., 1993).

A final point on transformational leadership as an unobtrusive control mechanism, regards the issue of commitment. In fact, because 'following' a transformational leader involves no tangible reward nor is accomplished to avoid an external threat, then the follower's behavior has been altered for insufficient extrinsic

organizations uses as a means of coordination – characteristic-based trust (Frances et al., 1991). This kind of trust is based on social similarity which, in spite of being an adequate basis for unobtrusive coordination, entails important limitations as far as learning and flexibility are concerned (Powell, 1990). In fact, because of the coincidence of mental models among organizational members, there is little variation to be found in their perception of the organization and its environment, as well as in their set of values and beliefs (Argyris, 1992). Consequently, they hold a similar view of reality and have a relatively similar set of cognitive tools to deal with it, limiting their ability to come up with an adequate variety of alternatives to cope with problems or take advantage of opportunities in the organization and its environment (Amabile 1998). The organization's flexibility and adaptive capacity are, therefore, seriously hampered (Eisenberg, 1990).

We can then state, in a somewhat paradoxical manner, that the coordination mechanism that supposedly glues the network together, will make it unfit for its environment. In fact, both theories of organizational growth (Greiner, 1972) and of contingency (Burns and Stalker, 1961) show that networks tend to emerge in fast changing environments, where flexibility and adaptiveness are paramount for the

organization's survival – let alone success (Emery and Trist, 1965). However, if social similarity-based trust hinders flexibility and adaptiveness, the organization, then, will not be able to sustain the pace demanded by this kind of environments.

Drawing on theories of self-designing organizations and improvisation, we propose that this self-defeating paradox can be attenuated by replacing trust with *swift trust* as a coordination mechanism in trust-based organizations.

Swift trust is a "depersonalized form of trust" (Jarvenpaa and Shaw, 1998: 4). This type of trust is comparable to a self-fulfilling prophecy, where organizational members "import trust from other contexts and categorically impose it on the members without any knowledge of who is trustworthy, allowing them to engage in trusting behaviors" (Jarvenpaa and Shaw 1998: 4).

Swift trust eliminates most of the flexibility problems created by social similarity-based trust, but an empty space remains regarding the issue of how to control 'swift trust-based organizations'. This type or organizations does not allow the use of an efficiency seeking shadow system, shaped as those found in social similarity-based networks, because of the high degree of diversity among its members (Meyerson et al., 1996). In spite of this, a shadow structure is still needed to avoid the same pitfalls of characteristic-based trust as a coordination mechanism.

We propose that control in this kind of structure can be achieved through the means of what we call a 'minimal network'. The use of the word minimal intends to convey a trust-based structure where sharing and similarity are kept at a minimum level, in order to avoid the detrimental consequences that high levels of both of these factors entail (Eisenberg, 1990).

A minimal network has four major traits (see exhibit 1). It is defined as an organizational form, coordinated by (1) minimal trust that derives from (2) minimal

commitment and (3) minimal consensus, held together by a (4) minimal structure of integration.

Minimal trust means that the elements normally associated with building trust are kept at a minimum level, just about the necessary for the level of integration needed to fight fragmentation. The point here is to create the conditions needed for trust to emerge (the belief that the individual with whom someone is interacting, will act in a way that is beneficial or at least not detrimental to him or her) with the minimum level of commonality and personal disclosure. This is accomplished by coordinating by the means of a generalized other (Jarvenpaa and Shaw, 1998), instead of social similarity. In this type of coordination, trust arises from a self-fulfilling prophecy of trustworthiness the individual develops, based on stereotypes of his / her interactants and on previous network / team experiences (Jarvenpaa and Leidner, 1997). Indoctrination mechanisms have an important role to play in this process.

Indoctrination ceases to be related to the inculcation of particular organizational values and beliefs. Its purpose, in light of developing swift trust, is to facilitate coordination by a generalized other. This means that this process is now aimed at creating favorable stereotypes of the categories of people newcomers are prone to interact with, and at developing a favorable attitude towards working in trust-based settings (Armstrong and Cole, 1995). Creating an attitude favorable to trusting other members of the organization is ultimately equivalent to foster institution-based trust, because members are trusted on the basis of their affiliation with the organization (Frances et al., 1991).

Minimal commitment is also necessary to avoid the learning related pitfalls of social similarity-based trust. The purpose here is to promote the level of commitment needed to assure the necessary level of performance on behalf of the individual, while

avoiding blind adherence to individual, group and organizational decisions. Organizational members must take the success of the organization as a central value, but they also are to be permeable to information that goes against decisions made both by them as individuals, and by the group or organization to which they belong as a whole.

As far as commitment goes, the main issue to address concerns the fact that the dynamics that underlie a 'healthy' level of commitment to an organization are coincident with those that explain individual and group pathologies found in organizations, like groupthink and individual defensive routines, among others (Janis, 1971; Argyris, 1992; Harvey, 1996).

Knowing that commitment is the result of the attempt to resolve a cognitive dissonance that comes from making a public and explicit choice without sufficient external justifications (Salancik, 1977; Eiser, 1980), the challenge lies in promoting a set of values and beliefs that fosters a positive attitude towards public and explicit errors (Weick, 1990). This attenuates the need for triggering the dissonance reduction process, because the organization values mistakes, as long as they are an input for learning (Sitkin, 1992).

Minimal consensus is the touchstone of minimal networks. It is through minimal consensus that negative consequences brought by strong cultures are avoided, without loosing the unobtrusiveness of the controls they rely on.

Minimal consensus is grounded on the understanding that diversity of perceptions favors a richer understanding of the environment and, therefore, allows the organization to act in a more informed way (Starbuck, 1965). Moreover, diversity in the composition of the organization's population allows a wider repertoire of solutions and a higher level of flexibility (Hedberg et al., 1976). These characteristics

facilitate, in turn, a higher degree of adaptability to changing environments (Brown and Eisenhardt, 1997) – the reason why trust-based organizations are adopted in the first place (Powell, 1990). This is accomplished by matching external complexity, which can reach significantly high values in this kind of environments (Emery and Trist, 1965), with complexity of individual organizational members, instead of with complexity of organizational design (Weick, 1993). In short, the organization copes with environmental complexity by having very diverse members, instead of adopting complex structural forms.

Minimal consensus rests on a deliberate and intentional effort to reduce commonalties among organizational members to the minimum level required for integration to be feasible.

Minimal networks abandon the pursuit of common perceptions of the environment and of common values and beliefs, promoting instead compatibility among the perceptions, values and beliefs of different organizational members. The purpose of this is to allow trust to emerge by a perception of compatibility instead of one of similarity (Weick, 1993). In minimal networks, individuals acknowledge that they hold a valuable perception of reality, but also realize that that perception is limited, and its real action taking and decision making power can only be harnessed when combined with different views from other members. It is important, though, that those perceptions, although not being identical, are compatible in the sense that they illuminate a certain reality from different but complementary (as opposed to antagonic) perspectives (Hedberg et al., 1976).

Three organizational elements are critical for minimal consensus to be possible: (1) the recruitment and (2) the leadership processes; and (3) the rewards and incentive policy.

If an organization wants to have a highly diverse population, then that diversity must start in its recruitment process. In minimal networks, this process is responsible for the accumulation of the necessary diversity for the adequate operation of the organization. Additionally, this process can make indoctrination easier by selecting as new members people who already hold the attitudes and beliefs necessary for operating in an environment of swift trust (Jarvenpaa and Shaw, 1998).

As in traditional trust-based organizations, leadership plays a fundamental role in sustaining minimal networks in two ways. First, by incorporating diversity as a central value in the development and selection of leaders, the organization will send a clear signal regarding its commitment to diversity, strengthening its centrality in day-to-day decisions and actions (Bass, 1985). Secondly, in this kind of organization, leaders have a very different role from that performed in conventional networks – *sensemaking* gives place to *senseholding* as their main task. That is to say that the leader attempts to postpone as long as possible the freezing of a determined (and enacted) view of reality, keeping the necessary ambiguity for the group to generate a requisite variety of alternatives (Weick, 1993) to answer internal and external problems or opportunities.

Regarding the rewards and incentive policy, their goal is to render its information effect as value neutral as possible. Together, their motivational effect, incentives and reward policies, also serve as carriers of organizational values (answering the question of what is important for the organization) (Picken and Dess, 1997). Accordingly, the design of those policies in minimal networks avoids defining values held by 'successful' organizational members, in order to sustain the diversity necessary for this type of organization to prosper. We are not arguing that organizations should attempt to devoid the informational effect of its reward and

incentives policies of values of any kind. Instead, the information embedded in those policies, for a minimal network to be possible, should avoid prescribing a perception of the environment and the 'right' way to be competitive and attain success.

The *minimal structure* is what holds a minimal network together and is constituted by three elements: (1) coordination by action based on (2) a minimal set of rules and on a (3) shared social objective.

Due to the absence of a strong culture from which trust and coordination can be derived, minimal networks replace a shared system of values, beliefs and perceptions, by coordination through action. This means that the integration of the individual efforts of organizational members does not rely on sharing the same culture but on having a *compatible* perception of the challenges posed by the environment (Weick, 1993), that creates a 'law of the situation' (Follett, 1940a) for individuals to obey. Like coordination by culture, this is still a third order control, but one that promotes instead of hinders diversity, by fostering the emergence of *compatible* (as opposed to *shared)* views on the problem or opportunity laying before the group, that allow for a broad variety of alternative courses of action to appear (Eisenberg, 1990).

Control in minimal networks is also achieved through a small set of rules that govern the interaction among their members (Weick, 1990; Bastien and Hostager, 1988). Those rules can emerge from the nature of the task faced by the group or from broader social norms (Weick, 1990). As far as the nature of the task is concerned, these rules are embodied in a restricted set of cognitive and behavioral alternatives the members can choose from. In spite of the diversity desirable in this kind of organizations, this set of alternatives is restricted because of the necessary compatibility among its members for minimal integration to occur (Bastien and Hostager, 1988). This set of alternatives can be equated to an organizational grammar:

a set of elements and combination rules among those elements that allow for the formation of an almost infinite set of different courses of action, from a limited set of inputs (Pentland and Rueter, 1994). In minimal networks, social norms are limited to those coming from the professional and industry-specific cultures of its members (Bastien and Hostager, 1988). The organization should restrain itself of adding to those rules, at the expense of limiting the scope of diversity (Weick, 1995).

Another important mechanism of coordination in minimal networks, is a shared social objective. In fact, because of the parsimony of control mechanisms, the organization's goals must be explicitly shared by its members (Bastien and Hostager, 1988); otherwise, although individual teams can respond adequately to problems or opportunities in the environment, they will do so in an ad hoc basis that can increase the fragmentation of the organization as a whole in a continuous fashion, compromising its long-term integrity (Senge, 1990).

CONCLUSION

Both the academic and popular business literatures have been touting trust-based organizational forms as win-win solutions to the dilemma of differentiation and integration that organizations have been facing from their earliest moments of life.

Networks are presented as an organizational arrangement that confers a high degree of autonomy to the individual, allowing him / her to develop his / her full potential. Simultaneously, trust would serve, in this type of arrangements, as a coordination mechanism that would, in a fashion similar to Adam Smith's *invisible hand*, ensure that individual members' freedom would amount to the accomplishment of organizational goals.

Delving deeper into the inner workings of these organizational forms, creates serious doubts that this is so.

Although resting on trust to integrate its members' actions, networks seem to need a shadow restraining structure to ensure their integrity, as power-based organizations need a shadow liberating structure to ensure their diversity.

That shadow restraining structure does not only rely on ideological controls, as the literature seems to want us to believe, but also on direct supervision that is now responsibility of peers and not of superiors – something that builds, instead of detracting, its pervasiveness and strength.

This restraining structure poses serious limitations on the learning, flexibility and adaptability of trust-based forms – a serious concern for an organizational arrangement advocated as the fittest for ever-changing environments, where proficiency in those three arenas is deemed critical for success.

In light of this somewhat self-defeating paradox, we have proposed a new perspective on control in trust-based organizational forms: the minimal network.

The concept of minimal network replaces trust with *swift trust* and reduces the shadow structure to a minimum level of commonality among members in order to fight the pitfalls that high levels of sharing and personal disclosing entail. It does so in an attempt do away with nominal freedom and nominal autonomy, by embracing diversity and variety – matching environmental complexity with personal (as opposed to organizational) complexity.

Ultimately, the concept of minimal network rests upon a deep assumption. The assumption that challenging environments call for more challengeable people and not for more intricate organizations.

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Exhibit 1:
The components of minimal networks