

Formal versus Informal Organizational Networks: Conflicts and Trade-Offs in Goal Attainment Propensities

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ABSTRACT Axelrod's seminal work describes circumstances in which the goals of the formal organization's military network become derailed by powerful informal networks built up amongst soldiers during the First World War. This paper considers payoffs of both informal soldiers' network and that of the formal military bureaucracy. The paper aims to analyze specific factors and circumstances that allow informal networks to dominate formal goals using a model that incorporates analyses regarding: calculated pay-offs, division and homogeneity of labor, powers of sanction, strength of norms and goals, and duration of existence. These aspects are considered in terms of bureaucracy and adhocracy and types of subversive group activity. Various testable propositions regarding informal and formal goals' dominance are considered in the discussion of the model.

INTRODUCTION

Given a recent focus on the potential co-existence of organizational citizenship behaviour (OCB) with counterproductive work behaviour (CWB), and the implications of this for the co-operative relationships between informal and formal networks (Klotz and Bolino 2013), a lack of clarity persists with regard to conflicts and trade-offs in goal attainment propensities in organizations. Further, the lack of understanding that relates to the tension between resistance to change and challenger movements (Van Wijk et al. 2013), and between the informal values (Gehman et al. 2013) and the formal objectives of organizations, that is reflected in ongoing work currently, indicates the importance of understanding the conflicts and trade-offs in goal attainment propensities that exist between informal and formal organisational networks.

The relationships of cooperation associated with trust have been extensively researched across different disciplines (Rousseau et al. 1998). Decisions to cooperate have been found

to be associated with social networks (Burt 2001; Lin 2001), and with groups that access social capital (Coleman 1988). Similarly, informal groups have been found to cooperate in the form of personal and expanded networks to facilitate entrepreneurial outcomes (Dubini and Aldrich 1991).

However, decisions made in organizational contexts are subject to subjective interpretations (Kahneman and Tversky 1979). More specifically, when cooperating parties differ in their attitudes toward risk the challenge of risk sharing becomes a salient issue in organizations (Eisenhardt 1989). Norms "provide a powerful mechanism for regulating conflict in groups" (Axelrod 1986:1095). Historical evidence suggests that the power of norms can subsume the power of life and death, and informal norms can rival the power of formal legal systems (Axelrod 1986).

Objectives of the Study

Within an organizational context where managers need to be able to manage the conflict between informal and formal networks in organizations, this paper offers a conceptual model of these relationships that draws on the literature of 'extreme cases' that relate to conflicts and trade-offs in the goal attainment propensities of informal and formal networks. Utilizing such extreme cases as a heuristic device for the development of theory, propositions are developed and recommendations are made for managers of organizations that need to manage the

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conflict between informal and formal networks in their organizations.

FORMAL VERSUS INFORMAL ORGANISATIONAL NETWORKS: CONFLICTS AND TRADE-OFFS

The informal power of groups can therefore be taken to exist as a counterpoint to the formal power of groups. For Axelrod (1986:1097) "[a] norm exists in a given social setting to the extent that individuals usually act in a certain way and are often punished when seen not to be acting in this way". Power to sanction is therefore a function of informal networks or groups, which similarly stands in counterpoint to the power to sanction of the formal organization.

Norms, however, are not independent of the forces that shape strategy, or the "pattern in a stream of decisions or actions" in organizations (Mintzberg and McHugh 1985:161). Deliberate strategies, or intentions realized, arise from the highest levels of an organization and embody intent, yet emergent strategies are patterns "realized despite or in the absence of intentions" (Mintzberg and McHugh 1985:161). Implicit in the differentiation of types of strategy by Mintzberg and McHugh (1985) is the differentiation in the source of intent. Emergent strategies are typically associated with strategy that arises from all stakeholder groups, and more specifically associated with adhocracy forms of organization (Mintzberg and McHugh 1985). Deliberate strategies are typically associated with Weber's (1958) mechanistic bureaucratic form of organization (Mintzberg and McHugh 1985). Therefore intent or strategy reflects the goals of the organization. The structure of organizations might therefore also reflect the extent to which goals arise within different stakeholder groups. The attainment of such goals will also reflect the payoffs that accrue to such stakeholders.

However, reflecting the informal/formal dichotomy in organizations is also the differentiation between the formal goals of the organization and the informal goals of the informal networks of individuals that comprise such organizations. Therefore, whereas norms evolve between individuals, the expectations associated with working relationships between individuals and their organizations are also a salient aspect of the formal/informal dichotomy. Such expectations and relationships between individuals and

the formal organization have been conceived of as psychological contracts (Rousseau and Parks 1993). Such contracts differ, however, according to individual differences, situational contexts and type of work (Rousseau and Parks 1993). Work differences according to the division of labor gives rise to differences in the utilization of talent that have more of an influence on the wealth of nations than the influence of natural resources (Smith 2003[1776]). Similarly, such division of labor contributes significantly to the effectiveness of organizations (Smith 2003[1776]).

To the extent that organizational goal attainment is a complex process this paper offers a perspective of organizational goal attainment. It is argued in the paper that the propensity of the formal organizational network to attain its goals is dependent on the relative balance of pay offs with regard to informal vis-a-vis formal networks in the organization which in turn are a function of:

- ♦ The dominance of the informal network's payoff over the formal network's payoff.
- ♦ The power to sanction non normative behavior in the informal and formal networks.
- ♦ The strength and duration of formal and informal networks norms and goals and,
- ♦ The division and homogeneity/heterogeneity of labor.

In addition of course union influence constitutes another powerful formal structure that can coexist within a given formal structure that can seriously impede goal attainment. However the influence of this aspect is documented in the voluminous literature dedicated to it and is considered beyond the central focus of the model discussed in this paper.

In this paper we therefore develop a conceptual model of relationships between formal and informal interfaces in organizations. The paper follows precedent such as that offered by Cable and Shane (1997) that utilizes the prisoner's dilemma as a heuristic device to develop theory. Similarly, Axelrod's (1986) use of historical information to highlight theory building with regard to norms is also extended in this analysis.

The paper is structured in the following manner. First, formal versus informal norms and pay-offs are discussed according to the dichotomy of choice inherent in the co-operation versus non co-operation choices within organizations. Next, the discussion is extended to the propensity for formal versus informal goal attainment

in relation to division of labor related heterogeneity in working contexts. On the basis of the development of these conceptual models in relation to organizational literature testable propositions are derived. Further implications for further research are discussed. The paper concludes with a discussion of implications for practice. The model of formal versus informal group norms and payoffs is introduced as follows.

For Axelrod and Keohane (1985: 226), cooperation differs from harmony in that where harmony "requires completed identity of interests" cooperation is associated with the adjustment of "behavior to the actual or anticipated preferences of others". Axelrod and Keohane (1985:226) stress that cooperation "thus defined, is not necessarily good from a moral point of view". The Prisoner's Dilemma game represents the case of two individuals that face a choice of cooperation versus defection. The greater payoff to the individual is defection no matter what choice is made by the other. However, if both defect, then the consequences are heavier than if both cooperate. To defect is therefore a stable strategy if the game is played on a once-off basis. Axelrod and Hamilton (1981) found the highest score in computerized simulations of the Prisoner's Dilemma in its iterative form to be associated with a 'tit for tat' strategy, where "cooperation based on reciprocity" was the most effective strategy. This strategy required continuity, or the expectation of continuance (Axelrod and Hamilton 1981). However, if the preferences of both players are toward mutual cooperation then a less conflictual game emerges: the Stag Hunt, where cooperation dominates (Axelrod and Keohane 1985). An example of this case is the cooperation between world powers after the World Wars. This case, however, is typically dependent upon a fragile compromise, as "if one side believes that its counterpart prefers to defect, its own preference will shift to defection in order to avoid the worst payoff, CD" or the defection of the other while in a cooperative mode. If the players have a preference (perhaps also based on beliefs) for mutual defection then the game becomes Deadlock, and the dominant strategy for each opponent is defection, regardless of the response (Axelrod and Keohane 1985). Learning through repeated or iterative plays has no effect in the case of Deadlock (Axelrod and Keohane 1985). Axelrod and Keohane (1985) stress the importance of beliefs in terms of their

influence upon the preferences of players, and illustrate this with an example of the mistaken belief in the potential of offensive militarism to ensure political safety in the case of the start of World War 1. The payoffs, the aggressors believed, were aligned with striking first yet the effectiveness of defense in the form of trenches reflected a payoff structure that "actually would have rewarded cooperation" (Axelrod and Keohane 1985: 231). As in many cases of organizational behavior, beliefs, "not realities, governed conduct", and asymmetric payoff matrices are also associated with cases where one player is more powerful than another (Axelrod and Keohane 1985: 231). The case of Chicken manifests where mutual cooperation is a second-best outcome for both players yet mutual defection is worse, and typically cooperation is expected to result in iterative games (Axelrod and Keohane 1985). Iterative games of Chicken, however, can be associated with the incentive players have to establish a reputation for "firmness in the long run" through avoiding cooperation in the short run (Axelrod and Keohane 1985: 243). Three contextual or situational influences primarily influence the propensity of actors to cooperate, according to Axelrod and Keohane (1985: 228): mutuality of interest; "the shadow of the future" whereby valued future payoffs can act as a disincentive against current defects; and the number of actors involved. In the latter instance the sanctioning problem is faced by a strategy of decentralized retaliation, as the identification of defectors, the ability to focus retaliation upon defectors and the need for long term incentives to punish defectors are typically necessary conditions for effective reciprocity (Axelrod and Keohane 1985). Axelrod and Keohane (1985) acknowledge the difficulties inherent in privatizing external benefits or costs: changing situational factors so as to ensure that the rewards or penalties associated with a player's actions are aimed only at those that have been party to negotiations. The discussion that follows under four sections (war/war, peace/peace, war/peace and its corollary, peace/war) relates to the logical possibilities that can be derived from Axelrod and Keohane's (1985) model. The discussion is also qualitative (verbal) rather than the more customary quantitative (mathematical), largely because mathematical payoff allotments in the literature appear arbitrary. The ensuing discussion also presents a game theoretic per-

spective of cooperation versus non co-operation or defection in organizations in relation to the extreme case of soldiers in the First World War is used (Axelrod 1986) as a limiting case to inform the later analysis of organizational interactions..

War/War

In this case both sides' formal networks defect and "Kill and let kill". Once war is declared both sides formal organizational networks (the military hierarchy) objective is to wage war and conquer. There is uniformity in the norms and payoffs in the formal military networks on both sides. In this case the player relationships are as follows: In the first instance the players are the collective soldiers on each side. In this case both sides do not cooperate and the game becomes one of Deadlock (Axelrod and Keohane 1985). However, the combined effects of mutuality of interest (where higher rates of survival can be enabled through cooperation); the shadow of the future (where reciprocity can occur in future); and the number of actors involved might mitigate against this state according to Axelrod and Keohane's (1985) conception. Further, if the incentives (higher survival rates) of these two groups of soldiers to cooperate were aligned, the informal power of such groups to sanction defection amongst group members would also impede the goals of the formal organizations which are met with a war-war strategy. Therefore for this state to exist formal sanction power (on the part of the formal organization as an external player) would need to be applied to both of the groups of soldiers, as the incentives of these groups might not be aligned with this state.

Peace/Peace

Both sides cooperate and "Live and Let Live" Both sides' informal organizational networks' objective and normative behavior payoff is aimed to survive the war. This case is analogous to the typical Prisoner's dilemma which when played iteratively enables learning and, ultimately, cooperation can result. In this case the payoffs occur to the soldiers and not to the formal organizations. Separate games can be envisioned: a game between the two groups of soldiers and games between each formal organization and the soldiers of each. This case might

also be arrived at via a game of Chicken or a Stag Hunt (Axelrod and Keohane 1985). Ultimately the first game, between the two groups of soldiers represents a case where incentives and the net result of informal power, which includes the sanction of social disapproval, have a net effect greater than the influence of their formal goals.

War/Peace

One side cooperates and the other side defects. This occurs when one side's formal and informal norms and objectives and payoffs concur ("kill"), while the other side's informal norms and objectives and pay-offs ("let live") remain distinct from formal norms and objectives. This case is analogous to the case of the genesis of the First World War (Axelrod and Keohane 1985), where the belief existed amongst aggressor powers that first strike capability would be the most effective strategy, if indeed this strategy had correctly reflected the situation (which it did not). This situation would also perhaps apply to Hitler's invasion of territories prior to that of Poland in the Second World War, where because defection was matched with cooperation and the defector was able to receive the highest payoff: military victory. However, if the game is extended further, as it was with the invasion of Poland, then deadlock might inevitably be reached by a player that defects in each new game. Such deadlock might trigger common enemy effects (Axelrod and Keohane 1985), which might impact upon multiple games between a set of players. Although interesting, such multiple games are left for further analysis and are beyond the scope of this paper. However, in the case of two armies, this strategy can be associated with victory for the defector. The game reduces to the 'once-off' Prisoner's Dilemma. The implications of such a potential game support the notion of military investment on the part of players in the case of potential war, and support the use of aggressive retaliation as a potential strategy in the arsenal of organizations facing such situations.

Informal networks are defined by sociologists as the web of relationships that people use to exchange resources and services (Cook 1982; Wellman 1983). Informal networks are considered distinct from formal networks because they are not officially recognized or endorsed by the

formal organization and because the content of their exchanges can be work-related, personal, or social (Ibarra 1993). It is suggested that such informal networks can moderate homogeneity in the goals of within and between specific groups of individuals. The informal organization is defined as the "relationship-based structures that transcend the formal division of labor and coordination of tasks" (Chan 2002: 109).

The structure of a formal bureaucratic organization is characteristically pyramidal in shape. A corresponding informal social structure would comprise a net-like structure of interpersonal relationships. Hitt et al. (2007) criticize management research that examines network phenomena at a single level of analysis and maintain that analyses at multiple levels would uncover richness of informal network behavior. Informal organizational structures have been found to play a more important role in information systems improvement efforts targeted at improving performance through alignment between the business aspects and information systems requirements (Chan 2002). Chan (2002: 108) suggests that "the informal company structure may be the most enduring aspect of alignment- while the formal structure may be the most transient".

As already indicated, it is argued that the propensity of the formal organizational network to attain its goals is dependent on the relative structure of the pay offs between the informal and formal networks in the organization which in turn are a function of:

- ♦ The dominance of the informal network's payoff over the formal network's payoff.
- ♦ The power to sanction non normative behavior in the informal and formal networks.
- ♦ The strength and duration of formal and informal networks norms and goals and,
- ♦ The division and homogeneity/ heterogeneity of labor

At this point a model is introduced that expands upon the model differentiated by cooperation and defection choices. The previous model is expanded according to the dimension of division of labor. Also introduced into the discussion is the propensity for formal goal attainment in relation to the payoffs and sanction power of both groups and the formal organization.

For the purposes of analysis the extreme case of soldiers in trench warfare in the First World War is extended into the analysis of quadrants 1 and 4 in Figure 1.

**Subversion and subversive group activity is regarded as any action or behavior committed by individuals or groups that conflicts with the formal or informal group norms and goals. Thus "live and let live" informal group norms and goals held by soldiers in the First World War were subversive to the "kill and be killed" formal norms and goal of the military. Similarly 'rate busting' activity by individuals and groups of workers are subversive to informal group norms and goals, the latter being often underwritten by formal union rules (thus the common union strategy of 'work to rule'.*

Applying a game theoretic analysis to the differentiations, different payoffs are expected to be associated with different scenarios. For instance, in quadrant four (Subversive between group informal goal oriented) individuals are incentivized to cooperate: a dominant strategy exists in that such cooperation is optimal no matter what the opponent initially does. In the long run where the game theory analysis takes the form of a repeated game, cooperation becomes the dominant strategy because if soldiers of army A use a maximum level of lethal force (defect from cooperation) and initially the soldiers of army B do not, in the next round, soldiers of army B will respond with lethal force and the probability of survival of both sides' soldiers over time will be lower. The chances of survival are only highest if the opposing soldiers cooperate.

In the iterative game, the soldiers of both armies therefore are incentivized to reach the Nash equilibrium where both groups of soldiers are doing the best that they can given what the opponents are doing. A Nash equilibrium of cooperation will exist, and no incentive will exist for a change from this strategy. However in the typical 'once off' Prisoner's Dilemma confessing, or defecting is the dominant strategy for each prisoner in that the payoff for defecting is larger whatever the strategy of the other prisoner. Having introduced the basic structure of the analysis, each of the different cases are considered as follows as each is related to relevant organizational literature.

The continuity of organizational intent, or the extent to which an organization can impose a top down order of strategy upon the organization, is an important aspect of the informal/formal dichotomy (Mintzberg and McHugh 1985). Two overarching, contrasting forms of organi-

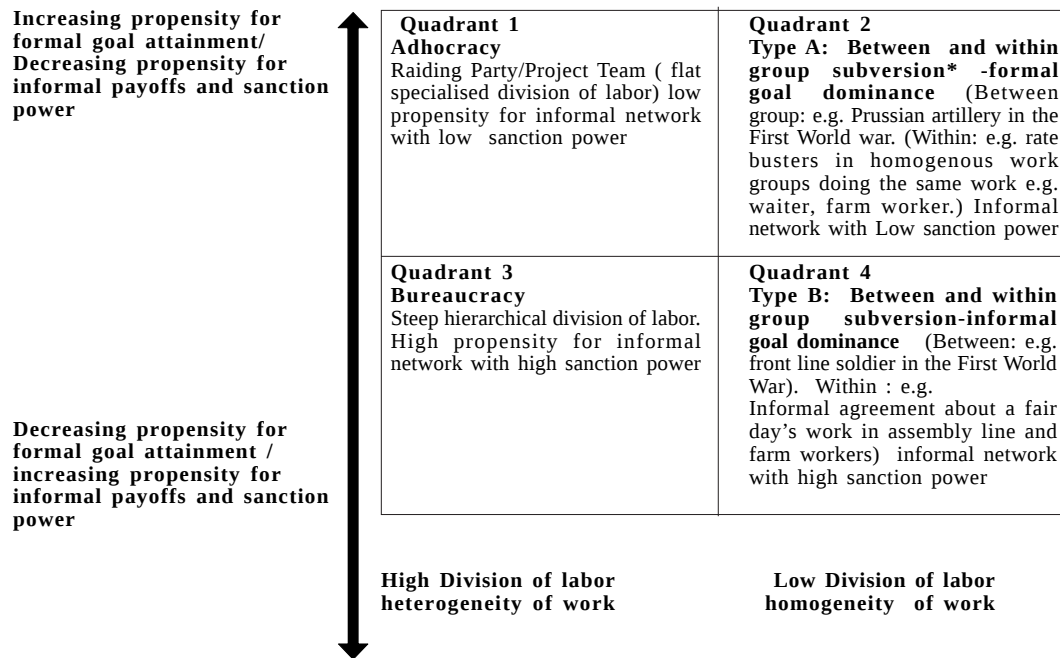


Fig. 1. Factors in the relative propensities of informal and formal goal attainment

zational structure dominate the organizational landscape in this regard: bureaucracy and the adhocracy (Mintzberg and McHugh 1985). However, it is argued in this paper that two primary forms (formal and informal) dominate the interface in these two contrasting organizational structures. It is further argued that adhocracy-structured groups are more aligned with formal goal attainment. Informal groups are considered subversive for the reason that informal organizational structures differ in their alignment with formal goals. Such differences in goal orientations are regarded as subversive in their misalignment with formal organizational goals. However, the term is used to denote the relative power relationships inherent in the formal/informal dichotomy. Particularly relevant here is the relative power of informal networks to further their goals when these are not aligned with those of the formal organization. The relative stability and durability of bureaucratic structures allow the development of informal group norms and sanctioning power towards those that attempt to breach those norms. Precedent exists for the design of organizational structures and strategy formulation to be firmly ensconced as a se-

nior management function, associated with a 'one best way' of managing strategy (Mintzberg and McHugh 1985: 160). The top-down, hierarchical and "formalized systems of control" associated with Weber's (1958) ideal-type of Machine Bureaucracy is, according to Mintzberg and McHugh (1985:160) "unnecessarily restrictive" which can hinder formal goal attainment.

Quadrant 1: Adhocracy. The rise of the adhocracy or project structure is also associated with heterogeneous division of labor, as temporary team work is used, and "power over different decisions is diffused in uneven ways, subject to the availability of information and expertise needed to deal with the issue at hand" (Mintzberg and McHugh 1985: 161).

A conflicting perspective of control is therefore offered by Mintzberg and McHugh (1985): between the top down intention of a mechanistic bureaucracy and the devolved nature of the adhocracy. It is argued, however, that the inherent interests of the formal organization are better advanced by the adhocracy structure because, inter alia, of the high levels of division and heterogeneity of labor of such structured organizational forms. The extent of the division

of labor in bureaucracy does not allow a multiplier –type effect of shared norms to develop and possibly contest the primary formal objectives of the organization when these are in conflict with informal organizational networks. In other words, the adhocracy structure is relatively more robust to subversion of the organization's formal goals.

The misalignment of formal and informal organizational goals can result in a gap between the goals of informal networks and the formal goals of an organization. According to agency theory (Eisenhardt 1989), it is argued that in the absence of division of labor between co-workers, homogeneity has a multiplicative influence upon the gap between informal and formal organizational goals.

This quadrant represents the case of an organizational structure most proximal to individual or group independent action of short duration that is organized around a relatively high division of labor. Such a relatively high division of labor enables individualized performance accountability, and lessens the effect of norm stability. Such structures, as ad hoc forms of organization do not allow the development and strengthening of informal norms (Axelrod 1986).

In the military case described by Axelrod (1986), the use of raiding parties combined individuals with different skills into groups in which goal alignment between individuals and the formal organization were reinforced. Axelrod (1986) points out that raids were not used as a deliberate antidote to informal networks cooperating with the enemy, but as a demonstration of solidarity by the British High Command with their French allies. The raid became a successful instrument for ensuring aggressive action in front line soldiers on both the German and British sides. An example of a successful British raid of this type was the meticulously planned and carefully executed raid by Captain A.C. Frame of the Glasgow Highlanders at Mad Point ridge in 1916 (for which he later received the Distinguished Service Order). This raid like others of the type German and British, is singular as an example since it is well documented and was considered by British high command as one of the most successful raids of the First World War both in terms of what it accomplished from the British point of view, but also because it was an excellent example of the type of raid that reasserted the formal goal of the militia towards aggressive

action on the Western front. Furthermore, although speculative, it is highly possible that given the hesitancy of the British High command in launching the Somme offensive, it was this particular raid that lit the litmus paper that commenced that disastrous British action (Oatts 1961).

The degree of sanction power vested in adhocracy is relatively higher than in bureaucratic structures because the relationship between the individual and the organization has been privatized (Axelrod and Keohane 1985). In other words the adhocracy form of organization has internalized the penalties and rewards of the game of cooperation and defection in the relationship between the informal and formal organizational networks. This relationship is affected by the sanction power and the short duration of contact between group members during a specific project's life cycle. Such ad hoc forms of organization are expected to be associated with more effective and efficient formal goal attainment.

This formal structure, however, also has the potential to be associated with the oppression of individuals as the totalitarian nature of the ad hoc system can prioritize formal goals at the expense of informal ones of survival, as in the case of the raiding party. This case in fact spans two similar but separate military and industrial games: games between the two opposing groups of soldiers/workers from different formal organizations (different sides in a war or different sides in economic competition), where higher goal accountability and the interruption of informal norm formation maximizes the potential for formal group goal attainment (Axelrod 1986). From the forgoing analysis two tentative testable propositions emerge:

Proposition 1a: The probability of cooperative informal networks decreases with the extent of division and heterogeneity of labor, formal network sanction power and temporality of contact between group members.

Proposition 1b: The propensity of formal goal attainment increases with the extent of division and heterogeneity of labor, formal network sanction power and temporality of contact between group members.

Quadrant 2 : Type A: Between and within group subversion – high propensity for formal goal attainment. Decisions can vary according to their subjective frame of reference (Kahne-

man and Tversky 1979). Disruptions to continuity and stability in entrepreneurial firms are an inherent feature of the market system (Schumpeter 2002). Stability and the alignment of goals between individuals and their organizations is problematic (Heneman 1975). For instance, the management of performance and performance appraisal in particular is based upon the principle of goal alignment between individuals and the organization yet is commonly regarded as the Achilles Heel of Human Resources Management (Heneman 1975). The decision on the part of the individual and the formal organization to cooperate or not, and the decision of the individual with regard to the extent of such cooperation is influenced by informal group norms. The individual decision in this regard has been conceived of as a form of contract; as such decisions represent contracts as to a future relationship between the individual and the organization (Rousseau and Parks 1993). For Rousseau and Parks (1993) contracts are agreements between parties that create an obligation to either do or to not do something. The promissory or financially related contract between an individual and an organization is not independent of the social contract that exists between individuals in the working context, the latter being influenced by norms (Rousseau and Parks 1993).

As argued previously, it is in the inherent division and heterogeneity of labor of the raiding party that highlights its effect in privatizing (Axelrod and Keohane 1985) the basic rewards and penalties of defection/cooperation.

Axelrod (1986) offers a further mechanism that supports norm formation that of dominance of one group by another. The power of groups that encompass the informal organization to contest the formal goals of the organization is associated with the extent to which metanorms develop (for Axelrod a norm that requires the punishment of those that do not punish a defection is regarded as a metanorm) and the extent to which such norms can be enforced by informal organizational networks.

In the case of Type A *between* groups structures, homogeneity in group norms exists but this homogeneity is tenuous with regard to informal norms because of the low level of division of labor and the payoff gained through defection and the temporality of contact between group members. However, *within* group informal networks allows norm development and the

power of the informal network increases relative to the power of the formal organization.

A principal difference between Type A *within* and Type B *between* group structures is in the norm power and the sanction power arise from metanorm development.

In *between* group Type A structures the incentive of temporary worker(s) and workers who remain aloof from the influence of informal network norms and whose payoff is enhanced by adopting formal organizational goals which override informal goals. The tension between group norms of work and such individuals who do not conform to these informal norms is reflected in the term "rate-busting" (Heckert and Heckert 2002: 449). Typically, "rate-busting refers to over conformity (to formal goals) that is negatively evaluated" (Heckert and Heckert 2002: 449). *Within* group Type A structures' informal norms and goals differ from those of the formal organizations. Union influence can add further to the sanction power of these informal networks norms by providing constraints on productive output through bargaining power.

Propositions that emerge from the analysis of Type A *within* and *between* group high potential formal goal attainment typology are:

Proposition 2 a. The probability of *between* group defection from informal group norms increases with work homogeneity, low division of labor, temporality of association and perceived relative payoffs and weaker informal group sanction power.

Proposition 2b. The propensity for formal goal attainment increases with higher levels of group work homogeneity, lower levels of division of labor, increased temporality of association, increased perceived relative payoffs and weaker informal group sanction power.

Quadrant 3: Bureaucracy. The bureaucratic form of organization has typically been associated with a 'one best way' of managing strategy (Mintzberg and McHugh 1985: 160) and top-down, hierarchical and "formalized systems of control" associated with Weber's (1958) ideal-type of Machine Bureaucracy. Despite the lack of responsiveness and relative disadvantages associated with this form of organization in goal attainment associated with its hierarchical structure (Mintzberg and McHugh 1985), high division of labor is a feature of bureaucracy. As such this form of organization transmits formal goals down the hierarchy. However, inherent in the

nature of such organizational forms is the potential for 'shirking', or for agents to differ in their goal implementation behavior from that which would maximize the returns to stakeholders (such as shareholders) that determine the formal organization's goals that agents are employed to attain (Rousseau and Parks 1993). Such situations are amenable to privatization. Thus, the nature of bureaucracies might make them more vulnerable to an agency problem.

For Rousseau and Parks (1993) contracts are agreements between actors that create an obligation to either do or to not do something. Social contracts are "normative, addressing shared, collective beliefs regarding appropriate behavior in a social unit" which are effectively cultural in nature and can be differentiated from promissory contracts which are based upon remuneration (Rousseau and Parks 1993). Despite the division of labor structure of bureaucracies, the agency problem is also influenced by the informal organization, and group effects that arise from social contracts (Rousseau and Parks 1993).

According to Eisenhardt (1989: 71) agency theory requires supplementation with other perspectives that offer to capture more of the complexity associated with organizations and their functioning. Further theory that addresses the perspectives of role players on each side of the formal/informal dichotomy might offer a more fine-grained understanding of under what conditions the relative power of group norms governs goal orientations.

The two dimensions of organizational existence associated with bureaucracy can also be viewed through the lens of informality versus formality where these bodies of theory reduce to a dichotomy that highlights the tension between the formal goals of organizations and the goals of informal networks cooperating within such organizations. If the intertwining nature of "promissory and social contracts creates a host of commitments and obligations often most apparent in their breach or when undergoing change" (Rousseau and Parks 1993: 5) then the reality of organizational goal realization is fundamentally subject to the vagaries of shifting subjective individual perceptions of contracts at the interface between the formal and informal organization. Contracts, however, create rights and obligations.

The "specification of individual rights determines how costs and rewards will be allocat-

ed among the participants in any organization" (Jensen and Meckling 1976: 4). Jensen and Meckling (1976) stress that since "the specification of rights is generally affected through contracting (implicit as well as explicit), individual behavior in organizations, including the behavior of managers, will depend upon the nature of these contracts". Therefore a behavioral dichotomy will result from the separation of ownership from management of firms: the agency problem (Jensen and Meckling 1976). It is argued that this problem is most pervasive in the case of the bureaucracy which has less recourse to the more accountability oriented structures of the adhoc-racy.

It is argued that informal groups are more likely to exist where the homogeneity associated with low division of labor creates strong norms. Such strong norms provide a counterpoint to the formal power of the organization. Whereas the structure of organizations might be dominated by adhocracies and bureaucracies (Mintzberg and McHugh 1985), it is argued that the relative power of informal networks needs to also be considered in relation to these two contrasting organizational structures. Organizations might typically be unable to obtain full information about the behavior of such groups as information asymmetries manifest (Eisenhardt 1989). Similarly, subversive groups might also be able to access sanction power commensurate with the formal sanction power of the organization. The degree of group sanction can range from low as in the case of Type A groups to high as in the case of Type B groups.

Proposition 3a: Bureaucratic structures which consist of high division of labor and work heterogeneity increase the probability of the formation of informal group networks with strong norms, payoffs, stability and sanction power.

Proposition 3b: Informal group networks with strong norms, payoffs, stability and sanction power reduce the propensity for formal goal attainment.

Quadrant 4: Between and within group subversion- low propensity for formal group goal attainment. This quadrant represents the case of organizations with low levels of division of labor and high levels of power within the informal organization, where such conditions converge to impede formal goal attainment. This type of subversive informal group has already been

discussed in relation to Axelrod's analysis, suffice it to say here that if the power of the informal organization to sanction group members is strong it will increase the propensity for informal goal attainment in place of the formal organization's primary goals. Type B informal *within* group formation can also occur if the payoff structures of the informal network goals vis-à-vis the formal network goals motivate such behavior such as the case of the First World War example where soldiers were found to extend a form of social contract with the enemy to increase their probability of survival. *Between* group Type B behavior also exists where one group in this case the Prussian artillery undermined the informal group network norms of "live and let live" among front line soldiers, by following the formal military organization's goals of "kill and be killed" by firing salvos on the British front line with earnest lethal intent. Type B *within* group informal soldier networks to avoid the powerful sanction of death by firing squad of the formal military, pretended to make attempts at the attainment of formal goals while deliberately aiming at their non-attainment. The informal group of soldiers' sanction power to sustain the 'Live and let live' norm was intrinsic to the norm itself which itself increased the chances of survival for front line soldiers. But the sanction of breaking down the informal live and let live contract between the two sides by aggressive behavior by any individual or group of soldiers (with the implication of reciprocal aggression by the enemy) was usually enough to curtail such action and allowed for the development of metanorms, or the sanction power of the informal organization to impose costs on the defection of members from its norms. Two further propositions arise from this analysis.

Proposition 4 a: The probability of *within* group informal cooperation increases with low division of labor, work homogeneity, stability of association, perceived payoffs and informal sanction power.

Proposition 4b: The propensity for formal goal attainment decreases *between* groups with low division of labor, work homogeneity, stability of association, perceived payoffs and informal sanction power.

CONCLUSION

Axelrod's insight into cooperative behavior among front line trench soldiers in the First World War indicated that the military's formal

goals of applying lethal force by open war that entailed killing and being killed could be effectively undermined by the informal norms of "live and let live" adopted by both sides which stood in direct opposition to these goals. While the prisoners' dilemma framework and Axelrod's derivation of this considered the formation of informal networks norms and goals among soldiers and the same game heuristic has been extended to formal national militia, there has been no specific analysis dealing with comparative informal and formal payoffs and their effects on the attainment of formal goals. Nor has the extant literature considered how contrasted organizational structures promote or impede the formation of informal norms and goals with oppositional payoffs and goals to that of the formal organization. The current study, by analyzing these aspects with the aid of a specific heuristic devise has attempted to show not only that such formal and informal goals can quite often be oppositional to each other, but why this is the case. Specifically the study shows how certain organizational structures and other salient factors can enhance or impede formal goal attainment. The conceptual distinction of between group and within group differences has also proved useful in describing detailed differences in specific informal and formal goal orientations and attainment propensities. The model while tentative has generated various testable propositions which may give further insight in the explanation of why certain organizational structures with specific formal and informal group characteristics have differential formal goal attainment propensities.

RECOMMENDATIONS

In light of current research trends that are increasingly concerned with the co-occurrence of organizational citizenship behaviors with counterproductive work behaviors, it is recommended that organizations monitor tensions between informal norms and formal organizational objectives. A specific awareness of the payoffs to informal norms and goals and their conflict with formal goals can enable managers to better negotiate contested space, and to ensure the attainment of organisational goals more effectively, and with lower levels of intra-organisational conflict. Firms that proactively identify specific influences of different forms of formal

and informal structures in their organizations are more likely to attain formal organizational objectives by allowing challenges posed by informal goals' conflict to emerge and be effectively managed.

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