Complex systems, governance and policy administration consequences*

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Abstract

This paper combines insights from literature on complex systems theory and the conjunctive state, applies them to new challenges facing public administrators in metropolitan areas, and tests them in a case study of the Peace Officers Association of Los Angeles County (POALAC). The argument is advanced that administrative networks, shared governance, and co-production of public services developed in the conjunctive state are real-world exemplars of the emergent properties of complex adaptive systems (CAS). As the production of social capital and public trust of government decline in response to the increasing inability of hierarchical, top-down, command-and-control institutions to solve complex societal problems, the fundamental nature of associations and relations among citizens, policy makers, civic leaders, and government is changing in metropolitan areas as government slowly shifts toward governance. The case study of POALAC reveals a coordinated networked administrative response to the complexity of regional law enforcement consistent with theoretical predictions.

Introduction

This paper explores how complex metropolitan systems are evolving through the creation of administrative networks, and how those networks influence public administration and policy formation through the work of public administrators. It draws on previous research (Bogason, 2000; Meek & Newell, 2005; Morcol, 2002; Newell & Meek, 1997) to establish a synthesis of complex systems theories from which we develop central tenets that ground an understanding of complex urban systems. It then sketches out how these conditions have influenced the recent movement toward shared governance in urban environments.

The paper embraces the “conjunctive state” (Frederickson, 1999) as a central feature of public administration. The interplay of administrative conjunction with policy deliberation and administration is then explored through a case study of the collective responses of police officers in Los Angeles county to what is referred to as the "disarticulated state."

One concern of the paper is to examine the characteristic policy deliberation and administration that evolves from complex conditions, and the consequences of such deliberations for public administrators. Collective activities among public administrators — administrative conjunction — greatly influence policy administration. What is yet to be explored in both the policy and administrative network literatures are consequences of administrative conjunction that are a product of complex jurisdictional interdependences as well as a contributor to complex urban system management. The very condition of complexity that draws administrators to work collectively is reflective of their deliberation and collective action. Such influence also has administrative consequences. The goal of this paper is to examine these consequences and highlight their implications for advancing complexity thinking for innovation in public administration.

The paper opens with a review of selected literature on complexity theory and its relevance for public administration, followed by characterization of metropolitan environments as “disarticulated states” full of complexity and self-organization. These forms of collective activities are then discussed within the context of public management network theory. Finally, the paper examines a case study analysis of the POALAC network in order to highlight the central policy administrative consequences that evolve out of conjunctive practices.

Complex systems theory, while developed in the natural sciences, has much to offer the social sciences. While our previous work provided a cautious assessment of the applicability of various complex systems theories to human behavior (Newell & Meek, 2000), this paper provides a summary of findings from recent literature on complex systems that can be applied to the recent movement toward shared governance in urban environments — the so-called conjunctive state. Specifically, we believe that innovations such as “networked” government and co-production of public services are usefully understood as responses to problems posed by the complex inter-jurisdictional nature of urban systems. In another publication, we connect this theory of complexity with our theoretical work on interdisciplinarity to provide pragmatic recommendations for public administrators coping with complex problems and changes in governance (Meek & Newell, 2005).
Recent developments in complexity theory

Complex systems theory has evolved over the last half dozen years in directions that are, in many ways, useful to public administrators. The good news is that human complex systems are now generally understood to be comprised of many diverse components that are loosely and often nonlinearly linked and that produce emergent patterns of systemic behavior. Complexity is now often distinguished from chaos by theorists interested in human behavior (Anderson, 1999; Lissack, 2002; McDaniel & Driebe, 2005; Mitleton-Kelly, 2003; Newell, 2001, 2003; Newell & Meek, 2000; Smedes, 2004), who now reject as inappropriate to human beings the mindless iteration of simple invariant rules underlying chaos theory. The dominant model has become complex adaptive systems (CAS), which focus on the holistic patterns formed through human interactions. All in all, we have come a long way from models of complexity drawn from the natural sciences and applied to the social sciences without regard for the distinctive characteristics of human beings.

The inferences drawn from CAS models for the management of organizations are considerably more useful than those drawn from earlier natural science-based models (see Newell & Meek, 2000). Of particular interest are the recommendations of Anderson (1999) that managers should influence agents indirectly by changing the “fitness landscape” (e.g., providing longer-term rewards, setting priorities, and choosing the organization’s domain) through trial and error; of Weick (2005: 63) that “[t]o prepare for the unexpected means that you have to offset strong cognitive predispositions such as confirmation bias, fallacy of centrality, hubris, normalization, typification, and bottom-up salience of cues”; of Holley (2005: 169) that “[u]nderlying self-organizing systems… are simple design principles,” which she enumerates; of Lewin (2000) that organizational practices turn into rules, so keep them few and try small-scale experiments instead of fast, large-scale interventions; of Bonifacio and Bouquet (2002) that knowledge management should be perceived as “the problem of coordinating… multiple sources of knowledge in a distributed (that is, non centralized) way”; and of Espejo (2003) that organizational complexity needs to be embodied in “autonomous systems within autonomous systems.” Authors generally agree on the importance of flattening hierarchies, facilitating informal networks, and diversifying agents.

The implications of complex systems theory for management should be even more useful when the insights of social science disciplines come to be embedded within the complex systems framework. It is a hopeful sign that a few other authors (Bar-Yam & Minai, 2004; Bentley & Maschner, 2003; Jordan in McDaniel & Driebe, 2005; Mitleton-Kelly, 2003) now recognize that complex systems theory has implications for interdisciplinary studies, which hold out the most promise of a comprehensive understanding of individual complex systems.

Metropolitan administration and complex systems

Luckily for public administrators, complex systems are better behaved, less nonlinear, closer to equilibrium, and less prone to disproportionate effects than are chaotic systems. Professionals charged with manipulating or, worse, managing complex systems cannot control those systems the way they might a simple or complicated system. Rigidly hierarchical organizations directed through top-down decision making are likely to be ineffective. But those responsible for working with complex systems need not throw up their hands either, totally abandoning control for self-organization and top-down for bottom-up decision making.

As the behavioral characteristics of complex systems lie between those of complicated and chaotic systems, too do their managerial characteristics. Managers of complex systems must pay attention to the inherent needs of the system as well as their needs for the system. They must learn to watch and understand systemic patterns as well as set goals and priorities for the system. Lines of communication and decision making must flow up as well as down, so authority and legitimacy become vested in the process as a whole. Joint prioritizing, decision making, and implementation become essential, and managers (including public administrators) must base them on an appreciation of the system as a whole, not on the perspective from one location within the system. If this sounds like shared governance and the conjunctive state, then you have reached the same conclusion we have.

Changes in the association of the citizen and the state
As noted by Putnam (1999), there has been a marked decline in social capital, an institutional cornerstone of functional civic relationships and system cohesion. Putnam, as do complex adaptive systems theorists, focuses on informal networks of individuals, the former on producing social capital and the latter on emergent patterns of behavior. Both promote the functioning and adaptability of “community” to address complex problems. Putnam’s new forms of associations are comparable to new networks that emerge spontaneously. Additionally, Nye observed that there has been a steady decline in public trust of government (Nye et al., 1997). This lack of confidence in government means that traditional institutions are less often perceived as problem solvers, or places where some groups of individuals can see their issues being significantly addressed. These groups are turning away from traditional institutions to create unconventional solutions, many of which are new forms of associations.

What is useful to recognize here is the changing fundamental nature of associations and relations among citizens, policy makers, civic leaders, and government in metropolitan arenas. What seems to be happening is the slow movement away from government toward governance. Governance is characterized as a facilitative state, one where public administration facilitates the associations of citizens and social organizations in order to produce social goods and services. This is a very different state of affairs from the functionally distinct roles for the state, the citizens, and private institutions, where institutional command and control was familiar. Today government is viewed less as a problem solver and more as a partner and contributor to solution making. It is in this complex environment that new forms of association, especially those formed by institutions whose leadership recognizes the changing nature of problem solutions, and new pathways of governance will emerge.

The rise of networks and the conjunctive state

Some public administration scholars have observed a new and emerging form of arrangement among citizens, policy makers, and governments (Frederickson, 1997; Goldsmith & Eggers, 2004; Kickert et al., 1997). These new forms of arrangements reflect a recognition of the inability of the state — as government organized through bureaucracies and representing less and less meaningful geographic jurisdictions — to be responsive to citizens’ needs and the creation of social good. Simply stated, social problems have outpaced conventional solutions. One form of recognition of this condition is in selected areas of public leadership, where we can witness responsiveness by creative institutional leaders to find solutions that adapt existing institutions to the “disconjunctive state” (Frederickson, 1999), in which social issues overcome bureaucratic solutions or cross public authorities and jurisdictions.

The “conjunctive state” (Frederickson, 1999) is a response to the complex condition. Its characteristics include institutionalism, networks, and governance. It represents an adjustment of the institutional state through the expansion of role definition and actions of and by administrative leaders who recognize the influence and contributions of a broader range of constituencies. As new forms of governance emerge in response to disarticulation, new practices, including the insights from the professional literature on interdisciplinarity (see Newell, 2001), should be of considerable utility to public administrators and other applied social scientists interested in the patterns produced by specific complex systems.

Research on participation in networks indicates that public administrators spend a great deal of time in networks, and view them as valuable to individual success and invaluable to organizational success (Meek, 2002). In addition, network involvement means that many other organizations are involved, power is shared (or central sovereignty is limited), and network and organizational goals are more or less compatible.

Based on grounded theory and a case study research on network management (Agranoff, 2004; Agranoff & McGuire, 2003), emergent lessons for public administration management have been reported to include:
1. Be a representative of your agency and the network.

2. Take a share of the administrative burden.

3. Operate by agenda orchestration.

4. Recognize shared expertise-based authority.

5. Stay within the decision bounds of your network.

6. Accommodate and adjust while maintaining purpose.

7. Be as creative as possible.

8. Be patient and use interpersonal skills.

9. Recruit constantly.


The work of Linden (2002) on cross-boundary collaboration has also been instructive. Based on case study research and individual interviews, Linden identifies a collaborative public management style: maintaining continuity of leadership among all parties, acquiring flexible schedules, and developing open, trusting relationships among all participants (Linden, 2002). Lessons from the experience of public administrators managing and participating in networks correspond to insights in management needs from complexity theorists discussed earlier. Table 1 relates the administrative lessons of conjunctive practice to managerial practices recommended by complexity theorists.

To summarize, the network management literature begins to address the nature of governance in a shared power world. Much of what complexity theorists have posited as important considerations for managing within self-organized environments are also found to have corresponding management “lessons” from fieldwork in public administration networks. These lessons provide the basis for further administrative conjunction that may well serve the practice of public administration in complex environments.
Emergence: Complexity and Organization

Table 1

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Policy administration consequences of conjunction

It is important to recognize that networks co-exist with hierarchies. Public administrators must not only manage public hierarchies, but also participate fully in networks. Administrators now need to be in two places, and the demands of both may lead to conflicting priorities as well as exhaustion. In addition, networks represent additions to hierarchies or an emergent force in public management where “networks are not about creating order, but rather allowing for ordered chaos” (Mandell, 2004).

The implications of administrative conjunction — and networks created to offer valuable integrative or coordinated services — are that these activities and behaviors also have policy administrative consequences for existing hierarchies and for the system as a whole. We offer empirical evidence of policy administrative consequences in four areas: network and organizational compatibility; the role and nature of shared leadership; network effectiveness; and network influence. To examine these four issue areas, we selected a network case study in the Los Angeles metropolitan area: the Peace Officers Association of Los Angeles County (POALAC). POALAC is a long-standing network of peace officer associations that provides integrative services for a number of associations.

The cosmopolitan nature of LA County law enforcement

First, it is useful to characterize the public safety issue for which the network was created. The LA County Sheriff’s Department (LASD) has jurisdictional responsibility for law enforcement in the over 4,000 square miles of Los Angeles County. Comprised of 88 cities, LA County is further divided by the decision of 46 of the 88 cities to establish their own law enforcement agencies. The remaining 42 have opted to obtain law enforcement services from LASD, as have the 21 community college campuses.

To further compartmentalize law enforcement services in LA County, LASD has 23 geographic stations with strong community identities such as Malibu, Newhall, and San Dimas, in addition to Transit Services and community colleges (Los Angeles County Sheriff’s Department, 2005). The City of Los Angeles is comprised of 19 geographic stations for communities such as Hollywood, Wilshire, and Van Nuys (Los Angeles Police Department, 2004). From the perspective of the state of California, there are 336 municipal police agencies in the state and 58 sheriff’s
departments (California Police Chiefs Association, 2006) that vary greatly in size. There are a number of other law enforcement agencies that provide their services in LA County and add to the complexity of coordination, as if the above did not suffice. In no order of importance, one may see the uniformed presence of various agencies traversing the streets of the county (see Table 2). In addition, the LA County District Attorney’s Office provides prosecutorial services for all felonies and misdemeanors charged in the county. Eleven cities including the City of Los Angeles and Long Beach opt for their own city attorney to prosecute local misdemeanors.

The above description of LA County law enforcement is not intended to be comprehensive but to suggest the complexity of law enforcement in Los Angeles. Morcol (2002) points out that, in general, “the higher the numbers, the higher the degree of complexity.” Given the overlapping jurisdictions as well as the sheer number of the organizations listed above, the system of delivering law enforcement services within Los Angeles County represents a complex system. Even if the organizations were to function independently, their activities and interactions would be complex by their very nature.

Case study: The Peace Officers Association of Los Angeles County

There is one organization in the county that acts as “network manager” to keep the northbound train headed in the intended direction: the Peace Officers Association of Los Angeles County (POALAC). Through a series of collaborative efforts this entity creates the synergy necessary to ensure that the collective energies of county law enforcement are directed and guided by the principle-centered missions so necessary in today’s complex environment.

Origin

POALAC was formed in 1929 as a forum for the county law enforcement community and to provide training programs for departments throughout the county on common emerging issues. Its officers have been a “who’s who” of county law enforcement, from sheriffs to high-profile LA police chiefs, district attorneys, and the California Highway Patrol, and from federal agency heads to corporate security representatives from the utility companies, banking, and the motion picture industry.

Role and activities

Besides networking and training opportunities for the law enforcement community, POALAC provides a cooperative forum between the private sector and law enforcement, with private-sector members on the board of directors, and jointly sponsored training programs — a concept that was developed well before the community policing (Lundgren, 1995; More et al., 2003; Trojanowicz & Bucqueroux, 1994) and cooperative homeland security initiatives in recent years. Some of the recent training programs have dealt with law enforcement ethics, street racing enforcement, and terrorism investigations. POALAC’s traffic committee coordinates DUI enforcement, safety belt usage awareness, and child safety activities with law enforcement agencies.
enforcement agencies throughout Los Angeles County. The association will soon embark on a large-scale recruitment project for the entire law enforcement community.

**Board composition**

The board is comprised of 23 elected and 3 ex-officio members (the Chief of Police of Los Angeles, the Sheriff of Los Angeles County, and a full-time administrator). The executive board is comprised of the president, vice-president, a treasurer, and two past presidents. The 2005 board is comprised of the agency representatives outlined in Table 3.

**Mission statement**

As the premier professional law enforcement Association in Los Angeles County, it is the Mission of the Peace Officers Association of Los Angeles County (POALAC) to lead, facilitate, inspire, and advocate on behalf of federal, state, county and local law enforcement agencies and those safety professionals in the private sector in our joint responsibility to maximize the safety of those who depend upon us. (POALAC Strategic Plan, 2005)

**Research questions**

Four general research questions addressed how POALAC affects policy administration in the metropolitan arena:

1. How does your involvement in POALAC affect your organization? (network and organizational compatibility);
2. Does POALAC reflect shared leadership? (shared leadership);
3. Is POALAC effective? (network effectiveness);
4. What are the policy administrative consequences of participation in POALAC? (network influence).

Of the board members 22 were interviewed, 5 were unavailable, 2 were not on the board in 2005, and 1 was the researcher.

**Findings**

**Research question 1: Network and organizational compatibility**

*Goal compatibility:* All (100 percent) respondents indicated that at no time did their involvement conflict with their organization’s goals or responsibilities. On the contrary, some (particularly for the corporate security representatives) commented that network involvement enhanced organizational goals.
Overall, membership in POALAC appears highly compatible with individual members’ organizational goals.

*Organizational complementarity:* All (100 percent) respondents indicated that their involvement in the association complemented and meshed with their organization’s goals. Comments included:

- Provides me with visibility, significantly complements and adds value to everyone in law enforcement-related services;
- Gives me access to information on the other agencies … we are the bridge for all connections and information exchange in LA County.

The phrases used most often were "without a doubt," “absolutely,” “most definitely.”

*Goal enhancement:* 17 (77 percent) indicated that the association enhances the respondent’s organization goals, while 5 (23 percent) were not sure. Comments ranged from “it helps create efficiencies”; “expedites decision-making”; to “provides a voice that is different from the organizational culture worked in.”

**Research question 2: Shared leadership**

*Shared leadership:* There was support for the shared leadership and self-governance of the network, as 19 (86 percent) reported that decision making varies with the need or issue and is driven by negotiation and consensus of the entire board, while only 3 (14 percent) indicated that decisions emanate from the executive board.

In attempting to identify the most important members of the board, 13 various members were identified as the most important board members. This perception of shared leadership extended to only 9 (41 percent), indicating that the president is the "leader." Others observed, “we do not always need a leader, it is by issue”; “the Executive Board is the leader”; “there are several leaders, not to say we are leaderless but we have many”; “whoever is in the position leads”; “there are a number of leaders, and all presidents are leaders.”

When asked to identify the person with the most influence, 12 (55 percent) cited the current president, 5 (23 percent) were undecided, and the remaining responses cited other board members.

*Network functionality:* The board of directors meet monthly, with 90 percent attendance the norm. In addition, meetings are held to recognize one segment of the law enforcement community each month, for example LAPD Day, Chiefs Day, and Corporate Security Day. Interaction is frequent outside these major functions as well. Survey data revealed that, of 22 surveyed, only two had not contacted another board member outside formal meetings, and multiple contacts between meetings are commonplace. Overall, the level of contact and collaboration among participants appears to be strengthened by association membership.

*Personal enhancement:* 21 (95 percent) of the respondents reported that the association increased their value to their own organization. Even the lone exception indicated it has had some value but was difficult to measure.

**Research question 3: Network effectiveness**

*Public value:* 19 (86 percent) said the association was contributing to the public value, 2 (10 percent) felt there is little public value in its present state; 7 (32 percent) also commented there is still unmet potential to enhance public value.

The positive contributions of the network were identified in four areas:
Networking that contributes to training;

Traffic program coordination as a by-product of the networking;

Enhancement of career goals (for some);

Exposure to new concepts.

Additional comments included “we have influence...”; “we are a tent to go under for all agencies and a clearinghouse for ideas”; “we recognize others’ efforts.” Side comments from federal participants reflected that the network was recommended to them on assignment to the LA area as the “go to” organization to immediately get to know those in the business. It appears that organizations that bring leadership from outside the geographic area require an immediate immersion in the region so that they can assimilate as rapidly as possible.

Research question 4: Network influence

Agency impact: Regarding network influence on policies of participating agencies:

- 5 (27 percent) felt that the association is successful in influencing policies to some degree;
- 4 (18 percent) were undecided;
- 9 (41 percent) opined that they have little impact;
- 3 (14 percent) indicated that the association had no impact.

Comments ranged through “we do not directly influence, but it is seen in other ways”; “we do not take on sticky issues”; “we impact the culture more than the policies”; “not sure, I am just not made aware if we are”; “we used to but not now.”

Regional influence: When asked to determine the regional influence:

- 13 (59 percent) recognized the regional influence as exceptional to modest;
- 7 (32 percent) saw only little regional influence;
- 2 (9 percent) were undecided or saw no regional influence.

Comments: “we can do a better job of developing regional influence”; “the big benefactors are the federal agencies that use the regional influence that exists for them.”

Program impact: When asked if the programs, work products, and services of the network are having an impact, the consensus was that they do (14 or 64 percent with 2 undecided) and 6 (27 percent) seeing little impact.

Complementary impact: An assessment was requested that asked if the network’s decisions and programs complicated or enhanced (choose one) current agency operations in LA County in policy considerations. Twenty-one of 22 (95 percent) were of the opinion that it clearly enhanced agency operations and policy considerations, even if the impact is only moderate. Comments: “we are complementary but sometimes it does both”; “it enhances for those who choose to participate and to a lesser extent others”; “not to our potential”; “we are a utility outfielder but could be an all-star shortstop”; “it could be complex but it is not, due to the network”; “that is our value (enhancing).”

Added value: When asked if the solutions and programs of the association could have been accomplished by any one agency, 20 (91 percent) said a resounding no. One could not respond to the question and the remaining response was that it was
difficult to quantify. Comments include: “we are collectively stronger”; “if done by one the final product only benefits one”; “if I would have done it alone, it would not have been as good”; “if done by one agency it would not be accepted”; “we add value due to our diversity, no one could do it themselves.”

Conclusions

County law enforcement services could not function effectively without the coordination, collaboration, and networking provided by POALAC. Through a series of effective programs that establish working relationships among network members, POALAC helps administrative networks function effectively, as evidenced by results from this case study. Its collaborative structure provides the loose couplings required to move among silos, reciprocate and sustain the ability to provide community services, or ensure they are provided through governance. Collaboration is much more than interacting and networking: It is the act of circling around common problems, identifying common issues, and applying resources that individual collaborators bring to the table from their respective areas of expertise and discipline. It is problem identification, an exhaustive effort at alternative solutions from a variety of perspectives, and a working toward solutions that individuals could not have imagined on their own.

A summary of our findings with regard to POALAC is represented in Table 4. The focus of our work was on the policy administrative consequences of administrative conjunction as represented by this case study.

Based on survey responses and interview comments, the POALAC administrative network is compatible with and complements agency goals, embraces shared leadership and decision making, creates public value, and enhances agency operations. The challenge faced by complex organizations such as law enforcement services in Los Angeles County cannot be met today without the use of collaborative networks such as POALAC. The sheer volume of services provided by the myriad of agencies, each with its own mission and values, are dependent on a platform of mutual benefit that could be more accurately described as a dynamic reciprocity due to the volatility and the potential for catastrophe that could exist if not for the collaborative network and its structure.

Our study suggests that there is a need to gather those who must be players into networks. Some know it intuitively and volunteer, others need to be requested to join, and still others should be in the network but are not included, either by design or by oversight. There is a constant cycle of membership bringing new players to the network that must be complemented by continuity from past leaders to ensure grounding in the mission of the organization.

The amount of professional time devoted to networking is not seen as burdensome; indeed, it is more valuable for individuals and compatible with their organizations than one might anticipate. The dynamic reciprocity of involvement in the network appears to be shared by both individuals and organizations.

Concerns always arise when networks embark on policy issues within the domain of the silo organizations. However, our study found that there did not appear to be a direct negative impact on the individual agencies. We found that network policies were viewed by network participants as complementary to individual agency policies.

When a network can choose its mission and command loyalty, then shared leadership, with consensus and negotiation as its cornerstone skills, is possible. No single person leads a mission-driven network and conflict is resolved at its lowest levels. Unlike organizational silos, sustainable networks operate effectively through government by consensus.

Working below the organizational lines of formal authority and community responsibility requires collaborative networks to function much as a submarine with a periscope to the landscape. If they surfaced, perhaps they would be the subject of more
scrutiny for their style, structure, and makeup. They may be more valuable in contributing their public value from below sea level to others for implementation. Developing too much strength and influence might turn them into the very structures they are attempting to support. Such an effort would require more traditional methods of planning, organization, staffing, directing, coordinating, reporting, and budgeting.

The POALAC organization, and other such networks, cannot be bound by the very structure that nurtures and supports our organizational silos. The ability to set up informal interactions and facilitate problem solving must be considered as well as knowing when and how to contribute without stepping on political toes in the process. Facilitation skills replace command and control while the group strives for shared leadership, consensus, and objectivity.

Looking ahead

This paper applies insight from recent work of complexity theorists to public administration in the context of metropolitan governance. An emergent trend in governance — conjunction — calls for a reexamination of management and administration. Network researchers based on grounded theory have identified management strategies that overlap with those found in the complexity literature. Our examination of policy administrative consequences found a unique set of positive outcomes related to collective action: organizational compatibility, shared leadership, increased public value, and enhanced agency operations through coordination. The challenge ahead is to understand these emergent features from both analytical and practical perspectives so as to advance our understanding of managing complex environments.

Notes


References


