INTRODUCTION

Theories of democratic governance have undergone significant changes over the last two decades with the spread of ideas and popular practices associated with New Public Management (NPM) and New Governance. In particular, inter-ministerial and inter-societal networking is becoming important because of the capacity to regulate complex transactional interdependence in modern administrative states. This paper examined various forms of networks and identified factors that influence the form of governance including asset-specificity, task complexity, transaction continuity, uncertainty, the degree of differentiation, and the Intensity of inter-organizational interdependence. In addition, the role of public institutions in different network governance varies considerably as they tend to play more active roles in vertical networks while a more symmetric relationship arise in horizontal networks among private and public actors. Managing and coordinating complex networks requires a skillful manager of the networked networks. New ICT and public institutions will play an important role as a vertical and horizontal integrator for managing interdependence within and between networks. It is hoped that the framework developed here can be used as a basis for developing and analyzing testable comparative models of inter-organizational coordination or governance mechanisms in the public policy and administration scenes.

Key Words: networks, governance, coordination
characterization of “hollow state (Peters, 1993)” and “negotiated state (Nielsen & Pedersen, 1990)” have followed. Another recurring theme in the literature is the inability to create sustainable, effective, and inclusive governing structure unless clearer about ways to incorporate private sector and civil society organizations (CSOs) in public decision making process (Peters & Pierre, 1998). In addition, others have raised the increasing importance of nonprofit actors in the delivery of public services (Salamon, 1994; Smith & Lipsky, 1993).

The emergence of this pattern of ‘governing’ or governance is a direct challenge to the (developmental) state model of relying on a strong and centralized government. The governance theories based on unitary centralized governments, state elitism and top-down decision making are giving way to new concepts such as public-private partnership, co-production, network, collaborative programs, volunteerism, and bottom-up approaches (Kim, 2003). The traditional bureaucratic state relying on hierarchy, rules, procedures and universal values is being replaced by a governing structure that recognizes and incorporates other societal actors, and states are increasingly relying on participatory models with an emphasis on cooperation and partnership with other policy actors (Lowndes & Skelcher, 1998). When other nongovernmental actors including CBOs and other advocacy groups are thrown into the ‘governance’ mix, the resulting outcome is one of increasing complexity and network-driven.

Discussions on ‘new governance’ are now emphasizing the importance of partnership, co-production, network, collaborative programs, and joint projects. The terms such as policy networks, inter-organizational networks, network forms of organizations, social networks, and horizontal government have been used frequently to refer to new ways of doing business in the public sector (Powell, 1990). In addition, inter-ministry, inter-agency, and public-private partnerships are now indispensable parts of the new governance. There is a clear sign of public programs and services moving away from “the large-scale, bureaucratic and paternalistic public organizations (Lowndes & Skelcher, 1998)” that has also characterized the modern administrative state to more flexible, participatory, and network-based governance models.

What has been lacking in most of this work has been an examination of the transformation of governance regimes. Evaluating network transformation is critical for understanding whether networks are effective in delivering services or what causes the changes in the governing system. In addition there remain questions about the conceptual framework of network governance which has hampered research progress in this field. For instance, terms such as partnership, network, collaboration, and cooperation involving public and private participants have been used synonymously without precise definitions and further fuelling confusion is the emergence of diverse sets of non-governmental actors in various stages of government decision making process. As Lan and Rosenbloom (1992) state, new governance models appear to be “more a clusters of ideas and symbols than a rigorous and tested body of thought.” This paper seeks to dispel some of these concerns by examining theoretical aspects of network formations and the sustainability of these governance forms.

In particular close attention is paid to theoretical issues surrounding the network governance and the impact on traditional bureaucracy. In addition various types of (policy) networks operating in the public sector and the main characteristics are examined. The integrate transaction cost economics and social network theories are sought to derive at conditions under which certain networks work better than others in terms of governance effectiveness. Other sustainability issues and network management issues are raised in the conclusion and policy recommendations. However, the political economy of networks such as why network notions were quickly adopted by public managers and politicians and the influence the prevailing ideology of neo-liberal thinkers has had on modern administrative states are assumed to be beyond the scope of this paper.2

BUREAUCRATIC GOVERNANCE AND NETWORK GOVERNANCE

Although the term ‘governance’ in public administration implies different things to different people, it is often referred as ‘the institutionalized politico-economic process’ that organizes and coordinates activities among a wide variety of economic, political, and social actors. Von Moltke (2001) argues that government is a special instance of governance. More broadly, Kooiman (1993) describes governance as “the purposive means of guiding and steering” a society or a community. Lynn et al. (2001) define it as “regimes of laws, rules, judicial decisions, and administrative practices that constrain, prescribe, and enable the provision of publicly supported goods and services.” Kim and Kim (2004) find origins
in theories of community building. There exists different types of governance within and across different societies and they are often the outcomes of socio-economic-political process under which various societal actors interact to achieve desirable societal goals. Rhodes (1997) stipulates that the choice over a particular mode of governance is a “matter of practicality; that is, under what conditions does each governing structure work effectively?” This implies that the evolution or the transformation of governance depends on various political and economic factors that affect the way in which non-state actors interact with the state.

Social scientists have written extensively about the relationship between the state and non-state entities. By largely assuming a hierarchical relationship, however, the literature often failed to take into account changes that are taking place in the society in the post-NPM era. Campbell and Lindberg (1990) point out that most of the literature were pre-occupied with showing how the state intervenes in the economy by allocating key resources, such as financial capital, to influence the actions of market participants that often missed the transformation issue. Such dichotomy was influenced by prominent writers including Williamson (1985) who was a pioneer in the analysis of governance based on transaction costs. He made noted contributions to the study of governance by applying transaction-cost economic concepts to workings of markets and hierarchies.

Instead of concentrating on ways in which governments influence private actors the transformation of the governance model is examined. Governance transformations are typically initiated by the imperatives of new political, economic, or technological order including changes in governing ideology and technology. The transformation from one governance regime to another involves a complex interactive process and the outcome of this process depends on “the ability of actors to mobilize resources, take advantage of political opportunities, and devise appropriate goals and strategies that break out of existing rules and routines while conforming to the dictates of new environmental factors and existing institutional constraints (Campbell & Lindberg, 1990).” The state plays an important role in the shaping of a new governance regime but the transformation process also draws other actors (Brinkerhoff, 1996). The state often creates pressures for governance transformation by changing property rights which in turn affects how non-state participants interact with government ministries. This paper focuses on the transformation of bureaucratic governance to a network governance and attempt to distinguish important differences between the two.³

**Bureaucratic Governance**

According to Considine and Lewis (2003), the essential attributes of the bureaucratic governance are “the followings of rules and procedures, high reliance on supervision, and an expectation that tasks and decisions will be well scripted.” This, they reason, captures Moe’s (1994) definition of the traditional administrative model as “a government of law.” Under the bureaucratic governance regime, the relationship between the state and the market is formalized based on rules and procedures, and other inter-sector and inter-organizational relationships are ad-hoc, fragmented, and transaction-driven. This implies that civil society maintains little contact with government agencies. The bureaucratic governance is also characterized by the top-down decision making approach. Any modern administrative state invariably contains some features of bureaucratic governance in the system and this has often impaired the ability of the state to respond to the demand of citizens for new and improved public services.

The imposition of rules and procedures by higher authorities enables it to achieve a high degree of coordination and cooperation among government agencies and between market and public institutions (Peters, 1998). In particular, those newly industrializing nations in East Asia that relied on state-led industrialization (modernization) planning successfully mobilized national resources in a coherent fashion and bureaucratic governance provided a useful mechanism under which the state could coordinate activities of economic actors involved in the development process. This, of course, comes at the expense of flexibility and innovation (Lowndes & Skelcher, 1998) and some mention that the lack of institutional flexibility and innovation contributed toward the Asian Financial crisis in the late 1990’s (Radelet et al., 1997). With an emphasis on the centralized and unified command of decision making structure, bureaucratic governance is also referred as vertical or hierarchical governance forms.

**Network Governance**

The theoretical development of inter-organizational network or network governance literature required multi-disciplinary efforts involving economists, political
scientists, public administration experts as well as sociologists. As stated by Considine and Lewis (2003), the new ideal is being borne “as a means to address some of coordination dilemmas posed by multi-actor systems, and these recent accounts have posed an alternative in which government continues to rely on outside agencies, but now in a form of stronger strategic partnership.” Network governance has the key characteristics of transactions being conducted among relevant players on the basis of mutual benefits, trust, and reciprocity. In distinguishing differences between partnership and network, Lowndes and Skelcher (1998) explain that partnerships are “associated with variety forms of social coordination-including network, hierarchy, and markets.” Networks are considered more formal governance regimes where players develop a culture of mutual cooperation because they are in for a long-term relationship. Recently, the focus of network research has broadened from a concern with individual relationships among organizations to an analysis of the multiple interactions that comprise full networks (Provan & Milward, 2001).

Advances in network and governance theories by numerous scholars meant that there are different definitions of network. Jones, Hesterly and Borgatti (1997) define network as systematic interactions “among autonomous units engaged in creating products or services based on implicit and open-ended contracts” to adapt to environmental contingencies and to coordinate and safeguard exchanges. Dubini and Aldrich (1993) and Kreiner and Schultz (1993) both describe network as “patterns or collaboration among individuals and organizations” while Larson (1992) and Liebeskind, Oliver, Zucker, and Brewer (1996) emphasize long-term exchanges based on trust and mutual interests as key characteristics of networks. Powell (1990) adds that network is based on “horizontal exchanges” while Grandori and Soda (1995) place an emphasis on network providing connections among relevant parties engaged in mutual exchanges.

In addition, network governance is described as a form of organizational alliance in which relevant policy actors are linked together as co-producers where they are more likely to identify and share common interests. Because they develop a culture of trust, the relationship

Table 1. Definitions of Network in Social Sciences

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<tr>
<th>Reference</th>
<th>Term</th>
<th>Definition of Network Governance</th>
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<tr>
<td>Jones, Hesterly &amp; Borgatti (1997)</td>
<td>Network governance</td>
<td>Autonomous units engaged in creating products or services based on implicit and open-ended contracts to adapt to environmental contingencies and to coordinate and safeguard exchanges</td>
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<tr>
<td>Considine &amp; Lewis (2003)</td>
<td>Public-private Networks</td>
<td>Forms of strategic partnership and collaboration between government and private sector</td>
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<td>Dubini &amp; Aldrich (1993)</td>
<td>Networks</td>
<td>Patterns relationships among individuals, groups, and organizations</td>
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<tr>
<td>Grandori &amp; Soda (1995)</td>
<td>Network</td>
<td>A set of nodes and relationship which connect them</td>
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<tr>
<td>Kreiner &amp; Schultz (1993)</td>
<td>Networks</td>
<td>Informal inter-organizational collaboration</td>
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<tr>
<td>Larson (1992)</td>
<td>Network Organizational forms</td>
<td>Long-term recurrent exchanges that creates interdependencies resting on the entangling of obligations, expectations, reputations, and mutual interests</td>
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<tr>
<td>Lowndes &amp; Skelcher (1998)</td>
<td>Network</td>
<td>Relationship based on mutual benefits, trust, and reciprocity</td>
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<tr>
<td>Liebeskind, Oliver, Zucker, &amp; Brewer (1996)</td>
<td>Social Networks</td>
<td>Collectivity of individuals among whom exchanges take place only by shared norms of trustworthy behavior</td>
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<tr>
<td>Mayntz (1993)</td>
<td>Networks</td>
<td>A multi-nodal structure consisting of not tightly connected but coupled parts</td>
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<tr>
<td>Miles &amp; Snow (1992)</td>
<td>Network organizations</td>
<td>Clusters of firms or specialized units coordinated by market mechanism</td>
</tr>
<tr>
<td>Powell (1990)</td>
<td>Network forms of organization</td>
<td>Lateral or horizontal patterns of exchanges, independent flows of resources, reciprocal lines of communication</td>
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Source: Adopted from Jones et al. (1997).
tends to be more interdependent. Lowndes and Skelcher (1998) go so far as to say that a network is a form of informal mergers among different types of organizations. Often a model of resource dependency has been sought to describe the network relationships where interactions between organizations are assumed to be motivated by the need to obtain important resources from other organizations (Aldrich, 1976; Scharpf, 1978). This implies that network partners bring important and strategic assets that contribute to mutual relationship to the network and the build-up of interdependent relationship tend to develop trust and reciprocity. Table 1 summarizes the various definitions network scholars have come up with in recent years.

Interest exists in network governance as a mode of organizing economic and political as well as administrative activities through inter-agency and inter-societal coordination and cooperation. Although societal arrangements may consist of various governance forms, networks are seen as mechanisms under which societal actors strike a balance between differentiation and integration. The network governance emphasizes the organizational aspect of coordinating and integrating various autonomous and sovereign units to function as an organizational unit.

It is important to note that the key difference between inter-firm networks in the management literature and inter-organizational networks in public administration or policy literature is the role of dominant players. The process of creating a meaningful and effective network in public administration is directly linked to the ability and the willingness of the state to coordinate various activities while maintaining the structural or organizational integrity of governing system. In comparison, bilateral and trilateral coordinating mechanisms are often the focus of research in the management literature. Thus, an inter-organizational or inter-societal network is a mode of regulating interdependence between agencies and other societal actors which is different from the aggregation of these units or coordination through market signals. Table 2 summarizes key characteristics of both bureaucratic and network governance modes.

### GOVERNANCE TRANSFORMATION AND NETWORKS

The recent changes in patterns of interaction among public, private and civil society actors are largely borne “by the increasing complexity, dynamics, and diversity of social-political sub-systems (Kooiman, 1993)” and the realization that the public sector no longer can be expected to provide all solutions. For example, the growing concern over the mismanagement of social welfare programs by the state and the subsequent fiscal crisis led many to seek alternative sources of funding and management. This is reinforced by John et al. (1994) who stipulate that changes in technologies, markets, and opportunities are creating “expectations ... (that) governmental actions also change with them.” This pattern is also described in terms of the emergence of new forms of governing and governance, moving away from “unilateral (bureaucratic) to an interactionist focus (Kooiman, 1993)” or in terms of “strategic partnership and collaboration between government and the private sector (Considine & Lewis, 2003).” The theoretical ground for new governance ideals are largely based on network-related theories but a lot has to do with the current administrative governing systems crossing “the threshold of diminishing returns (Kooiman, 1993).”

Another theoretical explanation behind the governance transformation is based on the argument by management literature that networks create organizational synergies (Deloitte, 2004). Networks provide various forms of political, economic and social benefits to constituents since they share goals and utilize collective strengths. Peters (1998) bases arguments on the ability of networks to pull resources that “would not be at its disposal were it to remain on its own side of the divide between the two sectors.” Such views based on the resource dependency perspective have also been advanced by Galaskiewicz (1985). Pfeffer and Salancik (1978) also provide a review of alternative forms of inter-firm networks and the empirical research relevant for predictions on the resource dependency perspective. Inter-organizational networks formed to achieve syner-

<table>
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<th>Table 2. Governance Forms</th>
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<td><strong>Normative Basis</strong></td>
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<td>Bureaucratic Governance</td>
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<tr>
<td>Network Governance</td>
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Source: Adapted from Considine and Lewis (2003), and Powell (1990).
gistic purposes are proven to work effectively (Luke et al., 1989; Provan & Milward, 2001).

Miles and Snow (1986) show that the division of labor allows network members to specialize in the value-creation activity based on a comparative advantage. Along this line, Park (1996) argues that networks are useful as they are “used as a connecting and transferring mechanism of complementary and interdependent competence” among members. This is possible as networks benefit from specialization based on the relative strength of each member and from the economies of scope. Grandori and Soda (1995) also stipulate that the “efficiency properties of firm networks... (derive) from economies of scale, scope, and specialization and experience” are important assets for networks. For instance, in the case of networks prevailing in policy circles, it is the economies of specialization and experience that provide important justifications for existence. Moreover, networks reduce uncertainty by establishing more meaningful and interdependent relationships among constituents.

The neo-institutional approach makes an important contribution to studies of organizational networks as dependence is not only related to material resources or transactions but also core resource of legitimization. This is one of objectives the state seeks to achieve by forming various policy networks consisting of previously excluded societal players including non-governmental organizations since they confer policy legitimacy. This was an important motivation for the state to form numerous networks in Korea. The increasing uses of various types of public-for-profits-civil society networks also indicate the willingness on the part of the state to “develop alternatives means of making and implementing policy (Peters & Pierre, 1998).”

Governments are creating further coordination burdens by creating more specific task-oriented public agencies and performance centers in both central and local governments (Peters, 1998). There are now more semi-autonomous multiple agencies working. There are also more private forprofit and nonprofit contractors working with government ministries to provide various types of public services. Moreover, the proliferation of quasi-governmental organizations and non-elected public bodies created complexity in both policy making and implementation circles. This required the state to seek more systematic and coherent forms of ‘managing’ diverse set of actors.

There are other important benefits associated with the network governance regime. First, the network governance allows various interested parties and experts to participate in the process and making it more democratic and representative. This is what sets the network studies in public administration apart from others in that they have different and multiple objectives in the formation of networks. Second, the interaction among various public, private, and nonprofit agencies is likely lead to improved efficiency by taking advantages of economies of scale and scope. Third, it allows new resources to be introduced with the aid of new participants. Fourth, as Lipnack and Stamps (1993) explain, “boundary-crossing networks expand social capital” through forming exchange relationships based on trust and reciprocity. This creates positive externalities on the society.

**HORIZONTAL AND VERTICAL (GOVERNMENT) NETWORKS**

Many studies on inter-organizational networks analyzed a number of specific forms and mechanisms of networks. In particular, Jorgensen et al. (1998) have come up with two different types of networks involving public agencies, negotiation and bureaucracy networks, and production and consumption networks.4 Similar concepts have been mentioned in other literature including inter-firm networks (Grandori & Soda, 1995), joined-up governments (Cabinet Office, 1998), networks of learning (Powell et al., 1996), and strategic networks (Park, 1996). Although there are many different types of networks consisting of public, forprofit, community, and nonprofit sector players the focus remains on network analysis in the public policy arena.

Public networks are often distinguished from private ones based on the degree of formalization, the existence and the role of centralized coordinating mechanism(s), and the degree of interaction with other societal actors (Slaughter, 2004). They can also be categorized by the composition of players and the development of ‘hub agencies’ that coordinate activities of network participants. Although the network governance is likely to be associated with trust and reciprocity, it is unlikely that members will have equal rights and symmetrical power. Rather, it represents an organizational form that combines both competitive and cooperative elements (Sydow et al., 1998). Depending on various environmental and actor-related factors, networks are likely to be led by a ‘hub agent’ who plays an important role of coordinating and maintaining the network structure. According to dis-
cussions on path dependency theories, the networks tend to evolve around ‘lead’ government agencies since they have the resources and administrative means. Although the modern administrative state is undergoing transformation from the bureaucratic governance to the network governance and thereby witnessing the roles changing significantly, there are still areas where the government should play key roles in terms of governing and governance. This paper identifies two types of networks: horizontal networks based on more symmetrical relationship among participants and vertical networks which places more important coordinating functions to government agencies.

**Horizontal (Policy) Networks**

Policy networks are defined as “a cluster or complex of organizations connected to each other by resource dependencies and distinguished from other cluster or complex by breaks in the structure of resource dependencies (Benson, 1982).” On the other hand, Wilks and Wright (1987) termed policy network as “a linking process, the outcome of those exchanges, within a policy community or between a number of policy community.” Rhodes (1986) elaborates this definition by coming up with five types of networks ranging along a continuum of highly integrated policy communities to loosely integrated issue networks. In the case of horizontal networks where operations are pooled and partners are horizontally interdependent, cooperation among participants is justified in the long-run if there is a strong ‘complementarity’ in terms of resource contribution by partners (Park, 1996). The reason why inter-organizational ‘complementarity’ is a necessary condition for the effective functioning of horizontal networks is that it enables participants to set aside inter-organizational rivalry and self-interest temporarily. Horizontal networks are further divided into two types: intergovernmental networks and multi-sector networks.

**Intergovernmental Networks in Central Government**

The age of fragmentation and ‘organizational internality’ which led to severe system-wide coordination problems, largely borne by measures including internal markets, contract-out, privatization, and market testing, were beginning to take tools on public sector since the 1980’s. In particular, with the disaggregation of the previously centralized administrative structure and the emergence of fragmented performance-centered units or ‘next-step agency’ types meant that some measures aimed at reconfiguration of public sector was needed. For instance, twenty three public agencies have been designated as the Korean version of next-step agencies since 2000 and this meant that public and political roles had to blend in with other established agencies, raising the need to coordinate activities of old and new agencies in pursuit of similar public goals.

Because of increasing complexity, dynamics, and diversity of issues at hands and the internal expertise these new agencies bring, there are changes in the role of old ‘hub agencies’ in that they no longer dominate the policy making process. The emergence of ‘a class of problems whose causes are so complex, and whose solutions are multi-factorial’ led the state to consider an interdepartmental or multi-agency response. For instance, the power once exercised by economic ministries is now being challenged by a newly established Planning and Budget Ministry since the late 1990’s. The creation of new regulatory bodies such as the Financial Supervisory Board in 1998 and the increased role of Fair Trade Commission also changed the centralized command of structure in the government. In addition, the Bank of Korea and the zeal for independence in monetary policies also necessitated close cooperation among other economic policy makers, necessitating the forma-
tion of more tightly knit policy networks.

The increasing acceptance of the view that “important goals of public policy cannot be delivered through separate activities of existing organizations (Ling, 2002)” had an important influence on governmental decision to ‘join-up’ across organizational boundaries. For instance, no single public agency now has the resources to engage the powerful chaebols to reform corporate governance and interlocking ownership structures. Seen from the resource dependency perspective, the formation of inter-governmental networks consisting of relevant ministries and regulatory agencies were instrumental in reforming various political and economic systems including chaebols. However, in place of ‘hub agencies’ which previously acted as coordinators in terms of allocating scarce resources and conferring responsibilities, higher-ranking public bodies including the Office of the Prime Minister and the Presidential Office took on more of a negotiator and coordinator role.

These networks still possess some elements of bureaucratic governance in that they are embedded in the formal public administration structures and because there are still competitive and rivalry elements among ministries in the current stage of public administration development in Korea. This is a form of “communication, decision, and negotiation mechanism” that Grandori and Soda (1995) mention. Korea is at a stage where in order to maintain long-term cooperation among differentiated societal actors, repeated sequential communication, decision, and negotiation create more positive learning effects on participants (Jun, 2000).

Intergovernmental Networks in Central-Local Relationship

The once vertical and hierarchical relationship between central and local governments is beginning to portray more like symmetrical relationships with localities gaining ground on the central government. Although some still argue that the central government departments still reign over local municipalities by controlling block grants and subsidies despite the enactment of the Local Autonomy Act in the early 1990s, localities have developed into legitimate policy partners through learning process. In addition, local municipalities have learned to cooperate with central departments and other localities, and came up with coherent strategies to develop interrelationships, trust, and collaboration.

This is particularly true in environmental and local economic development issues. Building NIMBY-type public facilities including power plants are now virtually impossible without the consent of local municipalities and this necessitated the central government agencies to engage in active partnership with localities. After about ten years of co-existence, participants in these networks have learned to co-opt with the new phase of federalism and local autonomy, and they are currently undergoing formalization process as the central government finally realized the need to institutionalize long-term cooperative relationship with local municipalities.

Multi-sector Policy Network

One of the grand themes of new governance has been formation of strategic partnerships based on mutual interest among public, forprofit, and civil society organizations. In addition to organizational networking among these societal actors, the new governance sought to empower citizens to be involved in government and community work which was aimed at providing ‘a third-way’ alternative to conventional public provisions. Although some network theorists even go as far as to say that the role of the state is often delegitimated (Peters & Pierre, 1998), the network theories seek to emphasize the benefits associated with blending of public and private resources in strategic settings.

This is especially true in local governments where the disenchantment with the traditional political and policy processes have alienated many would-be-participants in local governments. This required a change in the local governance mode and many municipalities have been experimenting with a community governance regime under which they seek to entice the cooperation from various local stakeholder groups. This of course generated criticisms from various quarters, especially local councils, which raised the fundamental issue of local democracy as more non-elected bodies and so-called public interest groups were gaining power at the expense of elected politicians. The issue that has particularly gained momentum and legitimized the role of these interest groups and community-based organization concerns the community development and housing projects, very complex issues that required the participation of and resources of all participants. Also, note that the pursuance of highly touted e-government and the high-technology-based infrastructure programs in Korea enabled the creation of virtual networks which complemented
the existing networks of advocacy groups and community-based organizations.

**Vertical Networks**

These networks are described as being vertical in that partners are often not engaged in same activities along the production or policy process. Although state agencies and non-state actors are asymmetrical in terms of distribution of power and role playing in vertical networks, the patterns of interaction differ from hierarchical governance. Rather in a vertically interdependent networks, participant role lie on a “sequential path (Park, 1996: 808).” More often than not government ministries fund and design programs for private partners to implement. This has become more apparent with the emergence of contractual approach based on the NPM ideals. Even though a vertical network requires a (central) coordinator to smooth out production along the serial path, downstream participants maintain sovereign rights. An important difference between horizontal and vertical networks is that the latter relies more on central agencies to coordinate activities between upstream and downstream participants while the former requires partners to pool resources and make decisions jointly.

**Industrial Policy Networks**

Unlike horizontal networks where participants are horizontally interdependent and where decisions are made jointly among partners, vertical networks often require upstream and downstream partners to work together in a sequential pattern. A case in point is the relationship between government ministries and industry associations and cooperatives in Korea in the pursuit of industrial policies. In these mostly cooperative games, upstream players first make decisions that affect downstream agents in the form decisions regarding resource allocation or property rights who in turn perform tasks often delegated to them by upstream players. Through repetitive interactions (transactions), they learn to cooperate and maintain good working relationship.

These types of policy networks are being described as vertical since it is the state that transfers scarce resources to private sector participants and thereby creating more of a sequential and interdependent relationship. In addition to utilizing Quagos (quasi-autonomous government organizations), industrial policy networks often rely on Quangos (quasi-autonomous non-govern-

mental organizations) as implementation units. In addition, the state has been manipulating property rights to put pressures on private sector participants for organizational changes (North, 1981). According to Campbell and Lindberg (1990), property rights actions by the state not only create pressures for changes that cause the actors to look for new organizational forms, but also constrain and influence how actors select different forms. Prior research has ignored the fact that the capacity of the state to influence to establish property rights gives it a general strength as it enables state actors to alter the organization of the governance structure. The state comprises many actors who undertake property rights actions that contribute to inter-agency and public-private interactions. For instance, an individual agency makes rules concerning its interaction with the public or procedure concerning procurement process. This has important influence on the composition of the policy network since the state can institute entry barriers.

The network based on vertical and sequential interdependence has the advantage of readily defining the role or boundaries of the participants’ contributions to the network without jeopardizing organization-specific goals and objective functions. This implies that they learn to co-exist as strategic partners in a network and as self-interested sovereign organizations. Horizontal networks can develop network control problems when temporary arrangement of disaggregated functions for the benefit of do not come together (Miles & Snow, 1986).

Although much of the network coordination and control still lies with government ministries, the addition of new public and private actors and resulting changes in the dynamics of these groups have had important influences in the role of government as coordinators (Deloitte, 2004). Rather than being a forceful and dominating coordinator, there are signs that ministries are becoming more like negotiators. Taken at a face value, this implies that industrial policy networks which functioned more like a governmental control mechanism vis-a-vis strategic industries that it was fostering are now featuring more network characteristics.

**Production Networks**

Unlike contractual governance where transactions between private and public institutions are short-term oriented and solely based on competitive market dynamics, production networks are more long-term oriented in the approaches to businesses and are highly interdepen-
Participants in public good production networks used to be public institutions since the state favored a direct production of public goods and service during the early stages of economic development. This meant that state-owned enterprises (SOEs) and Quagos were heavily used to produce goods and services. However, the state, due to inefficiencies associated with the state ownership of SOEs and other forms of hybrid organizations, gradually abandoned the direct production modes and instead sought to motivate private actors to participate in the production process.

These newly formed network governance structures are more fragmented and more contractual in nature with revolving membership in comparisons to other network forms. There are, more formal network types. A case in point is the information technology production networks which had been put in charge of developing national broadband services. This involved the Ministry of Information and Communications officials, key industry figures including Korean Telecom and major electronic firms as well as private network equipment providers. This proved to be a durable network which has succeeded in installing the most advanced working broadband services.

### NETWORK AND TRANSACTION-COST ECONOMIC THEORY

This section utilizes transaction-cost economics to provide a comparative framework for assessing alternative governance forms (Williamson, 1994). As organizations assume various forms of governance structure depending on specific attributes of transactions, it is important to assess various forms transaction specific characteristics. Various dimensions of transaction-cost economics are examined to derive conditions under which networks are the most efficient form of governance schemes. This involves findings factors that influence the form of governance.

#### Asset-specificity

Asset-specific exchanges create resource dependency between involved parties because specific assets lead to post-contractual problems when the party with monopolistic power behaves opportunistically. For example, if the defense ministry decides not to purchase a specially developed weapon, then the seller ends up scrapping the weapon as they cannot sell the product easily to others (Williamson, 1985). In addition, the seller also has the monopsony power over the buyer. Asset-specificity problem also concerns intangible assets including human assets. As in the case of the public sector where the rules and procedures governing operations are categorically different from those of the private sector, this requires human and other intangible asset investments by private organizations. In particular, the public and private interaction requires a high level of human asset specificity and in turn would require a governance structure that enhances cooperation and tacit collaboration among those involved parties. This also implies that cooperation among private and public organizations is necessary to reduce transaction costs, for they must work to earn trust from each other.

It is interesting to note that although uncertainty in the society or marketplace necessitates responses by suppliers to go ‘light, nimble, and disaggregated’, high asset specificity increases the need for a higher level cooperation among members. Due to the high switching costs under asset specificity, a market is not an efficient mechanism but a network governance balances these

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<th>Network Types</th>
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<tr>
<td>Intergovernmental(central) Network</td>
<td>Stable, restricted membership, increases in numbers with new agencies, serves interests of individual agencies, horizontal articulation</td>
</tr>
<tr>
<td>Intergovernmental(central-local) Network</td>
<td>Restricted membership, once vertical now horizontal relationship seeking, extensive horizontal articulation, competition among municipalities in the resource allocation process but united in responding to the central governments, asymmetry of power</td>
</tr>
<tr>
<td>Multi-sector Policy Network</td>
<td>Fluctuating membership, horizontal interdependence, asymmetry of power</td>
</tr>
<tr>
<td>Industrial Policy Network</td>
<td>Fluctuating membership, vertical interdependence, asymmetry of power</td>
</tr>
<tr>
<td>Production Network</td>
<td>Fragmented, Fluctuating membership, vertical interdependence, asymmetry of power</td>
</tr>
</tbody>
</table>

Table 3. Network and Their Characteristics
competing demands.

Task Complexity

It refers to “the number of different specialized inputs needed to complete a product or service (Jones et al., 1997).” As complexity prevails, the expected costs of designing and enforcing full contracts rise exponentially. Task complexity coupled with highly uncertain environment leads to incomplete contracting because “the contractual obligations of each party cannot be specified unambiguously for every possible situation (Park, 1996).” Task complexity often leads partnership to seek team coordination where “diversely skilled members work simultaneously to produce a good or service (Faulkner & Anderson, 1987).”

It is said that network governance has the characteristics to facilitate coordination among various autonomous private and public units to create complex goods and services. In those networks where products or services involved require technology-intensive interaction, multi-agency collaboration, data-intensive, multi-facet nature of services, and multi-user groups will increase the need for coordination among members. In addition, Jones et al. (1997) assert that time pressure heightened the need for an increased scope of coordinating activities.

Transaction Continuity

Transaction continuity, a term Williamson (1985) calls ‘frequency’, concerns how frequent network members engage in exchanges of goods and services.Recurring exchanges and transactions allow members to develop human asset specificity by ‘learning-from-doing’ and also deepen the relationship through continued relationship. Frequency also changes the attitudes of parties involved towards exchanges. Frequency is important in that it facilitates the transfer of tacit knowledge among parties (Jones et al., 1997). Repeated transactions eliminate opportunism and encourage involved parties to ‘invest’ in relational assets. Incentives to deter opportunism which in turn threaten reputational relationships are highly correlated to transaction continuity (Klein & Leffler, 1981). This is reinforced by Hill (1990) who explains that in a repeated transactions, the interest of involved parties tend to converge and is best served by adopting a position of cooperation and trust. In a continuous transaction, network members are more interdependent and learning-from-doing facilitates the accumulation of important social capital among involved parties.

Uncertainty

Uncertainty refers to the inability of individuals and organizations to correctly predict future events and there are many sources of uncertainty including technology advances, regulatory reforms, changes in tastes, and market structure, to name a few. More formally, environmental uncertainty refers to unpredictable nature of future events while demand and supply uncertainty relates to demand-side and supply-side conditions, respectively. Under the conditions of demand uncertainty, organizations seek load-sharing and flexibility (Zenger & Hesterley, 1997). They often seek load-sharing among strategic partners in order to reduce expected costs of future uncertainty and flexibility to increase the ability to respond better to future events. This implies that in an uncertain world, organizations tend to externalize transactions to improve the chances of survival.

These are predictors of network formation often used in the organizations literature need more dimensions added to these when dealing with the network formation in the public sector because efficiency criteria alone are not sufficient in explaining which specific organizational and governance mechanism will form in order to carry transactions and coordinate relationships.

The Degree of Differentiation

In order for a network to function effectively, one needs to deal with “the degree of differentiation (Grandori & Soda, 1995)” among network partners, especially between private and public actors. These players have different objective functions and orientations. The higher the degree of differentiation among partners in a given network the higher the expected costs of coordination. For instance, an initial stage of interaction between government ministries and civil society organizations will impose costs on any form of networks. Although networks are often created precisely for the very reason that they are better equipped to handle diversity and differentiation among players, networks need to institute a systematic coordination mechanism to iron out differences. It is likely that coordination and control costs will be lower in cases of horizontal networks than horizontal networks. This is because the latter is likely to be consisted of more diverse partners from different sectors. Uniformity among network members is likely to reduce the coordination
costs but homogeneity among members brings little to the network in terms of economics of specialization and experience.

On a similar note, the number of participants in a given network matter in terms of coordination costs. Although an increasing number of partners in a network might limit the ability to work effectively and necessitate the reliance on network forms of governance, the increasing numbers have been shown a predictor of the relative presence and consistency of central staff in the networks. In this context, the asymmetry in the resources controlled by different organizations including information and technology know-how in a network is an important predictor for the durability of networks as well as the degree of centralization (Gray, 1987).

The Intensity of Inter-organizational Interdependence

Another important variable often mentioned in the organizational literature is the intensity of inter-organizational interdependence (Oliver, 1990). The inter-organizational interdependence arises from resource-dependency relationship and from the abovementioned factors such as asset specificity, task complexity, task continuity, and uncertainty. The higher the degree of mutual interdependency, the higher the probability of the network functioning well will be. Although partners in vertical networks engaged in sequential transactions are more likely to form ‘institutionalized’ resource dependency relationship, such relationships are case-sensitive.

The type of interdependence, whether they are a vertical type or a horizontal type, has influence the way they coordinate activities. A complementary network based on vertical interdependence can relatively easily specify the rules and boundaries of each member contribution to the network, minimizing the unintended or intended loss originating from opportunistic behaviors. It is harder to set such boundaries in a horizontal network based on parallel interdependence. This is because a network based on horizontal interdependence requires more operations (decisions) being pooled and make shared decision making more likely. This is particularly true in highly uncertain and volatile environments. This implies that in the public sector setting where there are more horizontal networks than vertical ones, there are likely be more differences of opinions. In particular, the addition of advocacy NGOs and community-based organizations with a culture of deep suspicion of the state elitism will create more transactional hazards in the decision making process. This confirms an important contribution Park (1996) made when he stated that “even though complementary benefits have driven cooperative networks, there still remains the possibility of rivalry in networks and the effectiveness depends on the type of control mechanism in place.

NETWORK COORDINATION AND NETWORKED NETWORK

Another dimension of the sustainability of a network concerns the nature of (internal) governance within the network itself. This is because network form of governance carries with it a special problem of adapting, coordinating, and safeguarding exchanges (Jone et al., 1997). In particular, in a network characterized by high levels of task complexity, asset specificity and uncertainty, trust and reciprocity are unlikely to develop instantaneously and these circumstances call for a central governing body to ‘coordinate activities.’ In horizontal networks, the role of a central coordinator is greater and this can be done mostly by bilateral type of bodies consisting of member organizations. At the current stage of development in policy network in Korea, the government agencies and the administrative staffs fulfill the role of the informal bilateral governance body for reasons associated with administrative convenience and cost management.

This informal coordinating mechanism will become ineffective as the network faces increasing levels of complexity, uncertainty and specificity. This is particularly worrisome in the Korean context since it relies more on horizontal networks types to solve messy and complex issues with more differentiated sets of participants taking part in the process. This is likely to overload government agencies acting as coordinators. This implies that when a network becomes unstable and faces higher transaction costs the network needs to resort to a more formalized coordinating scheme for “tighter control and a higher level of coordination (Park, 1996).”

Another important aspect of networks in the public sector context concerns the management or integration of diverse and numerous networks as they are interrelated by the pursuance of public interest goals. Unlike inter-organizational or inter-firm networks in the private sector where the networking of networks is unlikely to carry any significance, policy networks are interrelated
or interdependent for several reasons: first, participants in various networks overlap; second, each network influence each other as policy decisions made by each node is interrelated; third, networks are interrelated for financial and budget reasons. This implies that managing the networking aspects of various public-domain networks are becoming important. This calls for ‘joined-up networking’ forms of coordination among not only relevant players but also among networks. Fortunately, recent developments in information and communication technology, organizational strategies and governing philosophy enabled organizations and networks to take deal with issues related to networking of networks.

CONCLUSIONS

Many elements of ‘new governance’ are not new at all and some, for instance, public participation, have long been advocated as a good model of governance. Some governance theorists attempt is to seek to combine new and old ideas to make them more comprehensive and to come up with a balanced scorecard. Inter-agency and inter-societal networking is increasingly becoming important because of the capacity to regulate complex transactional interdependency issues in modern administrative states. Because the studies on networks and networking involve multi-disciplinary approaches in social science, it is difficult to be precise and comprehensive at the same time. With this caution in mind it is important to attempt to identify the most relevant antecedents of network formation and form.

Scholars have noted the similarities in approaches adopted by management and governance literature while warning about possible problems related to accountability issues. Some have implied that check and balance among different constituents in the network governance and consumer choice seem to take care of the rising accountability issue. As Peters and Pierre (1998) mention the recent attempt to replace political power derived from legal mandates or elected office with a collective indirect leadership confounded the problem. What seems to be troublesome for some students of public administration is that governance theorists seem to be leaning towards limiting the roles of the state altogether and replace it with a well developed system of networks. Others have limited the role of the state to areas only related to “cross-sector resource mobilization and concerted ventures (Peters & Pierre, 1998).” The isolation of the state from the governance debate and then holding them accountable for the decisions and actions of the public service would not only be unfair but would impose unbearable burdens on the already demoralized public service. Frederickson (1999) went so far as to say that the state is now fragmented and disarticulated. Although the role of public institutions in different network governance varies considerably, what is clear is that the roles have changed dramatically and they are undergoing transformation process. For instance, one needs to make a distinction that they tend to play more active roles in vertical networks while more symmetric relationship arise in horizontal networks among private and public actors. In addition, it is likely that they will continue to play a significant role in “establishing broad principles of governance that apply to all (Denhardt & Denhardt, 2003).

When the scope of inter-organizational cooperation is wide and where there are a large number of participants, coordination become quite important. In the management literature, network forms regulating the cooperation between member firms often set up central coordination structures. In both policy and production networks in the public sector, the role of the coordinator (most like to be state ministries) is to coordinate activities of both private and public participants without imposing hierarchical orders or being overly authoritative. More importantly, because many public policy issues are inter-related and feed from one another, the role of the coordinator in this web of networks is critical. Managing and coordinating activities of various policy and production networks requires a skillful manager of the networked networks and is likely that the state will play a role in resolving resource allocation and dependency issues among various networks. This is where the new information and communication technology (ICT) becomes very useful as it can manage the networking of networks more effectively. As Ebers (1993) states ICT is an important vertical and horizontal integrator for managing interdependence within and between networks. Because new ICT reduces communication costs and better facilitates communication in wide-spread networks such as policy networks, networks have increased chances of sustaining viability.

Often policy networks and other forms of network governance are meso-level concepts that are located in a macro-theoretical ground. The approach taken here is very general and no empirical back-up has been provided. This calls for future network research at the meso-
level. It is hoped that the framework developed here can be used as a basis for developing and analyzing testable comparative models of inter-organizational coordination or governance mechanisms in the public policy and administration scenes.

NOTES

1. Kim (2003) documents that of eighteen OECD countries surveyed all had implemented programs closely related to NPM.

2. Many saw this as a way out for managers who were threatened with the market competition while some saw the transformation of governance as a complex interaction of diverse players who have manager to override the monopolistic power of politicians and public managers.

3. In addition there are two more governance types. Corporate Governance is characterized by a goal-oriented nature and the approach to public service as a profit (performance)-centered entity. This involves a systematic task delegation among public and private agencies and accountability is based on previously-agreed upon performance indicators. Under the corporate governance, the interaction among relevant players becomes more disjointed in comparison to the bureaucractic governance since there are no dominant actors and because they are performance-oriented. The corporate governance regime can also be viewed as an exchange relationship which alters the view on hierarchical relationships of the past between governments and other agents. The changed relationship among governmental actors likely to spur more rivalry and competition although networking might also arise if exchanges are to be economically and administratively efficient. However, in terms of the governing philosophy of the government, planning and programming carry more weight than anything else. The market governance embraces many essential features of contractualism and uses competition as the driving force of the system versus the goal-oriented approach of the former. The market governance ideal introduces a market mechanism into the public service in order to replace the traditional forms of hierarchy and coordination among agencies. Markets provide a high degree of flexibility to actors contemplating forming partnerships. Societal actors are independent in terms of a relationship with other ‘players’ although once they enter into a cooperative partnership they tend to collaborate with each other, hence becoming more interdependent.

4. The former is involved in negotiating over goals and objectives of specific programs while the latter produce and maintain public programs.

5. Wilks and Wright (1987) define a policy community as “a disaggregated system involving those actors and potential actors who share an interest in a particular industry and who interact with one another, exchanges resources in order to balance and optimize their mutual relationship.”

REFERENCES


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