

International Conference on Strategic Innovative Marketing, IC-SIM 2014, September 1-4, 2014,
Madrid, Spain

Network Organizations: The Question of Governance

N.A. Antivachis^a, V.A. Angelis^{b,*}

^aAmerican College of Greece-Deree College, Athens, Greece

^bUniversity of the Aegean, Chios, Greece

Abstract

The past 40 years have witnessed quantum environmental changes, which have driven business organisations to constantly adopt and change so as to attain sustainability over time. The quest for survival entails the effort of every business organization to strike a delicate balance between environmental and organizational imperatives. These deep and continuous and many of times chaotic changes have propagated a number of novel organizational forms. The terms “network organization” have been used by researchers in some variety and without a clear consensus as to what they mean. Most of the scholarly research has focused on the dyadic relations on a network with a number of notable exceptions analyzing the network as a whole integrated entity and not its constituting organization. This paper analyzes the network organization on the network level and not on the organizational level. Consequently, and because of the lack of any formal mechanisms of coordination and control in a such entity, which conversely exists on the organizational level of analysis, the issue of network governance becomes very prevalent. In that respect, a number of different forms of governance are conveyed along with their differentiating characteristics and the extent to which a given network organization is governed by the participant organizations in the network collectively, by a participant in the network organization on the basis of its power, legitimacy etc in a highly centralized manner or by an external to the network organization entity established exactly for the specific purpose of governing the network. The successful adoption of a particular form of governance is founded on four key structural and relational presuppositions: trust, number of the organizations comprising the network, goal consensus and the nature of the task which determines the competence level required. A basic postulation is that when focusing on network – level analysis and outcomes, the governance form adopted is critical for explaining network effectiveness. Salient items in the research agenda may be the validation of the different forms of governance in conjunction with the contextual framework of operations, the determination and the relationship of the governance form selection criteria and the power symmetry among the participant organizations in the network.

© 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of I-DAS- Institute for the Dissemination of Arts and Science.

Keywords: Networks; Networks Governance; Value Chain

*Corresponding author. Tel.: +30 6937081318.

E-mail address: v.angelis@aegean.gr

1. Introduction

Business organizations, since early 1980's, have been attempting to strike an elegant balance between the need for control and the one for adaptation and change, which have been driven by the environmental changes imposed on the business entity. The organizational adaptation to those changes has not been uneventful especially for those organizations, which have evolved to fit a rather slow changing environment. The nature of their problems has been analogous with the problems other biological species face when competing for resources and ultimately for survival (Singh & Humsdey, 1990). The organizational forms more appropriate are those which are more successful at securing resources and satisfying their respective stakeholders, while the less effective tend to become extinct. Malone and Crowston (Malone & Crowston, 1991) argue that the increasing global interdependencies and the accelerating pace of change require more flexible and adaptive organizations. Many business organizations have responded accordingly by adopting decentralized, team-based and distributed structures (de Sanctis & Jackson, 1994) variously described as virtual, network and cluster organizations (Beyerlein & Johnson, 1994).

The Law of Requisite Variety (Asby, 1956) implies that the rate of organizational change must match the environmental rate of change and transformation. Thus, business organizations with environmental exchanges of high density and diversification would develop complex structures (Becker & Neuhausser, 1975) so to as be capable of crossing their own boundaries. Crossing entails coupling together with other autonomous business organizations for resources, processes and actors that they may be deprived of or/and may possess but they can be more economically supplied/performed by other organization which possesses or/and may be more effective/efficient in supplying/performing those, resulting to interdependence and risk. These exchanges require, invariably, a coordination and control mechanism that would reduce the cost of expected failures and adjustment, lower the vulnerability, risk and enhance adaptability; coordination and control whose complexity increase exponentially in case the value chain is externally generated – even partially- vis-avis its internal generation.

The crucial question is where exactly the business organization positions itself within the internal-external value chain continuum (Sakas et al., 2014). The case of an all in-house value chain presupposes a hierarchical organization with the authority stemming from the institution of private ownership, while partial or “total” outsourcing raises the ever present critical question of the governance of such a network organization. Organizational researches have pointed out an evolvement from vertical hierarchies to network forms of organization (Daboub, 2002).

The terms “network organization” and “networked organization” have been used by researches in some variety and without a clear consensus as to what they exactly these terms mean (Sonntag, 2000). Thus, even since 1995, Salancik, (Salancik, 1995) has called for the development of good network theories that may explain reality.

According to (Thorelli, 1986) networks may be placed between markets and hierarchies; they should not viewed as substitute for any theory of the firm, of markets or industrial organization, but rather as a supplement. Powell (Powell, 1990), however, argues that network forms of organization, as a governance structure, should be treated as alternatives to markets and hierarchies. According to him, the reciprocal arrangements of exchanges and communication, typical of a network organization, constitute a “viable pattern of economic organization”. Ouchi (Ouchi, 1980) considers clans as alternatives to markets and bureaucracies as a mode of control, while relational contracting (Zaheer & Venkatraman, 1995) and hybrid organizations (Williamson, 1991), have been also argued as intermediate forms of governance between markets and hierarchies.

According to (Lincoln, 1982) there are both interorganizational and intraorganizational networks. An interorganizational network organization consists of a number of organizations where the aggregate total of the constituting the network organization participants is greater than the individual summation of its constituting parts; its the system of a network organization. An intraorganisational network is the case where the single organization employs a network structure internally.

In this paper the focus will be on the form of network organization, at the network level, so as to achieve the network's common goal(s), that none of the partner organizations can achieve alone and the resulting imperative need for governance of such a whole network and of constituting parts, rather than on the organizational level of analysis (micro level). This is what (Kilduff & Tsai, 2003) have referred to as focusing on the “whole network”.

2. Defining the network organization

The interest in network forms of organization was partially initiated by a critique of economic views of organization. The plethora of organizational configurations that fail to conform to the traditional schema of markets or hierarchies has sparked an increased scholarly interest; an interest that was further enhanced by the worldwide competitive success of Japanese companies. Success which seemed to rely extensively on the part of scholars and practitioners in understanding the extent to which that reliance was itself a crucial determinant of competitive success (Gerlach, 1992).

Yet, if a part of the motivation was empirical, the existence in large numbers and the functionality of these organizational configurations represented a challenge to economic views of organization (Granovetter, 1985). An economic view that was grounded in a dichotomous view of organization: markets and hierarchies, constituting the opposing ends of the same continuum. According to (Williamson, 1991) the alternatives to pure markets and pure hierarchies may be treated as intermediate or hybrid forms which combine elements of both and the distribution of organizations along the markets-hierarchy continuum is “thick in the tails” (Williamson, 1985). That is, the theoretically pure types tend to prevail over the intermediate or hybrid organizational forms. (Powell, 1990) argued that network forms of organization could not be considered a combination of markets and hierarchies; they rather represent a unique alternative possessing its own logic, leading thus to a trichotomy instead of a dichotomy of the traditional schema market-hierarchy. According to Coleman, the trichotomy among market, hierarchy and network forms of organization-from a structural perspective- seems like a pseudo-trichotomy, since market and hierarchies are simply two pure types of organization that can be represented with network’s modes and ties (Coleman, 1991). In effect every form of organizational exchange contains elements of networks, markets and hierarchies. So the idea that economic exchanges can be readily arrayed along a continuum is too mechanical and unrealistic, failing to capture the complexity and consequent ramifications of the organizational exchanges taking place in an environment of hyperturbulence.

The network forms of organization can be very complex: they entail neither the explicit criteria/invisible arm of the market, the price, nor the familiar paternalism of the legitimate authority of hierarchical forms. Networks are characterized by informal social systems rather than by bureaucratic structures within firms and formal contractual relationships between them to coordinate complex products or services in uncertain and competitive environments, (Powell, 1990). The basic assumption of network relationships (Powell, 1990) is that one party is dependent on resources controlled by another and that there are gains to be held by pooling the resources. In fact the partners in a network agree to forego their right to pursue their own interests at the expense of others. Such an “agreement” causes the recurring themes of trust, collaboration and social exchange to underlie the network form. According to (Jarillo, 1988) strategic networks are defined as “long term, purposeful arrangements among distinct but related for-profit organizations that allow those firms in them to gain or sustain competitive advantage vis-à-vis their competitors outside the network”. (Kaneko & Imai, 1987) view networks as a particular form of multifaceted, interorganizational relationships through which new information is generated. (Johanson & Mettson, 1987) conceive of networks as a method of dividing labor such that firms are highly dependent upon one another. Coordination is achieved through the interaction and mutual obligation of the firms in the network. (Podolny & Page, 1998) define a network form of organization as any collection of actors ($N \geq 2$) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange. In pure market exchanges the relations are not enduring but episodic, while in hierarchies, relations may endure longer than a brief episode, but there exists a clearly defined and recognized legitimate authority to resolve any disputes that may arise among the network participant organizations. According to (Brass, Galaskiewicz, Greve & Tsai, 2004) a network is a set of nodes and the set of ties representing some relationship or lack of relationship between the nodes. (Barringer & Harrison, 2000) define networks as constellations of organizations that come together through the establishment and maintenance of social contracts or agreements rather than legally binding contracts. Such contracts may certainly exist within the network, but the

organization of relationships is primarily based on the social contract maintenance, (Jones, Hesterly & Borgatti, 1997).

These are some varying definitions of networks and interorganizational arrangements. (Borgatti & Foster, 2003) even raise a question as to whether the network form organization needs to be considered and treated as a unique organizational form, since organizations are already embedded in their “wider” network of economic and social relationships (Podolny & Page, 1998). A wide rather consensus exists among most scholars that no single grant theory of networks exists (Kilduff & Tsai, 2003) (Monge & Contractor, 2003). Nevertheless theorizing about networks can be thought of stemming from two different but complementary perspectives (Provan, Fish & Sydow, 2007). The first one from the individual organization (actor level) and the second from the network level of analysis. Galaskiewicz and Wasserman have also come up with the same differentiations (Galaskiewicz & Wasserman, 1994) referring to a micro level versus a macro level network focus (Kilduff & Tsai, 2003) refer to the above distinction as focus on the egocentric network versus the whole network. The perspectives that focus on the individual actor or organizational actor, however, (organizational-egocentric level) have guided most of the knowledge about networks. These views are concerned with trying to explain how the participation of an individual or organization in a network affects its actions and outcomes. The focus is mostly on dyadic relationships and not on the network organization as whole (Uzzi, 1997), (Ahuje, 2000).

The focus of the network- level perspective is not on the individual organization (constituting parts of the network), but on explaining and treating the network organization as whole integrated system in its own right. It involves many organizations which work collaboratively towards common goals and the success of one-constituting the network-organization may or may not be critical to the success of the entire network. The aim is for optimization of the whole network as a system and not for the success of a given organization in the network. One of the critical structural issues of the network-level perspective is the question of network governance which refers to the apparatus used to govern/manage the whole network so as to secure the optimization of resources that come from the individual organizations constituting the network. The governance is network governance and not organization governance.

3. Network governance

Networks have been studied from various perspectives, but rather scant attention has been paid to the governance of network a whole. There seems to be a reluctance of those who study networks to discuss the issue of network governance and especially formal mechanisms of control. The underlying assumption may have been that since networks presuppose collaborative arrangements on a voluntary basis, governance which implies traditionally hierarchy and control, is deemed inappropriate (Kenis & Provan, 2006). The term “network governance” is used rather than “network organization” because many scholars in management define “organization either implicitly or explicitly as a single entity and the term captures more accurately the process and approach to organizing among firms (Jones, Hesterly & Borgatti, 1997). Governance, in general, is a topic that has long been studied by organization scientists (Westphel & Zajac, 1995). A critical role for governance – in business firms, non-profit organizations and public management- is to monitor and control the behavior of management, who are hired to preside over the day to day activities of running the organization (Eisenhardt, 1989).

Dealing with complex issues that require the pooling of resources and competencies of a number of different organizations, comprising the network, requires more than just achieving the goals of individual organizations (O’ Tool, 1997). It rather requires collective, concerted action and the governance of these activities. The critical issue has been, for some time that networks must be governed without having the benefit of network ownership and hierarchy as it is the case with the individual organizations that comprise the network. On top, because of the lack of ownership and hierarchy the network participant organizations have limited accountability to the network-level goals and additionally the conformity to any rules, procedures, directives is purely voluntary.

Networks may be a superior mode of governance as an answer to market and hierarchy failure- but the question as to how they are themselves governed is still largely unanswered. Based on the literature on whole networks rather than on dyadic relationships (Provan, Fish & Sydow, 2007) and the typology proposed by (Provan & Kenis, 2007)

the network governance forms can be categorized on the basis of two dimensions. Firstly, the network governance may or may not be brokered. At one extreme the network may be governed totally by the individual organizations that comprise the network. Every organization interacts with every other participant organization to make both strategic and operational decisions about how the network operates; that results to highly dense and decentralized form. There is no unique, formal governance structure other than the collaborative interactions among the members of the network. Control of the activities may be formally contacted through an ongoing interaction and collaboration. This is the shared network governance. At the other extreme the network may be highly brokered with few direct organization-to-organization interactions. The network governance would occur through a single organization-out of those which constitute the network- acting as a highly centralized network broker, or lead or hub organization, regarding issues that are very dire for the network maintenance and survival in the long run. Between the two extremes –shared network governance and lead organization governance- a number of combinations may exist; a single organization may undertake a number of key network governance activities (lead), while passing others to network members (shared). The second dimension, regarding network governance, in brokered networks refers to whether the network is participant governed or externally governed. Participant governed networks are, at one extreme, governed collectively by the individual organizations comprising the network (shared governance) or at the other extreme by a lead organization. Externally governed networks are governed by a unique and distinct network administration organization (NAO), which may be either voluntarily established by network members or mandated and it is specifically created to oversee the network maintenance and survival. The NAO is not another network member organization offering its services; it is external to the network organization itself.

Specifically:

- Participant network governance

It is the most common and simplest governance form. It originates internally and not externally to the network. This form is governed by the network individual organizations themselves without any separate, unique or ad hoc governance entity. The means of achieving such a form of governance may be formal or informal, through regular meetings of designated organizational representatives or via the on going – typically unorchestrated -efforts of all of those who have stakes in the network's success. The participant governance form can be designated on a continuum . At one extreme, participant governed networks may be extremely decentralized, involving almost all the network participants, interacting on a relatively equal basis (shared governance). At the other extreme the network can be highly centralized, governed through a lead, hub organization which is a member of the network. Shared –governed networks presuppose the involvement and commitment of all individual organizations or a significant subset of them that comprise the network. The network members are responsible and accountable for managing internal network relationships-on an interpersonal, interunit within the organization and interorganizational level –as well as relationships with external stakeholders like customers, community, government and funders.

- Lead/Hub organization governed networks

Lead organization or hub firm (Dhanaraj & Parkhe, 2006), (Jarillo, 1988) governance occurs in case there is a common purpose among the network participants, but there is also an organization more powerful than the rest in terms of size , resource capability or ever greater legitimacy which allows it to play a lead role. Certainly the inefficiencies and liabilities of shared governance may have triggered such a need for a much more centralized approach to network governance. Such a lead role leads to a network governance which is highly centralized –as opposed to shared one- and brokered with power asymmetry. The organization designated to undertake the lead role in the coordination of network level activities and key decisions may be mandated by an external funding source or may emerge from the individual organizations, participating in the network, based on what seems to be the most effective and efficient network member to undertake such a role.

- Network Administrative Organization

The third form of governance is the NAO scheme (Provan & Kenis, 2007). The central idea is that a distinctly separate administrative entity is founded to govern the network and its activities. The NAO is not another organization of the network providing services. Instead, the network is externally governed, with the foundation of NAO either through mandate or by the network members themselves for the specific and exclusive purpose of governing the network. In NAO a separate entity is established, separate and apart from the member organizations, with the sole aim to govern the network. The size of NAO may range from a single individual – the network facilitator or broker, all the way to a formal organization operating out of physically distinct office with a CEO and staff (McEvily & Zaheer, 2004), staff (Provan, Isset & Milward, 2004).

4. Network governance: the choice

Thus far the discussion has limited itself to the governance typology provided by (Provan & Kenis, 2007). The issue is not the specific typology as such, but the development of a rationale with respective criteria facilitating the adoption of one instead of the other network governance, securing, as a result, the attainment of network level outcomes. The successful adoption of a particular form of governance is based on four key structural and relational contingencies: trust, size of the network, goal consensus and the nature of the task (Provan & Kenis, 2007). Trust has been discussed as critical for network performance (Larson, 1992) (Powell, 1990) (Uzzi, 1997). Most of the literature has emphasized the general need for trust and the different ways that it can be conveyed which has been valuable for understanding the trust-based ties that define a network versus more contractual and market relationships. The focus has been almost exclusively on trust in dyadic relations (Uzzi, 1997 and Gulati, 1995), while for understanding of network-level interactions, it is the level trust that is critical and whether or not it is reciprocated among network members. The issue is how trust is being attained and maintained in the network given its impact on its performance and sustainability.

A critical issue that networks face on the basis of their nature itself – the number of independent organizations collaborating for network-level outcomes-is that the needs and activities of a number of organizations must be concerted, accommodated and coordinated. As the number of network members increases, the dyadic arrangements increase as well, making governance extremely complex. Shared governance is often preferred by participants, since they retain control over the direction of the network. Its liabilities and deficiencies start to become more than apparent when the number of network members increases, raising as a result, questions about the appropriateness of such a decentralized governance form. Shared governance is most likely to be a suitable form when the number of network members is small. There is no a specific number which is the “correct” one for a specific governance form. Shared governance form seems to be effective with fewer than 6 to 8 participant organizations (Born, 2004) (Forsyth, 1999). When the governance of relationships becomes complex and difficult to manage, due to increased numbers of network participants and their diversity, a structural solution may be to centralize the network governance activities around a lead organization or NAO, since the direct involvement of all organizations for many network decisions is not required. The prevailing postulation, about goals consensus, has been that organizational members perform better than when there is goals conflict even though the latter may trigger innovation. Such an argument facilitates the understanding of network behavior, since network participants must establish clear goals and goal consensus intraorganizationally, interorganizationally and on the network- level. It’s reasonable to argue that high goal consensus is an advantage in building network level commitment; the critical issue however is how network relationships are governed. Shared governance forms seem to be more effective when network members generally agree on network level goals. The members work together without significant conflict, working collaboratively for the network, while concurrently attaining their own goals. Trust is not necessarily related to goal consensus. Goal consensus is based on similarity (Monge & Contractor, 2003) (Powell, White, Koput & Owen – Smith, 2005) whereas trust on reputation conveyed and past interaction experience. In the opposite case, when the goal consensus is rather extremely low, there may be no need for network formation at all. At intermediate levels of goal consensus, however, either a lead governance or NAO forms are deemed more appropriate than shared governance; which one of the two is more effective depends on the level goal consensus and the specifics of the mandate or the networks’ members’ decision particulars. Organizations form networks in order to achieve some end

that otherwise could not have achieved independently by themselves (Sakas & Kutsikos, 2013) (Kutsikos & Mentzas, 2011). These may include highly specialized resources, customer service, gain legitimacy. A critical question pertaining to the above has to do with how competencies, required to achieve network-level goals, can be procured. The answer to the above question is very important since different governance forms place a different burden on network members to provide the required competencies. The answer pivots around two considerations: first, what is the nature of the task performed and second, what are the external needs and demands faced by the network. Task complexity refers to the number of different and specialized inputs needed to complete a product or service. The increased task complexity creates behavioral interdependence (Pfeffer & Salancik, 1978) and increasing the need for coordinating activities. Differing specialist and inputs may result from an increased scope of activities, number of business functions required, number of products created or number of markets served. Task complexity coupled with time pressures grows the interdependence exponentially among task and members. Thus the need for network-level coordinating skills and task-specific competencies increases. The sequentiality of interdependent tasks with specific competencies under intense time pressures, requires a network governance form that facilitates integration and interdependent action from a number of autonomous and diverse organizations. The shared governance form may not be the appropriate one when the interdependent task requirements are high, because competence demands may be placed on network participant members they may not possess. On the contrary, these are the tasks conditions that may favor the lead organization or NAO governance form which are more able to develop the specific competencies related to the network-level needs. The external demands may require varying degrees of competencies at the network-level and may range from high to low. External tasks may include the roles of buffering, network protection from environmental shocks, lobbying, acquiring funding, building external legitimacy, extending the network and so on. In all these “bridging “ roles the governance form that seems more effective is the centralized one so as to have a focal point, to deal with the issues on hand (NAO). Conversely the shared governance may be appropriate in case the external demands imposed on the network are very low, in terms of the network-level required competencies, while in case of high demands the shared governance may not be willing or and able to develop/acquire the required competencies. The discussed four contingency factors-trust/size/goal/competences-constitute the criteria on the basis of which the more effective governance form should be selected.

5. Conclusions and further research

This article has provided an exposition on the network organization and its governance. The evolution from the dichotomy of market-hierarchy was analyzed and the advent of the network organization form discussed on the basis of the reasons that have facilitated its popularity. The different perspectives in defining, explaining the network organization were presented which demonstrated the lack of a clear and wide consensus about this new organizational form. Despite the lack of consensus, a number of common themes are present in these definitions, like collaboration, exchange, interdependence, coordination. Our intent has been to focus not on the organizational level of analysis, but rather on dealing with the network organization as a complete integrated system and its governance as a whole. The different forms of governance have been presented and the criteria /components that are likely to explain and determine the governance form effectiveness. The basic contention is that when focusing on network-level outcomes, the form of network governance adopted is critical for explaining network effectiveness.

This article should be viewed as a starting point for explaining what is a network, network governance, the potential forms it may take and finally how the chosen form might matter. There is still much work to be done so as to build a grant theory of network governance and its respective validation regarding network- level activities, structures and outcomes in leading edge fields, such as business incubation (Lagos & Kutsikos, 2011). Salient items in the research agenda may be the issue of power symmetry and its exercise within the network form of governance given the contextual framework. Ideally, large –scale comparative network studies must be undertaken so as to

examine many networks across a range of different forms of governance in different sectorial and cultural frameworks.

References

- Ahuje, G. (2000). Collaborative networks, structural holes and innovation: A longitudinal study. *Administrative Science Quarterly*, 45, 425-455.
- Asby, W.R. (1956). *An Introduction to Cybernetics*. London: Chapman and Hall.
- Barringer, B.R., & Harrison, J.S. (2000). Walking a tightrope: Creating value through interorganizational relationships. *Journal of Management*, 26(3), 367-403.
- Becker, S.W., & Neuhauser, D. (1975). *The efficient organization*. New York: Elsevier.
- Beyerlein, M., & Johnson, D. (1994). *Theories of Self-Managing work teams*. Stamford: JAI press.
- Borgatti, S.P., & Foster, P.C. (2003). The network paradigm in organizational research: A review and typology. *Journal of Management*, 29(6), 91-1013.
- Brass, D.J., Galaskiewicz, J., Greve, H.R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47, 795-817.
- Coleman, S. (1991). *Social Theory for a Changing Society*. Boulder: Westview Press
- Daboub, A.J. (2002). Strategic alliances, network organizations and ethical responsibility. *S.A.M. Advanced Management Journal*, 67(4), 40-48.
- Dhanaraj, C. R.C., & Parkher, A. (2006). Orchestrating Innovation network. *Academy of Management Review*, 31(3), 659-669.
- Eisenhardt, K.M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14, 57-74.
- Forsyth, D.R. (1999). *Group dynamics* (3rd ed.). Belmont: Wadsworth.
- Galaskiewicz, J. & Wasserman, S. (1994). Introduction: Advances in the social and behavioural sciences from social network analysis. In S. Wasserman and J. Galaskiewicz (Eds.), *Advances in social network analysis: xi-xvii*. Newbury Park: Sage.
- Gerlach, M.L. (1992). *Alliance capitalism: The social organization of Japanese business*. Berkeley: University of California Press.
- Goldsmith, S. & Eggers, W.D. (2004). *Governing by network*. Washington: Brookings.
- Gulati, R. (1995). Social structure and alliance formation patterns: a longitudinal analysis. *Administrative Science Quarterly*, 40, 619-52.
- Jarillo, J.C. (1988). On strategic networks. *Strategic Management Journal*, 9, 31-41.
- Johanson, J., & Mattson, L.G. (1987). Interorganizational relations in industrial systems: A network approach compared with the transaction-cost approach. *International Studies of Management and Organization*, 18(1), 34-48.
- Jones, C., Hesterly, W.S., & Borgatti, S.P. (1997). A general theory of network governance: Exchange conditions and Social Mechanisms. *Academy of Management Review*, 22, 911-945.
- Jones, C., Hesterly, W.S., Fladmoe-Lindquist, K., & Borgatti, S.P. (1998). Professional service constellations: how strategies and capabilities influence collaborative stability and change. *Organization Science*, 9, 396-410.
- Jones, C. & De Fillippi, R.J. (1996). Back to the future in film: Combining industry and self-knowledge to meet career challenges of the 21st century. *Academy of Management Executive*, 10(4), 9-104.
- Kaneko, I., & Imai, K. (1987). A network view of the firm, 1st Hitotsubashi-Stanford Conference. Tokyo, Japan.
- Kenis, P., & Provan, K.G. (2006). The control of public networks. *International Public Management Journal*, 9, 227-247.
- Kilduff, M., & Tsai, W. (2003). *Social networks and organizations*. Thousand Oaks: Sage.
- Kutsikos, K., & Mentzas, G. (2011). A Service Portfolio Model for Value Creation in Networked Enterprise Systems, ServiceWave 2010 Conference Workshops. Ghent, Belgium.
- Lagos, D., & Kutsikos, K. (2011). The Role of IT-Focused Business Incubators in Managing Regional Development and Innovation. *European Research Studies Journal*, 14(3), 33-50.
- Lincoln, J.R. (1982). Intra-(and inter-) organizational networks. *Research in the Sociology of organizations*, 1, 1-38.
- Malone, J.W., & Crowston, K. (1991). Toward an Interdisciplinary theory of coordination. *Computing Surveys*, 26(1), 87-119.
- de Sanctis, G., & Jackson B. (1994). Coordination of information technology management: team based structures and computer-based communication systems. *Journal of Management information systems*, 10(4), 85-100.
- McEvily, B., & Zaheer, A. (2004). Architects of trust: The role of network facilitators in geographical clusters. In R. Kramer & K. Cook (Eds.), *Trust and distrust in organizations* (pp. 189-213). New York: Russel Sage Foundation.
- Monge, P.R., & Contractor, N.S. (2003). *Theories of communication networks*. New York: Oxford University Press.
- O' Tool, L. J. (1997). Treating networks seriously: Practical and research-based agendas in public administration. *Public Administration Review*, 57, 45-52.
- Ouchi, W.G. (1980). Markets, bureaucracy and clans. *Administrative Science Quarterly*, 25, 123-141.
- Pfeffer, J., & Salancik, G.R. (1978). *The external control of organizations: A resource dependence perspective*. New York: Harper and Row.
- Podolny J.M., & Page, K.L. (1998). Network forms of organization. *Annual Review of Sociology*, 24, 57-76.
- Powell, W.W., White, D.R., Koput, K.W., & Owen-Smith, J. (2005). Network Dynamics and field evolution : The growth of interorganizational collaboration in life sciences. *American Journal of Sociology*, 110, 132-205.
- Powell, W.W., (1990). Neither market nor hierarchy: Network forms of organizations. *Research in Organizational Behavior*, 12, 295-236.
- Provan, K.G., Fish, A., & Sydow, J. (2007). Interorganizational networks at the network level: A review of the Empirical Literature on whole networks. *Journal of Management*, 33(3), 479-516.

- Provan, K.G., & Milward, H.B. (1995). A preliminary theory of network effectiveness: A comparative study of four community mental healthy systems. *Administrative Science Quarterly*, 40, 1-33.
- Provan, G.K., & Kenis, P. (2007). Modes of network governance: structure, management, and effectiveness. *Journal of Public Administration and Theory*, 18, 229-252.
- Provan, K.G., Isset, K.R., & Milward, H.B. (2004). Cooperation and Compromise: A network response to conflicting institutional pressures in community mental health. *Nonprofit and Voluntary Sector Quarterly*, 33, 484-514.
- Sakas, D., & Kutsikos, K. (2013). An Adaptable Decision Making Model for Sustainable Enterprise Interoperability, 2nd International Conference on Strategic Innovative Marketing. Prague, Czech Republic.
- Sakas, D., Vlachos, D., & Nasiopoulos, D. (2014). Modelling strategic management for the development of competitive advantage, based on technology. *Journal of Systems and Information Technology*, 16(3),187 – 209.
- Salancik, G.R. (1995). Wanted: A good network theory of organizations. *Administrative Science Quarterly*, 45, 1-24.
- Singh, J.V., & Humsday, C.J (1990). Theory and research in Organizational Ecology. *Annual Review of Sociology*, 17, 161-193.
- Sonnentag, S. (2000). Working in a network context – what are we talking about? Comment on Symon. *Journal of Occupational and Organizational Psychology*, 73(4), 415-418.
- Thorelli, H.B. (1986). Networks: Between markets and hierarchies. *Strategic Management Journal*, 7, 37-51.
- Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42, 35-67.
- Westphal, J.D., & Zajac, E.J. (1995). Who shall govern? CEO /board power, demographic similarity, and new director selection. *Administrative Science Quarterly*, 40, 60-83.
- Williamson, O.E (1991). Comparative economic organization: the analysis of discrete structural alternatives. *Administrative Science Quarterly*, 36(2), 269-296.
- Williamson, O.E. (1985). *The economic institutions of capitalism*. New York: Free Press.
- Zaheer, A., & Venkatraman, N. (1995). Relational governance as an interorganizational strategy: An empirical test of the role of trust in economic exchange. *Strategic Management Journal*, 16, 373-392.