NETWORK ORGANIZATIONS
(A Comparison Between Traditional Organization Forms and Network Form as a Non - Traditional Form

Yrd. Doç. Dr. A. Asuman AKDOĞAN*

ÖZET

Teknolojik, yasal, finansal ve insan gücü ihtiyaçlarında hızlı değişim gelişim ve rekaberle tanımlanabilen günümüz çevre koşulları; işletmeleri bilgi, maliyet ve risklerin paylaşımı gibi yeni stratejiler geliştirmek için zorlamaktadır. Ancak araştırmalar göstermektedir ki, paylaşıma dayalı geliştirilen bu stratejilerin varolan geleneksel örgüt ve yönetim anlayışı ile başarılı bir biçimde uygulanmasında sorunlar söz konusudur. Bu sistemlerde bazı düzeltmeler yapılmalıdır. Bu sorunları çözebilbilmek için geliştirilen modern yapılardan bir tanesi network (şebeke) organizasyon yapısıdır. İki veya daha fazla işletmenin uzun vadeli işbirliği yapması olarak tanımlanan bu yapının temel unsurları işbirliği, yardımlaşma ve geleneksel yapı özelliklerinden ayrılmadır.

INTRODUCTION

The business world has been living in a big technological change. In the past technological innovations were relatively slow, production processes were simple and standardized, and production included only large numbers of similar products, and environment was more stable. Under these circumstances, the traditional structures were highly successful and they arrived at their goals but they were not perfect. The disadvantages of the traditional structures became more acute when the technological change quickens, product life cycle shortens, environment becomes more turbulent, and markets become more specialized.

As a result of these changes, firms are now trying to cope with these completely new pressures in a variety of ways. According to Powell, these ways are to limit the size of work units, contract work out or more colloborative ventures with suppliers

(*) Erciyes Üniversitesi İ.İ.B.F. Öğretim Üyesi.

and/or distributors (1). These routes lead firms to do many things from cost-cutting to collaboration.

When we considered competition which is preventing the firms capacity to respond to the turbulent environment, more attention was paid to collaboration. Especially, it became crucial if a company found itself with a problem that it could not solve on its own. Miles and Snow argues that new organizational forms arise to cope with these new environmental conditions (2). One of new organizational forms is network organization structure.

In this paper, the types of network forms, the needs that gave rise to and the development of network forms will initially be reviewed. Secondly, the basic elements of networks will be described and the benefits that result from and problems that are caused by networking will be discussed. Finally, network structure, as a non-traditional organizational from will be compared with the traditional structures.

NETWORK STRUCTURES

Definitions

Network form is a structure which is created as a response to the new business environment which is very turbulent. Although, the whole economy may be seen as a network organization which comprises many companies and linkages, according to Thorelli network form refers to two or more organization involved in long trem relationship (3). Bianchi's definition has a broader perspective; a network is an interactive set of firms, based on an external division of labor, which is not directed by hierarchical command (4). All of these definitions reflects collaboration, cooperation, and the separation from traditional forms.

---

(1) Walter Powell, «Neither Market Nor Hierarchy: Network Forms of Organization», **Research in Organizational Behavior**, Vol. 12 (1990), p. 319.

(2) Raymond E. Miles and Charles C. Snow, «Organizations: New Concepts for New Forms», **California Management Review**, (Spring 1986). p. 64.

(3) Hans B. Thorelli, «Networks; Between Markets and Hierarchies», **Strategic Management Journal**, Vol. 7, (1986), p. 37.

(4) Patrizio Bianchi and Nicola Bellini, «Public Policies for Local Networks of Innovators», **Research Policy**, Vol. 20, (1991). p. 489.

Need for Networks

In the past, American companies trade mass production, They worked for economies of scale, they obtained experience, and they used these advantages to grow and expand their operations on worldwide. But with 1980s, the World Economy began to change, dramatically.

All of these changes showed that the mass production is no longer the unique advantage for the companies. Furthermore, it is becoming perceived as a barrier for adoptation to change. Besides that, the declining performance and effectiveness of traditional structures were other basic problems. As a result of these changes a new concept, Flexible Specialization, began to appear (5).

During the 1980s,

* There was a strong tendency for globalization and fast technological development - companies spread all over the world and international competition became very tough. Around the world, Technology is changing at a faster rate than ever before. The needs of companies are changed by the technological sophistication, and the force for implementation of innovations.

* Communication and computer technologies - there were big developments throughout the world. Fiber optics, satellite communication, and facsmile machines have made the communication better. In addition, computers have tremendously developed, and they gave managers many tools for management and production. Computers are now used everywhere from personal communication to advanced manufacturing and design.

* The limits of large scale organization were recognized-Large scale companies performed very well when mass production can be used to work in stable and predictable markets. As the environment changed and the organizations were confronted with fluctuations, the advantages of being large were not be able to meet these new demands. Having the ability the responsiveness to customer needs, without loosing the advantages of being big company, became the basic issue.

(5) Piore, and Sable, **The Second Industrial Divide: Possiblities for Prosperity**, NY: Basic, 1984. p. 285.

* The importance of speed and information became critical. Transferring know-how rapidly became critical.

Changes and improvements on technology combined with legal and financial deregulation and the changing human resource needs for companies, created a completely new environment and competition for existing organizations.

Under these circumstances companies understood that their existing strategies are no longer enough to meet the needs of this environment. There was a strong need for sharing costs, risk and knowledge. Managers began to search for global opportunities, distinctive competences, expert skills, and outsourcing. As organizations formulate new strategies to overcome new competitive conditions, they found that their structures and management, systems also require some modifications (6). These was a need for more efficient and adaptive organizational forms. One of the answer to all of these conditions was network organizations.

Types of Network Organizations

There are three types of network organizations, Internal, stable, and dynamic networks (7).

* The Internal network is a kind of network which is established in a firm and all of the assets are owned by the same firm. The goal of the internal network is to capture entrepreneurial and market benefits without having very much outsourcing. In another words, the logic of the internal networks is to gain competitive advantage through shared utilization of scarce assets and the continuing development and exchange of managerial and technogological knowledge (8).

In this type of network, organizational units come together according to their specialization. These collaborating units buy and sell goods and services among themselves at market price. It is supposed that this kind of market control-like ability to make

(6) Miles and Snow, «Organizations: New Concepts for New Forms», p. 71.

(7) C.C. Snow, R. E. Miles, and H.J. Coleman, Jr., «Managing 21st Century Network Organizations», **Organizational Dynamics.** (1993). p. 11-14.

(8) Miles and Snow, «Causes of Failure in Network Organizations», **California Management Review**, (Summer 1992). p. 65.

comparison between internal and external sources will force companies to work more effectively .And also companies can adapt to the changing market conditions more easily. In this network, internal units speciality is encouraged. The common mistake which occurs in this network form is corporate intervention in resource flow and transaction prices. For instance, as a result of top management politics, market prices can be changed with administered prices and this leads to inefficiencies.

* In Stable network- there is a relationship between the core company and partners beyond vertical integration. A large core company creates marketbased linkages to a limited set of upstream and/or downstream partners. The good side of this form is the ability to have multirelations. Under this structure, the core company can have the chance to establish linkages with more than one company either to gain resources or to upreach the distributors of its outputs. The benefit or this network is to have a stable supply and/or distribution system; however, this can create too much dependency and less flexibility it occurs especially, in the case of suppliers and distributors which only focus their operations on meeting the needs of their core firm, and such a dependency reduces the benefits of having network structure.

* The Dynamic network- is a more flexible structure than previous forms. In this type of network, companies collaborate with outside companies which have speciality in their areas. This may not have to be continuous form. Companies which need to collaboration can link for one time (short-term) production of a particular good or service. The basic logic is to take advantage of different distinctive competences which are possesed by different companies. On the other hand, Business Week describes them as companies which are «vertically disaggregated, relying on other companies for manufacturing and many crucial business functions; They are industrial companies without industrial production.» (9). In this network type, the core firm identifies and assembles assets owned largely by other companies.

The dynamic structures can provide both specialization and flexibility with good communication and coordination achieving

(9) **Business Week**, «And Now, The Post-Industrial Corporations», (March 3, 1986). p. 64.

good communication in a rapidly changing environment means fast adaptation and rapid response to the changes. But the implementation of this structure depends on some conditions such as availability of potential partners and their success in maintaining their unique expertise.

BASIC ELEMENTS OF NETWORKS

* Vertical disaggregation- As the environment became more turbulent, large scale vertical integration could not meet the needs of the companies. This kind of integration had an inability for adaptation and this inflexibility created a resistance to new product and process innovation. Hence, companies looked for new ways and they began to establish network structures. In this form, various business functions such as design, manufacturing, marketing, and R&D are performed by interdependent units and/or organizations within the network. These kinds of linkages are called vertical disaggregation (10). The degree of disaggregation is generally determined by the competitive forces. For instance, the less the competition is, the less complex network appears.

* Brokers-Because each function is performed generally by different organizations, there is a need for a level which will provide coordination. The managerial functions of a traditional structure are performed by broker in the network organizations. According to the type of network, sometimes one broker or more than one brokers play a lead role and link various partners. Three broker roles are especially important to the success of the network organizations; (11).

— Architect: They are the managers who facilitate the emergence of specific, operating networks. The task of the architect is relatively easy in the case of internal network, the architect of internal network must facilitate relationship between related units within the company. On the other side, in the stable and dynamic networks there is a requirement to use external units

(10) Walter W. Powell, «Hybrid Organizational Arrangements: New Form or Transitional Development», **California Management Review**, (Fall 1987). p. 77.

(11) Snow, Miles, and Coleman, «Managing 21st Century Network Organizations», p. 15.

and resources; therefore the role of architect gets more complicated.

— Lead operator: After design and emergence of the networks, the lead operator is important in implementation of tasks. Taking decisions for operations are his responsibility. The lead operator formally connects specific companies together into an operating network. The lead operator can be the same person as the architect.

— Caretaker: In order to have smooth and effective operations, there is a need for a manager who will monitor and enhance the relations among partners. This manager is called a caretaker. He/she also evaluates performance and behaviors of the members of network. He/she is trying to develop a climate for acceptance of common goals. The success of a network depends on the quality of this key player.

* Market mechanism-Networks perform according to market mechanism rather than to planing and control. Every unit of the network is controlled by the market mechanism and it is supposed that this confrontation will increase effectiveness and responsiveness of the network.

* Full-Disclosure (information systems and information flow) - Networks are based on complex communication channels. Given the fact of today's changing market, it is very important to have efficient information systems. To implement network organizations, partners of the network need to understand many things which happen outside of their area such as the strategic and operational plans of the organization, R&D plan, updated financial reports, and current trends of their networks. The accurate and fast information flow determine the success of the network. Sharing information and experience will not only provide desired outcomas but will also create common values which will lead to more success. All of this flow and sharing of information require not only traditional vertical communication but also horizontal communication.

Network channels are also important for diffusion of know how. It is a kind of tacit knowledge and it is difficult to flow along other lines. With tacit knowledge people generally know but the information is in heads, not written in manuals and handbooks (12). In general, this information can not be transferred even when the technology sold. This can walk away with networks.

* Trust-This is the basic need for a network. In a collaboration, companies share their personnel, technology ,and knowledge with other companies. Thus, if there is no trust, it is diffucult to share everything. Having a common background, ethnic, geopraphic, ideological, or professional, makes the collaboration easier. When it does not exist, trust is reduced and the desire for the participation decreases (13). (but trust need not be reduced if the situation is managed correctly)

* Power-is the central concept in network analysis. According to Thorelli, power is the ability to influence the decisions or actions of others (14). In a network organization, power arises because of the interdependence. This interdependency results in power which is created by distinctive capabilities of units (companies) in a network: economic base, technology, expertise, trust, legitimacy. For instance, having knowledge can be the biggest asset for power positioning in the network. Trust can be the basic factor leading to continued partnership. All of these factors give power to the company which has these characteristics.

BENEFITS FROM NETWORKS

The benefits that are gained with partnership are the result of the evolution of the exchange from the original economic trasaction to a complex web of exchanges connecting the two firms across various level (15). Although it takes time to have a match between partners, network organizations create many benefits. These are: (16).

(12) W. Powell, «Hybrid Organizational Arrangements: New Form or Transitional Developments.», p. 81.

(13) W. Powell, «Neither market Nor Hierarchy», p. 327.

(14) Thorelli, p. 38.

(15) Andrea Larson, «Partner Nerworks; Leveraging External Ties to Improve Entrepreneurial Performance», **Journal of Business Venturing**, 6, (1991). p. 178.

(16) Larson, p. 179.
W. Powell, «Neither Market nor Hierarchy», p. 323.
Wissema and Euser, p. 35.

— Access to financial resources .
— Access to new channels and markets.
— Cost savings through cost sharing and economies of scale.
— Shorter lead times for product development.
— Access to technology and process innovations.
— High quality results.
— Market feedback.
— Access to broad network of information and resources such as know how.
— Enhanced industry reputation.
— Networks also create incentives for learning.

All of the benefits of networks are great but the most important benefit of network forms is that they have a strategic fit to the changing environmental conditions. This structure is more flexible than any other previous forms and it maximizes specialized competences. It also provides more effective use of human resources than any single organization.

PROBLEMS IN NETWORKING

Although, there are many benefits from having collaboration, cooperation and network organizations, it is not without problems and risks. They are presenting the chance to access outside expertise and resources without spending big capital. However, once firms rely on outside expertise, they began to fail to develop their own capabilities (17). In another words, when too much dependency is created, it obviously creates risks for the companies.

Beside the general risks of networking, the structure of the network itself has also some failures. There are two basic problems (18) which are created by managerial mistakes; after a duration, managers try to extend and modify the sytem. These can create some basic problems like;

— Extension of the form which is a kind of push of the form beyond the limits of its capability.

— Modifications of the form which is reasonable on the surface, but nevertheless they violate the form's operating logic.

(17) Larson, p. 184.

(18) Miles, Snow, «Causes of Failure in Network Organization», p. 57.

In addition to these general risks, there are some specific problems for every network form:

— In a stable network which links the core company to supplier and/or distributor, a problem may be arisen by the complete utilization of supplier's or distributor's assets for the core firm. In that case, the market mechanism logic of network form is lost, because there is no longer a market testing for the quality and price. This will restrict the learning capabilities and flexibility of the suppliers and this means the network will not achive the logic of its existence. At the same time, when the core company begins to itself involve more and more in the management of the partner's assets, this is not good for the staffs of core company or the partners.

— The internal network is a form which is intending to create a market inside the firm. In this form, organizational units buy and sell goods and services among them at a market price. The problem occurs when there is an intervention regarding resources and transaction price. Generally managers tend to use internal control on behavior instead of actual market measures to make evaluation. Again this intervention decreases the adaptation ability to change.

— The problem in the dynamic network arises from overspecialization of a particular company which is located in a dynamic network. It can reduce the contribution of the partners to the whole network Conversely, firms which are entering to a dynamic network can be imitated and they can loose their distinctive capabilities When this fear creates protection, what it means is a separation from the efficiency factors of network form.

A COMPARISON BETWEEN TRADITIONAL ORGANIZATIONS FORMS and NON-TRADITIONAL FORM

In this part, the bureaucratic organization, structure as a traditional form, was chosen to make a comparison with network structures.

Bureaucratic Organization Theory and Structure

Bureaucracy was developed by Weber to describe an ideal structure. His primary goal was to establish an overall management system for large organizations that would promote efficiency, consistency, and fairness (19). According to Weber, a bureaucratic organization should have a set of principles that will lead to organization: The person who holds a position should have expertise which is gained with training. Successful performance depends on the rules and regulations. The relations between each position must be explained explicitly, important decisions must be centralized through a hierarchic structure, and written communication, division of labor and impersonality are crucial.

Under this general framework, traditional organizations had and have some characteristics which are summarized below;

— Clear departmental boundaries
— Clear lines of authority, hierarchical organization
— Detailed reporting mechanism
— Formal decision making procedures
— High control by supervisors
— High credit to predictable behavior

— Reliability-capacity for producing large numbers of goods and services in a given quality, repeatedly.

— Accountability-how resources have been used
— Formal information flow through vertical lines, and individual units.

These characteristics created an organization which has a single center, independent activities, vertically integrated, uniform structure, limited mind set, and emphasis on efficiency. When an organization had these features, it is accepted as an efficient, well-performing organization. On the other hand, by the time hierarchical forms are confronted by sharp fluctuations in demand and unanticipated changes (20), their reliability and efficiency are lost. Moreover, organizations or departments which have that structure begin to suffer when there is a need for rapid decision making and flexiblity to meet the demands of changing external environment.

(19) M. Weber, **The Theory of Social and Economic Organizations.** Trans. T. Parson and A. Henderson. New York: Free Press, 1947. p. 56.
(20) W. Powell, p. 303.

New Organizational Forms

In this study, networks are used as a new form. Their basic characteristics are; (21).

— Steeples of expertise. The expertise is not limited to a special task but it is applicaple to wide range of activitles.

— Interdependent units. One unit is dependent on resources which are controlled by another units.

— Multiple alliances. External and internal linkages with various units and companies.

— Multiple centers and diverse structure. Decentralization and more than one management (plan, organization and control for resources), and production, design, etc., centers.

— Cosmopolitan mindset. A special behavior which is based on enhancing ability of transmitting new things.

— Emphasis on flexiblity. To be able to change, flexible units, resources...

Comparison

Both traditional organizational forms and also as a nontraditional form, networks are paying attention to the, **specialization and division of labor.** However, approaches are different from each other. Whereas a network is based on external division of labor (which is realized out of unit), in a traditional bureaucracy, expertise and specialization are limited with specific tasks and skills. Also, in a network structure, flexible specialization is acceptable and having the ability to change is even more important than having expertise. Conversely, flexibility is not one of the characteristics of bureaucratic structure which tries to establish more reliable, predictable, and stable organization.

While in a bureaucratic organization **relations** are based on authoritative, bureaucratic, vertical relations, in a network, they are based on competitive, conflictual, and horizontal relations,

(21) Homa Bahrami, «The Emerging Flexible Organizations», **California Management Review,** (Summer 1992), p. 46.

the market decides the price and other issues which will be used for partnership. In this kind of new form, information is extremely important and all levels of information flow, especially horizontal, are encouraged. As a result of this encouragement, information flow in network is «thicker» and «freer» than bureaucracies (22).

In a bureaucracy, the source of **power** is legitimate. The manager has power because of his/her position. Rules are put by a central authority and the manager uses it to make people obey him/her and make them work for organizational efficiency. On the other hand, in a network form, power is sourced by knowledge. The unit or company which has knowledge has more power than others. In other words, status and power are determined by one unit or company's ability to contribute rather than one's position in the hierarchy.

In the networks, the **Independency** characteristic of bureaucracy is turned into interdependency through collaboration. Because of resource dependencies, every unit needs each other.

Turist is another basic issue in a network form. If there was no trust among partners, a network could not exist. Because of mutual sharing and interest, it is really important to have trust in a network system. The trust factor is not given sufficient attention by bureaucracies (more rational eriteria). From another view, the bureaucratic organization can create on atmosphere of trust between employees much more than a market based organization can between the parties to an exchange (23).

In a traditional form, it is important to have **internal linkages** and coordination to accomplish goals, efficiently. But in a network, in order to accomplish goals there is a need not only for internal linkages but also for **external linkages. Coordination** is not only achieved through hierarchy but also through mutual relations and interactions among units.

(22) I. Kaneko and IMai, «A Network View of the Firm», 1 st. Hitotsubashi-Stanford Conference, 1987, s. 20.

(23) William G. Ouchi, «Markets, Bureaucracies, and Clans», **Administrative Science Quarterly**, Vol. 25, (March 1980) .p. 134.

Control is done by supervisor in a bureaucracy. In a network, it is done by peers and units which dependent each other.

Whereas, in a traditinoal organization, **career paths** are limited by certain amount of functions, it is wider in a network.

CONCLUSION

Nowadays, even larger companies are discovering that they can not answer all of the needs of environment which is changing very rapidly. Also, small companies are looking for the resources and utilization of their speciality. These searches created new strategies and new forms for organizations. As a new form, networks arose.

There are some major factors causing a firm to form networks with other companies. They are globalization, fast technological change, improvement in communication, and computer technologies, limits of large scale organization, and the importance of speed and information. Networks provide a way to compromise a firm's resource needs with the collaboration, and partnership. Using a network gives a chance to cope with the competitive environment.

There are theree forms of networks; stable, internal, and dynamic. The basic logic of all these forms are to share limited external and/or internal resources to capture entrepreneurial and market benefits. On the other hand, there are some inefficiencies such as too much dependency, loosing unique capabilities, and overspecialization.

Networks are dependent on some characteristics as power, interdependence, disaggregation, trust, market mechanism, and full disclosure. These features creates the network and determines its success.

As a new organizational form, networks are more different than traditional forms. In a traditional - bureaucratic structure, there are clear departmental boundaries, lines of authority, detailed reporting mechanism, high control, vertical information, reliability, and predictability. They created an organization which has one center with dependent units, vertically integrated, uniform structured, and an emphasis on efficiency. This is the organization that suffered inflexibility. Although both of the structures give credit to specialization, with the characteristics of expertise, interdependency, multiple alliances, multiple centers, and cosmopolitan mindset, networks provide more flexible structures which are consistent with the new environment.

REFERENCES

ARCHIBUGI, Daniele, and Mario Pianta. **The Technological Specialization of Advanced Countries.** Dordrecht: Kluwer Academic Publishers, 1992.

BAHRAMI, Homa., «The Emerging Flexible Organizations», **California Management Review** (Summer 1992), pp. 33-51.

BIANCHI, Patrizio and Nicola Bellini. «Public Policies for Local Networks of Innovators», **Research Policy,** Yol. 20, (1991), pp. 469-498.

BOYNTON, Andrew, C. «Beyond Flexibility: Building and Managing the Dynamically Stable Organization», **California Management Review.** (Fall 1991). pp. 53-66.

BUSH, John B. «Communication in a Network Organization», **Organizational Dynamics.** (1992). pp. 23-36.

Business Week. «And Now, The Post-Industrial Corporations», (March 3, 1986) pp. 64-71.

Business Week. «The Virtual Corporation». (February 8, 1993) pp. 98-103.

FORTUNE. «The Search for the Organization Of Tomorrow», (May 18, 1992) pp. 92-96.

JOHNSON, David, J. «Approaches to Organizational Communication Structure», **Journal of Business Research,** 25. (1992), pp. 99-113.

Kaneko, I and Imai, «A Network view of the Firm» Ist Hitotsubahsi-Stanford Conference 1987.

LARSON, Andrea, «Partner Networks; Leveraging External Ties to Improve Entrepreneurial Performance», **Journal of Business Venturing**. 6, (1991) pp.. 1771-185.

MILES, R. E., and C.C. Snow. «Causes of Failure in Network Organizations», **California Management Review.** (Summer 1992), pp. 53-72.

MİLES, Raymond E. and Charles C. Snow, «Organizations: New Concepts for New Forms», **California Management Review**. Vol. 28, (Spring 1986), pp. 63-80.

PIORE and SABLE. **The Second Industrial Divide: Possibilities for Prosperity,** NY: Basic Books, 1984.

POWELL, Walter W. «Hybrid Organizational Arrangements : New Form or Transitional Development», **California Management Review**. (Fall 1987) pp. 67-87.

POWELL, Walter. «Neither Market Nor Hierarchy: Network Forms of Organization», **Research in Organizational Behavior.** Vol. 12. (1990) pp. 295-336.

QUCHI, William G. «Markets, Bureaucracies, and Clans», **Administrative Science Quarterly**. Vol. 25, (March 1980) pp. 129-141.

SMITH, Helen L., Keith Dickson, and Stephen L. Smith. «There are Two Sides to Every Story: Innovation and Collaboration within Networks of Large and Small Firms. **Research Policy.** 20. (1991) pp. 457-468.

SNOW, C.C., R.E. Miles, and H.J. Coleman, Jr. «Managing 21st Century Network Organizations», **Organizational Dynamics.** (1993) pp. 5-20.

THORELLI, Hans B. «Networks; Between Markets and Hierarchies», **Strategic Management Journal**. Vol. 7, (1986) pp. 37-51.

WEBER, M. **The Theory of Social and Economic Organizations. Trans.** T. Parson and A. Henderson. New York: Free Press, 1947.

WISSEMA and Euser. «Successful Innovation Through Inter-Company Networks», **Long Range Planning.** Vol. 24. (1991), pp. 33-39.