The Typology and the Current Perspectives of Network Organizations

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Abstract—The competitiveness within as well as among organizations represents a topical and challenging issue. Therefore, network organizations should pay considerable attention to both researchers and practitioners in order to gain various advantages. Particular models of network organizations are introduced and their implications for potential improvements are discussed.

Keywords-communication mechanism; coordination mechanism; organizational model; network organization; typology

I. INTRODUCTION

A lot of current organizations might be considered as network organizations, at least to a certain extent. A network organization can be defined 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 [1]. The basic features include the presence of independent teams and departments sharing common values, interconnected projects supporting each other, links among projects through Information and Communication Technology and the presence of the role of key coordinator for communication and coordination managing the units [2].

The necessity and the pursuit of the employment of the network principles might be beneficial for the purposes of the communication and coordination enhancement. Nevertheless, the organizations do not realize and utilize the potential of such structures. The main benefit of this work in progress is the initial introduction of the network organizations and their implications. The models of the network organizations are reviewed and the practical advice is outlined. The paper also aims to serve as an inspiration for the development of the organizations aiming to enhance their competitive advantage

This paper firstly describes the methodology. Secondly, the basic concepts of network organizations are introduced in Section III. Partners within models of networks and the significant aspects of coordination and communication are identified. Furthermore, advantages and disadvantages are outlined and theoretical assumptions are discussed. Various models, including their description, are introduced in Section IV. Finally, the most important issues are concluded, the paper limitations are outlined and significant areas for further research are mentioned in Section V.

II. METHODOLOGY

The methodology is mainly based on the literature review. Various resources are examined, analyzed and compared. These provide an initial overview of the potential models which can be subsequently employed within various organizations. The variety of resources includes journal paper, web resources and books. Moreover, the effort to use relevant experts and their opinions was pursued. For instance Jashapara, Desouza or Prusak are encompassed.

Moreover, the practical perspective is included through the observation of and experience with specific organizations with a network structure. Mostly, clusters were analyzed. Currently, only the practices of companies from the Czech Republic were observed. Nevertheless, this was sufficient from the perspective of this paper.

III. MODELS OF NETWORKS – IDENTIFICATION AND CHARACTERIZATION

A network can be characterized as a set of linkages among a defined set of people in which the character of the linkages is specified [3].

A. Partners within Models

Two crucial components - organization and infrastructure - are the most important for networks to be effective. Moreover, reliable partners in a network should be identified and involved to ensure the continuous improvement and innovation. Dedina and Odchazel [4] define three main roles of partners within various models. These encompass the following:

- Trading partners (distributors, producers, service providers).
- Nominal trading partners (these partners ensure mainly physical distribution represented by transportation providers, bank institutions, the Internet providers).

- Organizers with key activities including, among other things, the future development prediction, the network support and assistance, recruitment of new partners or development management.

Moreover, Desouza and Awazu [5] emphasize the role of so called gatekeepers - people who, especially within larger teams and networks, screen and select relevant information before making it available to the group. This eliminates the distraction of the group with useless, irrelevant and low-quality knowledge.

Nevertheless, such important role is usually neglected, because all the potential candidates with relevant experience and optimal involvement sometimes lack time, are not willing to provide their know-how or face various obstacles that prevent them from participating in these activities.

Another model of partnership stressing the continuous improvement and innovation network was introduced Clark et al. [6]. Continuous improvement and innovation requires people willing to share knowledge and ideas and utilize specialized knowledge, skills and support. Fig. 1 indicates categories of people that may be targeted to form a sustainable partnership and network.

B. Aspects of Coordination and Communication

One advantage of network organizations is the improvement in cooperation and communication improvements leading to better flow of information and knowledge [7]. Support of coordination and communication in organizations [8] is represented mainly by the following attributes:

- Events: enhancements of the sense of purpose.
- Leadership: role of community coordinators.
- Connectivity: enhancement of dialogues, trust and relationships.
- Membership: optimal amount of members.
- Learning projects: learning agenda.
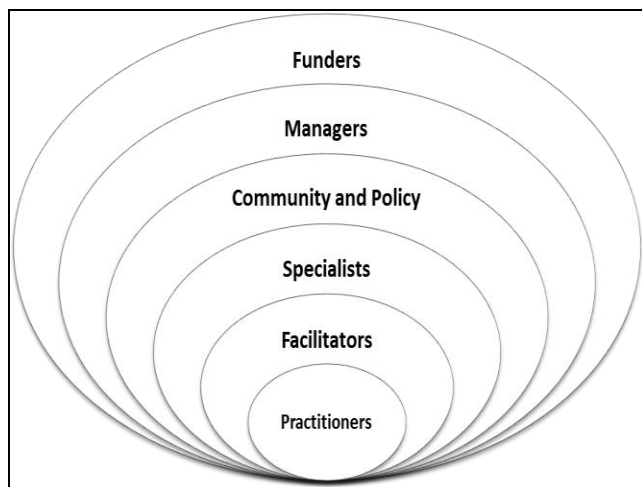- Artifacts: documents, tools, stories, symbols, websites.

Figure 1. A diagram of potential partners in a continuous improvement and innovation network (Adapted according to [6]).

Apparently, every organization varies in the extent and inclusion of the mentioned components. These differ on the basis of the demands and needs of the internal and external context of the given subject. Nevertheless, Jashapara [8] claims that it is really crucial to find the ideal extent of cooperation and competition within the coordination mechanisms to support the optimal "zone" which results in knowledge creation, better performance and better results.

C. Advantages and Disadvantages

The advantages and disadvantage of both the individual organizations within the networks, and performance of such organizations are strongly interconnected. These sometimes influence each other significantly and therefore these will be discussed together. As discussed in Dedina and Odchazel [4], the benefits include income increase, costs decrease, higher flexibility and efficiency, higher innovation potential together with more prompt, efficient and desirable ways of knowledge and skills spread and transfer. The flexible and organic structure might also cause some problems. Struggles with the determinations of clear responsibilities or unstable organizational structure linked with this approach can serve as an example. Furthermore, the transactional costs should not be omitted in the budget planning. These include for example necessarily needed costs for the communication among the member organizations.

Nevertheless, the extent of informal connections and trust among members remain important. Some organizations promote familiar environment and personal relations. On the other hand, within other companies only strict and formal relations among employees occur. Both extremes are perceived as not very worthy especially from the long term perspective. To find the right balance of the supportive initiatives is relatively hard task.

The advantages of the network organizations support their importance as well as the usability of such organizational structure. In comparison with hierarchical and market forms of organization, the network structure possess particular advantages (more details in Table 1). The relational nature of the membership and the way of communication evokes the emphasis on reputation among member organizations as well as with the external institutions. Moreover, these ensure usually higher commitment and more open climate enabling better cooperation and results. The stress on mutual benefits among member organization is promoted strongly and therefore the complementary strengths are present. These can provide the competitive advantage and enhance the efficiency of the network as a whole. Nevertheless, these are not as flexible as hierarchal structures. The reason is in reaching consensus through the communication with all the members [9].

IV. MODELS OF NETWORKS

There are many diverse models available in the literature [9]. Some of them are completely different. However, similar aspects are sometimes found when comparing two or more models.

TABLE I.   COMPARISON OF VARIOUS FORMS OF ORGANIZATIONS
(ADAPTED ACCORDING TO [9])

Key Features	Forms		
	Market	*Hierarchy*	*Network*
Normative Basis	Contract	Employment relationship	Complementary strengths
Means of Communication	Prices	Routineso	Relational
Methods of Conflict Resolution	Haggling	Administrative fiat - supervision	Norm of reciprocity - reputational concerns
Degree of Flexibility	High	Low	Medium
Amount of Commitment among Parties	Low	Medium to high	Medium to high
Tone of Climate	Precision and/or suspicion	Formal, bureaucratic	Open-ended, mutual benefits
Actor Preferences or Choices	Independent	Dependent	Interdependent

The network and the social network analyses are needed for identifying roles and experts for particular areas and specifying the organizational flow ([5] and [10]). This also helps to determine the employed network model. A more appropriate model can possibly be revealed and considered for further use.

A. Fundamental Typology

Fundamental typology [4] can be used in many cases, even for the models of networks. This way, models can be differentiated based on production, distribution and industry.

There are three most typical models:
- Vertical networks represented by independent specialized companies.
- Cross-sectorial networks.
- Opportunity networks.

B. Typology according to the Dominance

This typology [4] distinguishes two models. The first one is a network with one dominant partner who communicates with all other partners in the network. Nevertheless, individual partners do not have to communicate with each other. The other one is a network in which all partners are equal. None of individual partners has power to change regulations and activities of the whole network. They have a limited authority and responsibility. The decision-making power is delegated and changes constantly.

C. Layered Model of Networks Based on Five Perspectives

The layered model as an example of a conceptual model of networking is based on the following five interdependent perspectives:
- Use of technology (mobile phones, voice recorders, camcorders, cameras, email, instant messaging, NAS servers, cloud computing).
- The nature of the work process.

- Organizational functions.
- Associational perspective.
- Societal perspectives.

The interdependency among all of the components is depicted in Fig. 2.

Obviously, the network organizations seem to penetrate to various areas of business. Nevertheless, not all organizations realize that they can be perceived as part of the network. The principles of networks should be emphasised and promoted by the idea of sharing and supported by the use of technology. There is a variety of technologies and platforms possibly beneficial for the communication and coordination of network organizations. Some examples include Microsoft SharePoint, Dropbox, IBM Connections or Microsoft SkyDrive. Nonetheless, these are mostly very robust or useless especially for the purposes of small- and medium-sized or non-profit organizations. Hence, the basic principles and approaches are introduced in this paper to cover the mentioned issues at a general level.

D. Structure Model of Networks

The structure model of networks as in Qureshi [11] differentiates two approaches – a relational approach focused on relations among actors (both individual and social actors) and a positional approach focused on their attributes (attributes such as relationships, people characteristics and behaviors). The main differences of these two types of models are represented in Fig. 3.

V.   RESULTS, LIMITATIONS, AND FURTHER RESEARCH

Considering the appropriate utilization of the introduced typology and the general concept of the network organizations, the provided assumptions should be verified in practice. Moreover, the discussion with professionals from the network-based organization as well as from these not aware about this concept might be useful to reveal the point of view of the current and prospective end users. This would also provide the scope for the comparison and adjustment of the discussed models and issues for various purposes and types of organizations (based on their size, sector, financial means, technological readiness and the like).
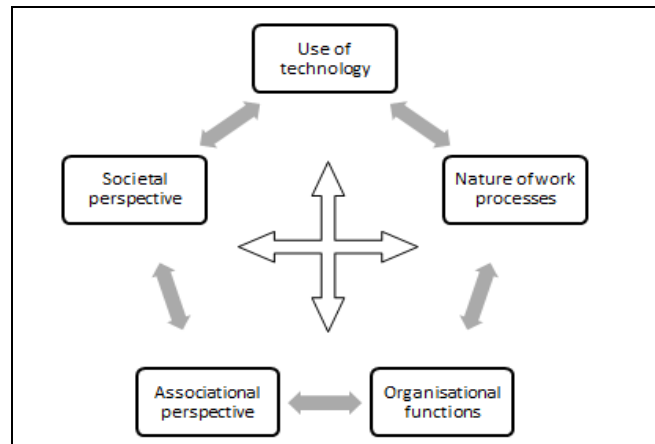

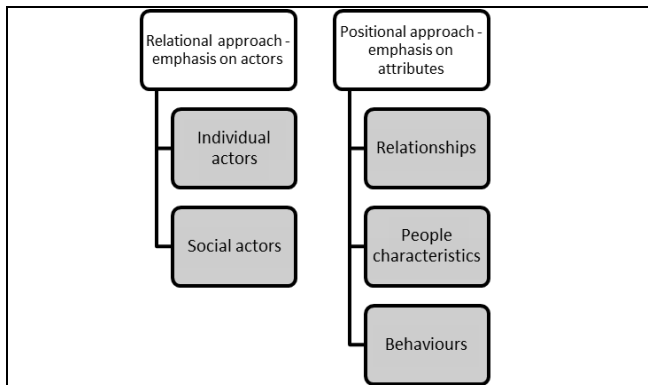Figure 2.   Layered model based on five perspectives [11].

Figure 3.   Structure model of networks (adapted according to [11])

Nevertheless, there are specific problems connected with networks. These can be exemplified by the lack of trust, weak engagement and willingness of all involved parties to participate, insufficient or unreliable technical equipment negatively influencing the successfulness and the benefits of the networks. This paper does not aim to cover these issues, because these should be addressed more in detail during the organizational processes at the operational level.

Furthermore, the general model may be created on the basis of the discussed ones. This should be more complex and flexible for the use under different conditions. As mentioned above, the proper testing should follow in pursuit to increase the relevancy and extent of practical implications.

VI.   CONCLUSION

Network organizations represent a way to utilize advantageous practices within and among organizations. The employment of the suggested communication and coordination mechanisms and network principles might be beneficial from the internal as well as external environment of the organization. Therefore, particular suggestions which should be verified in practice are provided.

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