

# Sustainable Development and Organizational change

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## 1 Introduction

Sustainability in terms of a business process could be interpreted as the ability of a company to resist changes of the external environment and at the same time keep the ability to grow. This term, in general, is rooted in environmentally-friendly businesses, but since then the meaning of the environment was significantly expanded. One can understand the environment as multiple aspects of human being that include social, economical, and environmental components of life. Environmental changes lead to changes in the company, the organizational structure of the company and the company's behavior related to interaction with the environment. What does sustainability add to the organizational structure of companies? What is the mechanics of organizational changes? This article tries to find answers to these questions.

## 2 Defenitions

The concept of "sustainability" was borrowed from biology. In biology it refers to the ability of biological systems to be varied and productive. Expansion of this concept in the form of social relations between people leads to the fact that this term is a part of the concept "sustainable development". The Brundtland Commission of the United Nations on March 20, 1987 proclaims: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Thus, the concept of sustainability describes a certain form of relationship of entities with the environment in which the entity is able to develop, to be diverse, productive and in harmony with the environment. At the same time, development of this entity carried out by means of sustainable development implies such an interaction with the environment, which does not limit the ability of next generations to realize their needs.

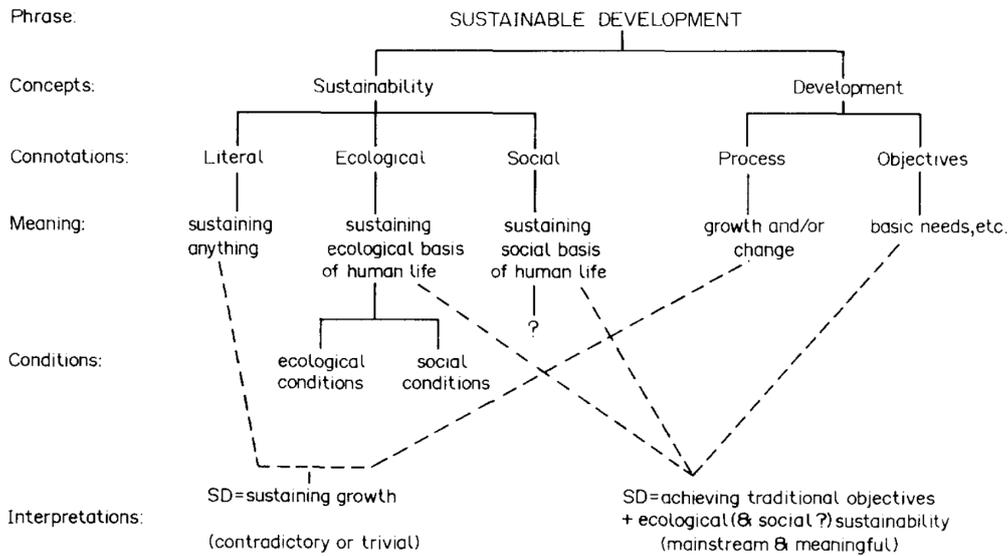


Figure 1: Meaning of Sustainable development

Such a broad interpretation allows to use the concept of SD both in respect of the environment, namely, human impact on nature, and, for example, in a social context, i.e. impact of the company's activities on society and vice versa. It can also be said that the company's ability to grow under conditions of external shocks - crises, pressures, drastic changes – is also sustainability.

A deeper analysis of the term of sustainable development carried out by Lele [1] in 1991, identifies such peculiarities of sustainable development as the ability to growth (Sustainable Growth) and achievement of additional objectives such as ecological and social objectives. Latter, in 2005, the World Summit on Social Development identified the following goals of sustainable development: social development, environmental protection and economical development.

### 3 Need to change

Interpreting the concept of sustainable development as the company's development in harmony with the environment, it will be fair to say that interaction is two-directional: the company affects the environment by its actions and vice versa. Changing environment also forces the company to change constantly, and if the company develops in the context of sustainable development, these changes affect the internal arrangement of the company, its organizational structure and management. Externally influenced the com-

pany's organizational structure is subject to changes aimed at making it more sustainable.

In 1991 Michael Porter made a hypothesis: "Strict environmental regulations do not inevitably hinder competitive advantage against rivals; indeed, they often enhance it." Translating this hypothesis into the language of sustainable development, one can say that changes in the environment (both the political context and the environmental context are components of the environment) can lead to increased competition among companies by means of influencing the company. There were a lot of supporters and opponents of this hypothesis, many companies in the 90th and early 2000s could not see synergies between SD and competitive advantages, but closer to the second decade of the 21st century many companies considered SD (in particular, in the environmental context) as an approach having a positive effect on the future of their companies and a competitive advantage.

Thus, in terms of terminology and meanings, one can conclude the following:

- Sustainability can be a driver for the creation of new competitive advantages.
- In general, sustainable development deals with not just environment but it also means interaction of a company with the environment, where environment can be social, political, economical, ecological, etc.
- "Need for change" – a reaction of an organization on environmental changes

Next, we will try to consider the mechanics of a change, i.e. how the company change its organizational structure influenced by the environment.

### **3.1 Systemic**

A system approach is the most convenient approach allowing to describe the process of environmental influencing on the company's changes. The system approach interprets events and phenomena as the process of interaction of systems.

There are a lot of definitions of the system, but in this case it is better to use this one: A system is a set of interacting components that make up a whole. I.e. a system consists of elements (components), these elements are somehow connected with each other (interact), and this set of interacting components may act as a whole. An important addition to this definition is that the system interacts with the environment. In other words, available

components and links as well as super- and subsystems, i.e. other systems interacting with the system are important when defining a system.

And from this point of view interaction of a company with the market can be presented as a system. Companies are elements of the system and their commodity-money (or other) relations symbolize links. In addition, a company itself can also be presented as a system consisting of staff (elements) and contractual relationships (links). In this case, in relation to the company, the market is a supersystem. One can also detail subsystems within the company, for example, if we build a system that is not based on staff but on divisions – logical structures uniting employees having various skills or specializations.

Then, using a system approach, we will consider interaction of a company with the environment, as well as interaction of the company's management with its employees. This survey is based on the analysis of works of Kristian Möller et. al. [4, 2, 3] and Annmarie Ryan et. al. [5]

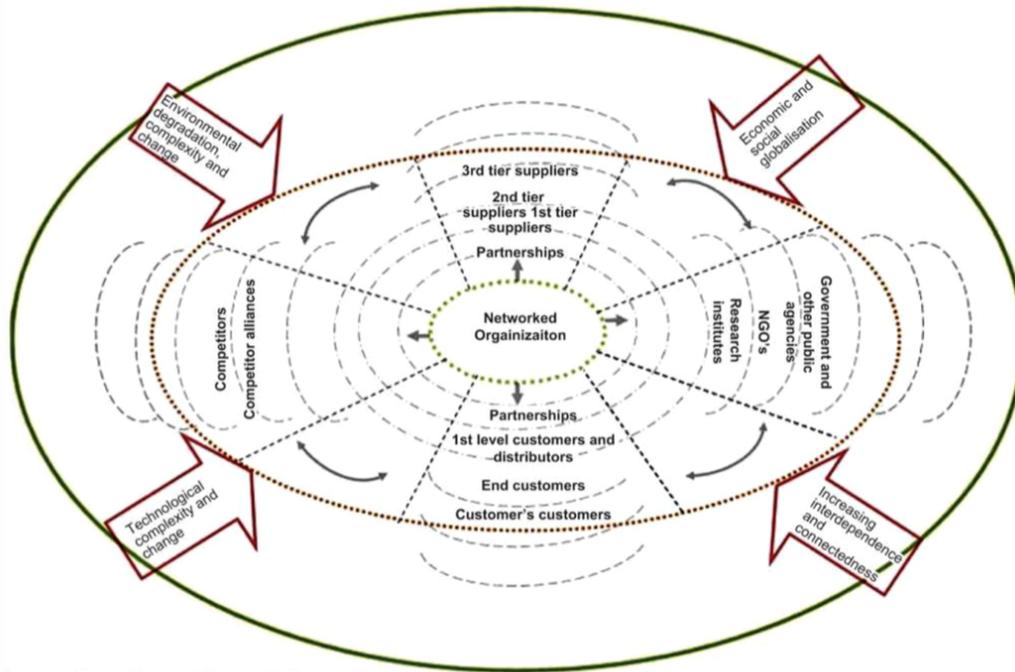
## 4 Market-as-net

As described above, from the system point of view the market is an interacting environment consisting of components. A changing environment influences on individual components - companies. At the same time behavior of individual companies affects the state of the entire environment. And understanding of Sustainability phenomenon cannot come without considering the market as a dynamic structure.

In his works Kristian Möller et. al. proposed a network-based model of the market and described how elements of the market are organized as a network to build a successful entrepreneurial activity. Later, Annmarie Ryan et. al. applied this concept to describe changes occurring in the environment and how changes in the environment affect sustainable development of companies.

FA market model is presented on the figure 1. It includes external triggers, various components of the environment, such as suppliers, partners, public services in various forms, etc. External triggers initiate change processes affecting the participants of the system. Any event of social, economic, environmental or man-caused nature can be such triggers. Further, these changes apply to all participants of the environment, eventually reaching a particular company. There is no explicit delineation of internal and external triggers - boundaries between them are blurred.

The system model presented on figure 2 are multilevel, and it can be analyzed in tree dimensions, depending on different roles of different system



Source: Adapted from Möller and Halinen (1999)

Figure 2: Meaning of Sustainable development

level components:

- role of the network
- role of dyadic relations
- nature of organizational level capabilities

#### 4.1 Role of the network

As mentioned earlier, from the system point of view, separate processes cannot describe such complex phenomena as sustainability. At the same time, functioning of the entire system fully depends on functioning of separate components, as well as the quality and types of their links. According to the work of Kauffman and Johnsen's (1991), interaction of system actors with the entire system can be conceptualized as co-evolution. In other words, elements within the system are interconnected and sustainability of a single element of the system depends on its connectivity with other elements of

the system, as well as intrinsic abilities of the element to respond to changes adequately.

In other words, a system approach applied to describe the market shows that a system component shall be connected with other system elements (it contributes to rapid distribution of information about changes) for the purposes of its sustainable development and it shall have an intrinsic ability to adapt to the changing environment. At the same time changes from one element of the system distribute to the entire system faster provided that this element has more connections with the environment.

## 4.2 Role of dyadic relations

A supply chain is a mechanism of interaction of system elements with each other. In terms of sustainability, the importance of this mechanism increases, since all elements of the chain are integrated into the life-cycle of a sustainable company. Work in accordance with the ideas of sustainable development imposes additional requirements on all elements of the supply chain, and step by step it is distributed to parts suppliers, company's divisions and logistics companies.

Companies interact with each other on different levels. One can separate horizontal and vertical relationships. Horizontal relationships are relationships of market participants, while vertical relationships are relationships related to creation of associations, consortiums, strategic networks and communities. In both cases, dyadic relations are the mechanism of influencing and distribution of ideas.

Exchange of resources and knowledge is complemented by exchange of ideas. A mutually beneficial cooperation in the context of sustainable development promotes distribution of ideas and vision of business practices.

## 4.3 Nature of organizational level capabilities

Usually, when considering capabilities of companies, researchers are focused on the company's ability to create a new product. But from the point of view of network interaction another set of capabilities is important. These are external capabilities related to the company's ability to interact with system elements and use its resources.

The *Network vision capability* shall be the first capability. It is based on the ability to conceptualize value systems, identify key actors, links and subnets. Further, subnets can be created within existing networks for the purposes of such activities or solution of specific problems. *Network orchestration* capability allows to identify, create and manage such subnets. This

capability is closely related with first capability – it is difficult (or impossible) to identify subnets, create and manage them with no vision of the overall structure of the system. Next, the third type of capabilities is *Effective partnering and enabling radical change capabilities*. General understanding of the system and its individual components (subsystems) is not enough to influence the system. The key mechanism of influencing is dyadic relations, and thus capabilities associated with identifying suitable partners and building partnerships with them are especially important. Moreover, it is impossible to develop an entire sustainable system without the ability to initiate radical changes. And the last group of capabilities is related to the internal organization of companies. The first three capabilities are universal irrespective of the fact that what is distributed in the network - the mechanism is the same both for good and bad ideas. It is obvious that the internal organization shall be built on the basis of sustainability ideas for the purposes of distribution of sustainability ideas.

#### 4.4 Conclusion

This essay deals with the problem of organizational changes, sustainability and sustainable development. On the basis of several studies we tried to generalize and describe the mechanics of organizational changes in the context of the ideology of sustainability. It was found that sustainability and sustainable development are largely conceptual concepts that characterize the ability of organizations to develop and exist in harmony with the environment, thus, the environment is not only the nature, but also social, political and economic aspects. A system approach can be used to understand the company's interaction with the market. According to this approach the phenomenon of sustainability is studied based on the dynamics of the system, rather than on its individual components. The system approach allows us to interpret the market as a network consisting of actors initiating changes. From the point of view of a network, sustainability depends on the connection of elements with the environment, as well as the ability of an element to perceive changes. In addition, changes in the network are distributed by means of dyadic relations existing in the vertical dimension - between companies and their unions, and in the horizontal dimension - as a supply chain and division of labor. To have impact on the network, the company should have additional capabilities. Direct capabilities, such as the capability to develop, produce and sell products shall be accompanied by indirect capabilities that determine the company's ability to influence the network. Indirect capabilities are the ability to see the market in the form of a network, the ability to organize and manage subnets, as well as the ability to initiate and

promote radical changes through effective partnership.

Meanwhile, in addition to external capabilities associated with the interaction of a company with the environment, the company should have internal capabilities associated with the distribution of sustainability ideology. This aspect of organizational management is beyond the scope of this paper, but it can also be considered in terms of systems.

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