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## **ETHICAL RESPONSIBILITIES OF R&D ORGANIZATIONS: NETWORKING BUSINESS AND SOCIETY**

### **Abstract:**

This empirical research contributes to the understanding of how actions of networking companies are going beyond their networks picture and impact on society. For the structural analysis of this phenomenon the concept of ethical embeddedness is applied which assumes that business organizations are embedded in a broader social network and have mutual interconnection of their functions. The research proposes that embeddedness of businesses may be exemplified via ethicality of responsibilities that specific business actors employ. Therefore, the research adopts Industrial network approach to investigate ethical embeddedness of business organizations in society and their impact on its current and future development. The “social face” of industrial markets has being extensively discussed in the works of K. Polanyi (e.g. 1968) who collaborated on the concept of social embeddedness of the economic interaction. Granovetter (1985) has developed this idea even further by emphasizing that companies interact in social environment and the social networking is not dividable form the business networks. The concept of ethical embeddedness is adopted for this study (Lindfelt & Törnroos, 2006) which can be explained as ethical values in relations to economic values that are created in a particular business network.

Empirically, this framed as a case-study research is grounded on the interviewed representatives of R&D organizations engaged in medical devices R&D activities. They excellently exemplify ethical considerations of embedded ethical responsibilities toward society as their general aim along profit achievement is to improve social welfare. Additionally, those organizations are highly dependent on the network of business partners, governmental and other institutional actors which make them perfectly suitable for this research. The research question of this study is articulated as the following: how embedded ethicality of businesses impact on interconnection between society and business organizations?

In general, conceptually, this research paper contributes to the development of the concept of ethical embeddedness and to Industrial network approach theory. From the practical perspective, it aims to illustrate the attractiveness of investment in development technologies that are able to improve social welfare; the ethical value embedded in business activities and its impact on society and business partnership. Current interest to the ethical issues requires filling a research gap in lacking empirical evidences of ethical and, consequently, socially significant managerial practices executed in business networks that influence on general public good.

### **Keywords:**

Business ethics, social responsibility, business networks, industrial marketing, ethical embeddedness

**JEL Classification:** L14, O32, M14

## Introduction

This research paper is dedicated primary to the concept of ethical embeddedness within business networks (Lindfelt and Törnroos, 2006). The network approach is applied to the structural investigation of the business relationships developed out of interaction among business actors or representatives of business organizations (e.g. Powell, 1990; Håkansson and Ford, 2002; Håkansson and Snehota, 2006). Network approach is adopted from Industrial marketing and purchasing theory (IMP) that is commonly applied to business-to-business (B2B) interaction (Håkansson et al., 2010). The term of embeddedness is quite common in relation to business networks and has different definitions. In our case, it can be in brief explained as an interconnection at various levels (formal and interpersonal) of business organizations and their representatives that form business networks along aligning their resources, activities or business processes (Halinen and Törnroos, 1998). This concept may be also explained as company`s dependency on other actors of the network that affects resources and company`s identity at different levels of interaction (Yli-Renko and Autio, 1998). Embeddedness undermines its different types of (e.g. political, social, technological etc.) which, according to the network nature, allows conceptually investigate business processes. The distinctive attribute of business networks is their dynamic development. It means that all that networks have some time-perspective historical development and tend to be changed along the interactions. Of course the interaction is facilitated by individuals who are, according to the definition, socially embedded in a specific network of business relationships. Naturally, such social interaction occurs within the ethical context that is formed under the common history of business leading among involved business units.

Business ethics do not have to be framed into the scopes of formal (or written) artifacts as “ethical code of conduct” but it can be represented in forms of specific behavior directed to the fruitful business interaction based on the developed ethical norms. There should be clarified that we do not refer to the universal ethics common to the norms of behavior in society (De George, 1999; Sparks, 2015) but to the business-specific ethical decisions, judgments and other type of behavior developed in the business networks. This research is primary concerning with applied ethics embedded in business interaction and aims to reflect a “real life” phenomenon which is also may contribute to philosophical framing of a concept of business ethics (Fox and DeMarko, 1986, pp.1-6).

Browsing prominent business journals dedicated to IMP theory it can be concluded that ethical behavior is little investigated in the scoped of business networks approach. One possible explanation is a lack of empirical evidences due to complexity the networks and its dynamic nature. As networks are dynamic formations rules of business leading tend to be changed as well as people who manage the business processes. These assets may be difficult to follow for a researcher due to time frames and lack of access to monitor the events. On the other hand, ethical behavior and decision making research requires the

access to the sensitive information which managers simply are not willing to share. Perhaps that is the reason why most of the business ethics research is empirically grounded on quantitative data rather than qualitative (Brand, 2009). Another challenge in business ethics study is a different approach and understanding of ethical norms and behavior of parties who are embedded in the network socially and ethically. Therefore, in our research we attempt to investigate the concept of ethical embeddedness in business networks to fill the gap in the theoretical and empirical evidences on ethical practices in business networks.

It is planned to apply the networks approach to the research on international companies to exemplify ethical context and its embeddedness that can be developed within networks of business organizations. The focus on international companies aimed to illustrate complexity of the networks of involved actors. However, this research is not undermining intercultural or national ethical background. This work, via application of the concept of embeddedness, aims to illustrate how ethical business condition at different levels of organizations may affects society in general. For this purpose, the empirical evidences are grounded on the companies that are engaged in R&D activities of medical technologies. Those companies are considered to fit well to the research settings due to a number of reasons: 1. Those companies are highly dependent on the business networks which involve not only other business organizations but non-profit market players as governmental and non-governmental organizations, educational institutions, hospitals, distributors etc.; 2. Major R&D activities are held in form of international projects for which it is extremely important to align and manage activities and resources internationally; 3. These companies have direct but perhaps not obvious impact on society as they develop technologies aimed to improve social welfare and well-being.

In summary, the research question of this study is articulated as the following: how embedded ethicality of business networks impacts on interconnection of society and businesses? It is planned to bring empirical evidences to support the understanding and accumulate knowledge on the concept of ethical embeddedness in relation to Industrial network approach theory. From the practical perspective, this work also aims to illustrate the attractiveness of responsible support and investment in technologies that are able to improve social welfare; the ethical value embedded in business activities that going beyond of the industrial network, and its impact on society and business partnership. Analysis approaches investigation on how companies are interacting in broader business environment within political, cultural and social contexts (Donaldson and O`Toole, 2007, pp. 79-80). In our cease, the research interest lays in the field of interaction between firms and society and how those companies intentionally or not fulfill their social responsibilities via ethicality of their business processes i.e. improving social welfare.

## **Business ethics and the concept of embeddedness**

Business actors are not only engaged within business relationships but they are also a part of the communities they belong to e.g. as residences or products/services providers, and of the whole society respectively. Therefore, business actions of a network may affect society in various ways beginning with the conventional products or services consumption to the social responsibility programs. Traditionally, the stakeholder theory is considered to be the fittest one to the investigation of relations between businesses and society (Donaldson and Preston, 1995) and the network approach is undeservedly omitted. This research implies that although industrial network theory is primarily focused on business-to-business interaction the outcomes of the networking business processes cast an impact on consumers and society in general, which means that the effects of business activities, embedded in social networks, are going beyond particular business network. In order to investigate these effects this study turns to ethicality of business outcomes and processes that illustrate interconnection of business organizations and their relation to society within the scopes of social welfare.

The reference to the ethics is stipulated its moral nature and responsibilities regarding business-society interaction. Ethical value and issues as well as social responsibility are gaining its momentum in the research application to the industrial network approach (see, e.g. Håkansson and Waluszewski, 1997; Lindfelt and Törnroos, 2006; Fisher, 2007; Cruz and Boehe, 2008; Dowell et al., 2015). However, the research on ethical code bears mostly conceptual nature and supported with only few empirical evidences.

Among variety of business ethics definitions this concept can be pursued as specific regulations, settled norms and moral values that define the direction of intercompany relationships and influence on decision making process (Bartels 1967, pp. 20-27; Boatright 2000, pp. 1-6). Similar, in our case, ethics are depicted as developed norms and values of business behavior incorporated in business relationships that are settled to manage the relationships directed to reaching common business opportunities and moral benefits. The Blackwell encyclopedia of management refers to the concept of business ethics as human actions with some moral considerations (Werhane and Freeman, 2005, p. 56). In relation to technologies development the ethical consideration is traditionally associated not only with moral usage and application of technologies but also with risks to human health, personal information violation, pollution, safety of usage and etc. (Werhane and Freeman, pp. 511-513). Naturally, such risks affect individuals and public welfare in general which is also demands ethicality not only in application to the technologies users but to business managerial activities. Therefore, welfare technologies developing companies may illustrate well how business networks of such R&D organizations are ethically managed and the ethical embeddedness affect the network managerial practices. As it was already mentioned this research does not take into consideration corporate code of ethics which may embed a form of policy statements

concerning social responsibility programs or specific ethical philosophy of a company (Donaldson, 1989, p. 121). We refer to the commonly accepted business ethics and personal moral obligations and values that communicated via actions of the company that its actors apply not only to business partner's interaction management but to the affection of technology consumers – society.

### **Networks approach and social face of business**

Networking of business organizations is considered as an interaction that affects resources, business activities and involved actors that have specific roles and network positions (Håkansson and Snehota, 2006; Cantillon and Håkansson, 2009). This approach assumes formation of fundamental relationships that cause multilevel organizational changes and innovativeness among interconnected business organizations (Håkansson, 1987; Håkansson and Ford, 2002; Prenekert and Hallen, 2005). Such relational cooperation rests at the basis of industry that networked business units are representing. According to Richardson (1972), business cooperation within an industry implies, in some extent, obligations and assurance of fruitful interaction focused to the future sustainability of the business sector, and that is what differentiates it from limited market transactions. Nevertheless, as all aspects involved in the networking cooperation are coordinated by managers, the social interaction is pivotal as well.

The “social face” of industrial markets has being extensively discussed in the works of K. Polanyi (e.g. 1968) who collaborated on the concept of social embeddedness in the economic interaction. Granovetter (1985) has developed this idea even further by emphasizing that companies interact in social environment and the social networking is not dividable form the business networks. Additionally, Uzzi (1997) illustrated on the empirical evidences that social inclusiveness in the networks plays a primer role in the business interactions management. The researcher has emphasized competitive advantage and business opportunities that networks of social relationships may deliver if they are maintained on e.g. trust, commitment and so-called embedded ties which mean especially close business relationship. Embeddedness is conventionally recognized as temporal, spatial, technological, market, political and social (Halinen and Törnroos, 1996). Exactly social embeddedness represents interactions of individuals who are intentionally or not develop social networks among involved business organizations, and this is where the ethicality of business relationships originates. However, as we aim to illustrate more general interaction between the business networks and society we have to look deeper in the matter of ethical inclusion within the nets. That is why the concept of ethical embeddedness is adopted for this study.

In brief, ethical embeddedness can be explained as ethical values in relations to economic values that are created in a particular business network (Lindfelt and Törnroos, 2006). This concept illustrates ethical code of conduct that interconnected companies develop along their common history of relationships and employ in order to create value

or to reach specific business goals. Such embeddedness affects all actors involved in the interaction, their reputation and sustainable development. Network approach introduced by Granovetter in respect the concept of embeddedness was extensively criticized for the conceptual isolation of market actors from the social context to which they are related (Dale, 2010, pp. 196-199). This critique requires clarifying the understanding of the contextual closeness between business nets and their social relations. As the business networks, in their turn, embedded in the social structures we employ this concept to investigate the impact of business processes to the society in general.

Business as an economic activity is affected through social and environmental spheres. In its turn business may have negative and positive effect on society. From the ethical perspective, the negative effects are, for instance, pollution, human rights violation, hazardous products, bribery and other unethical actions. Positive effects, on the other hand, may go beyond conventional actions as jobs providing, offering product and services or investment and being extended to providing social services as healthcare, welfare improvement, support of communities, cooperation with non-governmental organizations, philanthropy and etc. (Werhane and Freeman, 2005, pp. 54-56). Nevertheless, ethical business responsibilities toward society are the thing that mutually connects them.

## **Methodology and empirical research**

In order to illustrate the effects of business networks functioning on society we refer to the international companies that are highly dependent on the business networks and has direct impact on social welfare. Therefore, this case-study research embraces a constructivist approach (Denzin and Lincoln, 2008) and empirically grounded on the interviews of the international R&D companies that perform development of medical and health-care innovative technologies. Those companies are suitable for the research as they do not perform charity or any activities on the voluntary bases that would aid groups of society to solve social or environmental problems, but those companies develop technologies that target to face global issues and dramatic changes in society as the ageing, disabilities, bacteria treatment and etc. The technologies and their performance directly affect society and will affect it even further in the future when technologies will be more accessible to the end-customers. This impact gives us an idea that medical technologies of R&D companies represent hidden ethical responsibility toward the society in which those companies are embedded. Nevertheless, the empirical research is based on multiple cases which fulfil the requirements of grounded theory research approach (Yin, 2009). Ethical norms were fulfilled during the data collection and the respondents are aware how the provided data is utilized and processed.

The companies under the research represent an example of phenomena where the networked companies embedded in social interactions have an impact on social welfare via their ethical responsibility that is, again, embedded in their technologies (products and

enabling services). There were addressed companies and their branches located in Finland, the US, Switzerland and Japan. Interviewed representative of the companies have provided information not only about the products and their intended influence on society but also about their personal moral and ethical considerations that they input into technology development and distribution. Due to data sensitivity and high secrecy of the technological development and partnership there have to be applied data triangulation with the usage of information on the companies obtained from publicly available sources (web, professional and business journals) along interpretation of the interviews.

## **Discussion**

Companies producing medical technologies have to consider different types of applied ethics in their business interactions (DeMarco and Fox, 1986). Those organizations have to cooperate with public hospitals and medical universities in conduction of their research which means the medical ethics are vital. In order to improve technologies companies collect feedback of the end-users via hospitals as intermediaries in this process. For instance, those organizations are entrusted personal records of patients which is means that sensitive information has to be secured and treated with special responsibility. As patients feedback passing through the network of involved actors it also has an impact on business ethics as this process involved trust, loyalty and reliability of the business partners. According the interviewees medical and business ethics are present at the all stages of processes – from product development to its final usage.

The companies in question are mostly small business organizations (number of employees of the investigated companies varies from 15 to 100) and they rely on the extensive networks of partners as investors, universities, medical schools, hospitals, NGOs, doctors and sale partners. That is why the reliable partnership is the basic for business facilitation which should be constructed on developed common ethical norms and values. None of the interviewed organizations possess a written code of conduct but managers highly appreciate interpersonal ethical values. Personal attitudes embed ethicality in the interaction which is also affected by personal moral principle of the managers. Nevertheless, moral ethics are specifically important for the managers of R&D organizations as they realize their responsibility over business they conduct and positive impact they may provide for the following generations of world population. As members of society, managers feel their contribution to the public good creation which boosts their personal interest to participate in the improvement of social welfare by dedicating their knowledge, technologies and services to welfare improvement. The personal feeling of making brighter future for the society is vital for the interest of engagement in technology development as personal moral considerations of managers are at the core of business development. Interviewees mentioned that they feel responsibility toward society not only by improving quality of life but saving tax-payers expenses on welfare benefits for

patients support. Managers believe that with their technologies they can cut suffering and costs of society members.

This interesting combination of applied ethics of professional sphere and moral values illustrated the interconnection of the individual interests to develop and implement public good. Welfare system indeed possesses ethical background (Little, 1957, pp. 6-9). In this research we refer to welfare as to the general well-being of individuals of the society. In our case well-being undermines the solutions to health issues that investigated R&D companies are aimed to improve. Applied ethics and personal moral obligations are frequently interrelated (Allhoff, 2011). In general, in order to implement ethical business interaction and to bring technologies to society managers of those companies are obligated to follow medical ethics, business ethics and personal moral principles. This combination of applied ethics and moral values are, naturally, reflected in technology values to the public good creation which illustrates the ethical embeddedness extended beyond business networks.

Ethical consideration is significant for developing new directions of technological applications in medicine. For instance, one of the companies engaged in this research collaborates with Japanese government for developing new regulations on robotic technologies for medical purposes usages and implementation. The challenge in this case is to bring new technology to the market of which certification or standards of utilization are not developed yet. From the one side this process slows down the way of the final product to the users. Form the other side, the company enjoins the opportunities of benchmarking the standards for potential competitors. The standards development also involves ethical issues of medical treatment, safety of usage, sensitive information processing and sales management etc.

Of course those interviewed R&D companies are for-profit organizations and they should not be taken as social entrepreneurs. They aim at the long-term business perspective and their current market presence is quite limited. They also have to follow changes in society to adapt technologies to the new demand. One of such changes can be name the ageing of society (Markides and, Machalek, 1984; Chen and Chan, 2014). Naturally, the growing population of alder people is boosting the demand on technologies for their support. Therefore, R&D companies that picked this trend may benefit in the long run of this demand. However, their aim is to not only to access markets in the future but to impact on the society in positive way: to improve healthcare and welfare in general.

## **Conclusion**

This research aims to exemplify how an impact of business networks operations is extended beyond the traditional business network picture. The study adopts the concept of ethical embeddedness in business networks via which we illustrated how medical technologies R&D companies are able to improve social welfare. Collected empirical data



of the representative of business organizations have supported our idea that business, medical and individual moral ethics are embedded in the interactions between business network actors and in the technology they develop and supply to the markets. Qualities of technologies and personal wish of actors to influence on the future social development have emphasized significance of ethical issues in the business interaction with society.

Although this study contributes mostly to the conceptual representation of ethical embeddedness it also has managerial implications. It shows that investors should pay more attention to R&D organizations if they want to invest in sustainable technologies that impact on the future of the world population. Moreover, the study emphasizes the significance of ethical interaction that may affect not only B2B relationships but extend its influence beyond business network boundaries to the whole welfare system.

In some cases, ethical reasoning of businesses and individual actions indeed has cultural background (Thorne, 2002). Some companies are more oriented to the business growth whereas others are caring more over the responsibility to society. Therefore, the extent of individual moral ethics is varying according to the country and business environment. The influence of cultural factors on the business ethics embedded in the networks is remained for the future research suggestions. Similar, the research indicated that cultural differences may influence on the aim of the business (or its mission) and this research topic is also not covered extensively in academic literature.

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