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RELATIONAL BENEFITS AND QUALITY OF RELATION — TOWARDS UNDERSTANDING OF THE TIES BETWEEN SCIENCE AND BUSINESS

RELATIONAL BENEFITS AND QUALITY OF RELATION — TOWARDS UNDERSTANDING OF THE TIES BETWEEN SCIENCE AND BUSINESS

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The goal of this article is to answer the question in what way relational marketing and in particular, the concept of relational benefits, as well as quality of relation may influence the transfer of knowledge and technologies from universities to business. Another goal is to highlight significant, future directions of research in this area. Integration of the theory of relational marketing and technology transfer may create a new framework for fuller understanding of the ties between science and business. Research in this area may contribute to the expansion and development of the theory of relational marketing, which until now was limited to the analysis of relations within a single sector. The results of conducted research show that ties characterized by high relational engagement are common, recognized by both academic and business environment as precious and play an important role in stimulating innovations. The quality of relations and relational benefits may play an important role in building long-term ties between universities and the industry. Integration of behavioural theories with the theory of technology transfer may contribute to a better understanding of the behaviour of particular participants of the transfer on the individual level.

Keywords: relational marketing, relational benefits, behavioral theories, technology transfer, commercialization, cooperation, university, company

Introduction

Growing competitiveness and dynamic changes taking place in the global economy are encouraging private and public sector institutions to join forces for the purpose of disseminating knowledge and development of innovation, as well as building long-lasting relations between science and business. The results of many research projects confirm that universities play a special role here, as the knowledge generated at universities can stimulate innovations in the industrial branch (Mansfield, 1998, 1995; Jaffe, 1989). The ties between universities and industry and their influence on innovative processes have been subject to the analysis in many research projects from the area of management, development of technology, economics, innovations and sociology (Agrawal 2001; Hall 2004; McMillan, Hamilton 2003; Mowery Nelson 2004). Various approaches and models for the research on particular aspects of the ties between universities and the industries (Perkmann, Walsh, 2007). However, most researchers focused on the quantitative data such as: patents, licenses, license agreements and on various elements of academic entrepreneurship. Some research projects were devoted to defining and describing the kinds of relations between universities and the industry, but they didn't look into the details and haven't provided knowledge concerning their influence on the processes of commercialization (D'Este, Patel 2007; Perkmann, Walsh 2007; Carayol 2003; Cohen et al 2002, Caloghirou et al 2001; Lee 2000, Mansfield, 1995). This doesn't allow an analysis of social relations within the framework of ties between universities and business.

At the same time authors: Hughes, Link, Dooley and Kirk (2003) claim that the key to successful transfer of knowledge is the process of continuous dialogue and building social networks. According to other researchers, personal relations between scientists and their contacts with business may turn out to be more important than formal ties (Siegel, Waldman and Link, 2003). Sung and Gibson (2005) identify personal contacts as one of four key factors determining the transfer of knowledge and technology. There have even been claims that excessive focus on transactional mechanisms such as: patents and licenses may lead to hampering the development of trust in a relation (Dooley and Kirk, 2003). Considering the importance of relation for the transfer of knowledge and at the same time insufficient body of empirical research on the subject, the article is focused on the analysis of chosen constructs of relational marketing. The goal is to gain greater, more comprehensive understanding of how relations can influence the transfer of knowledge and technology from universities to business. Integration of the theory of relational marketing and technology transfer can provide a new framework for the understanding of relations between universities and companies. Moreover, research in this area may contribute to expansion and development of the theory of relational marketing, which up till know has been limited to the analysis of relations within one sector.

Social relations and relational marketing in the processes of commercialization of research results

New university technologies are based mainly on primary scientific research, which is aimed at doscovery, not application. For this reason most university technologies involve solutions at a very early stage of the life cycle of product and technology. Usually these are completely new solutions on the market, which to a smaller extent take into consideration the characteristics of the market than the solutions generated in the industry (L. van den Berge, P.D. Guild, 2007). The process of commercialization is associated with the transfer of knowledge and/or technology, from universities to business, which can be carried out by means of: selling licenses, or know-how and know-why, or establishment of companies (Lendner, 2007). Some authors emphasize the importance of the human factor in the processes of commercialization. Lange et al (2000) point out that the success of the transfer of science and technology at every stage of the process of commercialization depends on a good team. The members of the team dealing with research are responsible above all for the quality of research processes and/or created technology. However, it is people responsible for the transfer, who not only carry out a market analysis, but also employ patent agents, prepare the strategy of protection of intellectual property, prepare a business model, build relations with partners in particular by searching for support both at universities and the business environment, play an exceptional role. The goal is to transform innovation

into product by transforming technological features into market features responding to the needs of the market.

important role in Marketing plays an the processes of commercialization already at the stage of presenting the research concept. Its role keeps growing along with bringing the innovation closer to the market and implementation. Kozmetzky et al (2004) clearly emphasizes that commercialization of science and technology is based on the possibility of creating new product and services. It is marketing that is responsible for tasks associated with shaping the markets, establishing relations with markets and communicating about the value of research results and new products created on the basis of research results. Marketing activities are determined by the kind of innovation. Particular attention is paid in marketing literature to technologically advanced innovations (marketing of new technologies). Mohr (2001) argues that the market of advanced technologies makes it necessary to accept a much higher level of risk than in case of managing low-tech products, which requires a different management of relations with clients. Many authors focus on the promotion of new technologies in commercialization processes (Pabian, 2007) emphasizing the significance of communication with the market at every stage of commercialization. Hoedemaekers (2001) highlights very important aspects of marketing communication in the processes of commercialization: professionalism of implementation of research results, education about new possibilities and existing moral dilemmas. Moral dilemmas appear especially in case of pharmaceutical and biotechnology products — e.g. introducing new vaccines (Trzmielak, 2010). Mohr (2001: 276–301) suggests, among others, relational approach in marketing communication. Also American Marketing Association (AMA) regards relations as a cornerstone of the marketing theory and included this approach in the following definition of marketing: "Marketing is an organizational function and a set of the processes of creating, communicating and delivering value to clients, as well as managing relations with clients in a way beneficial for the organization and all interested stakeholders." (AMA website, 2004). Attributing high significance to relations in theory and practice of marketing is associated with the results of research showing that on highly competitive markets building and maintaining relations with clients is more profitable for

companies than traditional marketing approach focused on the product (Palmer, 2002). The subject of relation management and relational marketing in the processes of commercialization is new and not discussed extensively in literature (Siegel et al 2003, 2004; Plewa et al 2005, 2013; Trzmielak and Grzegorczyk 2010, 2015). The links between universities and industry and their impact in the innovative processes have been subject to many research projects and analyses in the area of sociology, management, technology transfer, innovation (Foss and Gibson, 2015; Mowery and Nelson 2004; Agrawal 2001; McMillan and Hamilton 2003). However, these research projects were focused mainly on quantitative data such as: patents, licenses and the financial assets generated by them. This didn't make it possible to analyse relations. Plewa, Quester and Baaken (2005) worked out conceptual framework for the possibility of applying relational marketing in the context of cooperation between academia and business, taking into consideration cultural and organizational differences and the created value. Their results suggest that high level of interaction and engagement in relations supports the utilization of complementary skills and resources for the purpose of creating mutual benefits, despite significant differences in the perception of values.

Relational marketing is a broad area subject to many research projects and works, including: Reichheld & Sasser (1990), Berry (1995), Grönroos (1994,1996), Gummesson (2002). However, further development of this discipline towards a more complex and mature understanding of relations existing on markets is necessary (Brodie et al., 2003; Plewa 2005). What has been highlighted in particular is the need for further research on relations going beyond the business sector, which has constituted the central element of deliberations concerning relational marketing up till now. There is a need to study and better understand the relations between institutions operating in different sectors of the market, including the ties between institutions from the business sector and the public sector.

Research on the links between universities and industry traditionally used to focus on transferring intellectual property. However, some authors suggest that these links differ depending on what may be called "relational engagement" (Schartinger et al. 2002). Real "relations" are defined as ties characterized by high relational engagement. These are situations, in which people and teams from the sector of science and business work together on particular projects in order to create new solutions (Perkmann and Walsh 2007). These authors have distinguished a generic category called "university-industry links" to define various possible forms of cooperation in which the results of research financed with public funds bring benefits to the economy (Salter and Martin 2001). However, it is necessary to point out that this category is much broader and may also cover ties aimed at education, or the development of science. However, the goal was to distinguish links characterized by higher relational engagement from links limited to transferring skills (mobility of the personnel and students) and formal transfer of intellectual property (patents, licenses).

Relational benefits and the quality of relation

The results of research on secondary sources for the purpose of this article come from a complex review of empirical articles using the following databases: Web of Science, EBSCO, Premier and ABI / INFORM. A simplified version of a systemic literature research for filering and summarizing results was used (Tranfield et al., 2003). The basic literature was identified based on the following key words: "relationship marketing" and "university-industry links", as well as their combination. The second stage of literature selection was based on the development of the database according to the "snowball" procedure, applying additional key words such as: "relationship management", "commercialization" and "technology transfer".

A review of literature suggests that interactions of universities with the industry, characterized by high relational engagement: 1) are common 2) are recognized by both interested parties — business and the academic environment — as valuable 3) play an important role and constitute a stimulus for the development of innovative processes (Perkmann and Walsh 2007). Such relations are distinguished from other (simpler) forms of ties between universities and companies, that is, the transfer of intellectual property and the transfer of personnel. Some research projects are based on the assumptions of Perkman and Walsh, who have assumed that relations in the process of transfer of technology are limited mainly to

the transfer of intellectual property (IP) and focused on other types of relations, including research partnerships and research services provided by universities (Fei, Xiaodong, Jin, Huaizhong 2015). However, practice shows that relations in the process of transfer of technology from universities to business are more complex than initially assumed in research. In the processes of technology transfer there are many cooperating partners. They operate under circumstances of uncertainty and variability of the development of technology and decisions are made within a framework of a complicated network of links between institutions with diverse organizational cultures. Thus, one of key features of relation management in the processes of technology transfer and commercialization is complexity. The awareness and understanding of the complexity of relations in the processes of technology transfer and later the development of ability to manage the complexity of relations may have an impact on the efficiency of teams working on the transfer and commercialization of innovations.

One of potentially interesting concepts for the theory and practice of commercialization is the concept of relational benefits. This concept assumes that both sides of a relation have to derive benefits from the relation in order to continue it. These benefits may result from the service forming the core of the relation (functional benefits) or from relation itself (relational benefits) (Hennig-Thurau, Gwinner, and Gremler 2000). Relational benefits are the effect of maintaining a long-term relation (Gwinner, Gremler, and Bitner 1998; Reynolds and Sharon 1999a). Researchers classify as relational benefits the benefits of trust, which are associated with the perceived comfort of cooperation and lower anxiety associated with the knowledge concerning what behaviour can be expected from the other side. Social benefits refer to the emotional side of the relation, individual approach, knowledge, recognition, as well as sympathy and friendship, which may be the result of continuation of relations started with formal relations. Finally, there are the benefits resulting from special treatment, associated with simplification of procedures, faster service, or individualized additional services. Relational benefits go beyond the functional benefits of the basic service. The author suggests that in the process of commercialization relational benefits may play a significant role in building trust and openness and thus may influence the shape of functional benefits.

Ambitions research goals, higher risk and more complex interaction networks create the specific character of relations between universities and companies. Both scientists and entrepreneurs regard the existence of mutual understanding of needs and engagement as important (Grzegorczyk, Trzmielak, 2015). The quality of relations may be treated as a kind of meta-construct consisting of a few key elements reflecting the general nature of relations between companies and universities. There is a common agreement that satisfaction with the results of cooperation, trust and engagement are the key components of the quality of relation (Baker, Simpson, and Siguaw 1999; Crosby, Evans, and Cowles 1990; Dorsch, Swanson, and Kelley 1998; Garbarino and Johnson 1999; Palmer and Bejou 1994; Smith 1998). This leads to the question: How does the quality of relation and perception of this quality influence the process of the transfer of knowledge and commercialization of technologies? May high quality of relations and the resulting relational benefits influence the value created in the process of technology transfer in some way?

Literature concerning the transfer of technologies emphasizes the influence of differences in organizational cultures of institutions from the public and private sector on the relations under construction. Thus, it seems important to take into consideration the social context of peoples' behaviours, which shapes the decisions taken by individuals in the processes of commercialization. This concept is well described in the literature on social marketing (Hastings and Donovan, 2002), which is based on the general theories of human behaviours, as well as research on specific consumer behaviours. Similarly, social cognitive theories (Bandura 1986, Mischel 1971) describe the relations between the individual and collective way of perception. They assume that the behaviour of an individual is determined by mutually shaping internal personal factors and environmental factors, in which a particular individual functions (Maibach and Cotton, 1995). These issues seem to be crucial in light of the fact that one of key elements of successful transfer of technology is a qualified team. Individual participants of the process may determine the likelihood that a particular technology will be successful at any stage of transfer and commercialization. Thus, it seems important to analyze the context of people's behaviour in the processes of commercialization and in particular the theory of planned behaviour and social cognitive theory.

The goal of the theory of planned behaviour is predicting the intention of an individual to engage in a particular place and time (Ajzen 1991). Ajzen claims that behavioural achievements depend both on motivation (intention) and ability (behavioural control). At the same time, what influences the intentions of behaviour are expectations with regard to likelihood that a particular behaviour will bring the expected result, as well as a subjective assessment of the risk and benefits resulting from a behaviour. Within the theory of planned behaviour: there are six constructs representing a person's control over behaviour: attitudes, intentions of behaviour, subjective norms, social norms, perceived strength, perceived behavioural control. In the processes of commercialization the partners function in essentially different environments and organizational cultures. Thus, taking into consideration the theory of planned behaviour and social cognitive theory may contribute to better understanding of behaviours in the process of building partnership between universities and the industry.

Conclusions

Complexity is one of key features defining relations in the processes of transfer and commercialization of technology. Awareness and understanding of the complexity of relations in the processes of transferring technology and later the development of the ability to manage them may determine the efficiency of teams dealing with the transfer of technologies from universities to business. Relational benefits may play an important role in building trust and openness between the participants of the transfer of technology and thus influence the shape of basic (functional) benefits, which seem to play a dominant role in the processes of commercialization. There is a need to conduct further research on the following subjects:

- the complexity of relations in the processes of transfer and commercialization of technology,
- the role of relational benefits and their influence on the value created in course of cooperation between universities and companies, maintaining relations for the purpose of generating new ideas, products, innovations,

• the influence of the quality of relations and the social capital generated by relations on the value created in the processes of cooperation.

Moreover, including the theory of planned behaviour and social cognitive theory to research on the transfer of technology may contribute to better understanding of behaviours in the process of building partnership between universities and the industry.

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