

ŠIAULIAI UNIVERSITY

Jurgita Bersėnaitė

**TRAJECTORIES OF DEVELOPMENT
OF COMMERCIAL COMPANIES IN
COLLABORATION WITH HIGHER EDUCATION
AND RESEARCH INSTITUTIONS**

Summary of Doctoral Dissertation
Social Sciences, Management (03 S)

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Scientific supervisor:

Assoc. Prof. Dr. Gintaras ŠAPARNIS (Šiauliai University, Social Sciences, Management, 03S).

The doctoral dissertation is defended in the Management Science Field Board of Vytautas Magnus University, Klaipėda University, Aleksandras Stulginskis University, Mykolas Romeris University and Šiauliai University:

Chairperson:

Prof. Dr. Vilma ATKOČIŪNIENĖ (Aleksandras Stulginskis University, Social Sciences, Management, 03S).

Members:

Prof. Dr. Ligita ŠIMANSKIENĖ (Klaipėda University, Social Sciences, Management, 03S),

Prof. Dr. Teodoras TAMOŠIŪNAS (Šiauliai university, Social Sciences, Management, 03S),

Prof. Habil. Dr. Povilas ZAKAREVIČIUS (Vytautas Magnus University, Social Sciences, Management, 03S),

Assoc. Prof. Dr. Irma RYBNIKOVA (Chemnitz University of Technology, Germany, Social Sciences, Management, 03S).

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ŠIAULIŲ UNIVERSITETAS

Jurgita Bersėnaitė

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Mokslinis vadovas:

doc. dr. Gintaras ŠAPARNIS (Šiaulių universitetas, socialiniai mokslai, vadyba, 03S).

Mokslo daktaro disertacija ginama Vytauto Didžiojo universiteto su Klaipėdos universitetu, Aleksandro Stulginskio universitetu, Mykolo Romerio universitetu ir Šiaulių universitetu Vadybos mokslo krypties taryboje:

Pirmininkė:

prof. dr. Vilma ATKOČIŪNIENĖ (Aleksandro Stulginskio universitetas, socialiniai mokslai, vadyba, 03S).

Nariai:

prof. dr. Ligita ŠIMANSKIENĖ (Klaipėdos universitetas, socialiniai mokslai, vadyba, 03S),

prof. dr. Teodoras TAMOŠIŪNAS (Šiaulių universitetas, socialiniai mokslai, vadyba, 03S),

prof. habil. dr. Povilas ZAKAREVIČIUS (Vytauto Didžiojo universitetas, socialiniai mokslai, vadyba, 03S),

doc. dr. Irma RYBNIKOVA (Chemnico technikos universitetas, socialiniai mokslai, vadyba, 03S).

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INTRODUCTION

Research relevance. It has been a few decades already that development of commercial companies, conditions they operate under, organisational changes and identification of their drivers and outcomes are given considerable attention in scholarly literature when analysing various processes in and around commerce. Researches aimed at understanding the *development of commercial companies* are usually based on open systems theory (Ackoff, 1981; 2004; Kvedaravičius, 2002; 2006; Martin, Beaumont, 2001), where development is achieved through changing one's aims, desires, expectations, agreements, and opportunities and maximising application of internal resources and capabilities, and liberating internal potential from limitations. As development of commercial companies is not viewed as a target process (it is not planned where, when, and how development steps should occur), it is more like challenges that result in company's enrichment potentially, greater maturity, advancement, and improved performance thanks to organisational competences developed.

It is unusual to meet the term of a *trajectory of development of a commercial company* in scholarly publications. However, based on scant attempts of scientists (e.g., Elkjaer, 1999; 2003; Šukys, 2005; Diambeidou, Gailly, 2011; Purchase et al., 2014) to analyse the *trajectory of development of a commercial company*, from managerial point of view it is regarded as development of a company in certain sequence characterised by actions and interactions of its members under certain circumstances that come up depending on internal and external forces involved. Resources and capabilities of the company increase with each step of development, which means that they can be used for a long time (Zakarevičius et al., 2004; Eisenhardt, Martin, 2000; Hardy et al., 2003; Helfat et al., 2007 etc.). It follows that development of a company is not increasing of one-off capabilities. Putting it into time-frame also reveals that a *trajectory of development of a commercial company* can also be seen as progress or path of the phenomenon influenced by numerous internal and external forces.

The standpoint adopted in this dissertation research is that managerially the concept of *organisation* refers to a certain number of people who, by making up a certain structure and using various technologies and sharing the same culture, seek specific aims by acting in a focused and coordinated way and in relation to external environment (Daft, 2004; Bittner, 2013 etc.). Furthermore, the concept of *organisation* covers a specific type of it: a *company* is characterised by its own assets, liability, and economic independence (Jančiauskas et al., 2012; Kuvykaitė, Alimienė, 2012). Therefore the terms of an *organisation* and a *company* are used as synonyms, and an organisation of any type can develop, be developed, and undergo changes. However, for the sake of accuracy and focusing on *trajectories of development of commercial companies*, the term of a *company*

is used in the dissertation, which, just like any other *organisation*, operates in a certain environment by applying available resources and creating a certain history: a sequence of events featuring (or not) the ability to meet expectations of various stakeholders, and differs from *organisations* of other types in that it seeks profit to be shared among the *company* members and stakeholders and used in improvement of the company operations. For this reason a *trajectory of development of a commercial company* may have specific features.

It must also be noted that a *commercial company* may develop by maintaining various relations with same-sector (in company-company dyad) or different sector organisations, such as higher education and research institutions (hereinafter referred to as *HERI*). The better structure and content (type) of knowledge (technologies) created by and transferred from *HERI* are aligned with the needs of commercial companies, the closer relations between these organisations are. Importance and significance of relations between commercial companies and *HERI* are given special emphasis both in papers of scientists and researchers (e.g., Cunningham, Link, 2014; Hemmert et al., 2014; Slater et al., 2014) and in political and strategic national and international level documents.

Collaborating commercial companies and *HERI* produce direct results: co-produced knowledge dissemination and technology transfer, initiation of changes in organisational elements (organisational culture, structure, strategy, management), adaptation, integration, and development of organisational resources and operational (functional) capabilities helping both a commercial company and a *HERI* to adapt to rapidly changing needs of customers in dynamic environment. Cross-organisational (cross-sectoral) collaboration also has an indirect effect: cultivation and development of learning society (Jucevičienė, 2007); contribution to increase of scientific-economic potential (Šimanskienė, 2009), public cultural advancement and market sophistication (Putrienė, Vaičekauskienė, 2014); stimulation of economic growth and development (Cunningham, Link, 2014). One more important aspect is that trust, competence relations and reputation are built among the collaborating organisations (Baležentis, Skeberdytė, 2015).

Besides the aforementioned positive outcomes of collaboration between commercial companies and *HERI* there are also negative aspects in Lithuania as a country late with collaboration between commercial companies and *HERI*: insufficient intensity and scope of this interorganisational interaction, unproductive and often formal interaction aimed at receiving public financial support, no focus on relatively competitive areas, rare instances of cross-sector synergy in creating products or services, very few instances of successful technology transfer and public R&D commercialisation etc. (Lietuvos Respublikos valstybės kontrolė, 2011 etc.).

Nevertheless, despite mismatch between the abundant positive experiences with collaboration between commercial companies and *HERI* described in

publications by foreign scientists and the actual situation in Lithuania, it can be said that generally relations between commercial companies and HERI get established and collaboration is developed under different internal and external causes and incentives: to combine resources so as to survive on the market, gain competitive advantage, fill competence gaps, constantly improve, coproduce and share knowledge, develop values, encourage and support mutual learning, strive for wellbeing through application of available potential, increase market power, offer new products or services, improve efficiency, reduce costs etc. (Veugelers, 1998; Broström, 2008; Boardman, 2009; Chen et al., 2013). Therefore, aware of potential benefits, commercial companies and HERI establish relations of different strength, which benefit both the collaborating institutions and the region (or country) and society. For this reason various means to accelerate and improve collaboration between commercial companies and HERI are offered in scholarly publications and practical discussions.

In the context of this dissertation research the collaboration between commercial companies and HERI, which, according to Barnes et al. (2002), Hardy et al. (2003), Bryson et al. (2006), Austin and Seitanidi (2012), is viewed as a precondition for development of commercial companies, was chosen as empirical field. Therefore both conceptual and empirical parts of the dissertation focus on development of commercial companies collaborating with HERI while admitting that trajectories of development of commercial companies in addition to collaboration with HERI are influenced by other forces both inside and outside the companies (Kimberly, Bouchikhi, 1995; Halfon, Hochstein, 2002; Wei, 2002; Helfat, Peteraf, 2003; Zakarevičius et al., 2004; Šukys, 2005; Korsakienė, 2006 etc.).

Research problem and its exploration level. Scholarly researches dealing with various aspects of development of commercial companies while maintaining relations with other organisations can be grouped into these fields:

- *conceptual analysis of organisational development (in general) involving boosting of aims and application of available internal and acquirable external resources and capabilities* (Zakarevičius et al., 2004; Kvedaravičius, Narbutaitė, 2005; Kvedaravičius, Jesevičiūtė-Ufartienė, 2006, 2007; Jesevičiūtė-Ufartienė, Kvedaravičius, 2011 etc.);
- *conceptualisation and typologisation of heterogeneous organisational resources ensuring development of a commercial company* (Jurisch et al., 2014; Kozlenkova et al., 2014; Lin, Wu, 2014; Nobre et al., 2014; Popadiuk et al., 2014 etc.);
- *classification and content characterisation of organisational (operational and dynamic) capabilities leading to development of a commercial company* (Jurisch et al., 2014; Lin, Wu, 2014; Ouakouak et al., 2014; Leih et al., 2015; Spithoven, Teirlinck, 2015 etc.);

- *elaboration of concept of development of a commercial company (as a type of an organisation) in context of other organisational changes* (Cowley, 2007; Jumpponen et al., 2008; Halm, 2009; Fredberg et al., 2011; Maes, Van Hootegem, 2011 etc.);
- *conceptualisation of concept of trajectory of development of a commercial company and identification of types of the trajectories of development* (Ho, 2011; Abatecola, 2014; Ganter, Hecker, 2014; Gremyr et al., 2014; Purchase et al., 2014 etc.);
- *substantiation of forces (factors) shaping trajectory of development of a commercial company* (Wei, 2002; Helfat, Peteraf, 2003; Smakman, 2003; Porter, Kramer, 2011; Austin, Seitani, 2012 etc.);
- *development of concept and dimensions of interorganisational collaboration* (Reay, Hinings, 2009; Hayes, 2010; Pallot, 2011; Cooper, Shumate, 2012; Heimbürger, Dietrich, 2012 etc.);
- *analysis of outcomes of collaboration between commercial companies and HERI on various aspects:*
 - *by different levels* (Abramo et al., 2009; Boardman, 2009; Cooper, Shumate, 2012; Ankrah et al., 2013; Grudinski, 2014 etc.);
 - *in respect of time* (Kristensen, Kijl, 2008; Perkmann, Walsh, 2009; Rutten, Oerlemans, 2009; Ankrah et al., 2013; Chen et al., 2013 etc.);
 - *in respect of environment* (Bryson et al., 2006; Dooley, Kirk, 2007; Kvedaravičius, Dagytė, 2007; Sparrow et al., 2009; Abramo et al., 2011 etc.);
 - *in respect of targeted outcomes* (Bramwell et al., 2012; Islam et al., 2012; Seppo, Lilles, 2012; Chen et al., 2013; Juknevičienė, 2015 etc.);
 - *in material respect* (Barnes et al., 2002; Samaddar, Kadiyala, 2006; Seppo, Lilles, 2012; Ankrah et al., 2013; Bodas Freitas et al., 2013 etc.).
- *rationalisation of motives and expectations behind collaboration between commercial companies and HERI* (Boardman, 2009; Broström, 2008; Bodas Freitas et al., 2013; Chen et al., 2013; Larsen et al., 2015 etc.).
- *analysis of individual forms or groups of forms of collaboration between commercial companies and HERI* (Arvanitis et al., 2008; Bekkers, Bodas Freitas, 2008; Perkmann, Walsh, 2008; Wright et al., 2008; Markom et al., 2011 etc.);
- *conceptualisation of models of collaboration between commercial companies and HERI, based on practices in different countries and including different-level parties to collaboration, their roles, responsibilities, obligations and resources, collaboration process stages, collaboration conditions and factors* (Mets, 2009; Kawasaki, 2011; Leydesdorff, 2012; Lundberg, Andresen, 2012; Mindruta, 2012 etc.).

To sum up the aforementioned researches it can be said that scholarly literature provides rather extensive analysis of collaboration between

commercial companies and HERI from the point of view of triple helix, resource theory, or social exchange theory, e.g., to include the motives, forms and benefits of and obstacles to this collaboration, roles and responsibilities of the participants etc., or the focus is on outcomes generated by an individual form of collaboration between commercial companies and HERI, collaboration stages, selection of partners for collaboration, prerequisites and political-historical context or an R&D application area susceptible to high technologies and academic knowledge, such as pharmacy, medicine etc. Moreover, there is a tendency to see collaboration between commercial companies and HERI mainly from the perspective of HERI personnel, more rarely from the perspective of business representatives or both. However, we did not come across papers that would a) analyse development of commercial companies that collaborate with HERI, b) present an integrated analysis of open systems theory, resource theory, and the concept of dynamic capabilities in order to determine the dimensions and characteristics of trajectories of development of commercial companies; c) identify types of trajectories of development of commercial companies by applying qualitative research strategy. Certainly, these observations can be supplemented by adding more topics that have not been thoroughly analysed or dealt with.

Consequently, the following **problem questions** are put forward in this work:

- What theoretical construct would enable systematic analysis of trajectories of development of commercial companies that collaborate with HERI?
- What dimensions and characteristics thereof pertain to trajectories of development of commercial companies that collaborate with HERI?
- What forces shape trajectories of development of commercial companies that collaborate with HERI and how?
- What types of trajectories of development of commercial companies can be identified for the companies that have been analysed?

Research subject is trajectories of development of commercial companies.

Research aim is to investigate trajectories of development of commercial companies that collaborate with higher education and research institutions.

Research objectives are:

1. To analyse conceptual approaches to manifestation of development of commercial companies by revealing diversity of organisational changes and relations between company development and other changes.
2. To purify the conception of trajectories of development of commercial companies and determine the dimensions of trajectories of development of commercial companies.
3. To reveal collaboration between commercial companies and higher education and research institutions as a precondition for development of commercial companies.

4. To substantiate methodology for research into trajectories of development of commercial companies in collaboration with higher education and research institutions.
5. To determine the dimensions and characteristics of trajectories of development of commercial companies that collaborate with HERI.
6. To identify and analyse types of trajectories of development of commercial companies that collaborate with HERI.

Scientific novelty and theoretical significance of the research:

Theoretical substantiation of usage of the term of *trajectory* in management science has been provided, the concept of *trajectory of development of a commercial company* has been clarified.

Open systems theory, resource theory, and concept of dynamic capabilities have been analysed, generalised and applied to the research, which enabled disclosure of manifestation of development of commercial companies through development of resources and capabilities.

Substantiation of methodology of research on trajectories of development of commercial companies in collaboration with higher education and research institutions has been provided.

The carried out research on trajectories of development of commercial companies in collaboration with higher education and research institutions expands research field of researches carried out by Lithuanian scientists (doctoral students) on *organisational development* (e.g., Grebliauskas, 1997; Augustauskas, 2002; Elskytė, 2006; Pupelienė, 2007; Jesevičiūtė-Ufartienė, 2010; Nedzinskas, 2013 etc.), *interorganisational interaction* (e.g., Vilkas, 2008; Jucevičienė, 2013 etc.), *business-science collaboration* (e.g., Kiškienė, 2009; Barynienė, 2014; Skeberdytė, 2015 etc.) as well as tradition of application of methodology of qualitative managerial research in Lithuania.

Application of empirical methods led to acquisition of significant scientific facts about (1) development of commercial companies in context of collaboration with HERI; (2) forces shaping trajectory of development of a commercial company; (3) outcomes (benefits, costs), problems, challenges and perspectives of collaboration between commercial companies and HERI; (4) regularities in taxonomy of and statistical relationship between manifestation of development of commercial companies, forces shaping trajectories of development of a commercial companies, and collaboration between commercial companies and HERI.

Practical significance of the research:

The acquired abundant and new factual material about positive experiences with collaboration between commercial companies and HERI enables managers and owners of commercial companies to take a broader look at and realize the benefits and effects of interorganisational collaboration on development of a commercial company.

The prepared methodology for research into trajectories of development of commercial companies in collaboration with HERI enables analysing trajectories of development of various commercial companies in context of collaboration with HERI and making better managerial decisions based on research data.

The acquired scientific facts allow for improvement of implementation of organisational changes at various commercial companies as well as enable business-science collaboration stimulation policy makers and implementers to do focused and expedient planning and implementation of measures aimed at development of commercial companies in collaboration with higher education and research institutions.

Theses to be defended:

1. Trajectory of development of a commercial company can be successfully analysed by combining theoretical approaches of open systems theory, resource theory, and the concept of dynamic capabilities.
2. Internal and external forces make different effects on development of commercial companies: internal forces stimulate and (or) hinder it, external forces stimulate and (or) limit it.
3. Trajectory of development of a commercial company is a two-dimensional phenomenon comprising the dimensions of time and change.

Research methods. Analysis of scholarly literature along with generalisation and comparison have been applied for theoretical research.

It was aimed in the work to align research method and sample so that experiences of managers of commercial companies, HERI staff, and representatives of institutions promoting collaboration between companies and HERI are revealed. For this reason *semi-structured interview* method was used for data collection by questioning these three groups of respondents directly.

Data analysis involved application of *qualitative-interpretative* (qualitative content analysis) and *statistical* (cluster analysis) methods. The research data obtained were processed, systematised and graphically presented using qualitative data analysis software NVivo and SPSS (*PASW Statistics 18*) as well as Microsoft Word and Microsoft Excel applications. Interpreting results of empirical research involved use of literature dealing with the problem field (business-science collaboration context) and available on the mass media and online.

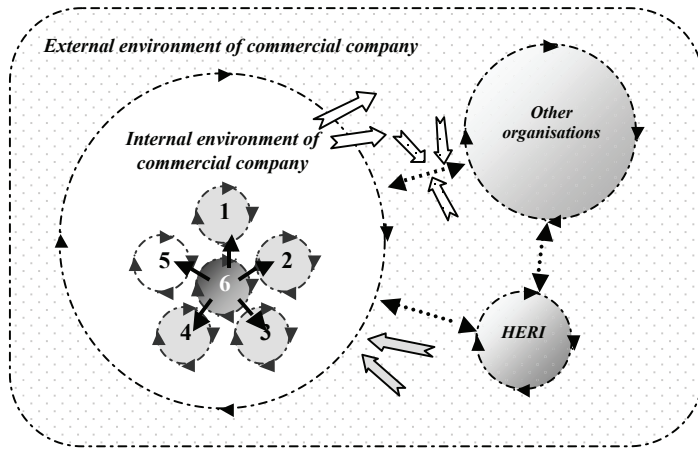
Research limitations. This dissertation research was conducted in four major cities of Lithuania and adjacent districts. With expansion of research geography (going beyond borders of a single country) and sample (including lower level managers, professionals, other commercial companies and HERI collaboration stakeholders as well as representatives of companies that are running different types of economic activities or are not technological knowledge intensive into research) it is likely that the research results would be different. This

research distances from purely quantitative research strategy based on positivist paradigm. It is likely that data collection by questionnaire survey would enable determination of statistical relations between individual characteristics (components) of dimensions of trajectory of development of a company. Based on the results of the scholarly literature analysis it was reasonably refrained from analysing development of companies during crises, company crisis symptoms (features) and resistance to external influences were not analysed empirically, and sustainable development on the company level, innovation process, R&D activities, organizational development interventions, stages of implementation of changes, and resistance to changes were not analysed either.

Structure and size of the dissertation. The dissertation consists of an introduction, three chapters, conclusions and recommendations, references and appendices. The paper comprises 236 pages (not including appendices), 26 figures, 24 tables, and 26 appendices. The list of references contains 495 entries.

THE OVERVIEW OF CHAPTER ONE

Conceptual (structural) model of environment of development of a commercial company in collaboration with higher education and research institutions (HERI) reflects theoretical attitudes highlighted in the conceptual part of the dissertation (see Fig. 1). An organisation of any type (including a company) comprises the following components: members, goals (strategy), organisational culture, technologies, structure and management. The latter is viewed as a connecting component that integrates the other components.



Explanations

①	Organisation members		Arrows indicate external drivers of development of a commercial company
②	Goals (strategy)		Arrows indicate external conditions for interorganisational collaboration
③	Organisational culture		Arrows indicate internal conditions for interorganisational collaboration
④	Technologies		Arrows indicate changes in a separate component or in the whole
⑤	Structure		Arrows indicate relations and communication among organisations
⑥	Management		Arrows indicate merging and integration of components

Fig. 1. Conceptual (structural) model of environment of development of commercial company in collaboration with HERI

The importance of individual components of a company or of their entirety is multifaceted. On the one hand, as the entirety these components make up a functional system: a developing or stagnating commercial company. On the other hand, individual components or groups of them exert pressure upon

change (or stagnation) of a company, that is, they act as forces shaping trajectory of development of a commercial company.

Development of any commercial company and other changes depend on many drivers: cultural, psychological, social, technological, environmental etc. (Gazaryan, 2006), and a commercial company develops when change drivers become more powerful than those that impede its development. Most of the company development obstructions and restrictions lie within the company itself. Internal obstacles to development of a commercial company are primarily the results of activities (knowledge, abilities, and values) of its owners, managers, and employees. However, if company members see themselves as part of the whole, and the company as a component of the general environment, and understand the importance and meaning of their actions, then they make and implement decisions responsibly, taking the general philosophy of activities into consideration. Therefore, staff willingness to do more challenging job, public need for higher quality products, and value orientation of companies (Pierce et al., 2002) are preconditions for accelerated development of the company as well as incentives to change for the better.

Moreover, results of analysis of scholarly literature suggest that psychological, social, and cognitive characteristics of the company members (their competences, motivation, respect and trust in others, mobility, established connections-networks), organisational culture, technologies are regarded both as prerequisites towards primarily positive business-HERI interaction and then efficient collaboration between them and as forces shaping trajectory of development of a commercial company.

These are many forces outside the company the entirety of which influence internal environment: changes in individual components or complex, systemic changes take place. On the other hand, ability to stay at a distance and resist negative external influences may enable maintaining of status quo. When a company faces development restrictions imposed by external environment, insufficient resources and capabilities to develop operations in a desirable way of the company are diagnosed. Meanwhile restriction of needs and learning to use resources more efficiently (Gharajedaghi, Ackoff, 1984), “opening development channels” (Kvedaravičius, 2006) ensure development of the company. The way out of the vicious circle of limited resources and capabilities can be through learning of the members of the company and their development of organisational competences within the internal environment and in interaction with other organisations.

Comparing and seeking relationships between components of company (as an organisation), groups of changes, forces shaping trajectory of development of a commercial company, and conditions for collaboration between companies and HERI, it has been found that in most cases external factors (such as legal environment of collaboration) may influence decisions of organisation on

whether to collaborate (and if yes, then to what extent) with other organisations, whether it is worth to initiate operational changes (Nieminen, Kaukonen, 2001; Butcher, 2005; Gulbrandsen, Thune, 2010). While such institutional characteristics as geographical position or company size restrict but do not prevent interorganisational collaboration as well as adjust aims of joint activities and scope and type of resources allocated to collaboration.

Obviously, social and psychological contexts (organisational culture, ways of communication, scope of knowledge and technologies created and transferred, speed, feedback, and unity between partners) are also important to development of a commercial company in collaboration with HERI (Cibulskienė et al., 2010). As social and psychological contexts change, changes occur in collaboration between organisations as well.

Conditions under control of the collaborating organisations, which they can change by themselves (staff competences and qualifications, organisational culture, internal and external influences), are closely related and supplemental to each other. Adequate considering of the importance of these conditions for collaboration may enable appropriate preparation for making the changes that lead to development of a commercial company. Situation at each company is unique and problem solving is personalised, therefore the influence of special combination of internal and external forces as well as the ongoing different internal and external interactions of the company result in various experiences being gained, movement in alternative directions, and therefore formation of separate trajectories of development.

THE OVERVIEW OF CHAPTER TWO

Validation of the generic strategy of qualitative research. In order to complete an analysis of trajectories of development of commercial companies in collaboration with higher education and research institutions the *generic strategy of qualitative research* was applied in the dissertation research. This strategy enables disclosure of the phenomenon of interest by referring to relativism (ontological approach) and through the application of epistemological approach of social constructionism as well as qualitative research data collection and analysis methods.

The generic strategy of qualitative research is based on social constructionism as epistemology, which emphasizes the role of social processes in creating, reforming, and maintaining knowledge and mutual effect of knowing and social action. Therefore integration of the principal approaches of relativism and social constructionism emphasizes the process of interaction between the dissertation author and the research participants where by application of the qualitative data

collection method (an interview) it was analysed how the participants interpret their experiences, how they realize and construe their world and what meanings they give to their experiences.

Process of the dissertation research. The research on the trajectories of development of commercial companies in collaboration with higher education and research institutions comprised 6 stages (see Fig. 2).

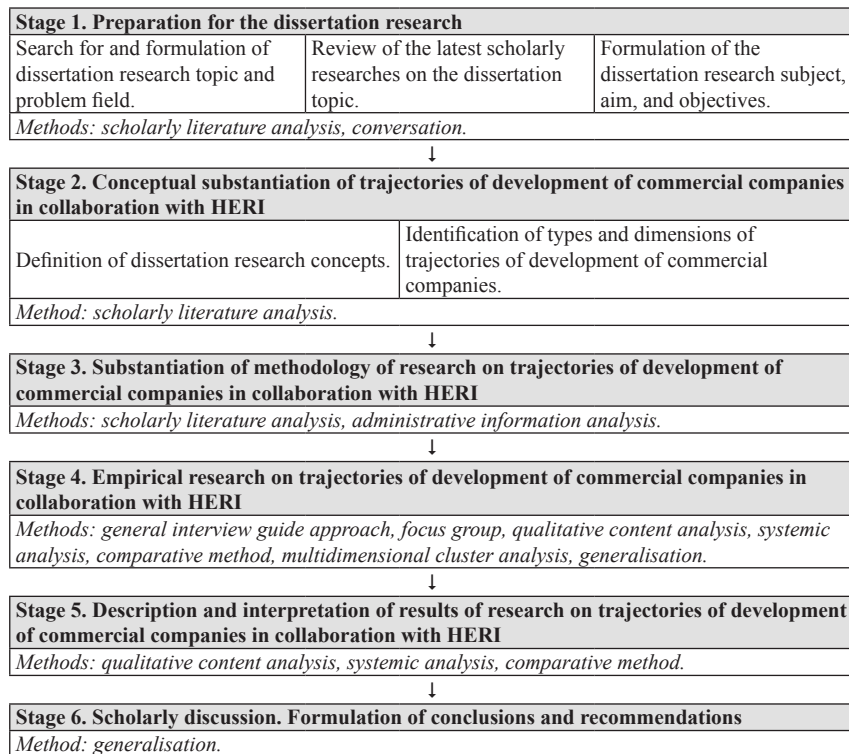


Fig. 2. Logical sequence of the dissertation research

Groups of research participants. The general interview guide approach applied in the dissertation research was used to question people capable of reflecting on their experiences and giving insights regarding trajectories of development of commercial companies in collaboration with HERI. All the research participants were arranged into three groups: representatives of

commercial companies, representatives of HERI, and representatives of IPC¹. The total number of participants in the research was 63, they were representatives of commercial companies, higher education and research institutions, and institutions-intermediaries responsible for stimulation of business-science collaboration.

The *first group of informants*, which revealed perceived trajectories of development of commercial companies they represent, included 25 persons with education in the technological field (of them 4 holders of doctoral degree), 6 with education in the physical field (of them 1 holder of doctoral degree), 4 with education in the social sciences field, and 2 with biomedical education. There were 3 informants with double degrees (2 in technologies and social sciences and 1 in biomedical and social sciences). This group of informants included 5 women and 35 men holding positions of managing directors, chairpersons of the board, deputy directors, (marketing, development, project, division, department or group) managers, and low-level managers at commercial companies operating in Vilnius city, Kaunas city and district, Klaipėda city and district, Šiauliai city, and Prienai district. Experience of this group with collaboration with HERI ranges from 1 to 25 years. Representatives of 8 large, 10 medium, and 18 small and 13 micro companies agreed to answer the researcher's questions. Distribution of representatives of commercial companies by the classification of economic activities was the following: 11 informants represented manufacturing companies, 1 – construction, 10 – wholesale or retail trade (and (or) motor vehicle repair), 8 – information and communications, 9 – professional, scientific and technical; 1 – art, entertainment and recreational companies.

Interviews with the *second group of informants* helped to reveal HERI staff perceived trajectories of development of commercial companies they have collaborated with. Out of 11 interviewed representatives of universities and a research institute 10 had education in the technological field (of them 9 holders of doctoral degree) and 1 was a doctor of biomedicine (the research comprised a total of 4 professors, 4 associate professors, 2 lecturers, and 1 senior research worker). All but one person representing state HERI established in Vilnius, Kaunas, Kaunas region, Klaipėda and Šiauliai held managerial positions (of dean, director of institute or centre, head of laboratory or department).

The *third group of informants*. In order to reveal trajectories of development of commercial companies collaborating with HERI as perceived by IPC staff, 9 persons working at institutions established in Vilnius or Kaunas were interviewed. Of these persons there were 3 project managers (of them 1 director at interim), 2 directors, 1 deputy director, 1 divisional manager, 1 group manager, and 1 business development specialist. Of these informants 5 had

¹ Institutions promoting collaboration between companies and HERI (hereinafter referred to as IPC).

education in social sciences (of them 2 holders of doctoral degree), 3 doctors of technological sciences, and 1 doctor of biomedicine. All the IPC staff that was directly responsible for development of commercial companies, stimulation of collaboration of commercial companies with universities and other HERI and so on at their organisations and took part in the qualitative research was rather free to talk on the topics of the dissertation research, and some ideas voiced during the interview guide approach were based on their implicit knowledge.

Methods of sampling for qualitative research. Maximum-variation sampling and snowball selection methods were applied in determining the sample of research participants. The choice of these methods of sampling was determined by the researcher's aim to cover during the research the maximum of different types of trajectories of development of commercial companies in collaboration with HERI as well as to include in the research sample the persons recommended by informants.

Validation of number of research participants. Potential informants were sent a total of more than 150 emails presenting the research aim and doctoral student performing it and asking to become a research participant. The research author collected information about potentially qualifying companies (their contact information, geographical area of operations, and type of collaboration with HERI) seeking to include representatives of commercial companies that for the period between 2010 to 2013 have received funding under "Inovaciniai čekiai/Inočekiai LT" measure (Agency for Science, Innovation and Technology – MITA) for joint research with HERI and those who have participated in smart specialisation priority building discussion.

There were three persons who agreed to answer the researcher's questions only by email. They were a board member of one company with education in technological or physical sciences and two representatives of another company: a quality manager and a senior technologist. It must be noted that the answers of these informants were not very comprehensive, yet they added to the interpretation of results of qualitative content analysis of the interviews.

Validation of data collection method. To achieve the aim set and as usual in implementation of generic strategy of qualitative research empirical data for the dissertation research were collected by *semi-structured interviews* (with interview guide approach). As the researcher strived to be consistent with all the participants, the same areas were touched in all interviews, although due to various circumstances (type of information received, informant experience, communicativeness, and openness) not all interviews were equally extensive. Interview guide approach enabled the researcher not to stick to a particular order of questions, ask additional, probing questions or questions arising in the course

of a particular interview as well as ask to explain and tell more about some aspect if the respondents' answers to essential questions were not comprehensive enough.

Validation of data analysis methods

Qualitative content analysis. Complex data validation with *hybrid approach* was used for this research. This systematic process of data analysis can be partially regarded as a linear procedure that is a repetitive and reflective process where by combining inductive and deductive approaches empirical data was sorted to obtain more abstract clusters of information along with constant returning to empirical material and reviewing categories and subcategories until comprehensive set of them was obtained and their structure, themes, and relations were determined. Therefore *hybrid approach* means that throughout the dissertation research different methods of data encoding and analysis were applied, these methods did not hinder modification and supplementation of problem-based questions for the dissertation research and made *open systems theory*, *resource theory* and *concept of dynamic capabilities* integral to deductive thematic analysis, and later enabled structuring and interpreting the text.

All texts of transcribed interviews were gradually uploaded to qualitative data analysis software "NVivo" (*qualitative data analysis computer software package*) thus keeping the link between data collection and data encoding that is not merely an assignment of names, but relation of data by selecting descriptive, generalising, key words and phrases.

Referring to problem-based research questions and scholarly literature analysis having been completed encoding scheme with *a priori* (deductively) identified themes, categories and subcategories was prepared. To ensure reliability of the encoding scheme, focus group of HERI representatives with experience in carrying out qualitative research was organised after taking the initial steps in thematic analysis. Participants in this focus group voiced their remarks regarding the prepared encoding scheme (themes identified, logic of categories and subcategories, connections between them, and their comprehensiveness level).

All theoretical contemplations led to intermediate, working (not final) categories that were checked, corrected and modified until the text was adequately perceived and arranged into three themes: "Manifestation of collaboration with HERI which influences development of commercial companies", "Characteristics of manifestation of development of commercial companies", and "Characteristics of forces shaping trajectories of development of commercial companies".

Cluster Analysis. In analysing the interview data statistical calculation in defining code occurrence frequency in individual interview transcriptions was not used, instead, qualitative content analysis was replaced with *cluster analysis* to identify the types of trajectories of development of commercial companies in collaboration with HERI. To arrange the companies (namely transcriptions of interviews with individual informants) into separate, logically valid and interpretable groups, statistical classification was performed to determine the similarity of objects. It was only after arrangement of the vast array of sentences and establishment of categories and subcategories (characteristics of dimensions of trajectories of development of commercial companies analysed) that a statistical method (*cluster analysis* with *PASW Statistics 18* software) could be applied.

Results of qualitative interview content analysis having been systematised and quantitative expression having been obtained (attribute present or absent) it was found that heads of companies 1, 18 and 20 did not talk about changes at their companies as a result of collaboration with HERI at all. For this reason these interviews are to be regarded as exclusions distorting the results, therefore they were eliminated from the content analysis. To perform the cluster analysis of companies binary variables were used: categories obtained using the qualitative content analysis method – after conversion of three-dimensional characteristics into binary variables that were later analysed by applying dispersion analysis method.

The dissertation author is of opinion that based on the calculations the clusters are best distinguished with squared Euclidean distance by Ward's method, because the differences between the clusters are the greatest. For this reason distance between attributes was measured with *Binary squared Euclidean distance* and for connecting the clusters Ward's method was used after building three clusters per each theme.

Statistical data of this research was processed in accordance with a predefined scheme. The same sequence of calculation procedures was applied for analysis of all categories. Whereas the number of analysed and classified objects was particularly small (N=37), hierarchical method of connection and Ward's method were chosen. This enabled producing clear, strictly structured dendrograms and rendering structure of clusters in polygon lines that were rather easily and freely interpreted afterwards.

Dissertation research ethics. The following *ethical principles* were applied in preparing for and carrying out the dissertation research: agreement and free self-determination of informants to participate in the research; permission of informants to record the interviews; principle of justice; principle of right not to be abused; good faith; privacy and confidentiality; research usefulness.

THE OVERVIEW OF THE CHAPTER THREE

The content analysis allowed identifying and establishing the categories and subcategories according three themes.

Theme 1: Manifestation of collaboration with HERI which influences development of commercial companies

Table 1

Initiation of collaboration between commercial companies and HERI

Categories	Subcategories
Initiation of collaboration between commercial companies and HERI	Collaboration initiated by company ^{1,2,3}
	Collaboration initiated by HERI ^{1,2,3}
	Collaboration initiated by 3 rd party ^{2,3}

Notes: ¹subcategories extracted from interviews with heads of commercial companies; ²subcategories extracted from interviews with representatives of HERI; ³subcategories extracted from interviews with representatives of IPC.

Table 2

Motives of commercial companies to collaborate with HERI

Categories	Subcategories
Internal benefits for company	Resolved technological and managerial problems ^{1,2,3}
	Development of human resources ^{1,2,3}
	Need for knowledge in creating and improving a product ^{1,2,3}
	Creation of positive image ^{1,2}
	Seeking long-term benefit for business ^{1,2}
External benefits (for HERI and public)	Ensuring of quality in higher education and research ¹
	Satisfaction in helping and building wellbeing for the public ¹

Table 3

Forms and activities of collaboration between commercial companies and HERI

Categories	Subcategories
Unidirectional transfer of resources	Established technological base on HERI premises ^{1,2,3}
	Targeted funding of studies ^{1,2}
	Support to HERI events ¹
	Free training for HERI representatives ¹
Knowledge dissemination between companies and HERI through participation in the process of preparation of professionals	Assessment and improvement of programmes of higher education ^{1,2}
	Student practice at companies ^{1,2,3}
	Employment of graduates and students ^{1,2,3}
	Mutual exchange of companies and HERI staff ^{1,2,3}

Reciprocal exchange of knowledge between companies and HERI	Involvement of representatives of companies in HERI management ^{1,2}
	Informal social relations ^{1,2,3}
	Joint events by companies and HERI ^{1,2,3}
	Scholarly publications based on joint research ¹
	HERI as customers of commercial companies (orders) ¹
Transfer of knowledge from HERI to companies	Feasibility studies for companies ^{1,2}
	Preparation of technical documentation, scientific reports for companies ¹
	Training for staff of companies ^{1,2,3}
Transfer of technologies from HERI to companies	Contract (applied) research for business ^{1,2,3}
	Adoption of new products or technologies from from HERI ^{1,2}
	Technological consulting by HERI staff for companies ^{1,2,3}
	Use of HERI infrastructure ^{1,2}
Exchange of technologies between companies and HERI	Joint R&D activities (projects) of companies and HERI ¹
	Establishment of startups ^{1,2,3}

Table 4

Typology of outcomes of collaboration between commercial companies and HERI

Categories	Subcategories
In material respect	Tangible results of collaboration ^{1,2}
	Intangible results of collaboration ^{1,2,3}
In directional respect	Mutually useful ^{1,2,3}
	Useful to one party only ^{1,3}
In environmental respect	Internal benefit (organisational development) ^{1,2,3}
	Benefit for external subjects ^{1,2,3}
In respect of time	Effect ^{1,2}
By levels	Individual level ^{1,2}
	Organisational level ^{1,2}
	Business sector (international) level ¹
	Community (public) level ¹
	National level ^{1,2}

Theme 2: Characteristics of manifestation of development of commercial companies

Table 5

Manifestation of development of commercial company

Categories	Subcategories
Improvement of staff competences and qualification	Advanced knowledge of managers and employees ^{1,2,3}
	Improved staff competences ^{1,2,3}
	Changed attitudes and perceptions of managers and employees ^{1,2,3}

Improvement of management	Change in strategic direction of company ^{1,2}
	Change in organisational management structure ¹
	Change in managerial decisions ¹
	Change in organisational culture ¹
Modernisation or change in manufacturing and service processes	Use of new (improved) methods in applying new equipment and technologies ^{1,2}
	Appearance of R&D activities at the company ¹
	Other changes in products and processes ¹
Product creation or updating	Technologically newly created products ^{1,2,3}
	Technologically improved products (raw materials...) ^{1,2,3}
	Use of new raw materials ^{1,2}
Growth of opportunities to sell product on the market	Putting a new (improved) product on the market ^{1,3}

Theme 3: Characteristics of forces shaping trajectories of development of commercial companies

Table 6

Internal forces stimulating development of commercial company

Categories	Subcategories
Employees as drivers of company development	Employees a main resource of company ^{1,3}
	Continuous improvement of employees ^{1,3}
	Progress-driving susceptibility of employees ^{1,2,3}
	Natural staff turnover ¹
Development-stimulating head	Head mobility and interest in activities of other organisations ^{1,2,3}
	Head that generates ideas and trains ^{1,2,3}
	Successful efforts of head to receive funding ¹
	Head's values ¹
	Head's personal relation to HERI ^{1,2,3}
Environment favourable to staff improvement	Manifestation of favourable environment through features of innovative organisation ¹
Financial possibilities for development	Financial incentives to create ²
	Being able to buy what is needed ²
Commercial company life cycle	Effect of life-cycle stage ³
	History of company appearance („path dependency“) ¹

Table 7

External forces stimulating development of commercial company

Categories	Subcategories
Positive activities of market players	Adequate response to market needs ^{1,3}
	Synergy in activities of the company and its partners ^{1,3}
	Cluster activities leading to positive changes ^{1,3}
Opportunities opened up by media and internet	Internet as intermediary between companies and HERI ^{1,2,3}
	Benefit from publicising of positive experience ^{1,2,3}

Science as driver	Competences of HERI staff and students, which stimulate development of company ^{1,2,3}
	Contribution of enthusiastic and motivated HERI staff ^{1,2}
	Adequacy of scientists activities to business needs ^{1,2,3}
Expedient measures by business support institutions	Valuable experience of intermediaries ³
	Improvement through use of measures from the Agency for Science, Innovation and Technology ^{1,2,3}
	Competence-growing activities of the Lithuanian Business Support Agency ¹
Technological progress	Technological innovations stimulating development of company ^{1,2}
	Advantages offered by EU membership ²
Social and cultural drivers of progress	Transition of “Lithuania as a phoenix” to another level in lifecycle ²
	Positive foreign experience stimulating development of companies ^{1,2,3}

Table 8

Internal forces hindering development of commercial company

Categories	Subcategories
Staff as obstacle to company development	Staff resistance to changes ^{1,2,3}
	Lack of potential at small enterprise ^{1,2,3}
	Staff leaving to work for competitors ¹
	Incompetence of company staff to collaborate with scientists ^{1,2,3}
	Discontinued relations of employees (graduates) with HERI ¹
Weaknesses of heads of company	Head lacking competences ³
	Fear-inspiring managers ³
	Narrow interests of heads and owners of parent company ^{1,2,3}
	Short-term objectives of heads of the company ^{1,2,3}
	Rejection of need for progress ²
	Negation of costs of academic work ³
	Unwillingness to invest in solutions for the future ^{1,2,3}
No risk tolerance ^{1,2}	
Negative features of organisational culture	Openness <i>versus</i> privacy ^{1,3}
Complicated financial situation at the company	Limited investments in equipment ^{1,3}
	Financial inability to pay HERI ^{1,3}
Unfavourable geographical environment	Obstacles to development of provincial companies ^{1,2,3}

Table 9

External forces limiting development of commercial company

Categories	Subcategories
Weaknesses of research and higher education environment	Weaknesses of system of education ^{1,3}
	Different position on timeline ^{1,2,3}
	Shortcomings in HERI management and administration – bureaucracy ^{1,3}
	Absence of intermediaries ^{1,3}
	Mismatch to business needs ^{1,2,3}
	Inadequate competences of HERI staff ^{1,3}
	Scientists being not open to the outside ^{1,2,3}
	Outdated material facilities of HERI ¹
	Incorrect attitude of scientists to business ^{1,2,3}
	Unfairness of scientists ^{1,2,3}
	Inadequate potential of HERI students (future graduates) ¹
Challenging physical technology	Absence of practical experience with use of modern equipment ¹
	Modern equipment restricting range and quality of production ¹
	Unproductive, manual labour intensive activities ¹
Activities of governmental institutions not in line with business and (or) national interests	No state orders for HERI ¹
	Poorly ensured strategic continuation of policy, absence of national innovation strategy ³
	Indifference of self-governance leaders ^{1,3}
	Ambiguous and controversial requirements for business ¹
	Legal problems with intellectual property ^{1,3}
Labour market problems	Large scale of emigration ¹
	Lack of skilled workers ^{1,2,3}
	Head hunting ^{1,2}
Negative trends in economic environment	Low purchasing power at the local market ¹
	Effects of economic crisis ¹
Forces of social and cultural environment	Public values restricting development of a company ¹
	Nonchalant attitude of mass media representatives to business achievements ^{1,3}
	Decline in level of education ^{1,2}

Interface of dimensions of commercial company development trajectories and forces shaping these trajectories

It can be claimed that *the trajectory of development of a commercial company is two-dimension phenomenon, which consists of time and variation dimensions. Time* in this context, in accordance with the linear perspective, is treated as a business life expectancy, which is divided into certain spaces, and understood as a consistent flow of activity in a company from its establishment

to liquidation. In the dissertation research the time factor is very important both for the analysis of collaboration process between commercial companies and higher education and research institutions (HERI), duration of joint activities and forms, and revealing the changes in commercial companies as consequences of collaboration with HERI. In addition, the investigation revealed that the brake of commercial company development and the obstacle of cross-organizational collaboration is considered to be its objective transience, managers and owners focus on pragmatic, tangible overall results, when the long-term relationship with HERI are perceived only as a loss of time, i.e. costs.

It is noticed that the parallel development of a commercial company is in its collaboration with the HERI process, which is also divided into distinct periods of time - stages of collaboration (see. Fig. 3). Each stage duration of the commercial company collaboration with HERI is individual. It can be claimed that the first three stages of cross-organizational collaboration (at least in the first practice) are time-consuming, therefore they also act as a strong force shaping the trajectory of development of a commercial company.

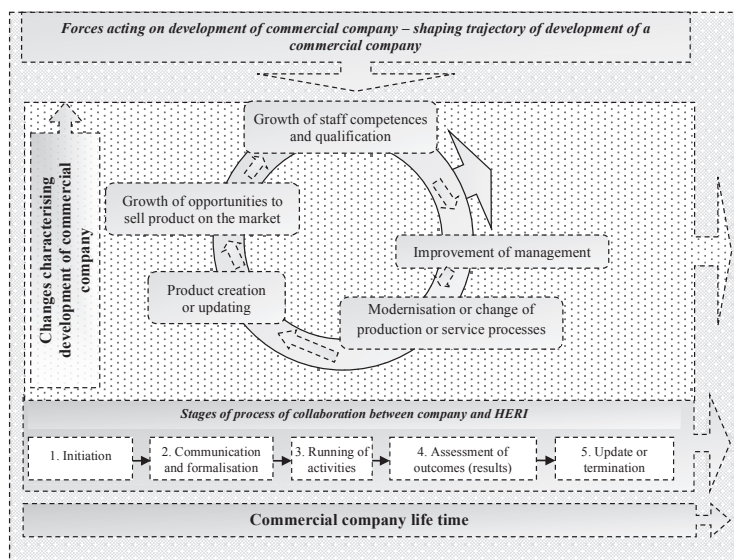


Fig. 3. Relations between dimensions of trajectories of development of commercial companies and forces shaping these trajectories

The qualitative content analysis revealed that in the analysed commercial companies the complex changes proceeded in various sequences and intensity, what characterized the development of these companies. Collaboration with

the HERI provides for businesses both short-term tangible and intangible long-term benefits. Thus, increasing staff competences and qualifications, improved management, modernised (modified) production and service processes, created (updated) products, increasing possibilities to dispose the products in the market implies the company development. And in turn, this creates the conditions for the second level changes - strengthening position in the market for quantitative company growth.

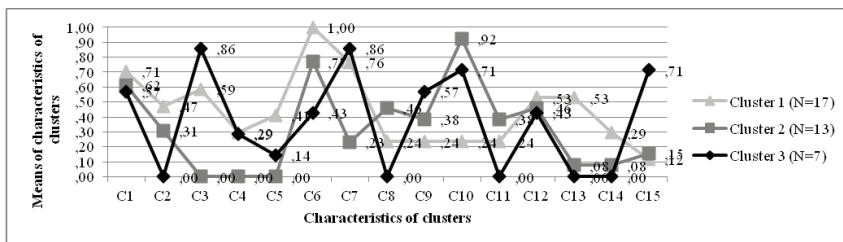
The research results suggest that the *development of commercial companies is affected differently by internal and external forces, i.e. the internal forces stimulate it and (or) hinder it, and the external - stimulate and (or) limit it*. It should be noted that the changes taking place in a commercial company and characterising its development, promote the development of the company or stop it. Thus, e.g., the changes of knowledge, capabilities and attitudes of the commercial company members are treated as a part of development expression, and as a shaping force of the trajectories of development of a commercial company. In addition, the company life cycle, which refers to the *time* dimension, is considered as the internal force shaping the trajectories of development of commercial companies.

Having analysed the external forces shaping the trajectories of development of commercial companies, it was noticed that under favourable circumstances the science acts as the driving force, together or separately from the other market and macro factors, that promote the development of the commercial companies. Otherwise, both the weaknesses of the HERI and the other external development constraints negatively affect the performance of the commercial companies, they are not confronted with the progress and development, and the existing inner potential is weakened or not used at all.

Statistical typologisation of commercial companies by individual dimensions of their trajectories of development

Types of commercial companies by collaboration with HERI

The first cluster ***mutually beneficial relationships that change HERI*** has the greatest number of companies (see Fig. 4). The main features distinguishing this type of companies is *diversity of collaboration activities* and recognition of *mutual benefit of collaboration*. One characteristic is outstanding: *knowledge dissemination between companies and HERI through participation in the process of preparation of professionals* with statistical evaluation of 1.



Notes: C1: company's internal motives to collaborate; C2: company's external motives to collaborate; C3: collaboration initiated by company; C4: collaboration initiated by HERI; C5: unidirectional transfer of resources; C6: Knowledge dissemination between companies and HERI through participation in the process of preparation of professionals; C7: reciprocal exchange of knowledge between companies and HERI; C8: transfer of knowledge from HERI to companies; C9: transfer of technologies from HERI to companies; C10: Exchange of technologies between companies and HERI; C11: tangible results of collaboration; C12: intangible results of collaboration; C13: mutually beneficial collaboration; C14: collaboration useful to one party only; C15: continuation of collaboration.

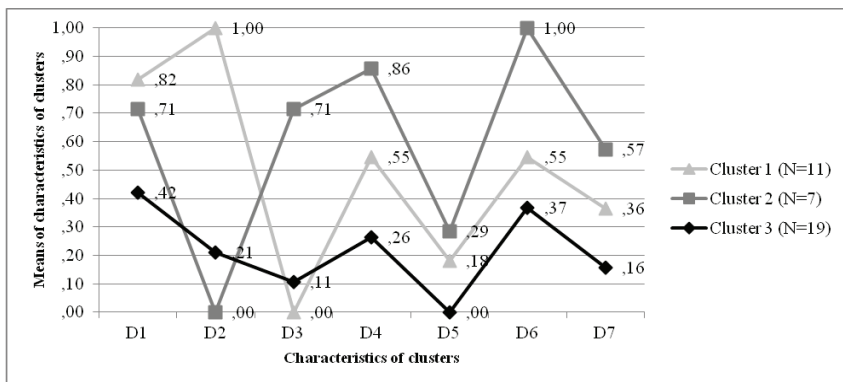
Fig. 4. Typology of collaboration of commercial companies with HERI (3-cluster model, N=37)

Interviews with representatives of companies exhibiting characteristics of the second type obviously indicate one form of collaboration: *exchange of technologies between companies and HERI*. Moreover, companies in this group more often than others are in contact with scientists and researchers, seeking to absorb their knowledge. Therefore the second cluster was named **“friendship of convenience”**.

The third cluster **relations of equal partners** comprises the smallest number of companies, these companies work in the major cities of Lithuania. The characteristic feature is that interviews with heads emphasize companies' initiatives to collaborate with HERI, there is mutual exchange of knowledge, which evolves into the next level of relations and leads to continuation of collaboration. The internal interest of business in collaboration is based on recognized competence of individual scientists and researchers, their experience in dealing with the problems of manufacturers, ability to receive and provide relevant information, aim to prepare future competent professionals, desire to give them access to the latest technology and familiarize with business concerns.

Types of commercial companies by manifestation of development

The first cluster has been titled **changes based on development of human and organisational resources** (see Fig. 5). The characteristic features of the first group of companies are *improvement of management* and *growth of staff competences and qualifications*. *Improvement of management* clearly stands out.



Notes: D1: growth of staff competences and qualification; D2: improvement of management; D3: modernisation or change in manufacturing and service processes; D4: product creation or updating; D5: growth of opportunities to sell product on the market; D6: strengthening position on the market; D7: (quantitative) growth of company.

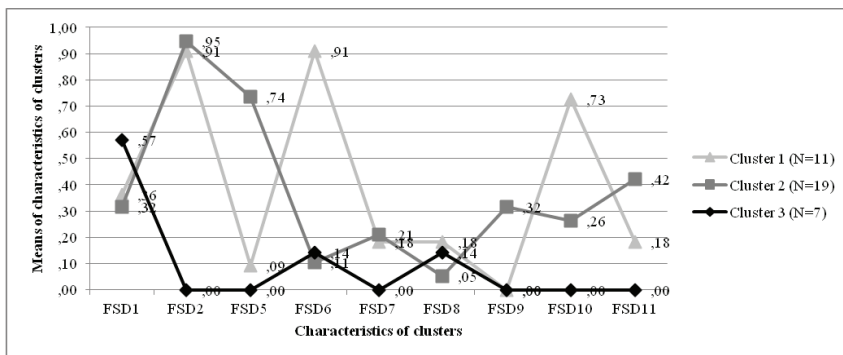
Fig. 5. Typology of manifestation of development of commercial companies (3-cluster model, N=37)

The second cluster *competitive advantage through unique and exclusive resources and capabilities* has the smallest number of companies. Heads of these companies best recognize the great effect of collaboration with HERI on changes in activities of the company. Speaking about development of human resources the heads note that it is through collaboration with scientists and researchers that general cultural awareness increases, different approaches to specific problems get known, opportunities “to enter personally unfamiliar areas” are used, and discussions with partners from the sphere of science are appreciated.

The most numerous group of companies form the third cluster named *development of innovative processes*. Members of companies in this cluster collaborate with HERI in a motivated and focussed way, e.g., they give lectures at higher education institutions, accept students to do practice and formulate tasks for them, therefore they have predisposition to use change of human resources (expanded knowledge and competences of themselves and their subordinates) not only in operations of their companies, but also in the study process.

Types of commercial companies by forces stimulating development

The first cluster can be conditionally called *orientation of heads to market and internal changes*. Here belong companies the heads of which named *development-stimulating head, positive activities of market players, and technological progress* as forces stimulating development of a company.



Notes: FSD1: Employees as drivers of company development; FSD2: development-stimulating head; FSD5: commercial company life cycle; FSD6: positive activities of market players; FSD7: opportunities opened up by media and internet; FSD8: science as driver; FSD9: expedient measures of business support institutions; FSD10: technological progress; FSD11: social and cultural drivers of progress.

Fig. 6. Typology of forces stimulating development of commercial companies (3-cluster model, N=37)

The second cluster has been conditionally called *tapping of external circumstances*, the essential features of which are *development-stimulating head, commercial company life cycle, social and cultural drivers of progress, and competences of business support institutions*.

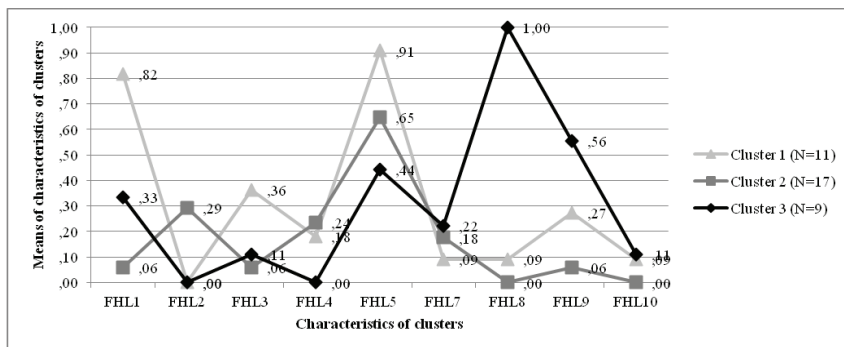
The informants tend to emphasize path dependency (influence of company history on its development). These research participants all rather comprehensively (and on their own initiative) answered the question about changes that took place at the company by mentioning the path of establishment the company and their personal relation to that path.

The third cluster *internal forces in learning from and with each other* includes mainly very small and small, short-lived business entities established in the three major cities of Lithuania and with relatively shorter collaboration with different HERI compared to members of other clusters. The outstanding feature of this group of companies is that *employees are seen as the main driver of company development. Positive activities of market players and science as driver*, which got equally low score, act through various joint projects with other organisations, organisational learning, participation in conferences or other events.

Types of commercial companies by forces impeding development

The first cluster has been conditionally called *differences in mental worlds ("misunderstanding")*. The essential characteristics of the companies placed in this cluster are *weaknesses of research and higher education environment, staff*

as obstacle to company development, and negative features of organisational culture (see Fig. 7). Speaking about forces impeding development of company the informants heavily criticize heads of HERI for bureaucratic management and inefficient external communication (particularly when it comes to publication of results of scientific research and staff competences).



Notes: FHL1: staff as obstacle to company development; FHL2: weaknesses of heads of company; FHL3: negative features of organisational culture; FHL4: complicated financial situation at the company; FHL5: weaknesses of research and higher education environment; FHL7: activities of governmental institutions not in line with business interests; FHL8: labour market problems; FHL9: negative trends in economic environment; FHL10: forces of social and cultural environment.

Fig. 7. Typology of forces impeding or restricting development of commercial companies (3-cluster model, N=37)

The main features of the second cluster *development-impeding management* (the largest by the number of companies) are *weaknesses of research and higher education environment, heads hindering company development, and complicated financial situation at the company*. The informants emphasize both weaknesses of the entire system of education and shortcomings in activities of individual institutions or their staff. Low motivation of employees and inefficient communication at personal, departmental and organisational level are regarded as factor restricting both interorganisational collaboration and organisational development. Scholars are criticised for their inability to turn great ideas into end result: product prototype or formula.

The third cluster *external social and economic obstacles to development* is characterised primarily by *labour market problems and negative changes in economic environment*. According to the informants, large scale of emigration that is partially responsible for increasing lack of skilled workers restricts company development. Negative attitudes are also expressed in relation to decline in the level of education, disproportion of youth seeking vocational and university education in Lithuania, and low purchasing power on the local market.

Types of trajectories of development of commercial companies

According to the results of the qualitative content analysis the cluster analysis of the category groups was carried out, which resulted the development of the commercial company groups according to their similarities. In order to identify the links (dependencies) between the particular clusters, the frequency crosstab (see Table 10) was formed out using PASW Statistics 18 software. Analysing the data of this frequency crosstab, the particular types of homogeneity of the trajectories of development of a commercial company can be indicated. In terms of homogeneity the first type of a trajectory of development of commercial companies characterizing indicators (*column 1*) is typical for 7 commercial companies, the second type (*column 2*) – for 6 commercial companies, and the third (*column 3*) – for 11 companies. Based on these facts, it is stated that the highest number of the columns 1, 2 and 3 (Table 10) represents the strongest dependence of trajectory type of development of commercial company to its indicators. Therefore, the following description of each of the three types of the trajectories of development of commercial companies focuses to the interfaces of the most characteristic indicators.

Table 10


Dependence of Indicators of the Trajectory Types of Development of Commercial Companies

		Clusters according to the commercial company development expression			In total
		No. 1 “Changes based on development of human and organisational resources”	No. 2 “Competitive advantage through unique and exclusive resources and capabilities”	No. 3 “Development of innovative processes”	
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Clusters according to collaboration with HERI	No. 1 “Mutually beneficial relationships that change HERI“	7*	4	6	17
	No. 2 “Friendship of convenience“	3	2	8	13
	No. 3 “Relations of equal partners“	1	1	5	7
In total		11	7	19	37
Clusters according to forces promoting commercial company development	No. 1 “Orientation of heads to market and internal changes”	2	6	3	11
	No. 2 “Favourable external circumstances for development”	7	1	11	19
	No. 3 “Internal forces in learning from and with each other”	2	0	5	7
In total		11	7	19	37


Clusters according to forces what stop (limit) commercial company development	No. 1 “Differences in mental worlds (“misunderstanding”)”	4	3	4	11
	No. 2 “Development-impeding management“	4	2	11	17
	No. 3 “External social and economic obstacles to development”	3	2	4	9
In total		11	7	19	37

Clarification:

* numbers in boxes refer to the numbers of companies for the particular analysed cluster.

 The most specific 1st type indicators of the trajectory of development of commercial companies

 The most specific 2nd type indicators of the trajectory of development of commercial companies

 The most specific 3rd type indicators of the trajectory of development of commercial companies

The first type of the trajectory of development of commercial companies in collaboration with HERI is called ***a slow and consistent company’s growth***, which is highly influenced by the personality of the head of the company and his experience. Having benefited from the favourable external circumstances, with the necessary knowledge and skills for the particular business start-up and initial development, the company is established and developed avoiding relations with HERI, which have obvious administrative problems. When a company develops by this trajectory, its qualitative growth is through the development of knowledge and skills (intangible resources): staff competences and qualification are increasing, corporate governance is improved. The first type of trajectory of development appears in small and very small commercial companies, which collaboration with HERI takes place in the individual level, i.e. with individual scientists or researchers, because HERI bureaucracy remains as a formidable obstacle. Although these companies are not able to develop collaboration with HERI in the organizational level, however, the relationship is mutually beneficial as it leads to the qualitative changes in the commercial companies as well as in HERI. The essential obstacles of the companies developing by this trajectory become their employees’ resistance to organizational change and cognitive distance, which is determined by the closeness of the members.

The second type of the trajectory of development of commercial companies in collaboration with HERI is decided to name the type of ***moderate technological modernization***. This type of the trajectory of development is characterized with exceptional, rare organisational resources and development of capabilities, where the leaders focus on the market demands and constant internal changes. Technological renewal process is associated with the longest operating companies, raising more and more ambitious targets to increase efficiency and quality assurance. It is possible to the companies, which invest in machinery and other equipment upgrade. This trajectory of development of commercial

companies is negatively affected by misunderstanding with scientists and researchers (differences in the mental level), which limits the development of intangible resources in organization. After a review of the complex of organizational changes, the company modernization tendency is fixed down.

The third type of the trajectory of development of commercial companies is ***innovation process acceleration***, typical for the companies developing innovative processes and which need external forces, e.g., HERI impulse. The heads of the commercial companies developing by this trajectory recognize the importance of external opportunities for exploitation. R&D&I activities are used to strengthen the competitive advantage, and it is avoided to collaborate and even interact with HERI, because of their management shortcomings, which restrict business development. The characteristic feature of these trajectories is the pragmatic relationship with HERI, which determines variety of possible organizational changes that characterize development of a company.

CONCLUSIONS

Having analysed the trajectories of development of commercial companies in collaboration with higher education and research institutions in the theoretical aspects and having carried out the empirical research, the following conclusions have been formulated:

1. The concept analysis of development of a commercial company carried out and presented in this work suggests that the development of the commercial company means change in the company, employing existing and potential gain resources and skills. Thus, the development of a commercial company is a process that is inseparable from the proper and efficient management, when the ongoing efforts of the managers and their decisions focus on upgrading the company direction, resources, and skills.

1.1. The analysis of the scientific literature has shown that the development of a commercial company in the researchers' works is primarily associated with changes that usually acquire two meanings: the *first* case deals with the company (organization) changes in all of its design dimensions (elements, subsystems, etc.); in the *second* case, the company changes are considered as new ideas or behavioural variation, takeover, traditional way of thinking of the company members, provision changes. It was found that the changes are an integral part of the company development, growth, transformation and transition.

1.2. A commercial company develops, when its members form and maintain a diverse interaction with each other and with the leaders and (or) staff from other companies. It is claimed that in the scientific literature the commercial company development is characterized with the changes, which are treated as

a complex, multi-layered process that can be inspired by a company crisis or by the efforts and decisions of a proactive manager of the company, what in turn makes assumptions for new changes and updates, organisational internal activities and response in time to the demand for changes. Thus, due to the continuous, incremental, long, slow, open and participatory changes associated with the development of a commercial company, the competences and skills of management and staff are improving and growing and more ambitious targets are achieved through the new resources and skills.

2. In accordance with the terms of a linear approach a trajectory of development of a commercial company is defined as an organization life history (path), formed by the interaction of its members, opportunities to realize targets and exposed by such forces as the organizational culture, market participants, media and cyberspace provided opportunities, higher education and research environment, business support institution instruments, technological progress, social and cultural factors. This approach reveals two dimensions of a trajectory of development of a commercial company - time and scope of changes.

2.1. The analysis of the scientific literature revealed that the researchers refer to two concepts on the trajectory of development of a commercial company: linear and non-linear. According to the non-linear approach the trajectory of development of a commercial company is treated as a company omnidirectional movement in space. For this research the linear approach was chosen to analyse the trajectory of development of a commercial company, because it is more specific and clearer, within limits to the following analysis sections: time, changes that occurred in the company during a particular period, internal and external interaction between the members of the company, developing opportunities in the individual and organizational levels.

2.2. It was found that in the trajectory of development of commercial companies one of the force groups clearly does not work. The research provides the insights to the conclusion that the trajectory of development of a commercial company as a change sequence does not unfold itself according to pre-defined logic.

3. The carried out analysis of the commercial company collaboration with higher education and research institutions (HERI) as the assumption for the development of these companies revealed that the collaboration as one of the most mature and long-term inter-organizational relationships allows for the all involved parts to employ skills, intellectual strength and different competencies, is based on the reasonable common norms, rules, values and the provisions, joint decisions to successfully carry out the activities seeking for the common objectives, corresponding to the development vision and objectives of each organisation involved in.

3.1. In the scientific research it is considered that collaboration may be performed in micro-level (individual), meso-level (organizational), echo-level (collaborating with several/dozen commercial companies and HERI), national (macro) level and in international, global (mega) level. Considering the specifics of each level of collaboration, it is recognized that collaboration can take place both vertically (between different levels of participants) and horizontally (between the same level of participants). Therefore, it is concluded that to achieve specific goals, a commercial company, constructing and maintaining relationships with HERI, supporting various motives and expectations can simultaneously collaborate on different levels and directions.

3.2. The analysis of the scientific literature has shown that the models of commercial company collaboration with HERI are developed in two directions: focusing on the process of collaboration or interaction characteristics of the participants. In this dissertation it is recognized that the analysis prism of the procedural commercial company collaboration with HERI is a useful analysing the long-term and mature relationship between these organisations. The purified linear model of collaboration is characterized following five steps: (1) an initiation of collaboration; (2) communication between the parties, determining the direction and relation formalisation; (3) running of activities; (4) assessment of outcomes (results); (5) updating of collaboration or its termination.

3.3. The collaboration of commercial companies with HERI is performed through its own objectives and content of the different activities. It was found that this collaboration covers a continuum of inter-organizational relationships, based on one-way interaction (commercial company – for higher education and research institution or vice versa), and close collaboration which points out a two-way interaction. Based on this distinction the results of the collaboration activities analysed in this research were identified *according to the levels, time, environment, direction and materiality respect*.

4. The methodology of the trajectory of development of a commercial company in collaboration with higher education and research institutions is based on the common qualitative research strategy, which appeals to the relativism (ontological approach), epistemological position of the social constructionism and qualitative research data collection and analysis method application.

4.1. Based on the theoretical study three questionnaire guidelines were designed for the purposeful interview. Applying this method 60 people were interviewed who could convincingly reflect on their experience, provide insights for company development trajectories in collaboration with HERI.

4.2. Considering validity, credibility investigation process reliability, portability, validation requirements, in this research the qualitative analysis of the content was combined with the cluster analysis method for the three

informants groups (commercial companies, higher education and research institutions and institutions-intermediaries, responsible for the business and science collaboration).

5. Based on the theoretical study and qualitative research the findings showed that the trajectory of development of a commercial company is two-dimensional phenomenon, which consists of time and change dimensions.

5.1. *Time* in this research in accordance with the linear approach is considered as a company life expectancy, which is divided into certain periods and understood as a consistent flow performance throughout its lifecycle. In parallel with the business development, the process of its own collaboration with HERI is happening, which is also divided into the distinct periods of time - stages of collaboration.

5.2. *Change* as a dimension of the trajectory of development of a commercial company in this research is revealed in complex. The staff competences and qualifications are increasing in various sequences and intensity, the governance is improved, the processes of production and services are modernised (modified), the products are created (renewed), the increasing possibilities to sell products in the market implies the development of the company.

5.3. The development of a commercial company is differently affected by the internal and external forces, i.e. the inner forces stimulate it and (or) hinder, and external - stimulate and (or) limit it. It was found that some of the forces, depending on the context and the specific characteristics of the co-participants can acquire both positive and negative nature. The impact of business support institutions, media and cyberspace, situation in the labour market, social and cultural forces on the commercial company development, what was not mentioned in the scientific literature, was disclosed in this research.

6. On the base of the qualitative research findings the cluster analysis and the dependency determination of the characteristics of each type of the trajectories of development of commercial companies made the conditions to identify and characterize the trajectories types of development of commercial companies.

6.1. The following trajectory of the development of commercial companies were defined: (1) *slow and consistent company growth*; (2) *moderate technological renewal*; (3) *acceleration of innovation processes*.

6.2. It turned out that the identified different types of the trajectories of development of commercial companies are typical for the different size, performance duration, and type of economic activity commercial companies, which support a wide range of collaborative relations with higher education and research institutions.

ABOUT THE AUTHOR

Name, Surname Jurgita Bersėnaite
E-mail address jurgita.bersenaite@su.lt

Education:

- 2011–2015** **Doctoral studies in Social sciences area, Management science field** (joint right of doctoral studies at Vytautas Magnus University, Klaipėda University, Aleksandras Stulginskis university, Mykolas Romeris University, Šiauliai University)
Šiauliai University, Faculty of Social Sciences, Department of Management
- 2004–2006** **Study programme – Management, specialization – Education Management, Master of Management and Business Administration**
Šiauliai University, Faculty of Social Sciences, Department of Management
- 2002–2004** **Study programme – English Philology, Field of studies – Philology, Bachelor’s Degree in Philology and the professional qualification of teacher**
Šiauliai University, Continuing Studies Institute
- 1997–2001** **Study programme – Pedagogy of Primary Education and Ethics, Bachelor’s Degree in Social Sciences (Educology) and the professional qualification of primary school teacher and basic school’s teacher of ethics**
Šiauliai University, Faculty of Education

Work experience:

- 2014 – present** **Lecturer**, Šiauliai University, Department of Management;
Junior Research Fellow, Šiauliai University, Research Institute, Social Research Centre
- 2012–2014** **Junior Research Fellow**, project „Client participation value as a factor of increasing competitiveness of an enterprise (VALORE)“, No. MIP-025/2012/06-47-SU-106
- 2011** **Author of feasibility study**, project “Enhancing the internationality of the studies in Šiauliai University, Social Sciences Area, Business and Management Field group by preparing the feasibility study of first level study programme together with University of Latvia and University of Wrocław”, No. VP1-2.2-ŠMM-07-K-02-013.
- 2010** **Researcher**, project „The Empowerment of Scientific Researches for the Development of Regional Competitiveness, No. VP1-3.1-ŠMM -05-K-01-015
- 2007–2014** **Assistant**, Šiauliai University, Department of Management
- 2007–2008** **Vocational teacher**, Public Institution Šiauliai Labour Market Teaching Centre

2004–2006 **Teacher**, Šiauliai “Sandoros” Basic School

2001–2004 **Teacher**, Kelmė “Kražantės” Basic School

Internships:

2013 University College of Economics, Entrepreneurship and Management Nikola Šubić Zrinški, Croatia

2013 Anadolu University in Eskişehir, Turkey

2011 University of Latvia, Latvia

2011 University of Wrocław, Poland

2010 Science Park Jönköping, Sweden

2010 London South Bank University, Knowledge Transfer Centre, United Kingdom

2010 The University of Kassel, Germany

Research interests Organisational development, collaboration between business companies and scientific and educational institutions, organisational change management

REZIUMĖ

Tyrimo aktualumas. Jau ne vieną dešimtmetį mokslinėje literatūroje, analizuojant įvairius verslo ir jo aplinkoje vykstančius procesus, nemažai dėmesio yra skiriama verslo įmonių vystymuisi, jų veiklos sąlygoms, organizaciniams pokyčiams, juos lemiančioms jėgoms ir pasekmėms identifikuoti. Moksliniuose tyrimuose, skirtuose *verslo įmonės vystymuisi* pažinti, dažniausiai remiamasi atvirųjų sistemų teorine prieiga (Ackoff, 1981; 2004; Kvedaravičius, 2002; 2006; Martin, Beaumont, 2001), pagal kurią vystomasi keičiant savo tikslus, norus, siekius, lūkesčius, susitarimus ir galimybes, geriau panaudojant savo vidinius išteklius ir gebėjimus, išlaisvinant vidines galimybes nuo apribojimų. Kadangi *verslo įmonės vystymasis* nėra laikomas tiksliniu procesu – nėra planuojama, kur, kada ir kaip turi įvykti vystymosi žingsniai, todėl jis labiau primena išbandymus, kurių pasekmė – įmonės praturtėjimas potencialo prasme, didesnė jos branda, pažanga, didesnis veiklos efektyvumas, pasiekiamas plėtojant organizacinius gebėjimus.

Mokslo darbuose nėra įprasta vartoti *verslo įmonės vystymosi trajektorijos* sąvoką. Palyginti negausiose mokslinėse publikacijose (pvz., Elkjaer, 1999; 2003; Šukys, 2005; Diambeidou, Gailly, 2011; Purchase ir kt., 2014) nagrinėjama *verslo įmonės vystymosi trajektorija* vadybos mokslo kontekste yra traktuojama kaip įmonės vystymasis tam tikra seka, kai reiškiasi jos narių veiksmi ir tarpusavio sąveikos esant atitinkamoms aplinkybėms, kurios skleidžiasi priklausomai nuo veikiančių vidinių ir išorinių jėgų. Su kiekvienu vystymosi žingsniu didėjantys įmonės ištekliai ir gebėjimai reiškia, kad juos galima naudoti ilgą laiką (Zakarevičius ir kt., 2004; Eisenhardt, Martin, 2000; Hardy ir kt., 2003; Helfat ir kt., 2007 ir kt.). Vadinasi, įmonės vystymasis nėra vienkartinį galimybių didinimas. Laiko perspektyva taip pat atskleidžia *verslo įmonės vystymosi trajektorijos* kaip reiškinio eigos ar kelio, kurį veikia daugybė vidinių ir išorinių jėgų, sampratą.

Šiame disertaciniame tyrime laikomasi pozicijos, kad sąvoka *organizacija* vadybinėje plotnėje reiškia tam tikrą skaičių žmonių, kurie, sudarydami atitinkamą struktūrą, panaudodami įvairias technologijas ir vienijami bendros kultūros, siekia konkrečių tikslų veikdami kryptingai, koordinuotai ir susietai su išorine aplinka (Daft, 2004; Bittner, 2013 ir kt.). Be to, *organizacijos* samprata apima ir atskirą jos tipą – *įmonę*, kuri pasižymi nuosavu turtu, turtime atsakomybe, turi ūkinį bei ekonominį savarankiškumą (Jančiauskas ir kt., 2012; Kuvykaitė, Alimienė, 2012). Taigi apskritai terminai *organizacija* ir *įmonė* yra vartotini sinonimiškai, ir bet kurio tipo organizacija gali vystytis, būti vystoma, patirti pokyčius. Bet, siekiant tikslumo ir sutelkiant dėmesį į *verslo įmonių vystymosi trajektorijas*, disertacijoje vartojama sąvoka *įmonė*, kuri, kaip ir bet kuri kita *organizacija*, veikia atitinkamos aplinkos kontekste, panaudodama prieinamus

išteklius ir sukurdama tam tikrą savo istoriją – įvykių eigą ar seką, kur skleidžiasi (arba ne) gebėjimas pateisinti įvairių suinteresuotų šalių lūkesčius. Nuo kitų tipų *organizacijų* įmonė skiriasi siekimu pelno, kuriuo dalijamasi tarp jos narių bei suinteresuotųjų ir kuris naudojamas tobulinant veiklą. Todėl būtent *verslo įmonės vystymosi trajektorija* gali turėti specifinių charakteristikų.

Būtina konstatuoti ir tai, kad *verslo įmonė* gali vystytis palaikydama įvairaus pobūdžio santykius su to paties sektoriaus (santykių įmonė-įmonė diadoje) arba su kito sektoriaus organizacijomis, pvz., mokslo ir studijų institucijomis (toliau – MSI). Kuo labiau sutampa MSI kuriamų, perduodamų žinių (technologijų) struktūra ir turinys su verslo įmonių poreikiais, tuo glaudesni būna šių organizacijų santykiai. Verslo įmonių ir MSI santykių aktualumas ir reikšmė yra ypač pabrėžiami tiek mokslininkų ir tyrėjų darbuose (pvz., Cunningham, Link, 2014; Hemmert ir kt., 2014; Slater ir kt., 2014), tiek politiniuose ir strateginiuose nacionalinio ir tarptautinio lygmens dokumentuose.

Bendradarbiaujančios verslo įmonės ir MSI sukuria tiesioginių rezultatų – vykdoma (bendrai sukurtų) žinių sklaida ir technologijų perkėlimas, inicijuojami šių organizacijų elementų (organizacinės kultūros, struktūros, strategijos, valdymo) pokyčiai, adaptuojami, integruojami ir plėtojami organizaciniai ištekliai ir įprastiniai (funkciniai) gebėjimai, padedantys tiek verslo įmonei, tiek MSI prisiderinti prie sparčiai besikeičiančių klientų poreikių dinamiškoje aplinkoje. Tarporganizacinis (tarpsektorinis) bendradarbiavimas turi ir netiesioginį poveikį: ugdoma ir plėtojama besimokanti visuomenė (Jucevičienė, 2007); prisidedama prie mokslinio-ekonominio potencialo didinimo (Šimanskienė, 2009), visuomenės kultūrinės pažangos, rinkos intelektualėjimo (Putrienė, Vaičekauskienė, 2014); skatinamas ekonominis augimas ir vystymasis (Cunningham, Link, 2014). Svarbu ir tai, kad tarp bendradarbiaujančių organizacijų sukuriamas pasitikėjimas, kompetencijos ryšiai ir reputacija (Baležentis, Skeberdytė, 2015).

Be anksčiau paminėtų teigiamų verslo įmonių ir MSI bendradarbiavimo rezultatų ir jų poveikio, yra įvardijami ir neigiami aspektai Lietuvoje, kaip verslo įmonių ir MSI bendradarbiavimo atžvilgiu „vėluojančioje“ šalyje: per mažas šios tarporganizacinės sąveikos intensyvumas ir apimtis, neproduktyvi ir dažnai formali, į viešojo finansavimo gavimą orientuota sąveika, nesikoncentravimas į sąlygiškai konkurencingas sritis, reti tarpsektorinės sinergijos atvejai kuriant produktus ar paslaugas, labai mažai sėkmingų technologijų perdavimo ir viešosios MTEP komercializacijos pavyzdžių ir kt. (Lietuvos Respublikos valstybės kontrolė, 2011 ir kt.).

Vis dėlto, nepaisant prieštaravimų tarp užsienio mokslininkų darbuose analizuojamos gausios gerosios verslo įmonių ir MSI bendradarbiavimo patirties ir Lietuvos realijų, galima teigti, kad apskritai santykiai tarp verslo įmonių ir MSI užmezgami, bendradarbiavimas plėtojamas esant skirtingoms vidinėms ir išorinėms priežastims – motyvams: sujungti išteklius, kad būtų galima išlikti rinkoje, toliau funkcionuoti, įgyti konkurencinių pranašumų, užpildyti gebėjimų

spragas, nuolat tobulėti, kartu kurti ir dalytis žiniomis, plėtoti vertybines nuostatas, skatinti ir remti vieni kitų mokymąsi, siekti gerovės panaudojant turimą potencialą, didinti galią rinkoje, pasiūlyti naujų produktų ar paslaugų, didinti efektyvumą, mažinti kaštus ir t. t. (Veugelers, 1998; Carayannis ir kt., 2000; Broström, 2008; Boardman, 2009; Chen ir kt., 2013). Tad verslo įmonės ir MSI, suvokdamos galimą naudą, formuoja skirtingo stiprumo santykius, kurie yra naudingi tiek bendradarbiaujančioms organizacijoms, tiek ir regionui (ar šaliai), visuomenei. Todėl mokslinėse publikacijose bei praktinėse diskusijose argumentuotai siūlomos įvairios priemonės siekiant paspartinti ir pagerinti verslo įmonių ir MSI bendradarbiavimą.

Šio disertacinio tyrimo kontekste kaip empirinis laukas pasirinktas verslo įmonių ir MSI bendradarbiavimas, kuris, remiantis Barnes ir kt. (2002), Hardy ir kt. (2003), Bryson ir kt. (2006), Austin ir Seitani (2012) ir kt., yra laikomas verslo įmonių vystymosi prielaida. Todėl tiek disertacijos conceptualiojoje, tiek empirinėje dalyse yra fokusuojamasi į verslo įmonių, bendradarbiaujančių su MSI, vystymąsi, kartu pripažįstant, kad verslo įmonių vystymosi trajektorijas (be bendradarbiavimo su MSI) formuoja ir kitos jėgos, veikiančios tiek įmonių viduje, tiek išorėje (Kimberly, Bouchikhi, 1995; Halfon, Hochstein, 2002; Wei, 2002; Helfat, Peteraf, 2003; Zakarevičius ir kt., 2004; Šukys, 2005; Korsakienė, 2006 ir kt.).

Mokslinė problematika ir jos ištyrimo lygis. Mokslinius tyrimus, kuriuose nagrinėjami įvairūs verslo įmonių vystymosi palaikant santykius su kitomis organizacijomis aspektai, galima sugrupuoti pagal šias sritis:

- *konceptuali organizacijų (apskritai) vystymosi, kai yra keliami aukštesni tikslai, panaudojami turimi vidiniai ir įgyjami išoriniai ištekliai bei gebėjimai, analizė* (Zakarevičius ir kt., 2004; Kvedaravičius, Narbutaitė, 2005; Kvedaravičius, Jesevičiūtė-Ufartienė, 2006; 2007; Jesevičiūtė-Ufartienė, Kvedaravičius, 2011 ir kt.);
- *verslo įmonės vystymąsi užtikrinančių heterogeninių organizacijos išteklių konceptualizavimas ir tipologizavimas* (Jurisch ir kt., 2014; Kozlenkova ir kt., 2014; Lin, Wu, 2014; Nobre ir kt., 2014; Popadiuk ir kt., 2014 ir kt.);
- *organizacinių (operacinių ir dinaminų) gebėjimų, lemiančių verslo įmonės vystymąsi, klasifikavimas ir turinio charakterizavimas* (Jurisch ir kt., 2014; Lin, Wu, 2014; Ouakouak ir kt., 2014; Leih ir kt., 2015; Spithoven, Teirlinck, 2015 ir kt.);
- *verslo įmonės (kaip organizacijos tipo) vystymosi sampratos plėtotė kitų organizacijos pokyčių kontekste* (Cowley, 2007; Jumpponen ir kt., 2008; Halm, 2009; Fredberg ir kt., 2011; Kulberga, 2011; Maes, Van Hootegeem, 2011 ir kt.);
- *verslo įmonės vystymosi trajektorijos sampratos konceptualizavimas, vystymosi trajektorijų tipų nustatymas* (Ho, 2011; Abatecola, 2014; Ganter, Hecker, 2014; Gremyr ir kt., 2014; Purchase ir kt., 2014 ir kt.);

- *jėgų (veiksnių), formuojančių verslo įmonės vystymosi trajektoriją, pagrindimas* (Wei, 2002; Helfat, Peteraf, 2003; Smakman, 2003; Porter, Kramer, 2011; Austin, Seitanidi, 2012; Garay, Font, 2012 ir kt.);
- *tarporganizacinio bendradarbiavimo sampratos, jo dimensijų plėtotė* (Reay, Hinings, 2009; Hayes, 2010; Pallot, 2011; Cooper, Shumate, 2012; Heimbürger, Dietrich, 2012 ir kt.);
- *verslo įmonių ir MSI bendradarbiavimo rezultatų nagrinėjimas įvairiais aspektais:*
 - *pagal atskirus lygmenis* (Abramo ir kt., 2009; Boardman, 2009; Cooper, Shumate, 2012; Ankrah ir kt., 2013; Grudinschi, 2014 ir kt.);
 - *laiko atžvilgiu* (Kristensen, Kijl, 2008; Perkmann, Walsh, 2009; Rutten, Oerlemans, 2009; Ankrah ir kt., 2013; Chen ir kt., 2013 ir kt.);
 - *aplinkos atžvilgiu* (Bryson ir kt., 2006; Dooley, Kirk, 2007; Kvedaravičius, Dagytė, 2007; Sparrow ir kt., 2009; Abramo ir kt., 2011 ir kt.);
 - *rezultatų kryptingumo atžvilgiu* (Bramwell ir kt., 2012; Islam ir kt., 2012; Seppo, Lilles, 2012; Chen ir kt., 2013; Juknevičienė, 2015 ir kt.);
 - *materialumo atžvilgiu* (Barnes ir kt., 2002; Samaddar, Kadiyala, 2006; Seppo, Lilles, 2012; Ankrah ir kt., 2013; Bodas Freitas ir kt., 2013 ir kt.);
- *verslo įmonių ir MSI bendradarbiavimo motyvų ir lūkesčių racionalizavimas* (Boardman, 2009; Broström, 2008; Bodas Freitas ir kt., 2013; Chen ir kt., 2013; Larsen ir kt., 2015 ir kt.).
- *pavienių verslo įmonių ir MSI bendradarbiavimo formų ar jų grupių nagrinėjimas* (Arvanitis ir kt., 2008; Bekkers, Bodas Freitas, 2008; Perkmann, Walsh, 2008; Wright ir kt., 2008; Markom ir kt., 2011; ir kt.);
- *verslo įmonių ir MSI bendradarbiavimo modelių konceptualizavimas, paramtas skirtingų šalių praktika, įtraukiant skirtingo lygmens bendradarbiavimo dalyvius, jų vaidmenis, atsakomybę, įsipareigojimus ir išteklius, bendradarbiavimo proceso etapus, bendradarbiavimo sąlygas ir veiksnius* (Mets, 2009; Kawasaki, 2011; Leydesdorff, 2012; Lundberg, Andresen, 2012; Mindruta, 2012 ir kt.).

Apibendrinant minėtus tyrimus galima konstatuoti, kad mokslinėje literatūroje iš trigubos spiralės (angl. *triple helix*), išteklių teorijos ar socialinių mainų teorijos perspektyvos gana plačiai yra analizuojamas verslo įmonių ir MSI bendradarbiavimas, pvz., aprėpiant šio bendradarbiavimo motyvus, formas, naudą, kliūtis, dalyvių vaidmenis, atsakomybę ir t. t., arba yra koncentruojamasi tik į atskiros verslo įmonių ir MSI bendradarbiavimo formos sukuriamus rezultatus, bendradarbiavimo etapus, bendradarbiavimo partnerių atranką, būtinas sąlygas ir politinį-istorinį kontekstą ar aukštųjų technologijų ir mokslo žinioms imlią veiklos sritį, pvz., farmaciją, mediciną ar pan., vykdančią MTEP veiklą. Be to, pastebima tendencija verslo įmonių ir MSI bendradarbiavimą dažniausiai vertinti iš MSI personalo pozicijų, kiek rečiau – iš verslo atstovų pozicijos ar deri-

nant abiejų šalių pozicijas. Tačiau neteko aptikti darbų, kuriuose būtų: a) analizuojamas su MSI bendradarbiaujančių verslo įmonių vystymasis; b) integruotai analizuojamos atvirųjų sistemų teorija, išteklių teorija ir dinaminių gebėjimų koncepcija siekiant nustatyti verslo įmonių vystymosi trajektorijų dimensijas ir charakteristikas; c) vadovaujantis kokybine tyrimo strategija būtų nustatyti verslo įmonių vystymosi trajektorijų tipai. Žinoma, be šių pastebėjimų, galima formuluoti dar daugiau nespręstų ir išsamiai neanalizuotų klausimų.

Todėl disertacijoje keliami šie **probleminiai klausimai**:

- Koks teorinis konstruktas leistų sistemaiškai ištirti verslo įmonių, bendradarbiaujančių su MSI, vystymosi trajektorijas?
- Kokios dimensijos ir jų charakteristikos sudaro verslo įmonių, bendradarbiaujančių su MSI, vystymosi trajektorijų turinį?
- Kokios jėgos ir kaip formuoja verslo įmonių, bendradarbiaujančių su MSI, vystymosi trajektorijas?
- Kokius verslo įmonių vystymosi trajektorijų tipus galima išskirti analizuotų įmonių atveju?

Tyrimo objektas – verslo įmonių vystymosi trajektorijos.

Tyrimo tikslas – ištirti verslo įmonių vystymosi trajektorijas bendradarbiaujant su mokslo ir studijų institucijomis.

Tyrimo uždaviniai:

1. Išanalizuoti konceptualiuosius požūrius į verslo įmonių vystymosi raišką, atskleidžiant organizacinių pokyčių įvairovę, įmonės vystymosi ir kitų pokyčių sąsajas.
2. Išgryninti verslo įmonių vystymosi trajektorijų sampratą ir nustatyti verslo įmonių vystymosi trajektorijų dimensijas.
3. Atskleisti verslo įmonių ir mokslo ir studijų institucijų bendradarbiavimą kaip verslo įmonių vystymosi prielaidą.
4. Pagrįsti verslo įmonių vystymosi trajektorijų bendradarbiaujant su mokslo ir studijų institucijomis tyrimo metodologiją.
5. Nustatyti verslo įmonių, bendradarbiaujančių su MSI, vystymosi trajektorijų dimensijas ir jų charakteristikas.
6. Identifikuoti ir charakterizuoti verslo įmonių, bendradarbiaujančių su MSI, vystymosi trajektorijų tipus.

Tyrimo mokslinis naujumas ir teorinis reikšmingumas

Teoriškai pagrįstas sąvokos *trajektorija* vartojimas vadybos moksle, išgryninta *verslo įmonės vystymosi trajektorijos* samprata.

Išanalizuotos, apibendrintos ir tyrime pritaikytos atvirųjų sistemų teorija, išteklių teorija ir dinaminių gebėjimų koncepcija, leidusios atskleisti verslo įmonių vystymosi raišką per išteklių ir gebėjimų plėtotę.

Pagrįsta verslo įmonių vystymosi trajektorijų bendradarbiaujant su mokslo ir studijų institucijomis tyrimo metodologija.

Atliktas verslo įmonių vystymosi trajektorijų bendradarbiaujant su mokslo ir studijų institucijomis tyrimas išplečia Lietuvos mokslininkų (doktorantų) vykdytų tyrimų *organizacijos vystymosi*, pvz., Grebliauskas (1997), Augustauskas (2002), Elskytė (2006), Pupelienė (2007), Jesevičiūtė-Ufartienė (2010), Nezdinskas (2013) ir kt., *tarporganizacinės sąveikos*, pvz., Vilkas (2008), Jucevičienė (2013) ir kt., *verslo ir mokslo bendradarbiavimo*, pvz., Kiškienė (2009), Barynienė (2014), Skeberdytė (2015) ir kt., tyrimų lauką ir vadybinių kokybinių tyrimų metodologijos taikymo tradicijas Lietuvoje.

Taikant empirinius metodus sukaupti reikšmingi mokslo faktai apie (1) verslo įmonių vystymąsi bendradarbiavimo su MSI kontekste; (2) verslo įmonės vystymosi trajektoriją lemiančias jėgas; (3) verslo įmonių bendradarbiavimo su MSI rezultatus (naudą, kaštus), problemas, iššūkius ir perspektyvas; (4) verslo įmonių vystymosi raiškos, verslo įmonių vystymosi trajektorijas lemiančių jėgų ir verslo įmonių bendradarbiavimo su MSI taksonomijos ir statistinio ryšio dėsninumus.

Praktinis tyrimo reikšmingumas

Sukaupta gausi ir nauja faktinė medžiaga apie gerąją verslo įmonių ir MSI bendradarbiavimo patirtį leidžia verslo įmonių vadovams, savininkams plačiau pažvelgti ir suvokti tarporganizacinio bendradarbiavimo naudą ir poveikį verslo įmonės vystymuisi.

Parengta verslo įmonių vystymosi trajektorijų bendradarbiaujant su MSI metodologija leidžia ištirti įvairių verslo įmonių vystymosi trajektorijas bendradarbiavimo su MSI kontekste ir priimti tinkamesnius, tyrimo duomenimis pagrįstus vadybinius sprendimus.

Sukaupti mokslo faktai leidžia tobulinti organizacinių pokyčių įgyvendinimą įvairiose verslo įmonėse, įvairių lygių verslo ir mokslo bendradarbiavimo skatinimo politikos formuotojams bei vykdytojams kryptingai, tikslingai planuoti ir realizuoti priemones, nukreiptas į verslo įmonių vystymąsi bendradarbiaujant su mokslo ir studijų institucijomis.

Ginamieji teiginiai:

1. Verslo įmonės vystymosi trajektorija gali būti pažini derinant atvirųjų sistemų teorijos, išteklių teorijos ir dinaminių gebėjimų koncepcijos teorines prieigas.
2. Verslo įmonių vystymąsi skirtingai veikia vidinės ir išorinės jėgos, t. y. vidinės jėgos ją skatina ir (ar) stabdo, o išorinės – skatina ir (ar) riboja.
3. Verslo įmonių vystymosi trajektorija yra dvidimensis reiškinys, kurį sudaro laiko ir pokyčio dimensijos.

Tyrimo metodai. Teoriniam tyrimui atlikti taikyta mokslinės literatūros analizė, apibendrinimas ir lyginimas.

Darbe buvo siekiama susieti tyrimo metodą ir imtį taip, kad būtų atskleista verslo įmonių vadovų, MSI darbuotojų, įmonių ir MSI bendradarbiavimą

skatinančių institucijų atstovų patirtis. Todėl duomenims rinkti buvo naudotas *kryptingojo (pusiau struktūruoto) interviu* metodas tiesiogiai apklausiant tris informantų grupes. Taikant dedukcinę tyrimo prieigą parengta empirinio tyrimo duomenų kodavimo schema aptarta *sutelktoje tikslinėje grupėje*.

Analizuojant duomenis, taikytas *kokybinis-interpretacinis* (kokybinė turinio analizė) ir *statistinis* (klasterinė analizė) metodai. Gautiems tyrimo duomenims apdoroti, sisteminti ir vaizduoti grafiškai naudota kokybinių duomenų analizės programinė įranga „NVivo“, SPSS (*PASW Statistics 18*) programinė įranga, *Microsoft Word* ir *Microsoft Excel* programos. Interpretuojant empirinio tyrimo rezultatus, panaudota probleminį lauką atspindinti (verslo ir mokslo bendradarbiavimo konteksto) literatūra, prieinama per žiniasklaidos ir internetinės erdvės priemones.

Darbo struktūra ir apimtis. Disertaciją sudaro įvadas, trys dalys, išvados ir rekomendacijos, literatūros sąrašas ir priedai. Darbo apimtis 236 puslapiai (be priedų), 26 paveikslai, 24 lentelės, 26 priedai. Literatūros sąrašą sudaro 495 šaltiniai.

IŠVADOS

Išanalizavus verslo įmonių vystymosi trajektorijų bendradarbiaujant su mokslo ir studijų institucijomis teorinius aspektus ir atlikus empirinį tyrimą, formuluojamos tokios išvados:

1. Atlikta ir darbe pateikta verslo įmonės vystymosi koncepcijos analizė leidžia teigti, kad verslo įmonės vystymasis reiškia pokyčius įmonėje, įgalinant turimus ir galimus gauti išteklius ir gebėjimus. Taigi verslo įmonės vystymasis yra procesas, kuris neatsiejamas nuo efektyvaus ir tinkamo jos valdymo, kai nuolatinės vadovų pastangos ir sprendimai sutelkiami į įmonės krypties, išteklių ir gebėjimų atnaujinimą.

1.1. Mokslinės literatūros analizė parodė, kad verslo įmonės vystymasis tyrėjų darbuose visų pirma yra siejamas su pokyčiais, kurie paprastai įgyja dvi prasmes: vienų mokslininkų nagrinėjami verslo įmonės (*organizacijos*) pokyčiai reiškia visų jos dizaino dimensijų (elementų, posistemų ir t. t.) pa(si)keitimus; kiti *organizacinius* pokyčius supranta kaip naujos idėjos ar elgesio pajvairinimą, perėmimą, įmonės narių tradicinio mąstymo būdo, nuostatų keitimą. Nustatyta, kad pokyčiai – neatskiriama organizacijos vystymosi, vystymo, augimo, transformacijos ir virsmo dalis.

1.2. Verslo įmonė vystosi jos nariams formuojant ir palaikant įvairialypę sąveiką tarpusavyje ir su kitų organizacijų vadovais ir (ar) darbuotojais. Teigtina, kad mokslinėje literatūroje verslo įmonės vystymąsi charakterizuojantys

pokyčiai yra traktuojami kaip sudėtingas, daugiasluoksnis procesas, kurį gali inspiruoti įmonės krizė ar iniciatyvus įmonės vadovo pastangos ir sprendimai, kurie savo ruožtu tampa prielaidomis naujiems pokyčiams bei atnaujinimams, organizacijos vidinėms veikloms ir reagavimui laiku į kaitos poreikį. Taigi dėl nuolatinių, inkrementinių, ilgų, lėtų, atvirų ir dalyvaujamųjų pokyčių, siejamų su verslo įmonės vystymusi, gerėja vadovų ir darbuotojų kompetencijos, tobulėja kvalifikacija, pasitelkus naujus išteklius ir gebėjimus keliami ir realizuojami aukštesni tikslai.

2. Vadovaujantis linijiniu požiūriu verslo įmonės vystymosi trajektorija apibrėžta kaip organizacijos gyvavimo istorija (kelias), formuojama jos narių sąveikos, didėjančių galimybių realizuoti tikslus ir veikiama tokių jėgų, kaip organizacinė kultūra, rinkos dalyviai, žiniasklaida ir internetinė erdvė, mokslo ir studijų aplinka, verslo paramos institucijų priemonės, technologinė pažanga, socialiniai ir kultūriniai veiksniai. Tai požiūris, atskleidžiantis dvi verslo įmonės vystymosi trajektorijos dimensijas – laiką ir pokyčių mastą.

2.1. Išanalizavus mokslinę literatūrą, nustatyta, kad tyrėjai remiasi dviem įmonės vystymosi trajektorijos sampratomis: linijine ir nelinijine. Laikantis nelinijinio požiūrio, verslo įmonės vystymosi trajektorija traktuojama kaip įvairiakryptis įmonės judėjimas erdveje. Darbe pasirinkta įmonės vystymosi trajektoriją analizuoti linijiniu požiūriu, nes jis yra konkretesnis ir aiškesnis, apsiribojant tokiais analizės pjūviais: laikas, pokyčiai, įvykę įmonėje per tam tikrą laikotarpį, vidinė ir išorinė įmonės narių sąveika, plėtojanti išteklius ir gebėjimus individualiu ir organizacijos lygmeniu.

2.2. Atskleista, kad verslo įmonės vystymosi trajektorijos vienareikšmiškai neveikia kažkuri viena jėgų grupė. Teigtina, kad verslo įmonių vystymąsi skirtingai veikia vidinės ir išorinės jėgos. Darbe pateikiamos įžvalgos leidžia daryti išvadą, kad verslo įmonės trajektorija kaip pokyčių seka savaime nesiskleidžia pagal iš anksto apibrėžtą logiką.

3. Atlikta verslo įmonių bendradarbiavimo su mokslo ir studijų institucijomis (MSI) kaip prielaidos šių įmonių vystymuisi analizė atskleidė, kad bendradarbiavimas kaip vieni brandžiausių ir ilgalaikių tarporganizacinių santykių įgalina verslo įmonių ir MSI gebėjimus, intelektines jėgas ir skirtingas kompetencijas, remiasi priimtinomis bendromis normomis, taisyklėmis, vertybėmis ir nuostatomis, priimtais bendrais sprendimais vykdyti veiklas siekiant bendro tikslo, atitinkančio kiekvienos dalyvaujančios organizacijos vystymosi viziją ir uždavinius.

3.1. Mokslo darbuose traktuojama, kad bendradarbiavimas gali vykti mikrolygmeniu (individualiu), mezolygmeniu (organizaciniu), echolygmeniu (bendradarbiaujant kelioms / keliolikai verslo įmonių ir MSI), nacionaliniu (makro) lygmeniu ir tarptautiniu, globaliu (mega)lygmeniu. Atsižvelgiant į kiekvieno

bendradarbiavimo lygmens specifika ir pripažįstant, jog bendradarbiavimas gali vykti tiek vertikaliai (tarp skirtingo lygmens dalyvių), tiek horizontaliai (tarp to paties lygmens dalyvių), daroma išvada, kad, siekdama konkrečių tikslų, kuriamus ir palaikomus santykius su MSI grįsdama įvairiais motyvais ir lūkesčiais, verslo įmonė vienu metu gali bendradarbiauti skirtingais lygmenimis ir įvairiomis kryptimis.

3.2. Mokslinės literatūros analizė parodė, kad verslo įmonių bendradarbiavimo su MSI modeliai yra plėtojami dviem kryptimis: orientuojantis į bendradarbiavimo procesą arba į sąveikos dalyvių charakteristikas. Disertacijoje pripažįstant, kad procesinė verslo įmonių bendradarbiavimo su MSI analizės prizmė yra naudinga narinėjant ilgalaikius ir brandžius šių įmonių santykius, išgrynintas linijinis bendradarbiavimo modelis, charakterizuojamas penkiais etapais: (1) bendradarbiavimo inicijavimu; (2) komunikacija tarp šalių nustatant veikimo kryptį ir santykių formalizavimu; (3) veiklų vykdymu; (4) rezultatų (pasekmių) vertinimu; (5) bendradarbiavimo atnaujinimu arba nutraukimu.

3.3. Verslo įmonių bendradarbiavimas su MSI vyksta per savo tikslais ir turiniu skirtingas veiklas. Nustatyta, kad šio bendradarbiavimo kontinuumas apima tarporganizacinius santykius, paremtus vienpuse sąveika (verslo įmonė – mokslo ir studijų institucijai ar atvirkščiai) ir glaudų bendradarbiavimą žyminčia dvipuse sąveika. Remiantis šia takoskyra tyrime išanalizuotų bendradarbiavimo veiklų rezultatai identifikuoti *pagal lygmenis, laiko, aplinkos, kryptingumo* ir *materialumo* atžvilgiu.

4. Verslo įmonių vystymosi trajektorijų bendradarbiaujant su mokslo ir studijų institucijomis metodologija remiasi bendrąja kokybinio tyrimo strategija, kuri pagrįsta reliatyvizmu (ontologine prieiga), socialinio konstrukcionizmo epistemologine pozicija ir kokybinių tyrimo duomenų rinkimo ir analizės metodų taikymu.

4.1. Remiantis teorine literatūra sudarytos trejos klausimų gairės kryptingamjam interviu. Taikant šį metodą apklausta 60 asmenų, galinčių argumentuotai reflektuoti savo patirtį, pateikti įžvalgų dėl verslo įmonių vystymosi trajektorijų bendradarbiaujant su MSI.

4.2. Paisant pagrįstumo, įtikinamumo, tyrimo proceso patikimumo, perkeliamumo, patvirtinamumo reikalavimų, tyrime dalyvavusių informantų (verslo įmonių, MSI ir institucijų-tarpininkių, atsakingų už verslo ir mokslo bendradarbiavimo skatinimą, atstovų) pasisakymų kokybinė turinio analizė derinta su klasterinės analizės metodu.

5. Remiantis mokslinės literatūros analize ir kokybinio tyrimo radiniais nustatyta, kad verslo įmonės vystymosi trajektorija yra dvidimensis reiškinys, kurį sudaro *laiko* ir *pokyčių* dimensijos.

5.1. *Laikas* šiame darbe vadovaujantis linijiniu požiūriu yra traktuojamas kaip verslo įmonės gyvavimo trukmė, kurią priimta dalyti į tam tikrus laiko tar-

pus, suvokti kaip nuoseklią veiklos tėkmę per visą jos gyvavimą. Lygiagrečiai su verslo įmonės vystymusi vyksta jos bendradarbiavimo su MSI procesas, kurį taip pat priimta dalyti į atskirus laiko tarpus – bendradarbiavimo etapus.

5.2. *Pokyčiai* kaip verslo įmonės vystymosi trajektorijos dimensija šiame darbe atsiskleidžia kompleksiskai. Įvairia seka ir intensyvumu auga personalo kompetencijos ir kvalifikacija, tobulinamas valdymas, modernizuojami (keičiami) gamybos, paslaugų procesai, kuriami (atnaujinami) produktai, didėjančios galimybės realizuoti produktus rinkoje suponuoja įmonės vystymąsi.

5.3. Verslo įmonių vystymąsi skirtingai veikia vidinės ir išorinės jėgos, t. y. vidinės jėgos jį skatina ir (ar) stabdo, o išorinės – skatina ir (ar) riboja. Nustatyta, kad dalis jėgų, priklausomai nuo konteksto ir konkrečių bendradarbiavimo dalyvių charakteristikų, gali įgyti tiek teigiamą, tiek neigiamą pobūdį. Atskleistas mokslinėje literatūroje neminimas verslo paramos institucijų, žiniasklaidos ir internetinės erdvės, situacijos darbo rinkoje, socialinių ir kultūrinių jėgų poveikis verslo įmonės vystymuisi.

6. Kokybinio tyrimo radinių pagrindu atlikta klasterinė analizė ir verslo įmonių vystymosi trajektorijų tipų požymių priklausomumo nustatymas sudarė sąlygas identifikuoti ir charakterizuoti verslo įmonių trajektorijų tipus.

6.1. Nustatyti šie verslo įmonių trajektorijų tipai: (1) *negreitas, nuoseklus įmonės augimas*; (2) *nuosaikus technologinis atsinaujinimas*; (3) *inovacinių procesų spartinimas*.

6.2. Paaiškėjo, kad identifikuoti verslo įmonių vystymosi trajektorijų tipai būdingi skirtingo dydžio, gyvavimo trukmės, ekonominės veiklos rūšies verslo įmonėms, kurios palaiko įvairaus pobūdžio bendradarbiavimo santykius su mokslo ir studijų institucijomis.

APPROVAL AND DISSEMINATION OF RESULTS OF THE DISSERTATION / DISERTACIJOS REZULTATŲ APROBAVIMAS IR SKLAIDA

Papers in peer-reviewed scientific publications / Disertacijos tema paskelbtos publikacijos recenzuojamuose mokslo leidiniuose:

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2. Valuckienė, J., Bersėnaitė, J. (2015). Lygiavertės aukštojo mokslo ir verslo partnerystės trikdžiai. *Studijos šiuolaikinėje visuomenėje / Studies in Modern Society*. ISSN 2029-431X. Šiauliai: Northern Lithuania College, 6 (1), p. 78–87.

3. Bersėnaitė, J., Šaparnis, G. (2013). Theoretical Insights of Organization Development. *Management Theory and Practice: Synergy in Organisations: VI International Conference*. ISBN 978-9985-4-0741-7. Multimedia Centre, University of Tartu: Estonia, p. 9–25.
4. Bersėnaitė, J., Tijūnaitienė, R., Šaparnis, G. (2012). Verslo ir aukštojo mokslo organizacijų bendradarbiavimo sąlygos vykdant organizacinius pokyčius. *Ekonomika ir vadyba: aktualijos ir perspektyvos*. ISSN 1648-9098. Šiauliai: Šiauliai University, 4 (28), p. 154–167.
5. Bersėnaitė, J., Šaparnis, G., Šaparnienė, D. (2012). Psychosemantics of Employee's Images When Identifying a Typology, Responsibility and Communication of Organisational Changes. *The 7th International Scientific Conference "Business and Management 2012": selected papers*. ISSN 2029-4441. May 10-11, p. 1023–1034.
6. Bersėnaitė, J., Cibulskienė, D., Būdvytytė-Gudienė, A., Tijūnaitienė, R. (2011). Identifying Barriers to Science-Business Interaction. *Socialiniai tyrimai / Social Research*. ISSN 1392-3110. Šiauliai: Šiauliai University, 3 (24), p. 16–25.
7. Tijūnaitienė, R., Bersėnaitė, J., Matuzienė, I. (2011). Forms of Collaboration between Science and Business Organisations: Approach of Šiauliai University Students as one of the Stakeholders. *Socialiniai tyrimai / Social Research*. ISSN 1392-3110. Šiauliai: Šiauliai University, 3 (24), p. 130–140.

Reports delivered at academic conferences / Tyrimo rezultatai buvo aprobuoti ir skaitant pranešimus mokslinėse konferencijose:

1. Collaborative Governance as a Prerequisite for the University-Industry Partnership for Innovations' Development: Results of Empirical Researches. 4th International Scientific-Practical Conference. Good Governance at Local Self-Government: Theoretical and Practical Transformations, 16-17 October 2015. Šiauliai University, Lithuania.
2. Inter-organizational Collaboration as a Presumption for Organization Development: Insights from Qualitative Research. 4th International Scientific-Practical Conference. Good Governance at Local self-Government: Theoretical and Practical Transformations, 16-17 October 2015. Šiauliai University, Lithuania.
3. Lygiavertės aukštojo mokslo ir verslo partnerystės trikdžiai. International Scientific Conference "Studies in Modern Society 2015", 26 February 2015. Northern Lithuania College, Lithuania.
4. Theoretical Insights of Organization Development. 6th International Conference Management Theory and Practice: Synergy in Organisations. "New Developments in Organizational Performance: from Tangible to Intangible", 11-12 April 2013. University of Tartu, Estonia.

5. Verslo ir aukštojo mokslo organizacijų bendradarbiavimo sąlygos vykdančioms organizaciniams pokyčiams. 12th Ernestas Galvanauskas' International Scientific Conference. Rethinking Regional Competitiveness, 29-30 November 2012. Šiauliai University, Lithuania.
6. Psychosemantics of Employee's Images When Identifying a Typology, Responsibility and Communication of Organisational Changes. The 7th International Scientific Conference "Business and Management 2012" (Vilnius Gediminas Technical University), 10-11 May 2012. Vilnius Gediminas Technical University, Lithuania.
7. Forms of Collaboration between Science and Business Organisations: Approach of Šiauliai University Students as one of the Stakeholders. 11th Ernestas Galvanauskas International Scientific Conference. Increasing Regional Competitiveness: Interaction between Science and Business (Practical Approach), 17-18 November 2011. Šiauliai University, Lithuania.
8. Identifying Barriers to Science-Business Interaction. 11th Ernestas Galvanauskas International Scientific Conference. Increasing Regional Competitiveness: Interaction between Science and Business (Practical Approach), 17-18 November 2011. Šiauliai University, Lithuania.

Throughout the period of doctoral studies the research results were discussed with the academic community of the Faculty of Social Sciences of Šiauliai University at the methodological seminars for doctoral students once a semester (May 2012 – December 2014).

Doktorantūros studijų laikotarpiu kartą per semestrą metodologiniuose doktorantų seminaruose (2012 m. gegužės mėn. – 2014 m. gruodžio mėn.) buvo diskutuota apie tyrimo rezultatus su Šiaulių universiteto Socialinių mokslų fakulteto akademine bendruomene.

Portion of the results of the carried out theoretical research and draft of the methodological part of the dissertation in progress were presented to professors and doctoral students of five universities (Canterbury Christ Church University, Anadolu University, University of Eastern Finland, University of Milano-Bicocca, Šiauliai University) during the 14-day international school-internship at Anadolu University in Eskisehir, Turkey on 6-20 June 2013. Furthermore, there was participation in plenary lectures, selected methodological seminars, and round table, institutional, and interinstitutional group discussions.

Tarptautinės mokyklos-stažuotės (Anatolijos universitete, Eskišechire, Turkijoje) metu – 2013 m. birželio mėn. 6–20 d. (14 dienų) – penkių universitetų (Kenterberio Kristaus bažnyčios universiteto, Anatolijos universiteto, Rytų Suomijos universiteto, Milano-Bikokos universiteto, Šiaulių universiteto) profesoriams ir doktorantams buvo pristatyti atliktos teorinės studijos rezultatų dalis ir rengiamos disertacijos metodologijos projektas. Dalyvauta plenarinėse paskaitose, pasirinktuose metodologijos seminaruose, apskritųjų stalų, institucijos ir tarpinstitucinės grupių diskusijose.

Portion of the results of the empirical research was presented on 14 May 2015 at the forum “Science-Business Partnership for Progress of the Region” hosted by Šiauliai University, Šiauliai Chamber of Commerce, Industry and Crafts, and Šiauliai Association of Industrialists. The topic of the paper read was “Science-Business Collaboration in Enabling Absorptive Capacity: Findings of Empirical Research”.

Dalis empirinio tyrimo rezultatų 2015 m. gegužės 14 d. pristatyta Šiaulių universiteto, Šiaulių prekybos, pramonės ir amatų rūmų, Šiaulių pramoninių asociacijos suorganizuotame forume „Mokslo ir verslo partnerystė regiono pažangai“. Pranešimo tema – „Mokslo ir verslo bendradarbiavimas įgalinant absorbcinius gebėjimus: empirinių tyrimų rezultatai“.

APIE AUTORE

Vardas, pavardė Jurgita Bersėnaitė
El. paštas jurgita.bersenaite@su.lt

Išsilavinimas:

2011–2015 Socialinių mokslų srities vadybos krypties jungtinės doktorantūros (Vytauto Didžiojo universiteto su Klaipėdos universitetu, Aleksandro Stulginskio universitetu, Mykolo Romerio universitetu ir Šiaulių universitetu) **studijos**

Šiaulių universitetas, Socialinių mokslų fakultetas, Vadybos katedra
Vadybos (specializacija – švietimo vadyba) studijų programa, suteiktas vadybos ir verslo administravimo magistro kvalifikacinis laipsnis

2004–2006

Šiaulių universitetas, Socialinių mokslų fakultetas, Vadybos katedra
Filologijos krypties anglų filologijos studijų programa, suteiktas filologijos bakalauro kvalifikacinis laipsnis ir mokytojo profesinė kvalifikacija

2002–2004

Šiaulių universitetas, Tęstinių studijų institutas
Pradinio ugdymo pedagogikos ir etikos studijų programa, suteiktas socialinių mokslų (edukologijos) bakalauro kvalifikacinis laipsnis ir pradinių klasių mokytojo ir pagrindinės mokyklos etikos mokytojo kvalifikacija

1997–2001

Šiaulių universitetas, Edukologijos fakultetas

Darbo patirtis:

2014 ir dabar **Lektorė**, Šiaulių universitetas, Vadybos katedra;
jaunesnioji mokslo darbuotoja, Šiaulių universitetas, Mokslo instituto Socialinių tyrimų centras

2012–2014	Jaunesnioji mokslo darbuotoja , projektas „Klientų dalyvavimo vertė kaip organizacijos konkurencingumo didinimo veiksnys (VALORE)“, Nr. MIP-025/2012/06-47-SU-106
2011	Galimybių studijos rengėja , projektas „Šiaulių universiteto socialinių mokslų srities verslo ir vadybos studijų kryptių grupėje studijų tarptautiškumo didinimas parengiant I pakopos jungtines studijų programos galimybių studiją su Latvijos universitetu ir Vroclavo universitetu“, Nr. VP1-2.2-ŠMM-07-K-02-013
2010	Tyrėja , projektas „Mokslinių tyrimų įveiklinimo kompetencijų plėtotė regiono konkurencingumui didinti“, Nr. VP1-3.1-ŠMM -05-K-01-015
2007–2014	Asistentė , Šiaulių universitetas, Vadybos katedra
2007–2008	Profesijos mokytoja , VšĮ Šiaulių darbo rinkos mokymo centras
2004–2006	Mokytoja , Šiaulių „Sandoros“ pagrindinė mokykla
2001–2004	Mokytoja , Kelmės „Kražantės“ pagrindinė mokykla
Stażuotės:	
2013	Nikola Šubić Zrinški universitete, Ekonomikos, antreprenerystės ir vadybos fakultete, Kroatijoje
2013	Anatolijos universitete, Eskišechire, Turkijoje
2011	Latvijos universitete, Latvijoje
2011	Vroclavo universitete, Lenkijoje
2010	Jončopingo mokslo parke, Švedijoje
2010	Londono Pietų Kranto universiteto Žinių perdavimo centre, Jungtinėje Karalystėje
2010	Kaselio universiteto Perdavimo centre, Vokietijoje
Mokslinių tyrimų kryptys	Organizacijų vystymasis, verslo įmonių ir mokslo ir studijų institucijų bendradarbiavimas, organizacinių pokyčių valdymas

Jurgita Bersėnaitė

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COMPANIES IN COLLABORATION WITH HIGHER
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A. Vienuolio g. 4, 01104 Vilnius. Tel. (8 5) 261 60 50.