

VYTAUTAS MAGNUS UNIVERSITY

Birutė MIŠKINIENĖ

**ACADEMIC STAFF READINESS TO PROVIDE  
ONLINE LEARNING SERVICES PROMOTING  
UNIVERSITY-BUSINESS COLLABORATION**

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## INTRODUCTION

The relevance and importance of University-Business Collaboration (UBC) today are becoming increasingly dealt with under various aspects. Today, alongside with the university main functions - to carry out research and to collect, carry out scientific development and prepare professionals contributed a new function - to contribute to economic development through knowledge transfer, consulting services, preparing specific sphere professionals, and improve the industry and industrial competitiveness in other ways. Etzkowitz (2000) calls this phenomenon the second academic revolution. At the same time, knowledge is so much dynamic that most business organizations fail to successfully respond and adapt to the latest market demands. According to Gižienė and Barkauskas, (2010) scientific and economic interactions strengthen the country's economic competitiveness. Business and universities reunification, so as to achieve overall goals and outcomes at the state level, creates a very strong force that actively initiates the knowledge society and innovation, as well as growth. Talking about knowledge transfer Phan and Siegel (2006) discovered that better understanding and importance of knowledge transfer should be considered by three levels: institutional, organisational and individual. According to Dan M.-C. (2013) university and business collaboration includes many elements starting from academic staff, students, company employees to intellectual property rights, legal aspects, funding spin-offs, common projects etc.; According Schröder, Baaken and Korff (2012) the interaction between university and business may include the supervision of a Bachelor/Master's thesis, temporary teaching positions, lifelong learning programmes and joint research and development projects. Another very important issue was pointed out by Davey (2013) study that academic staff needs to be involved more by receiving greater personal benefits from their universities in terms of increasing university business cooperation. According to Croissant and Smith-Doerr (2008) UBC could be organized in three directions: between science and economy, secondly inter-organizational relations between university and enterprise and between science professors and company employees on personal basis. At the same time talking about successful UBC it is not only the organization's experience matter, but also individual academics involvement, is very important (D'Este and Patel, 2007; Bercovitz and Feldman, 2008; Gomes et al, 2005; Bruneel et al, 2010).

According to Gadrey, Gallory and Weinstein (1995) service is understood as organised solution to a problem, involving capabilities and competences (human, technological, organisational) at the disposal of a client and to organise solution. The learning services market experiences growing importance and demand of Information Technologies to be integrated into the services. According to Admiraal and Lockhorst (2009) online learning attitudes are strongly

related to technology infrastructure in the company and vary among companies size and economic sector. This focus of the business development is very easily explained by time-saving and learning in the workplace. Online learning requires not only the ability to develop curriculum, but also to adapt it for use in a virtual space, adapting it to a specific learning platform. Zhang et al (2006) emphasizes that online learning could be seen as providing broader access to information and new ubiquitous learning environment. Talking about business companies organizational learning several significant elements need to be pointed out: according to Kotha et al., (2013) it is not simple for business organizations to combine elements of their existing knowledge with new elicited distant knowledge. At the same time more focus and understanding should be given to our days *knowledge workers*: Reyet and Wiesenfeld (2015) underline that *knowledge workers* should be seen as workers using mobile devices (smartphones, and tablets, netbooks etc.) mobile computing with “cloud” storage are technologically updated, prepared and equipped. In the contemporary society the academic staff providing online learning are required to upgrade their skills by adapt learning environments for business or other external organizations and their staff in-service training. According to Thorpe (2007) learning within the company is more effective if it is problem and learner-centred incorporating “boundary objects” as business analysis tools, problem solving forums, soft process technologies.

**Research problem.** In Lithuania changing demographic situation, i.e. decreasing number of students, increasing international competition, a very clear need for new strategic decisions and new learning service offerings arises. Every University not only in Lithuania sets itself strategic objectives, which are related to prospective university and business collaboration. Promotion of University and Business Collaboration has a broader framework with strong integrated academic staff role. The university and business collaboration context pays special attention to promoting academic staff special competences development and technological UBC framework. In terms of learning services an important issue need to be mentioned as personal involment in UBC process. According to Demain (2001) the university strategy fostering UBC/UIC must have interpersonal approach more than formal one. According to *The State of European University-Business Cooperation (2011)* most academics spend less than 10 percent of their work time working in UBC. According to Makštutis, (2007); Gižienė and Barkauskas, (2010) aiming at the high-value of organizations, it is important to give high priority to academic staff knowledge and competencies upgrading, skills development and gaining experience by focusing on the specific as well as the core competencies and taking into account the specific needs of the relevant period. Current needs for today are conceived as academic staff readiness to provide online learning services for business. Work with business employees

request different competencies as business companies employees already are graduates of higher education with practical experience, often they have already underwent corporate (internal, specialized) training. According to Real, Leal, Roldan (2005) the most important thing is not that companies can accumulate knowledge (static focus), but that they are able to learn continuously by creating new knowledge which they transfer and apply (dynamic focus). Scientific problem is based on issues to be concentrated: academic staff readiness to provide learning services to business and universities recourses providing online learning services.

**The level of problem investigation.** According to Polt et al (2001) university–business collaboration is not a single process but variety of relations: legislation, transfer capacities, market demand, cultural attitudes etc.; There are number of studies related to R&D (Tether (2002); Fontana et al, (2006); Busom and Fernandes-Ribas (2008); Eom and Lee (2010)). Georgina and Olson (2008) implemented a study to determine how academic staff competence and technology learning impact their pedagogy. Ryymin, Palonen and Hakkarainen (2008) studied hybrid teacher’s expertise bridging pedagogical knowledge and ICT. Researchers Angeli and Valanides (2009) stress teacher’s interaction among pedagogy, technology, and context. According to Ditchburn (2007) e-learning business processes is not a “one size fits all”. Perreault et al., (2002) point out importance of educators or institution’s unique human resource, business and technological environments. There is a flurry of studies on the theme of university and business collaboration promotion. There are also analyses of the ICT application in the study process, curriculum development, geared towards the labour market needs. University and Business Collaboration (UBC) is a very actual topic, which does receive substantial researchers’ attention from very angles. Ambos et al (2008) point out that during the UBC policy implementation process universities face tensions on the both organizational and individual levels.

However, the under-researched area is academic staff readiness to provide online learning services to businesses, because in this case the academic staff readiness is understood as a whole of factors: investment, collaboration ways and forms, the benefits of the outcomes, the IT infrastructure, knowledge creation and transfer i.e. both conceptually and in a complex way, not only emphasizing academic staff competence, but taking into account strategic decisions related to UBC, technological recourses and of course academic staff competence. *The State of European University-Business Cooperation* (2011) emphasis several important insights: the belief that UBC is a “*people business*” is more and more supported by different authors; Success of UBC is seen as a function of development strong personal (individual level) relations not focusing only on licences, patents or institutional collaboration but developing personal intimacy and trust. *Final report European Union 2014 Measuring the Impact of University*

*Business cooperation*, identify possible university business cooperation benefits by focussing on People, Benefits, Recourses, Activities using scorecard approach. Such complex research covering strategic, technological and individual competence on academic staff and business employees collaboration level was not enough investigated.

**Research questions** based on scientific literature review, analysis of EU and national documents and reports, as follows:

- In which directions (forms) the collaboration between university and business should be implemented?
- What are the resources needed for the providing online learning services?
- What is the academic staff readiness to provide online learning services for the businesses?
- What are the business employees' expectations with regards to online learning services?

**The research object** – university and business collaboration.

**The general aim of the dissertation** - to identify factors related to the readiness of academic staff to provide online learning services promoting University-Business Collaboration.

**The aim of the theoretical study** - to characterize the role of universities in changing contexts emphasising online learning services, by creating University-Business Collaboration framework.

**The aim of the empirical research** - to disclose academic staff and business employees' characteristics at online learning services.

**The objectives of the research are as follow:**

- To define university role in changing environment.
- To develop UBC framework for online learning services.
- To disclose university staff readiness and possibilities to provide online learning services for business.
- To assess business staff expectations for online learning services provided by university academic staff.

**Novelty of the research.** First of all interdisciplinary aspect should be admitted by covering education and business areas as academic staff readiness is analysed in the frame of changing university mission, which is influenced by economic change as well. The dissertation is based on the following aspects:

- Discussion of the changing the university's mission and the possibilities to develop successful collaboration between university and business,

- The dissertation presents the distinguished academic staff readiness parameters, while providing online learning services,
- The dissertation discusses the expectations of businesses while taking the learning services provided by university staff,
- The dissertation presents, having evaluated the university and business collaboration levels, the developed framework of university and business collaboration learning services provision.

**Theoretical significance of the study.** The aim of the theoretical study - to characterize the role of universities in changing contexts, to create University-Business Collaboration framework for the online learning services provision. This study expands the understanding of the changing role of universities in the development and transfer of knowledge, expertise as well as contributing to the country's economic growth, by evaluating the academic staff role and readiness to contribute to UBC. According to Real et al. (2005) high number of failures in installing knowledge management systems are explained by a lack of attention to organizational and human aspects, justified complementarity of strategic, technical and human aspects is needed. The study is significant because it will outcome creating a university-business collaboration framework and disclose the academic staff readiness for online services delivery to business strengthening UBC.

**Practical significance of the study.** As it was already mentioned UBC is a very interesting topic for the researchers as having number of different aspects to be analysed. In my study focus is given to academic staff readiness to provide online learning services to business companies in the framework promoting UBC. Academic staff readiness in this UBC framework is very important as academic staff is considered as main value creator in UBC framework. Another fact according to Gordon and Jack (2010) should be found social capital and social network creation: universities not only contribute to economic development by being a source of knowledge to business companies but they also could be generators of social capital and social network through learning programmes targeted for business employees. Currently it is not enough concentrate only on pedagogical and technological competences, but strategic institutional UBC decisions should be incorporated as well. Study could help university and business managers to better understand UBC framework with changed and complex academic staff role in it.

**The Research methods.** Research was based on Pragmatism theory (Dewey 1933, 1997) supported by Social Constructivism (Young 2008). The study employs a mixed methods strategy, which combines different methods aiming to collect both quantitative and qualitative data. In the mixed methods strategy different data are combined in such a way that by one

method collected and analysed data would complement, enrich or verify the data collected and analysed by another method. As empirical data was collected using a mixed method strategy, serial exploratory research strategy means that the investigation was carried out in two stages, the first quantitative method and the outcomes were the background for second phase qualitative investigation. In parallel for phase I and phase II researcher's reflection was carried out.

**The quantitative research method.** Questionnaire was chosen for the survey to get the widest range of university academic staff opinion about their readiness to provide online learning services for business. Quantitative research instrument - anonymous online survey. According to Aliaga, Gunderson (2000) by this method, the analysis seeks to explain the phenomenon of collecting data as figures, which are based on mathematical analysis methods. The analysis of questionnaire survey was performed with the corresponding mathematical statistical analysis using MS Excel and SPSS (Statistical Package for Social Sciences) version 19. The data was summarized by using descriptive statistics, parametric, non-parametric criteria.

**The qualitative research method** (Focus group). According to Flick (2011) the focus group study allows the survey participants to go beyond the limits of their usual approach and to consider it other contexts. The qualitative data analysis was performed with the help of content analysis. An "X" International Telecommunication Company was selected.

**The researcher's reflection.** According to Creswell (2008) researcher is an instrument as well. The researcher has more as ten years' experience working in field related to university-business collaboration (ISM Executive School, International Business School at Vilnius University, Ministry of Education and Science, Department of Higher Education and Innovation). In this reflection part researcher's personal experience and insights are presented.

### **Publications:**

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Teresevičienė, M., *Miškinienė, B., Tamoliūnė G.*, (2014) Challenges of Information technologies integration into study process: teachers' perspective. European Scientific Journal December 2014 edition vol.10, No.34 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431

Kutniauskienė, N., Abromavičienė, D., *Miškinienė, B.*, (2013). Pasitikėjimo raiška studento ir aukštosios mokyklos santykiuose. Profesinis rengimas: tyrimai ir realijos-Vocational Education: Research and Reality. (24), 58-67.

### **Findings and problem of the research were presented in the conferences:**

- Conference on the impact of Globalisation on VET: challenges and opportunities, CEDEFOP, Thessaloniki, 26-27 November, 2015.
- Higher Education–mission (Im) possible, 13April, 2015 Vilnius
- Investment into Higher education, 3 December, 2013, Vilnius
- Baltic Sea Conference on Education, 31May-1 June, 2012 Hamburg, Panel discussion: Measures to promote cooperation in the field of higher education.
- ICT Competences for Integration of Education and Professional activity. “Training of professionals with highest qualification in Higher Education: challenges and possibilities” 18 November 2011, Kaunas
- Enhance of Lifelong Learning Cross Boarder Capacity. “Lifelong Learning perspectives in Lithuania” 3 June, 2011, Ventspils (Latvia)

### **Participation in the relevant working groups:**

- Board member of Advisory group, European Commission European Qualification Framework.
- Group member for drafting new Law on Higher Education, Law on non-formal continuing education.

**Abbreviations:**

AACSB - Association to Advance Collegiate Schools of Business

CFA - Chartered Financial Analyst

CIPD - Chartered Institute of Personnel and Development

CIPD - The Chartered Institute for Personnel and Development

CPD - Continuing Professional Development

CRM - Client Relation Management

EARTO - European Association of Research and Technology Organizations

EC - European Commission

EFMD - European Foundation for Management Development

EIMA - European Industrial Research Management Association

EMCOSU - EU funded project “Emerging Modes of Cooperation between Private Sector Organizations and Universities”

EY- Ernst &Young

ERA - European Research Area

EU - European Union

EUA - European University Association

HR- Human Recourse

ICT - Information and Communication Technology

IT - Information Technology

LLL - Lifelong Learning

MBA- Master of Business Administration

OECD - Organization of Economic Cooperation Development

OER - Open Educational Resources

OL - Organizational Learning

Proton Europe - Pan-European network of Knowledge Transfer Offices

R&D - Research and Development

TDC - Technological Distinctive Competences

UBC - University-Business Collaboration/Cooperation

UIC - University-Industry Collaboration/Cooperation

UNESCO - United Nations Educational, Scientific and Cultural Organization

# 1. THE UNIVERSITY AND BUSINESS COLLABORATION ASPECTS: THEORETICAL ANALYSIS

## 1. Change and dynamics of university mission

Each university has its own vision and strategic objectives, and above all, not forgetting the university mission. Today the university mission again raises a lot of discussion. What is the main mission of university? Is it still the generative knowledge transfer? Or it is wider, covers entrepreneurship and social responsibility elements? The interdependence of universities and business does not cause any doubt, realizing that the university is meant to develop human capital, capable to work and establish themselves in the business sector, while at the same time, for business it is very important to have competent staff able to develop their business and achieve high performance outcomes. Concept of a “Knowledge-Based Economy” for the first time has been introduced in 1994 (OECD, 1996a). However, in recent years, the university activities began to expand and the expectations from those activities are related to the increase of the much more active role played in society. According to Khalozadeh et al., (2011); Othman, (2011) for universities it is no longer sufficient to carry out scientific research, to prepare top-level professionals, to innovate, but it is desired that students would learn to apply knowledge in their immediate practice, create new jobs by establishing enterprises or organizations, would become entrepreneurs able to quickly adapt to the new developments in society, in case they would not found own organizations they would help develop relations with other institutions based in the region, thus stimulating economic growth. At the same time, knowledge increase is so much dynamic that most business companies fail to successfully respond and adapt to the latest market demands. According to Khalozadeh et al., (2011); Othman, (2011) as an outcome, business companies, with a view to development of a competitive and competent staff need to develop relationships with universities aiming at purposeful and fruitful exchange of knowledge. As it is stated in the *A Review of Business–University Collaboration* (2012) the economic and social prosperity of the UK depends upon a healthy knowledge-based economy, where universities are seen as an integral part of the skills and innovation supply chain to business.

According to Newman (1907) university should be focused on university as centre of training for ethical discernment and operate based on broader education as Humboldtian University it was the first claim to a systematic link between research and teaching. Coming back to our days: the university itself is big enough employer managing a significant budget. The diversity of the world's universities is being observed. In the USA, widespread corporate

universities - on the academic scale, they are not true classic universities. The United States of America during the last decade observes corporate universities transformation into more strategic units. Remembering emergence of the corporate universities in around 1940s and observing the dynamics that happened roundabout years 1980 to 1990 the set up by companies training centres “turned” into corporate universities, having a significant impact on the parental companies in taking strategic decisions. The role of corporate universities has changed - they have concentrated their activities on three strategic directions: globalization, assessment and technologies. Globalization example: while corporate universities were founded in the United States of America, it does not mean that they existed just only there. Today, these universities are already in Australia, South America and Africa. But it is not the most important factor of globalization. Corporate Universities, having strategic role, open their representative branches wherever the company development is taking place. For example, Motorola University has a representative office in China. So the required highly skilled professionals are being prepared on the spot.

As for the corporate university assessment, it directly relates to the “parent” company performance. The strategic achievements are being assessed, but not the performance tactics.

The technological trend is seen as one of the most strategically important components. Every technological solution must first be assessed as a specific benefit giver to the learning process, rather than how many persons will be trained or how much money will be saved. The purpose of technology – is to increase the value of the training.

According to Giroux (2002) new corporate universities value profit, control and efficiency. Universities may be among the main sources to enterprises in the innovation expansion strategy, as they conduct research projects that create opportunities for technological development in the respective enterprises and organizations. Also, it is believed, that university surveys are valuable as such, regardless of whether they are directly related to the industry, because these studies promote the relevant topics and interest in the studies, transmitted for further generations. According to Giuliani and Arza (2009) it is also believed that universities which too intensively collaborate with industry may become over focused on the short term research that only tackles industry related problems that may limit researchers’ intellectual freedom of research, especially in terms of research implementation plan and use of the outcomes obtained. Different status of university and an industry company, their approach to the activities, to some of the flexibility elements, is another area that must be considered before the implementation of collaboration activities. Universities are characterised as having a system, while industry organizations have more freedom to match time and activities, adjustments and so on. On the discussion held by Industry, Research and Energy Committee on “Union of

Innovations: the Transformation of Europe in Post-crisis World,” was underlined that “Europe is suffering from regulatory syndrome. In our countries there is widespread lack of strict regulation of flexibility” (European Parliament, 2011). This idea was supported by number of companies like the “Siemens AG” by adding that the successful collaboration insurance could be contributed by the simplification of regulations and focus on the most important things, as well as faster and more efficient decision-making and implementation (ibid.).

The Communication from the Commission to the European Parliament “Modernization agenda for universities: education, research and innovation” (2006), has highlighted one of the key aspects, namely that universities must develop their scientific and technological knowledge, promoting collaboration and partnership. In parallel, the industry sector was advised to get more involved in university activities, with the special support in the modernization and restructuring of curricula at the same time supporting them financially (European Commission, 2009).

Gižienė and Barkauskas (2010) argue that science, education and economy are closely related to the fact that “Scientific and educational interaction supplements the society with competitive scientists. Scientific and economic interaction strengthens the country's economic competitiveness” (Gižienė and Barkauskas, 2010, 499 p.). Industries and universities unification for aiming at common goals and achieving outcomes at the state level creates a very strong force that actively initiates the growth of both the knowledge society and innovation. According to Greenwood and Levin (2008) universities should be reorganized by structuring teaching and transforming research to action research with strong focus on problem selection, action design, analysis, implementation and evaluation by collaborative multi-disciplinary teams involving academic and business stakeholders. Talking about change an expansion of university mission we should see three missions presented in the Table 1. It is evident expansion not only in knowledge transfer but taking more active responsibility and contribution to socio-economic development.

*Table 1. Expansion of University missions (according Study on University-Business Cooperation in the US, 2013)*

<b>Teaching : preservation and dissemination of knowledge</b>	<b>Research: “First Academic Revolution”</b>	<b>Entrepreneurial : “Second Academic Revolution”</b>
<b>1<sup>st</sup> mission</b> : teaching ( 12 <sup>th</sup> century – mid 19 century )	<b>2<sup>nd</sup> mission:</b> teaching and research ( mid 19 th century- present)	<b>3<sup>d</sup> mission:</b> teaching, research, contribution to socio-economic development

For the universities one of the most significant changes has been their increasing involvement into socio-economic development and commercialization of research results it is related to 3<sup>d</sup> mission. Responding to growing financial and organizational changes universities

have natural pressure for managerial, strategical transformations in the UBC framework. The transition to an “Entrepreneurial university” is led with academic staff engagement and seen as academic entrepreneurship. According to Almeida, Melo, Etzkowitz (2012) entrepreneurial universities are extending service portfolio by offering new training modules at venues such as inter-disciplinary centres, science parks, academic spin-offs etc.;

## **2. General pre-requisites for university and business collaboration**

Universities are among the external partners for business that offer high quality of knowledge and access to enormous global pool of talents and skills. To leverage value created by university business executives need to consider two key dimensions:

- The first one, time horizon of the collaboration,
- The second dimension is the degree of disclosure of the results of the partnership.

According to *Review of Business-University collaboration* (2012) the landscape of UBC consist of a number of highly diverse of activities: applied research, bespoke collaborative degree programmes, enterprise education, collaborative research, in-company upskilling of employees etc.;. Davey et al (2011) pointed out eight possible forms of university and business collaboration:

- Curriculum development and delivery,
- Lifelong learning,
- Student mobility,
- Academic mobility,
- Commercialisation of R&D,
- Collaboration in R&D,
- Entrepreneurship,
- Governance.

For crafting the right partnership we should take into consideration that university sector is large and complex, with the wide range of institutions (Table 2). Some universities are highly skilled in partnering with industrial partners; some of them don't have any experience or very limited experience on single student project basis. It is evident, that universities are not able to deliver all the services needed or requested by business, but it could not create feeling of failure, but consideration of supply chain in services delivery landscape quality. It is very important, that needs of business align with the mission and strategy of the university, so it means that

every university should define the services they are going to work in and achieve excellence in them.

Table 2. Four models of university-industry collaboration (according Perkman and Salter, 2012)

Model example	Idea LAB	Grand Challenge	Extended Workbench	Deep Exploration
What do we want to achieve?	Attract new partners Built relationships Generate options	Shape innovation ecosystem Develop research agenda Meet societal challenges Hire talented graduates	Solve near- term problems Gain advice and support	Tackle fundamental challenges Access new areas of expertise Access pipeline of discoveries Hire talented graduates
How can you structure the collaboration?	Simple and standardized contracts Open calls Outline research priority areas Internal selection	Special –purpose vehicles High- leverage industry consortia University endowments or centres	Consulting agreements with individual academics Contract research agreements with university Student projects	University centre sponsorship Framework agreements allocating decision rights to downstream intellectual property
Examples	HP Labs Innovation Research programme IBM faculty awards	Structural Genomics Consortium Shell Grand Challenge	Nokia applied research contracts Often practiced within larger collaborations	Phizer-Scripps partnership Rolls-Royce University Technology centre

According to Real et al. (2005) business companies that have developed Organizational Learning (OL) ability in the past will have greater capability to innovate in the present and future. Business managers should also be careful on assessment of the level of collaborative capacity of their potential university partners. This rule is to be valid also for universities selecting industry partners - they should look for the both side capacity balance. There is another issue need to be discussed “who owns their invention?” In most universities the inventions of academics are owned by university. But in some EU countries academics themselves own their inventions. By determining the best model for university and business collaboration in selection the valuable partner managers from business side should carefully assess the nature of potential university to be selected for partnership. In both short run and long run valuable partnership – the relationships should be designed in advance to meet both organisations’ goals. In Final report European Union 2014 *Measuring the Impact of University Business cooperation*, one of the challenge of the report was to identify possible university business cooperation benefits by answering question of benefits to whom? For that reason scorecard approach (People, Benefits, Recourses, Activities) was uses which is presented in 1 figure.

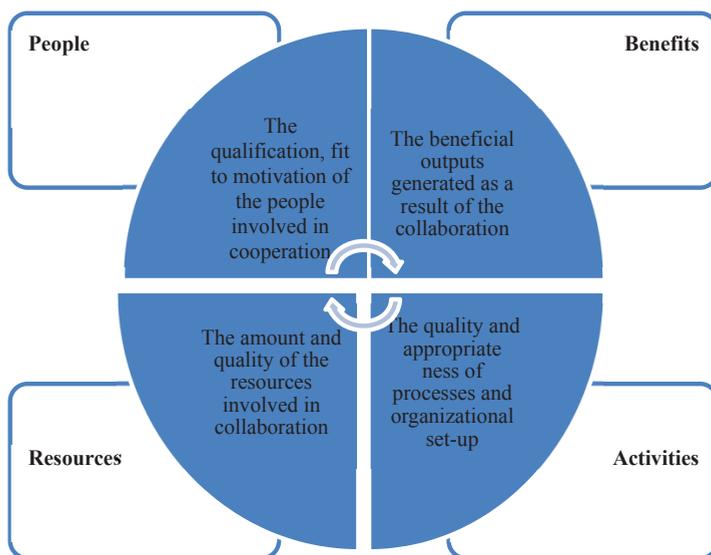


Figure 1. Scorecard approach for educational university-industry collaboration (according Final report European Union 2014 Measuring the Impact of University Business cooperation)

According to Inzelt (2004) as with most processes, collaboration between universities and the business sector may be present at different levels also collaboration may be an individual, group, institutional, sector and national levels. Laužackas (2001) also distinguishes levels of collaboration, providing a more generalizing classification (Table 3).

Table 3. Levels of Institutions' Collaboration (according Laužackas, 2001)

Level	Scope of collaboration
Macro - level	Includes public, state and economic structures and policy – making
Echo - level	Includes operating system (industry and education)
Mezzo - level	Educational institution and industries interact directly
Micro - level	Includes places of training and jobs or persons

Cibulskienė et al., (2010) analysing the interaction between university and industry, adds to levels' classification one more – mega-level - covering all the EU programmes and raising the collaboration at an international level. The macro-level highlights the individual collaboration of education and industry enterprises, one of the most important factors to which is the trust and the direct as well as the indirect communication.

According to Inzelt (2004) at the echo-level, the interaction between science and industry sectors, “it is possible to recognize such forms of collaboration as access to special corporate or

university-owned equipment, investment into university infrastructure, the possibility to continually use university research, the formal collaboration in the field of R & D, e.g., contract-based research or joint research projects, dissemination of knowledge through permanent or temporary mobility from universities to enterprises or setting up new “spin-offs”.

At the mezzo-level collaboration moves to a higher level and includes direct education institutions and industry collaboration. At this level, according to Kitagawa (2009), the important issues start being the corporate and academic institutions’ concept, the vision, strategy, and their internal control mechanisms that may facilitate the initiation of collaboration or aggravate it. At this point media for development of various forms of collaboration arises, responding to the interests of both parties. An opportunity to expand and promote mobility of the university academic faculty and students, to develop their entrepreneurial spirit, to undertake joint programmes involving industry representatives to drafting curriculum and in practices co-ordination, as well as it creates conditions for research and development commercialization and updating of the industry employees competencies (core and professional). Meanwhile, an opportunity opens up to industry to enhance the competitiveness of services provision supporting them by the recent research and analysis of needs, as well as upgrading the competence of employees in the workplace (in-house training) and so on. At this level synergies may be formed for providing space for new relations, but at the same time collaboration may take place between the already long-term relationships having institutions or the ones that were previously engaged joint activities.

Carayol (2003) states that collaboration is the complex of joint programmes, projects and institutions’ participants. Any form of collaboration is different and unique, while at the same time it reveals that the collaboration may be successful only in case all the participants of the process and institutions of higher education as well as industry sectors is equally actively involved in the activities.

Despite the fact that usually the collaboration takes place in joint research, joint projects or counselling (Perkman and Walsh, 2007, Hall et. al, 2001, Meyer-Krahmer and Schmoch, 1998), collaboration between the industry sector and the university very often initiated and influenced at the micro-level, where the initial contact takes place and communication develops between the individual sectors’ representatives. Quite often these connections are formed in an informal setting, and are being influenced by personal contacts and communication history, not the types of institutions, that said, the overall activities takes place without formal obligations. Such relationships help to gain confidence and to highlight common objectives, as well as to foresee the potential activities in the future. According to Abreu et al., (2008) this shows that a greater impact on collaboration development may have the relative, rather than contractual

relationships. Carayol (2003) states that both persons representing the one and the other party involved in the activities have their own order, rules, motivational measures, the obtained added value, which encourages them to collaborate but the analysis of the literature reveals that mutual trust and understanding is one of the most important factors in the developing and the development of the industry sector and university collaboration at any level. In some cases, preliminary acquaintance itself has a natural influence and provides successful collaboration. One example is provided by Abreu et al., (2008) presented the conducted study, which has analysed cases of UBC in the United Kingdom. The authors presented an example of the BBC and Donevest collaboration with universities, which were intended to not only improve the efficiency of enterprises, but also to include academic faculty in their daily activities. According to Abreu et al., (2008) the BBC is a company that has achieved involvement of academic faculty in curriculum development and making presentations, enabling them to comment and contribute to the preparation of news, especially with regards to public affairs, and the presence at more specialized broadcasts. This is a level at which it is possible to distinguish the industry sector and the university collaboration form when the university representative himself sets up and actively engages in industry activities in which the scientific activities and implements them in practice were developed, without discontinuity from academic activities. According to Cibulskienė et al. (2010) this interaction is unique in that sense that a person who conveys knowledge from one organization to another, is in essence changing the organization itself, while helping to ensure a strong and open horizontal collaboration as well as the successful transfer of knowledge.

The targeted and purposeful knowledge transfer process helps both parties interested to achieve faster overall performance and achievement of objectives. It is important to note that in today's economy the non-material resources are becoming increasingly important by covering staff competence and the ability to work so as to contribute significantly to the organization's vision and goals. According to Makštutis (2007); Gižienė and Barkauskas (2010) aiming at high-value organization, it is important to give high priority to employees knowledge and skills upgrading, skills and experience acquisition, focusing on the specialised and general competencies and taking into account the specific needs relevant to the period of time.

### **3. University and Business Collaboration: external influencing factors**

#### *3.1. Economic environment influence*

In the first half of the twentieth century the industrial mass production economy was dominant in the world, which by the mid-century has been directed to the development of the war industry. After the World War II, the reduction of international conflict risks were permanently withdrawn the biggest share of the national resources was no longer allocated to warfare, so both science and economy could turn to a bigger self-direction and progress. As an outcome, the technologies were developed during fifties the twentieth century that led to rethink the economic strategy and productivity.

Such technologies as a personal computer, the Internet, wireless telephone connection and etc., accelerated the globalization process. Schiller and Diez (2007, p. 38) considers that economic globalization has introduced the free movement of capital, rapid spread of innovation and ideas, along with intense competition and rapid changes in market conditions. These conditions reduced the time of economic processes development and product life cycle, so the market became saturated with comparable quality products and services. In other words, the enterprises in order to survive and be in demand had to constantly upgrade their supply, production methods and other technologies. The competitive environment like this forces enterprises to innovate at rapid pace, i.e. faster than the competitors in order to absorb competitive advantage. Snieška and Bruneckienė (2009, p. 50) among the company's competitiveness indicators define the company's knowledge resources, and more specifically - the region where the company operates, learning infrastructure, scientific infrastructure and collaboration with scientific institutions in other regions. In this way, globalization processes intensified global competition which has forced industries to actively absorb knowledge, because their competitive advantage depended on continuous knowledge development, application and enhancement. As an outcome, knowledge management and "knowledge-based enterprise" creation has become the main direction of the industry sector. The processes of globalization and corporate competitiveness strategy aimed at knowledge acquisition and development programmes during the second half of the twentieth century the global economy has changed the direction of the post-industrial / mass-production economy to the knowledge economy.

At the end of the twentieth century the advanced countries the knowledge conveyed innovation were considered as one of the key sources of economic growth. Kekkonen (2008) considers innovation to be a modern way to solve economic problems and challenges.

According to him, innovation leads to higher added value, increases productivity and opens up new industry opportunities and serves the society at large. In order to achieve a knowledge-based economic growth, Kekkonen (2008) focuses on long-term research and development programmes, more intensive involvement of experts in the creation of local and international knowledge exchange systems. The importance of innovation in today's economy is also mentioned by Tornatzky (2000, p. 8). In his view, the global economy is driven by the knowledge of technology and the stock market attracts the greatest success from the enterprises selling or producing products based on new technologies or traditional methods of production or services complemented by advanced technologies. According to Tornatzky (2000) in 1999 more than 80% from the US corporate profit was obtained through such enterprises. Although knowledge and innovation benefits for industry and overall economic growth is clearly understood, however, repeated economic crises, uncontrolled competition (growing costs, need for rationalization and product life cycles becoming increasingly shorter) increasing research and development complexity has led to the fact that enterprises are no longer able to meet the individual needs of investigations. The enterprises are searching for the external resources to carry out research in a more efficient and cheaper way, thus the universities as key actors in the knowledge economy have emerged with the hope that they will carry out the role of promotion of technologies and innovation.

Today it is evident that investment in research and development in this field in the future will provide economic growth. After the periods of economic stagnation during the seventies of the twentieth century, not only industries, but also the government started to require the transfer of university research outcomes and technologies thus to contribute directly to economic growth. As an example we may take the Japanese case. After the "bubble economy" in the nineties of the twentieth century, even long-lived Japanese enterprises have suffered a significant decline or even bankruptcy. This only strengthened the role of university as a motor of economic and government attention to university knowledge utilization has increased even more. During the presidency of the Japanese Economy, Trade and Industry Ministry until 2004, Japan has adopted reforms to foster greater collaboration between universities and industry, the research received additional funding from the public funds, the researchers were awarded with the premiums for the really economy beneficial studies, the restrictions for university academic faculty to employment or build their industry were reduced, the issuance of licenses and patents was facilitated. In addition the state universities were granted the right to have ownership of discovered technologies; the issuance of patent was facilitated. A similar situation arose in Finland following the Global Economic Crisis of 2008. The country's government was interested in creating one of the world's best innovation systems, the basis of which are

universities conducting research and training activities, thereby contributing to economic growth. The Finnish government finances major national universities, with the aim to reform them into universities of innovation to feed economic sector with well-prepared professionals, working for a long time to set up updated programmes multi-disciplinary knowledge would adapt enterprises to the changing market conditions.

In this way, the university main functions - to carry out research and collect it, to promote scientific developments and prepare specialists, were enriched by a new function - to contribute to economic development through knowledge transfer, counselling of enterprises, preparing professionals of specific spheres, and improving the competitiveness of industry and industry in other ways. Etzkowitz (2000) called this phenomenon the second academic revolution. Such commercialization of academic knowledge caused by strive for economic benefits was criticized by Rosenberg and Nelson (1994). Their argument was that universities could stray too much into the new mission and the primary academic function would suffer from that, in addition the academic knowledge transfer to industry may incur additional costs that arise from innovation patents. Rosenberg and Nelson argue that knowledge by themselves could freely and naturally reach the areas of economy without additional external (state) intervention. Such a position was criticized by researchers Teng (2008), Etzkowitz (2000) for not properly assessed competitiveness of enterprises, which makes separate industry administration areas leave for the experts (in this case the university) and thus uptake innovation more quickly.

In the context of globalization and competitiveness the pace of spread of technological and other innovations become increasingly faster, so national economic prosperity depends more than ever on the ability to utilize knowledge. Collaboration between universities and industry is indispensable to maintain economic growth. Traditionally, universities have been sanctuary in higher education and research, but for the recent 25 years, their role has changed - universities have turned into technology and innovation centres. In this way, universities communicate their discoveries to private industries and the public, in exchange for a monetary compensation. For universities the efficient transfer of technology means higher income, increasing number of students, the university demonstrates the benefits to the local and national economic growth and lifts university ratings. The universities emerge as a central figure in the knowledge economy. One of the most famous examples of the extension of the university functions - Stanford University, having contributed to the creation and growth of the Silicon Valley in the USA.

### 3.2. Legal and political environment influence

The efficiency of the interaction between science and industry essentially depends on the kind of legal and political environment. Although in Europe the intensive academic scientific knowledge commercialization began later than in the USA, it is vigorously making its way through the implemented new innovation policy and the diverse strategic documents drafted by the European Commission. Lithuania, encouraged by the European-level initiatives and changes in the economic environment since the regain of her independence has taken hold of drafting strategic documents, research integration into the economic sector and the economic growth operational programmes.

During the last decade the twentieth century, and the recent years in the European Union level there was introduced quite a number of initiatives for the development of higher education and scientific research. Among the most significant documents we should mention the *Lisbon Treaty (1997)*, the *Sorbonne Declaration (1998)*, the *Bologna Declaration (1999)* and subsequent communications and the European University Association (EUA) adopted a *Declaration of Graz (2003)*, *Glasgow Declaration (2005)*, the *Lisbon Declaration (2007)* as well as the *European Commission's Green Paper Research (2007)*. These documents reflect the common European Union policy as defined in the *Lisbon Strategy (2000, 2005)*, - to develop the knowledge-based economy. The analysis of the European Commission's major strategic documents that define the significance of higher education and research is presented in study "*The Management of Exceptional Scientific Research*" (2008), The European Commission's *Green Paper on Research (2007)* focused on the European Higher Education Area (EHEA). It was argued that in order for Europe to keep pace with technological and scientific innovation in terms of the emerging countries, the necessary condition would be the creation of knowledge society. The most important initiatives of the European Commission related to university research and science legal and political issues were made during the period of 2000-2007. The study *The Exceptional Scientific Research Management (2008)* presents initiatives divided into several key areas:

- Resource and capacity optimization,
- A more coherent use of public resource,
- A more dynamic private investment,
- Common scientific and technical refereeing policy implementation system,
- More numerous and more mobile human resources,
- Europe - as attractive space to researchers and investment,

- Space of common values,
- Ambitious and comprehensive international science and technology collaboration programmes' development,
- Community action, geared to university scientific research.

As it is stated in the EUA (2014) *University-Business Collaborative Research: Goals, Outcome and New Assessment Tools*, universities indicated the most relevant areas that needed to be considered when setting up a collaborative research partnership:

- Identifying partners for the collaborative research initiative,
- Negotiating the partnership,
- Involving the knowledge transfer office at the university,
- Acknowledging the importance of human resources, in involving different professional profiles in collaborative research.

Major initiatives in research policy-making forming in Europe may be considered by the European Council in Lisbon set by the strategy and the European Commission's *Green Paper on Research* formed the criteria for the knowledge society. Since 2000 The Lisbon Strategy adopted by the European Research Area (ERA) Concept has become a major European research policy and is the basis for knowledge based European economic and social growth.

Important contributions is made by EUA towards to debate and development of the Green Paper on “*The European Research Area: New Perspectives*”, the EC Recommendation on “*The Management of Intellectual Property in Knowledge Transfer Activities for Universities and Other Public Research Organizations*” and the EC Communication on “*Better Careers and More Mobility: A European Partnership for Researchers*”. Common Strategic Framework for EU Research and Innovation Funding (2011); the EUA position “*Smart People for Smart Growth*” on the EU flagship initiative “*Innovation Union*” (2011); on the *European Commission on the Modernisation of Higher Education in Europe (2011)* and other European Commission initiatives. In the *European Commission Research Area Progress report (2014)* Knowledge transfer and open innovation is taking one of the central roles.

*An in-depth analysis of adult learning policies and their effectiveness in Europe (2015)* adult learning is considered as an investment first of all secondly, indicate policy actions contributing to effective adult learning by delivering more learning that is relevant to learners and employers:

- Personalized programmes of study may increase learners participation in learning process;

- Training programmes designed to address better employers' needs lead to better application and skills improvement;
- Aligning the employers' needs with local education providers is seen as effective factor increasing participation and leads to relevance of the learning by increasing employees skills.

Member States are continuing to develop operational national knowledge transfer strategies. This is almost done: improved recognition and professionalization of knowledge transfer activities, a strengthened role for knowledge transfer offices, and through measures to facilitate interaction and development of strategic partnering and joint research agendas between academia and industry, including SMEs. This should enable a better uptake of research results in the market. Although there are strong policy support mechanisms for knowledge transfer in place in most Member States, this is not reflected by financial backing in half of the Member States.

### 3.3. *Lithuanian legal and political documents*

Definition of Lithuanian legal and political scientific research and industry collaboration is based on the initiatives of the European institutions and industry, thus the *Lisbon Strategy* (2000) set the objective – to create a modern knowledge-based society and a competitive economy, is also reflected in documents drafted in Lithuania. One of the main tools for achieving that objective in Lithuania is to provide favourable conditions enable industries to access, use research and technological innovation as well as to invest in high performance achievement in Lithuania. In this way, the *National Long-Term Development Strategy* (2002) provides the most important obligations to the state and reflects the strategy formulated in Lisbon as well as measures to eliminate barriers for scientific and industry collaboration in Lithuania. This is a priority area of the country development, allowing the use of scientific knowledge in the development of the country, providing the highest GNP growth and ensuring the optimum development of the state under the conditions of increasing global competition.

The *Lithuanian Economic Development until 2015 Long-term Strategy* (2002) reiterates the importance of education and knowledge to modern economic growth, and presents the principles relating to this growth.

In addition, the growth factors are identified, such as labour force, knowledge and entrepreneurship, and thus emphasis is given to the demand in the market of qualified specialists, trained to use modern information technology. The objective is therefore to raise the

education level of the workforce by improving the education system and the implementation of training and re-training systems and thus to guarantee the development of human capital.

The *Lithuanian Innovation Strategy for 2010-2020* (2010) emphasizes the importance of innovation (new products, technologies, processes, industry models, organizational structures) for overcoming of the global financial and economic crisis.

The *General national research and education and industry collaboration programme* (2008) was compiled as a reaction to the institutional structure of Lithuanian science system, the internal management of institutions' systems and funding arrangements that did not encourage public science institutions to undergo changes, to make effort to focus more their ongoing research topics on industry needs. In this way, the main objective of the programme was the strengthening of public research and experimental development base as well as the availability for industry to increase the R&D intensive applied activities recipient sectors' comparative share. In other words, the programme promotes a high level of R&D development as well as closer collaboration of the research generating scientific institutions with the industry sector.

The analysis of the strategic documents drafted in Lithuania demonstrates that the country's higher education and research institutions' infrastructure, performance management models were often outdated and did not meet the demands of the market. Furthermore, the insufficient collaboration of industry bodies with science and studies institutions (which emerges from the previously identified problem), while the research themes were not aligned with the industry demands. It becomes clear judging from the research and development funding estimates. Although public spending in this area is increasing annually, but it does not grow in proportion to the changing GDP, while funding from industry entities in year 2008 represented only 16.7 per cent of such costs (where as the EU industry was financed by around 56 per cent., the USA - 67 per cent., while in Japan it comprised even 72 per cent of the overall costs). Although the enforcement of the developed legal measures in Lithuania is only gaining momentum or remains only at the strategic documents and planning level, the collaborative interaction between science and industry has legal definition present in all documents; at the same time the legal infrastructure necessary for the collaboration is based on a strong European framework. Given that there exists the need to pay greater attention to specific legislation drafting in relation to science and research development and utilisation to correspond industry needs. Talking about importance of online learning at national level it should be admitted that related Lithuanian national documents are missing as the latest one was National Distance Education Strategy prepared 2001.

### 3.4. Government-University-Business role in collaboration process

In addition to the above-mentioned external factors (outcoming from economic circumstances, legal and policy framework) determining the university and industry collaboration, Etzkowitz (2008) also distinguish government. They set up a "Triple Helix" model, in which in addition to bilateral collaboration between science and industry, the third component was loaded - the government, which is conscious of the importance of knowledge resources use for economic growth, is interested in their smooth interaction.

According to the model, the interaction consists of three spirals (representing three institutions - government, science and industry), each of which operates separately and has its own interests in collaboration, and thus interacts with the other two (see 2 figure). Etzkowitz (2000) argues that in order this type of collaboration to happen three conditions need to be fulfilled.

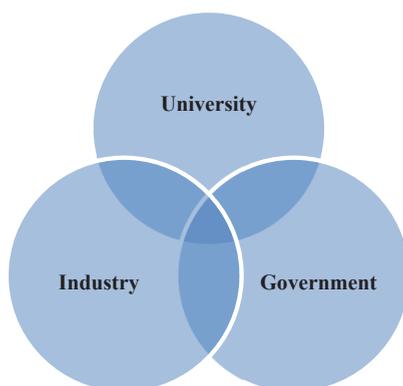


Figure 2. H. Etzkowitz Triple Helix graphic model (according Etzkowitz, 2000)

The first transformation is this inner transformation in each of the spirals in order to adapt to the needs of interoperability. In cases when the target is the knowledge-based economic growth, all three models' actors go through an internal transformation even when new relationship is being developed at the institutional level, for example, creating hybrid organizations, technology centres, etc. The second condition is the influence of spiral to each other. Here the government is particularly important because of its adoption of laws or formed educational and economic (economy) policy has a significant impact on creating a favourable environment for collaboration, the demolition (or creating) collaboration barriers and highlighting points of contact when the validation of intellectual property created by state institutions' studies was replaced, the dissemination of technologies in the public and private

sector activities have become more popular in most USA universities. In this way, the government could have been considered not only as equivalent co-participant, but also an important external component that would have shaped the entire collaborative environment.

According to Mali (2006), the government should use the main policy measures aiming to promote the transfer of knowledge from the academic to the business sector:

- Intellectual property rights legislation is an important development, regardless of whether it promotes or hinders the transfer of knowledge from universities to industry. In addition, it is important for labour relations dealing with laws that may substantially reduce (where there is strict compliance with the principles) the mobility of researchers from universities into industry,
- Financial support for research projects and programmes, which are based on collaboration with industry, and which are carried out in public research institutions,
- The introduction of income tax benefits and other financial incentives which indirectly promote the transfer of knowledge from academic institutions to industry,
- Supporting modern principles of scientific research development policies, including the factors such as scientific evaluation system upgrade, taking into account the promotion of applied research system,
- Adjustment and support to intermediary bodies of different forms, such as, knowledge transfer offices, industrial liaison offices (transmission/support institutions), “spin-off” companies.

Finally, the third condition of the model is designed by the triple connection between all the spirals, with an aim to produce new ideas and to execute the exchange of innovation. In this way, the adaptation of innovation in industry policies turns into a natural desire to collaborate as an outcome, rather than the consequence of the external forces (government, economic situation) impact.

According to Freitas and Marques (2012) the government is able to regulate the type of collaboration between universities and industry, depending also on the states’ economic level of development. In emerging economies such projects characterization and direction could be completely different from the ongoing education projects carried out by economy leaders.

The newly rising economic states (such are currently regarded Brazil, Russia, India, China) government is increasingly interested in promotion of scientific and economic collaboration in the high-tech sector. At times when in such countries economic level rises, the government by the help of university research aims to refocus the local enterprises to a more profitable and higher value-added products supplying industries. This happens because the growing economies’ environment is characterised by the product development and technology

deployment programmes in response to a changing market. Meanwhile, the developed economies with well-established prevailing industry trends due to the sufficient level of technology put increased emphasis on improving product profitability and cost reduction. In this way, the innovations are spreading faster in growing economies in comparison to the developed economies.

The government makes such decisions that determine the nature of collaboration by taking into account the industry needs, e.g.: the nature of enterprises' pursued innovation and access to sources may vary depending on the stage of economy development at the moment. The early stage of development of economic growth is based on specific knowledge, innovation. Such economies are characterized by the integration of university research programmes, participation at seminars, demonstrations and presentations. As an example: the USA in the early stages of pharmaceutical enterprises development tended to improve laboratory activities through special programmes aimed to train and familiarize their company employees with novelties of at universities. In this way, the direct contact between knowledge and innovation sources (in this case - universities and enterprises) from the developing economic environment was a very important factor. Meanwhile, the developed economies tend to improve the profitability and development by introduction of specific, highly specialized technologies of the area. The enterprises find out their problematic points and searching for specific technological solutions to solve them. This is the way in which Freitas and Marques (2012) explain the fact why in developed economies between enterprises is bright and technology, not the knowledge gap.

Thus, the mature economies industries and universities seeking old technologies and techniques for updating and deepening knowledge through problem points (individual specific problem areas in industry) upgrading. Collaboration with universities there is being implemented through the well-established networks, aimed at new technological solutions or devices. Meanwhile, the developing economic environments hold collaboration with universities in order to gain knowledge or to employ scientific foundation to strengthen their activities. These enterprises put emphasis on research works of students, staff training at universities. Mediation between such enterprises and universities is based on the primary function of an educational institution - teaching, conveying knowledge. In response to these differences, according to Freitas and Marques (2012), the government chooses in each case more effective political and legal decisions. Meanwhile, as seen from the "Triple Helix" model, each of the three members' contribution (the internal transformation, the relationship with the other two participants) are equally important, so the solar initiative of the government as an external catalyst and equal partner does not suffice. Despite the economic development stage is the state without appropriate, necessary for interoperability conditions, the collaboration between

university and industry will bring minimum benefit, will not reach the problematic points or even not happen at all.

### *3.5.Key lessons for successful university and business collaboration*

University leadership is vital by designing intensives for university faculty and providing resources to manage cultural shift that does not undercut basic research but puts a very clear priority for business and university mutual benefit and the significant benefit for society as well. It is very important to recognize, that faculty members determine the success or failure of university-business partnerships. In order to attract business involvement, universities should have academic staff capable to build and manage relationships. Collaborations could be successful only in case if it is managed by people who can easily cross boundaries by having deep understanding of the two cultures they need to bridge. Universities must to be more open giving people leading positions for those bridging activities to be managed. They need multidisciplinary individuals who could become a mentors or/and “bridge – builders” between university and industry. Universities should create opportunities for academics and companies executives with shared interest to come together and start developing possible dialog.

University-Business linkages have been empirically studied in different frameworks and scope. Also it need to be mentioned that European Commission providing financial support for this area investigations and reports. For example, in Final report EU 2014 “*Measuring the impact of university-business cooperation*” there are five cooperation forms indicated:

- Curriculum design, development and delivery,
- Exchange and mobility programmes,
- Entrepreneurship and Entrepreneurial education,
- Bespoke course development,
- Continuing education and lifelong learning.

Informal exchanges over lectures or seminars, trainings can bring together both sides by sparking professional conversations and it could lead to new relationships. Once the potential business partner is indicated university should engage with top management. Academic staff needs to get in contact with the senior level management to discuss strategic issues to be addressed in cooperation. After the partnership it has been launched, to continue in a productive way joint executive board should be formed and two ways communication between academics and senior officials need to be done in a regular basis. The university of 21<sup>st</sup> century should be viewed not just generator of ideas but also as a pool of knowledge and competence that can

benefit society. EU funded project *EMCOSU* (Emerging Modes of Cooperation between Private Sector Organizations and Universities) as result indication present situation on UBC: the total average of all countries participating in the project (see Table 8.) the most common university – business cooperation activities could be identified as follows:

- Mobility of students,
- Research and development,
- Curriculum development,
- Lifelong learning,
- Mobility of academics.

*Table 8. Comparison ranks of UBC modes among employers, academic staff, and university representatives (according Davey et al., 2011)*

<b>UBC activities</b>	<b>Employers</b>	<b>Academic staff</b>	<b>University representatives</b>
Mobility of students	1	2	2
R&D	2	1	1
Curriculum development	3	4	4
Lifelong learning	4	3	3
Mobility of academics	5	5	5

The interferences are associated with the requirement of tangible benefits. The area of doubts is also outstanding, as it is expressed by the doubts of getting mutual benefits, because each sector is functioning quite efficiently on its own, and will it really be mutually beneficial. The same is true with finance. Implementation of projects decided upon by negotiations has costs, thus, will the investments prove successful or will it in total be worthwhile to finance collaboration projects if the benefits are not completely clear.

Yet, there is one more hindrance associated with mutual relationships. It is important that the relationship would be not only the initiative of one or more academic faculty and business. They must be developed in all the chains, wider collaboration should be promoted from both sides to ensure continuity. According to Peças and Henriques (2006) objective for industrial companies is to focus in localized and specific problematic areas where the potential improvement is large, to diagnose the situation and propose efficient solution supported by technical/scientific methodologies.

More and more businesses moving from traditional metrics such as turnover and revenue now they are looking for employees engagement, retention and team encouragement. According to Humburg, Velden and Verhagen (2013) skills needed for the employers are those: professional expertise, flexibility, innovation and knowledge management, entrepreneurship and international orientation. So it means that traditional learning and development doesn't engage

younger employees or to bridge the gap between team members and leadership, but by aligning business objectives with the learning needs concentrating on innovative technology and improve learning functions related to the workplace. For that reason it is very important employees initiative in designing the learning programmes and initiatives using new technology solutions. As employees take responsibility employers must also focus on their team members and the individual needs of single person to move business forward to the success. This means embracing adaptive learning strategies need to be taken into consideration. The key is to develop a plan that works for both business and employee needs in common. The real challenge for online training is converting teaching into learning. There are two ways to turn online training into effective learning: humanize learning and individualize learning. Humanize learning means – feeling a part of a large community by using chatrooms, social media, online instructors support. The core of humanize learning is interactivity: interaction with the content, classmates and instructor. Individualize learning could be seen in the light as every person has different learning styles, so individualized learning allows people to create their own plans, methods and modules to be learned based on their competences. Individualized learning provides value in learning by focusing on learners’ competences and personal needs. Online tools can help humanize and individualize learning.

#### **4. Knowledge creation and transfer practise**

##### *4.1. Learning services’ development to promote university-business collaboration*

In this case under analysis, knowledge in the form of innovation and technology is being transferred from universities to the industry sector for the attainment of commercial purposes. According Dron (2002) knowledge can be created through many knowledge networks and collective activities. The efficient transfer of knowledge for universities is reflected as higher revenues, demonstrates the benefits of the local university to the national economic growth and social well-being, thus raising the rankings of universities, encouraging students’ and staff growth by number. Industries, meanwhile, having effectively exploited innovation, acquired during collaboration with universities, have some positive effects for their produce, services provided and the quality of the working environment. Ideally the interaction of university-industry collaboration should make greater and more tangible impact on the second part, but in many instances enterprises do not receive any significant improvement in productivity and profitability. Pertuze et al., (2010) carried out a statistical study, which showed that only half of the university research outcomes exploited in industry made the desired impact on the

enterprises participating in a project (improved working conditions, simplified production) and only 40% of this useful knowledge, having successfully achieved the industry, significantly affect the profitability or productivity. This is due to the fact that technology and knowledge discovered by universities cannot be effectively adapted to industry immediately. It takes time and effort to create a relationship of collaboration between the institutions, and only then, subject to certain conditions, knowledge could be properly installed.

Etzkowitz (2000) on the basis of his “Triple Helix” model identifies three basic conditions of common sense needed to turn university research and knowledge into economic benefits. The first of these is the creation of multimedia knowledge. The government, as equal partner in the development of a knowledge-based economy must create a favourable environment (from the point of view of legal, institutional and financial aspects) beneficial to university research and experimental development. The second condition is creation of consent area. The aforementioned three sectors (academic, industry and government) must individually develop active collaboration ideas and strategies that later should be coordinated and developed via their relationship with each other. Finally, the third condition is the creation of innovation area. This is effort to put into practice what has been created in knowledge and consent media – creation of collaboration programmes, establishment of institutions and coordinating mechanisms for attracting the finance and others. Of these conditions presented by Etzkowitz (2000) it is evident that the first step to a successful university-industry collaboration has to be made by the structures of government, which must create an environment conducive to interaction.

According to Study *Making Industry-University Partnership Work (2012)* also discloses the importance of government for the successful university research and knowledge exploitation in industries. The government structures are given guidance on how to develop an environment conducive to collaboration:

- Maintaining a stable environment. The authorities need to ensure a clear, predictable, stable (economic, legal, educational and business) environment, which would encourage long-term relationships between the university and industry,
- The government has to leave the responsibility to efficiently form the strategy of collaboration with the industry to university. Without the freedom to manage collaborative processes, efficient partnership does not happen,
- It is necessary that the government promotes (bonuses, guarantees) universities and researchers, who actively get involved in collaboration thus motivating the passive ones,
- The government should pay sufficient attention to the promotion of universities, publicity for the programmes of collaboration with industry, the research and knowledge marketing needs to be carried out.

With the favourable environment created by the government the conditions spring up for the academic and industry institutions to initiate interactions and lead the research and application of knowledge. Pertuze et al., (2010) present seven activities, following which the university research and knowledge benefits for the industry significantly improve:

- Define university research project's strategic direction,
- Run margin expansion projects,
- Share the vision with the university research community, as in what way the collaboration could affect the company's operation,
- Maintain a long-term collaboration,
- Create a strong communication network with the university research team,
- Increase the understanding of the project within the company,
- Support the project during and after its implementation until the study outcomes bring the desired effect on the industry.

The Study *Making Industry-University Partnership Work (2012)* contains a statement that the most productive university-industry partnerships are those that are strategically analysed in advance and are concluded for a long period of time. Such partnerships in advance have the vision study and its application; it may last for more than a decade as expert groups thus are being formed and the gap between the academic and industry spheres are being bridged. The greatest value of collaboration lies in the confidence between the experts' groups formed that has been developed over a long period of time. An example is the IBM's 90 million US \$ costing Nanotechnology Research Centre in Zurich. The Centre for more than ten years represents the Swiss Federal Institute of Technology conducting research to IBM's advantage. The world practice has that the partnerships number declines over time, but their quality, objectives tend to grow and the terms become longer. The short-term deals cause interest of increasingly fewer universities and industries, because their productivity is lower, and even the fixed costs are not covered. Therefore, industries increasingly rely on research and development programmes that meet the most pressing needs and problems of the current period, while the general applied research is no longer attractive due to the pace of innovation development. The study alongside with the collaboration projects perpetuity provides recommendations, which are mostly given to universities, as leaders of partnerships with businesses (see Table 4.)

Table 4. University leadership in UBC (developed by author)

<p>University's mission and role should be re-considered</p>	<ul style="list-style-type: none"> <li>• The universities have to adapt, to change and adjust to the challenges of the twenty-first century. Universities have to turn into temples of research and knowledge that contribute to social problem-solving and their competences may facilitate social and economic development,</li> <li>• Today's universities still follow the higher education model, which was formed a few centuries ago. The modern University is not only a generator of ideas, but also a source of knowledge and research that may be of public service not only by the education function.</li> </ul>
<p>The exchange of information and constant dialogue is an inevitable part of a successful UBC</p>	<ul style="list-style-type: none"> <li>• The conditions must be created for permanent interacting parties meetings. This may be done in the form of seminars, lectures and informal meetings,</li> <li>• Any dialogue may be the first step towards the beginning of a new collaboration,</li> <li>• When a potential prospective industry partner is being found, the universities should organize meetings with industry representatives, who are able to reveal the problematic points that require research and knowledge in the firm/company,</li> <li>• The meetings should be continued when the programme is in progress and should not be interrupted and the end; both parties should exchange the latest information,</li> <li>• The mutual exchange is recommended: universities should encourage academic faculty to work in the industry, and firm/company employees should be invited to teach in universities.</li> </ul>

Lynskey (1999) considers that the quality of research and the application of knowledge in industry mainly depend on the ability to transfer them in a targeted, clear and accurate way. If the knowledge transferred take up the innovative forms of technology, then the relationship between supplying and receiving parties should be even closer. In this way, the importance of academics and industry representatives meetings face to face, workshops, discussions, presentations, and the like, is great. This view is also shared by Groose (1996). His belief is that research and knowledge dissemination to industry especially depends on the openness of the donor (universities) and its willingness to collaborate. The priority is given to social activities and creation of favourable relations between the interacting parties. This practice is also actively installed in Japan.

Walsh, J.P. et al., (2008) study shows that Japan pays particular attention to the close mutual relationship development and only afterwards proceeds to the execution of specific programmes. The informal communication (meetings in restaurants, exchange gifts, permission to laboratories, staff training) between universities and industries are supported - both before starting the collaboration and during it, also after its completion. This is the way to ensure the efficient exchange of information, to create social capital and sustainable development maintaining the beneficial relationships for both sides. Alongside with the national reforms implemented by 2004 (the additional research funding from public funds was allocated, researchers were awarded by prizes for economic benefits of research, the restrictions imposed on university academic faculty in employment or building an industry were reduced, the issuance of licenses and patents was facilitated, the state-owned universities were authorised copyright for the discovered technologies, the granting of patents was facilitated). According to

Walsh, J.P. et al., (2008) within five years in Japan the number of patents, licenses issued and transactions concluded between universities and enterprises/firms has risen by dozens of times. Thursby and Kemp (2002), present these variables in particular to measure the technology and knowledge transfer efficiency between universities and the private sector. Talking about geographical aspects according to Hussein (2010) in Egypt is growing interest including modern technologies into the learning process by adapting e-learning by making significant investments in IT infrastructure using programmes for academic staff development. In the light of the recommendations, in the case of Lithuania, the higher education and research institutions should be promoted to initiate such studies, the outcomes of which would be the most efficient way adapted by business. This would help to attract the attention of the business sector and, also the private sector's investment in university research and the dissemination of knowledge in industry. In addition, the commercial application of university knowledge and transfer could be enhanced by universities via the established mechanisms of research outcomes and knowledge commercialization. It should be admitted also significance of CPD (Continuing Professional Development) for the business sector. As it is stated by El Amound and O'Tuama (2014) CPD is an extra income for the university improving financial sustainability and recalling new funding paradigm; secondly-improvement of the Lifelong Learning and continuing professional development opportunities for adults seeking to upskill or reskill for better personal positioning themselves in the labour market. That would make the university services more accessible for business and would speed up the collaboration processes.

#### *4.2.Barriers for university-business collaboration*

The data of Statistics Department under the Government of the Republic of Lithuania show that the Lithuanian public sector expenditure on research and experimental development in 2004 amounted to 0.53 percent of GDP, in 2005 - 0.52 percent of GDP, while in 2006 it was 0,47 percent GDP (*Common national research and education and industry collaboration programme (2008)*). These indicators are not far behind the European Union average, but Lithuania lags far behind the above-mentioned cost-effectiveness. In addition, the in the individual fields of scientific research (e.g., biotechnology, lasers, electronics) Lithuania is among the leading EU countries, but the accumulated research potential in the country is not used or sold to foreign enterprises/firms. Thus, in order to realize the measures applied to promote efficient collaboration between university and industry, first and foremost it needs to find out the weak sides of interaction in this area characteristic to Lithuania.

The *Common national research and education and industry collaboration programme* (2008) considers among the most important obstacle factors hindering university and industry collaboration to be small applicability of university research outcomes in industry. Overall, the university's performance outcomes largely depend on the criterion based on the number of students and staff, curriculum indicators, rather than practical applications or general social and economic benefits.

*Lithuanian Innovation Strategy for 2010-2020 (2010)* states that passive science institutions' and business collaboration development is related to poor business innovation and orientation towards the support of scientific research for innovation development. *Lithuanian economic development until 2015, long-term strategy (2002)* also highlights the shortcomings of the industry sector, hindering research and the dissemination of knowledge in enterprises. Those are the very first steps of innovation policy development in the field of entrepreneurial innovation activity governance, almost in the absence of any experience and traditions.

The *Long-term research and development strategy (2003)* states that the weakness of research in Lithuania stems from the lack of funding has deteriorated the material research resources, the scientific and production relations are weakening, and research outcomes are hardly associated with the final outcomes and their application. Barriers of UBC are broadly discussed and named as follows (Table 5.).

Table 5. UBC barriers (according Esterman and Puvot, 2011; Davey et al 2011)

<b>Cultural Barriers</b> Esterman and Puvot (2011:67)	Sometimes the strong identity and autonomy at faculty level has led managers and academics to have little interest in the institutional development as a whole. It makes difficult to Top Management to manage and implement income generation strategy across the university
<b>Structural barriers</b> Esterman and Puvot (2011:9/10)	Inadequate governance structures and the inability to change them, financial restrictions as to the funding cycle, or inflexible staffing regulations impede universities from exploiting their potential and develop new funding streams
<b>Financial barriers</b> Davey et al 2011: 11	The vast majority of academics of all levels of UBC experience agree that funding barriers and bureaucracy within the HEI are the most relevant barriers for promoting UBC
<b>Carrier-orientated barriers</b> Davey et al, 2011: 11.	Academics do not recognise the benefits of UBC for themselves or their research and especially not in respect of their standing within the HEI or their chances of promotion. All of these factors highlight that academics perceive personal benefits of UBC to be low and this could be another reason for the low extent of UBC.

Strategy - it is important to ensure that both enterprises and universities would collaborate while developing their services. Teng (2008) considers the biggest barriers to effectively exploit university research in business come from the universities. The author refers to the lack of

competent researchers and innovative research as well as the prioritization of education and fundamental research at universities. The innovative technology transfer and adaptation in business mechanism, presented by him, focuses on how university research could fill in the problematic points of the local business sector. Hagen (2006) and Brunell, Este and Salter (2009) provide parallel between friction (disagreements) and possible solutions (see Table 6).

*Table 6. Parallel between friction (disagreements) and possible solutions in UBC (according Hagen, 2002; Bruneel, Este and Salter 2009)*

<b>Element of friction (disagreements)</b>	<b>Possible solutions</b>
Lack of trust	Establishment of relations of trust through personal meetings
Different culture, speaking habits, communication basics	Creating common grounds through education, discussions, publications, team formation, the systematic exchange of work tasks
Lack of time and shortage of meetings, a limited understanding of labour productivity	Provision of opportunities for knowledge transfer in terms of time and place: exhibitions, conferences, "communication space"
Research institutions' reputation and payments	Achievements (outcomes, results) assessment; development of incentives for the knowledge-based transfer
Business enterprises' lack of skills to take over the knowledge	Employee flexibility training; provision of learning conditions; naming candidates who show initiative by presenting
Attitude to knowledge that they are predestined for use by certain groups: "This is not our" syndrome	Promoting to abandon hierarchical aspects during the application of knowledge; the idea of quality is more important than the knowledge source status
Intolerance to errors and help request	Recognition and remuneration of creative errors; collaboration projects; no loss of status, in case not everything is known

As the table 6 reveals, the direct personal contact plays an important role both in establishing collaborative relations by industry and university, in search for compromise between joint activities and strategies, as well as finding solutions to the difficulties that have occurred. The development of collaboration in the absence of direct personal contacts may also become one of the difficulties in the implementation of joint activities.

To sum it all, lack of close collaboration between research institutions, universities and business in research and development of new products and technologies for the market in Lithuania emerges for several main reasons. First of all, the research infrastructure does not meet the market needs, which is caused by poor state funding, ineffective academic and research institutions management and excessive concentration on basic research. Due to the low research commercialization opportunities and low overall economic innovation also productivity, Lithuanian industries are not inclined to invest in R&D or to develop links with research institutions.

## **5. Academic staff readiness to provide online learning services for business**

### *5.1. Academic staff and business employees' engagement into UBC activities*

University and business collaboration goes on via different channels, varying from the development of inter-organizational relationships (joint research, contracted research, consulting, training programmes, etc.) to the parallel spin-off enterprises, the transfer of intellectual property, including patents and License Agreement (Carayol, 2003; D'Este and Patel, 2007; Bercovitz and Feldman, 2006; D'Este Perkmann, 2010). However, it is difficult to discover mechanisms by which the institutions manage to develop collaborative relationships. Professional collaboration process management is expected to be the decisive factor in the development of strong collaboration. According to UNESCO report (2000) management includes the following aspects as internal and external interface structures (organization developments, financial management procedures, management of intellectual property, Human recourse management procedures: the status and remuneration of personnel, updating employees' skills and competencies to achieve successful engagement in partnership with business etc. It is clearly stated in the *McKinsey Global Institute study* (2015) that companies and industries are being rapidly transformed by the powerful currents of globalization and technology, and skills are needed are changing rapidly as well. The ability of labour markets to match willing workers rewarding job opportunities has been not breaking down for last years and new mechanisms has been not introduced.

According to Uzienè (2010) regular renewal of the organization applying the latest technology in terms of appreciating competent employees, investing in their skills and knowledge to help them to become successful and responsive to the needs of the modern organization. The European Foundation for Entrepreneurship Research expert Wilson (2008) argues that Europe's universities lack the experience, the courage to get actively involved in collaboration with external companies. This may be affected also by different collaboration objectives' understanding. Attention is drawn to the fact that the understanding of knowledge in industry and education is also different. The industry sector considers information as corporate assets and it is not made public, as it helps to provide the opportunity to compete and to foresee possibilities to gain profit. According to Bruneel, Este and Salter (2009) meanwhile, at universities, by contrast, the researchers are trying to publicize its study outcomes and thus share academic achievement. Successful universities and industry sector collaboration poses a great challenge and different institutional status, and their governing documents and rules of conduct. Universities are constrained by a complex and confusing bureaucratic system, which in some

cases may cause inconvenience, while aiming to ensure the smooth run of the university and industry partnerships. Bureaucratic system and work culture in these two sectors are different. For example, the bureaucratic aspects of the activities of the universities may temporarily stop, while in industry the suspension of certain works is not possible. Also, from the point of view of some enterprises' leaders, the university researchers are focused only on their field of research and they are far removed from real life, and especially the industry world. As an outcome, even the high competence of the researchers remains underestimated, but at the same time, universities in relation to some of the industries are not authoritative and powerful (Kozlinka, 2009). Therefore, in order to ensure smooth collaboration, substantial attention must be paid to the training of university representatives, so as, on the one hand, their knowledge on entrepreneurship could be transferred to learners, providing them with the necessary knowledge, on the other hand, that would be equivalent to a dialogue with industry representatives, analysing their needs, planning for possible joint research, upgrading the qualification of the employees and the like. According to Wilson et al., (2008) entrepreneurship competence may be improved in various ways, such as engaging academic faculty, with no industries' experience, in the engagement in training programmes, to participate in international exchange programmes, to test new communications platforms, using different technologies. In this process the employees and their qualification upgrading aspect are very important, because the success of the development and consolidation of relations with industry depends upon the expertise and skills of employees involved in collaboration with industry process. What is important is that success depends both on the academic faculty as well as from the administrative and technical (support) staff. Only a few universities world-wide have conducted surveys in order to identify the specific competencies required and so as to draw up plans and actions for improvement. According to UNESCO report (2000) the most common experience shows that in the development of relations with industry, personnel selection and development of competencies were rarely based on needs analysis, usually this was done in an ad hoc (i.e. for this purpose) principle. One example is the University of Sao Paulo in Brazil, where training is offered as organization's in-house training programmes for structural interfaces managers' qualification upgrading. It is also an often used strategy when the recruitment of new employees for a specific unit or a specific activity, with particular attention to existing contenders' for the job competences (e.g. work experience in the industry sector, knowledge of the research and development activities in universities, knowledge on intellectual property and so on), the ones relevant to a specific job place (ibid.). However, it is important to realize that the creation of opportunities for improving qualifications may not always be sufficient motivation for employees to get involved in the private industry sector and to implement additional activities.

According to Santoro and Chakrabarti (2002) favourable policies of scientific institutions' centres, a more flexible wage system for intellectual property is one of the options to encourage industries to participate in joint activities with universities as well as to expand the industries and universities collaboration idea. When analysing the influence of motivation of personnel involvement in additional activities an important role is played by the financial resources that may also help the employee become aware that his/her involvement in the joint university and industry activities, and sometimes work in private companies, is being estimated. An example is the Hebrew University of Jerusalem, which has a fully validated procedure, according to which direct perquisites are being paid additionally to the basic salary, in order to reward employees' work and efforts in the implementation and execution of joint projects (ibid.). Depending on the Statute of Personnel the motivating factors may be very different, it may be the possibility to be promoted, and if this option is very complicated due to the organization's internal order documents, then it may be office renovation, the possibility of support for study trips and internships, etc. According to Lam (2010) the changing nature of the relations between academia and business leads to entrepreneurial academics to acquiring predominant position vs traditional academics including fact of personal benefits for academics envisaged. The Communication from the Commission to the European Parliament on a New Partnership for the Modernization of Universities, states that "in order to develop an entrepreneurial culture at universities requires profound changes in university governance and leadership" (Communication from the Commission to the European Parliament, 2009). The Communication also highlights that industry and university relations may be developed through the involvement of industry representatives in the university, for example, lecturing, while the academic faculty should be able to cultivate entrepreneurship. Students and university staff are encouraged to visit the enterprises, show interest in their activities, to draw practical knowledge that would help students to develop the partner enterprises or "spin-offs", which would help the university to disseminate their experience and knowledge to the outside, while maintaining a close relationship with the students, academic faculty and even the established "spin-offs". According to the Communication (2009), the direct exposure of staff experience in the industry world would help them to better understand the changing training and innovation needs. On the contrary – the more substantial participation of corporate representatives in university boards, research agendas, admission panels, curriculum development groups, their involvement in training and quality assurance systems could significantly improve universities' teaching, research and innovation level. Encouraging staff to engage in outside business and carry out activities together with them is essential. However, the above-mentioned financial or material incentives should not be the sole source of motivation. It is important to ensure that the teacher's

role here would be also very important. Some universities in the world do not allow academic faculty to engage in any other external activities, with the exception of those that are being coordinated by the University itself. However, each university should enable academic faculty to spread their knowledge, while alongside gaining practical knowledge of the collaboration with the representatives of certain industry sectors.

A study conducted by D'Este and Perkmann (2010) revealed that there were four main causes, promoting the inclusion of scientists into extra activities, among them, collaboration with business, namely:

- **Commercialization** (commercial development of technology and knowledge),
- **Learning** (enriching the scientific research by acquired knowledge obtained in collaboration with the enterprise; receiving from industry feedback on ongoing investigations),
- **Access to funding** (the possibility of public research funds to supplement the revenues received from the enterprise),
- **Access to relevant sources** (access to enterprises' tools, materials and data needed for the research).

However, it is important to draw attention to the fact that UBC plays a large role in the process and the administrative as well as technical staff to help ensure smooth work, which is not always directly visible. Thus, university policies in respect of the staff involved in the process must be very clear and focused equally to all people, involved in this collaboration process. As already mentioned, aiming at the quality of collaboration and the outcomes, it is important that the employees with the necessary competencies would be involved in the process. They need to know what their role is, what they will get out of it, will they be able to upgrade their skills and so on. Previously the factors motivating scientists to engage in collaborative activities were presented. The other staffs involved in activities was also provided with possibilities to expand and develop relationships, learn from each other, share best practices, advancement in career. It is important that this organization would allow the awareness of benefits, that the staff member feel equally important and would invest in partnerships' establishment. The European Commission's publication "*Joining Forces in a World of Open Innovations: Guidelines for Collaborative Research and Knowledge Transfer Between Science And Industry*" (2009), prepared by the European associations such as EIMA, EUA, EARTO, PROTON EUROPE distinguishes the following aspects that could influence successful staff contribution to the development of partnerships promoting UBC/UIC by Implementation of Learning alongside with research, skills upgrading, creating of the appropriate environment, resolving problems by using IT (European Commission, 2009).

To ensure high quality, harmonious business-higher education collaboration, it is important to pay attention and to ensure consistency between these elements (ibid.): In collaboration enterprises are equally aware of the objectives of collaboration, its importance and benefits. This allows building up a strong collaboration policy, creating communication and activities' plans. It is important that collaboration objectives be geared to the organization's strategic objectives, guaranteeing managers' support to and approval of the implemented activities.

### *5.2. Business staff learning expectations: focussing on online learning*

According to Drucker (1968) the term of “knowledge worker” has been created already in 1968. According Livingstone and Guile (2012) there is no doubt that the technical and social requirements for “knowledge work” has been changed with more emphasis on broader employability skills or interpersonal skills offering employers a convenient way of legitimating their recruitment then large part of potential employees cannot be longer rejected of lacking the appropriate credentials or/and technical expertise.

As Giroux (2002) observes, within neo-liberalism's market driven discourse, corporate culture becomes both the model of good life and the paradigmatic sphere for defining individual success and fulfilment. Learning is a necessary process aiming at organizational goals, ensuring its existence and promoting improvement of activities as becoming more competitive may only those enterprises which, quicker than their competitors, are able to learn and more efficiently, in a focused way apply their sources of knowledge – the employees, also search for innovations for the operational excellence (MacNeil, 2001; Kvedaravičius and Lodienė, 2002). Each enterprise has specific goals and has foreseen direction for developing their activities, while taking into account the competencies defined for a person in one or another position must have. The skills development of those persons is necessary in order to ensure coherent and targeted activities of the organization and the qualifications corresponding to the development needs of the organization. According to Moorhead and Griffin (1998), employee performance effectiveness, results depend on two factors: motivation and competence (Diskienė, Druteikienė and Marčinskas, 2012). *Deloitte's 2015 Global Human capital Trends report (2015)* states, that employees today work more hours and are nearly connected continuously to their jobs by mobile technologies: flexibility, empowerment, development and mobility pay biggest role in company's culture. Technology, globalization and compliance needs continuously add the complexity to the work. Talking about staff training *Global Human capital Trends report (2015)*

as the third most important challenge was named the need to transform and accelerate corporate learning. Staff training needs assessment is an integral part of the activities of each organization, thus each organization must develop a clear training and professional development system that helps to purposefully identify and prioritize targeted learning processes and methods at the same time showing what will be the possibilities for the organization, department or an individual, in case the particular educational or training programme would be implemented. CIPD (2006, p. 4/6) presents the training needs analysis process diagram in Figure 3.

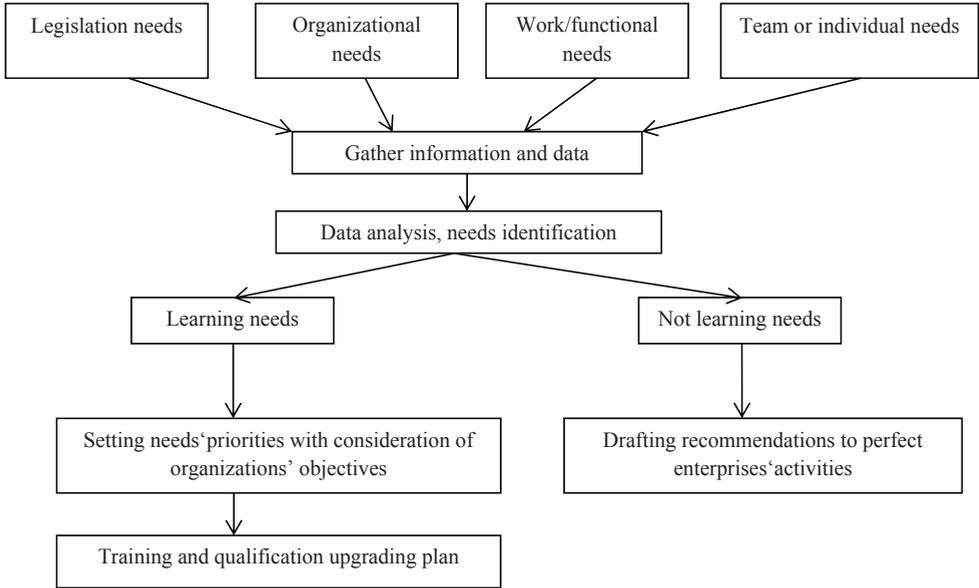


Figure 3. Learning needs analysis process diagram (source: CIPD, 2006, on page 4/6)

The developed scheme distinguishes more detailed, specific competence - oriented needs' levels: legislative, organizational or functional and performance of the team or individual needs. Under the regular monitoring of staff performance, it is important to capture all the information, analyse it in accordance with the current plans and objectives of the organization. The analysis may result in distinguishing two types of needs: the learning and not learning. In the latter case, on the basis of the outcomes obtained the recommendations for industry improvement should be drawn up. Having outlined the learning needs, it is necessary to divide them in a priority order, parallel to responding to the organization's goals. Once this is done, according to the authors, it is possible to develop learning and development plan, for which, in some cases, depending on its structure, the responsible unit is the Personnel department, or the Training and Development

manager (CIPD, 2006). As already mentioned, the training needs analysis should be an integral part of the organization's activities and should be necessarily included into the learning and development strategic plan responsive to the industry mission, vision, values and the industry plan itself. At the same time European policy document *An-in depth analysis of adult learning policies and their effectiveness in Europe* (2015) emphasis six success factors as follows:

- Improved learners' disposition towards learning;
- Increased employers' investment in learning;
- Improved equality of access for all;
- Delivery of learning that meets needs of employers and learners;
- Delivery of high quality adult learning;
- Coordination of an effective lifelong learning policy.

At this point the enterprise's board may take strategic decisions, and strive to ensure that all the learning modules would cover certain areas of the organization, ideas or values. For example, *Royal Mail Company* made a strategic decision that each of the training and learning courses must be supported and should reflect and promote the four core values of the organization. To ensure this, the Training and Development department had to provide evidence of the manner in which each training course/module is tailored to reflect and adapt the organisation's ideas.

According to Stoškus, Beržinskienė (2005) due to the fact that among the major elements of organization's internal order are: human capital (personnel), structure, strategy, objectives, tasks and technologies in preparation to carry out training needs analysis, it is important to assess all these elements, have access to them as well as to reflect on such things as what kind of forces are required for the analysis, what are the industry enterprises' mediator's needs and the expected scope of the analysis. The planning of the staff training needs analysis study, in spite of who will carry out this study, it is important to align the organization's and researcher's interests and expectations. According to CIPD (2006) the researcher, head of personnel or training managers need to know:

- The manner in which the enterprise manages the learning process, what conditions does it provide for staff improvement, does the enterprise itself considers to be a learning organization? Enterprise Head approach to these issues may be crucial also to the learning needs analysis,
- Who determines the learning needs of the enterprise, are they based on the needs of the organization, the most recently confirmed practices or laws?

- What are the training targets - the new employees, employees who were promoted/received increased responsibilities, the ones transferred to other sectors, those at risk of dismissal, managers or all the employees in general?
- Will the aim be to upgrade specific competencies or upgrade their knowledge of the enterprise and so on?
- What funds will be paid for the services rendered?

This information may become and, ideally, should be turned into a reference, while drafting the training and professional development programmes in line with the enterprise's strategy and goals. At this stage, the researcher may face challenges in ensuring that the enterprise's manager is open and that the investigation is not carried out only as just one of the prerequisites needed to be carried out activities, while which are actually focused on employee performance improvement, alongside with the enterprise's competitiveness and growth. Despite the fact that it is not easy to assess and measure employee training process and the outcomes, the continuous and comprehensive analysis of the needs of performance would help to ensure the organization of most targeted activities and learning processes (CIPD, 2006). Application of the appropriate teaching methods could determine the usefulness of the training programmes. The traditional methods of learning are being changed by group teaching methods, the application of which encourages the learners to actively participate in the learning process and working as a team to develop teamwork skills. According to Balvočiūtė, Skunčikienė (2007) in parallel there is a shift from teaching to independent learning, “the importance of which is growing under the increasing competition in the labour market and the emergence of new learning technologies”. In the learning process professor’s role is one of the central. According to Bloomfield good professor is able to achieve three part mission of teaching, research and service taking into account that knowledge is not enough and knowledge is not observable. Talking about academic staff involved in learning for business companies Teresevičienė, Miškinienė and Tamoliūnė (2014) pay attention to academic staff integrating IT into learning process considers organizational and personal motivation factors. Use of a variety of methods may upgrade different competences of its staff, reveal the strengths and weaknesses of staff, teach to work in teams, reflect on their experiences, solve problems, make decisions in problem situations, manage emotions, plan activities, apply new technologies and so on. (Čiegis, Skunčikienė, Rakickas, 2005; Skunčikienė, Balvočiūtė, Balčiūnas, 2007). These methods are being applied according to the precipitating need for one or the other competence to be upgraded, the problems brought up to be decided upon; whether to gain the general skills that are of interest at a given moment. In most cases these needs are being revealed with the new employees, or the

staff changing their position occupied, by extending/changing the specifics of activities, as well as the application of new technologies, applications, and so on.

The staff training needs analysis at the organization may be carried out in two directions: the statutory (external factors) and organizational, i.e. the enterprise's strategy and goals (internal enterprise decisions). The learning needs, which appear with the changed or updated laws and their amendments, are very important, because the staff of any organization should be presented with the updated information about the changes in the law, in one way or otherwise influencing their work. The most common changes in laws take place in health, safety, financial matters, the equal rights and other specialized laws. The training needs analysis in this direction requires diligence, because during the preparation of training modules it is important to assess not only what laws were relevant to that particular moment and the most recent ones, but to ensure that the learning needs analysis is carried out with respect to all employees. The corporate strategy and objectives customization possibilities for staff learning needs are presented in the table below (see Table 7).

*Table 7. Corporate strategy and objectives links with staff training needs (according CIPD, 2006, pages 4/5)*

<b>Business/Industry objectives or potential changes in the enterprise's trends</b>	<b>Possible impact on the available capacity of employees</b>
A computer on every desk	All employees ICT competence/computer literacy
Installing new automation devices	New skills for the production staff
Activities expansion to foreign countries	Foreign language learning
New partners' search	Social employees' skills development

The Table 7 presents industrial enterprise objectives, strategies and directions which must be continuously monitored by those responsible for staff training and professional development programmes, as the goals or priorities may change quickly and often, so the continuous monitoring is important. This type of employee training needs analysis or guidelines predictions for prospective training programmes should become an integral part of the planning process of industry activities.

The learning needs of the workplace/sector level analysis is significant and important in the sense that during this analysis it is important to distinguish in detail certain requirements for the position and function, rather than employed persons' capacity to perform one or another job. Smalskys (2011) argues that learning and qualification upgrading should start from the employee's admission and even earlier and end with his/her dismissal at this level the learning needs related to specific skills development may become evident. If it is likely that the changes in legislative and organizational level are occurring less frequently, it is at this level that the changes (new programmes, technologies, equipment and so on.), depending on the enterprise's

activities, may be very intense and require constant monitoring. One of the possible ways is the analysis of tasks/responsibilities, the analysis that may be adapted to perform four essential criteria, which are: relevance, frequency, danger and severity of the hazards (CIPD, 2006). The CIPD researchers propose that they be evaluated on a five-point scale, where 5 means very important, very common, very dangerous and very difficult. The higher the score, the more likely the tasks/activities are more important for work and training may be required. The low score of the tasks indicates that they should not be included in the priority themes of training/professional development programmes (ibid.).

The last stage should necessarily contain the individual staff training needs analysis. The individual the staff learning needs may be oriented both towards general skills, as well as the special skills improvement. According to Diskienė, Druteikienė, Marčinskas (2012) in order to ensure that employees attain high employee performance, enterprise or department heads or managers should discover the relationship between the person's needs and his/her personal motivation . As an outcome this analysis is broader and more comprehensive than the job place and task analysis. Its outcomes provide a lot of information to the enterprise/department heads, staff and/or the head of training and professional development, because they reveal not only the ability to perform the task, but the system or process areas, risk areas that may affect the process.

As it was mentioned earlier, the staff needs may be focused on learning, as well as on other aspects, so an important role in education and training goes to the head of training and professional development department, who has to distinguish between these needs, but it is more important that the enterprise/department or human resource manager would encourage and allocate funding to promote staff development (CIPD, 2006). In case the leader is able to identify staff training needs, the responsibility for the most relevant and efficient training programme or module lies with the head of the training and professional development department. However, at this stage, depending on the needs of the organization a possibility emerges to involve external experts, able to carry out both the organization and the staff needs investigation, as well as to develop learning modules focusing on specific competencies or skills development.

Bakanauskienė (2002), summarizing and investigations reveals three training strategies usually applied in organizations seeking to maintain high level of qualification of the staff and, at the same time, the enterprise's competitive performance. Both public and private organizations should plan and draft their internal staff training and qualification upgrading systems so as to ensure continuity and sustainability aiming at the organization's competitive power in the external environment. The qualification upgrading, as was mentioned earlier,

requests importantly the use of appropriate learning methods, responding to both employees and managers' needs, without deviating from the organization's goals, values and policies. Smalskys (2011), argues that “within the public sector such methods as job training and education at training institutions, should be more integrated with each other, because it would allow the same staff training and development to turn into a more efficient process. According to Smalskys (2011), higher education institutions and the knowledge conveyed by them are more relevant for today and more reasonable than the practical work of the organization and practical skills. Higher education and industry collaboration in the process would contribute to the long-term industry modernization process.

### *5.3. Academic staff competence vs Academic staff readiness to provide online learning services for business*

For the academic competence development more emphasis need to be done on enhance tailoring learning to the needs of a diverse student body, promoting a greater variety of study modes and better exploiting the potential of ICTs. Introducing incentives for higher education institutions to invest in the continuous professional development of their staff, and reward excellence in teaching. Stimulation the development of entrepreneurial, creative and innovation skills in all disciplines and in all cycles, and promote innovation in higher education through more interactive learning environments and a strengthened knowledge-transfer infrastructure. In addition to the education and research missions of higher education, encourage the further development of third stream activities such as knowledge-sharing and innovation, community engagement, lifelong learning, and relevance to regional and local development. In today's society, with the development of technology's role this collaboration may take place by means of information and computer technologies, i.e., partially or completely at a distance. Thus, in recent years the supply of the qualification upgrading programmes/modules increased, but universities are not actively involved in this service, they still hard accept the changing role of universities in modern society, where the University is not only the developer and provider of scientific research knowledge, but also the prompters of collaboration with industry organizations. The university, in collaboration with industry, unlike the industry sector, may propose and initiate, maintain different ways of collaboration, namely researchers and experts' participation at the enterprise's self-assessment, employee needs analysis process, technology applications, both general and specific competences' development, drafting the in-service training programmes for training and so on. These activities may be developed both by direct contact, as well as by e.learning, depending on the university and the business organization's

openness to innovation. At the same time managers in the business companies should agree that Technological Distinctive Competences (TDC) have a significant value of learning it self. Usage of TDC in business company helps to create positive and innovative learning culture.

According to Volungevičienė et al. (2015) organizations seeking to ensure highly qualified staff and at the same time competitive activities need to assure that staff is qualified and there is a strategic plan for continuing development at the workplace. Talking about faculty competence to provide learning services to business is very important to evaluate ICT role in this process. Today's classroom is not only dynamic a complex, but also has virtual elements becoming more and more integrated. Becoming an effective teacher in this matter it is not enough accumulating of knowledge and skills but also institutional strategy and online learning technics. In this context online is considered as it was named by Conrad (2006) as an access to learning experiences via the use of some technology. Effective teaching performance is much more than a compilation of skills to be integrated into the real life situations first of all and secondly skills need to be internalized enabling them to invent new business strategies. The process of becoming a reflective and effective practitioner cannot be prescribed as it is understood as a personal awareness discovery process. A teacher's *modus operandus* should be solving problems not only enforcing preset standards of operation. The classroom should be a laboratory for purposeful experiment. A practice or procedure is newer permanent. According to Larrivee (2000) new insights, ideas, understandings bring previous decisions up to re-evaluation and consideration to be newly discovered.

According to Dewey (1933), reflecting thinking requires continual evaluation of beliefs, assumptions against existing present reality also against other plausible interpretation of the reality. According to Larrivee (1999), actions are governed by multiple screens (see Figure 4), screens could be considered as a series of interpretive filters; past experiences, beliefs, assumptions, expectations, feelings and mood and personal agendas and aspirations can either serve or to limit or expand the repertoire of responses available to a teacher in any situation.

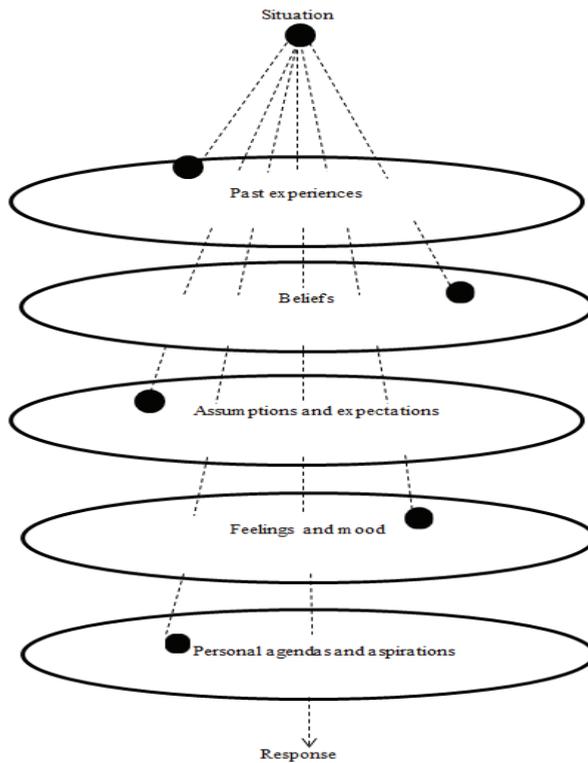


Figure 4. Screening filters: examining learners personal filtering SYSTEM (according Larivee, 1999)

According to Larivee (1999), becoming a reflective practitioner calls teachers to the task of facing deeply-rooted personal attitudes concerning human nature, human potential and human learning related to practical application. In context of university and business cooperation in the field of learning services to be provided this particularly matter very much and plays important role. Business employees expect from teacher knowledge to be applicable to their working duties and not only to their personal development provisions as well.

Over the last years, the landscape and situation for online education has changed dramatically. New and more powerful technologies are creating new opportunities not only to reach wider audiences, but also to offer engaging and impactful qualitative learning experiences. According to Annand HBX faculty chair new digital learning initiatives directly complements to School's mission. Technology serves as a tool for bringing together around the world students, alumni and faculty. Talking about business companies, Reyt and Wiesenfeld (2015) suggest that managers and organizations may benefit from promoting particular mental mindsets among knowledge workers who are responsible for organizational learning activities particulate online

learning. According Ferrari (2012) Digital competence in our days is the requirement and right for everyone in our active digital society. Digital competence covering different competence areas as information management, communication, technical operations etc. Employing creative pedagogies, offering distinctive courses by using new technological platforms becoming one of the strategic choices. Academic staff readiness delivering online learning services for business could be designed in three directions related to pedagogy; technology and university UBC strategy (see Figure 5).

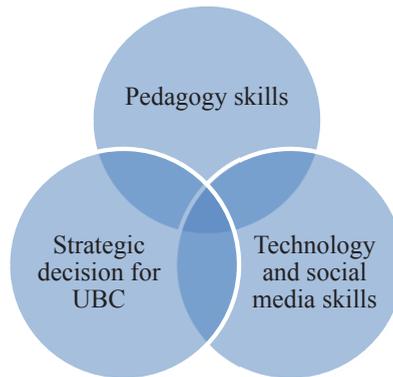


Figure 5. Academic staff readiness to provide online learning for business (according Mercado (2008), Arbaugh and Hwang (2006), Peltier et al., 2007), Boshra (2007))

Commenting all those three factors especial attention need to paid to complexity and integrity of all those factors to be effective in positive outcome.

- *Technology and social media skills.* Technology skills are considered as fundamental, because they enhance the academic staff ability to connect with students.
- *Pedagogy skills.* Pedagogical skills and teaching approach includes student focused learning model.
- *Strategy for UBC.* Strategic university provisions for UBC with collaboration priorities, plans and agendas for mutual benefits.

According to Mercado (2008) attitudes and perceptions of online learning as one component of a readiness which highlights the different mindset required for teaching online. The very interesting insights measuring academic staff e-readiness presented by Boshra (2007) analyzed in three dimensions:

- Competences (technical and pedagogical);
- Experiences;
- Attitudes.

Taking about online services to be prepared and provided to business customer it is very important point out that faculty readiness is an essential part of course preparation process. Readiness include not only course preparation matters, but also support from key university stakeholders as president, provost etc. According to Arbaugh (2004) the most visible changes in MBA student perception of the flexibility, interactions course, software and general satisfaction with Internet. Secondly, learner-instructor interaction is one of the strongest predictors in online learning process (Arbaugh (2000c), (2005d); Arbaugh and Hwang (2006); Peltier et al.,2006). At the same time according to Perreault et al., (2002) AACSB accredited business schools require instructors working in MBA classes to be trained in online and blended business education. Web-based professional support solutions need to be established and used by academic community that's also lifelong learning process. According to Tereseviciene, Volungeviciene, Dauksiene (2011) talking about competences of academic staff to be involved in online learning it should be agreed about new competences needed and also assuming new roles more focused on a facilitator one rather than on a passive transferring of knowledge. At the same time we should take into consideration that digital competences are discussed broadly. Digital competence is the set of knowledge, skills, attitudes, abilities, strategies and awareness that are required when using ICT and digital media to perform tasks; solve problems; communicate, manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning and socializing (Ferrari, 2012, p. 30).

## **6. University–Business Collaboration framework**

According to study *University of the future* (2012) deliberations on future models need to include which customer segments to focus on and what services they need, and the universities' channels to market and role within the value chain. It is very impotent to underline and streamline support functions. Regardless of the path chosen, reform will need to align to the institution's aims and values. Online knowledge sharing has been analyzed by McKinsey Global Institute (2012) defining role of IT products and services enable the formation and operation of online communities, where participants have right and possibility to create or modify content. According to Haas, Criscuolo, George, (2015) at the same time responding to the question why participants choose to respond to problems online at all, - the research based answer could be provided as reputation enhancement, commitment to the community, generalized reciprocity. *In the University of the future* (2012) are pointed out that relationship between industry and Higher education sector is changing and deepening. Industry plays multiply roles: as customer (for

research) as partner (for projects) and increasingly as a competitor. Industry will increasingly compete with universities in lifelong learning/professional programmes for example CFA. Other industry groups may play an increased role as well as certifiers (project managers) and deliverers of company specific content by introducing digital agenda as much as it is possible. Academic staff in UBC plays crucial role as knowledge creator and provider. An is it not so common and known task for academic staff, so according to Laukkanen (2003) some resistance may be based on fears related to academic freedom and ethics, worries about cooperation for commercial application can imply difficulties in publishing. For that reason faculty readiness to deliver online learning services to business becoming more and more an object of complex discussion. *The Survey of Adult Skills (PIAAC)* (2013) states, that European Commission will take measures strongly exploring the potential of digital learning environments within adult. According to Mackeogh and Fox (2009) universities meeting a significant challenge to convince their academic staff to engage with and accept the technology use in their teaching process. Within this process the aspect of staff and their in-service training is very important because it is the employees involved in collaboration with business process expertise and skills depends on the success of development and consolidation of relations with business. The important issue is that this success depends both on the academic staff as well as on administrative and technical (support) staff. Only a few universities world-wide conducted surveys in order to identify the specific competencies required and to draft plans as well as actions for their improvement.

Talking about learning services to be provided for business employees it is important to mention funding. The funds allocated for the implementation of activities should correspond to the learning needs of staff and would be cost effective. Aiming at the most appropriate use of the funds it is necessary to carry out staff training needs analysis, which in all organizations should be a continuous, ongoing process that goes beyond the organization of specific activities, but also the permanent monitoring of the ongoing training and its impact (CIPD, 2006).

The learning needs are usually identified by three levels:

- *Organizational* (the need to upgrade the qualification of the staff in the light of the renewed legal framework, technological changes or substantial organizations' restructuring),
- *Group* (the need to upgrade the qualification of the staff following the changes of requirements, rules, or the emergence of new specifications),
- *Individual* (training provided for the new employees, employees from other sectors, following the changes in work responsibilities, requiring new competencies).

In preparation for creating the University-Business Collaboration model the ways have been assigned to three significant levels:

- The strategical level – socio-economic development on UBC.
- The administrative level – university-business institutional cooperation directions,
- The operational level – academic staff and business staff contribution to UBC on individual basis,

Successful collaboration between the two sides, accessible and relevant applicable knowledge enable to obtain benefits, enterprise's development, while at the same time profit (universities may also “earn” from that), improved mutual relationships. The hypothetical university-business collaboration framework is presented in Figure 4.

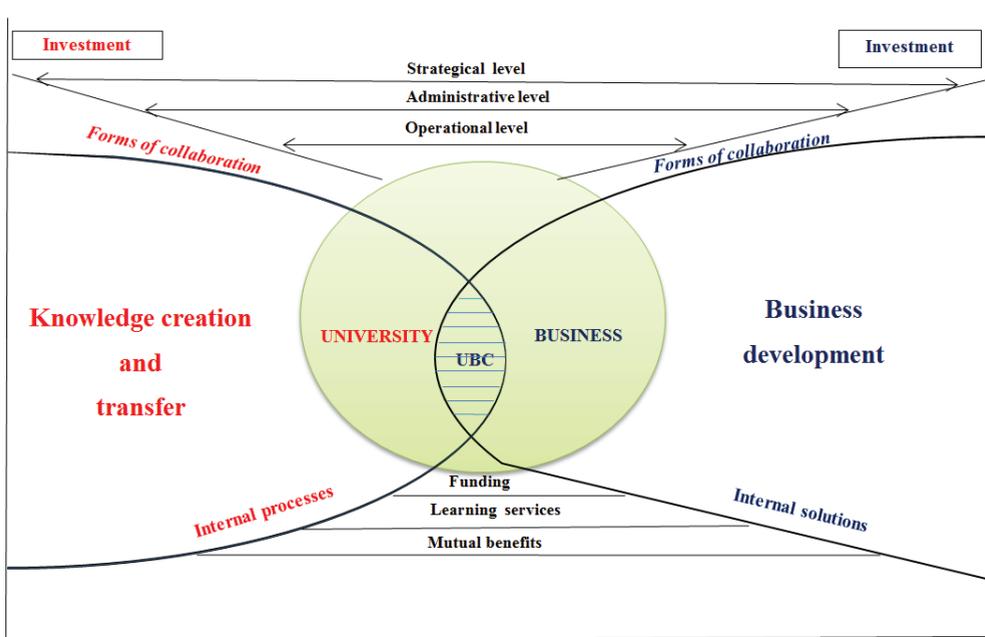


Figure 6. University-Business Collaboration framework

According to Vigdor et al.(UNESCO 2000) the most common experience shows that the development of relations with business, personnel selection and development of competencies are rarely based on needs analysis, usually this is done in an ad hoc (i.e. for this purpose) principle. One example is the University of Sao Paulo in Brazil, where training is offered by in-house training programmes for structural interfaces managers’ qualification upgrading. Also an often used strategy is the recruitment of new staff for a specific unit or a specific activity, with particular attention to existing job competencies of the contenders (e.g., work experience in the industry sector, knowledge of the research and development activities in universities, knowledge

of intellectual property and so on.), which are relevant to a specific job (ibid.). However, it is important to realize that the creation of opportunities for improving qualifications may not always be sufficient motivation for employees to get involved in the private industry sector and implement additional activities. In terms of learning services university brings knowledge creation and transfer to business mission, while business speaks in favour of development. It depends on the collaboration of various forms and ways, one of which is the learning using IT of business staff. According to Pertuze et al (2010) university and business collaboration by itself it is not so important; outcome and impact of collaboration has the real action and value. At the same time Levine and Sun (2002) points out that adopting e-learning in universities raises financial and strategic challenges. According to Chakrabarti (2002) favourable scientific institutions centres' policies implementation, more flexible wage system for intellectual property is one of the options to encourage industries to participate in joint activities with universities and expand industries and universities collaboration idea.

Talking from business companies' perspective according to Hewwit-Dundas (2013) the acquisition of the new technology and knowledge necessary is a reason to use pro-innovation services by Business Company. Different partnerships may be used for different purposes: R&D, LLL, consulting services, etc. The need to learn is judged within the business enterprise by analysing the needs at different levels. The analysis of the impact of motivating academic staff to get involved in additional activities showed that an important role was played by the financial resources that may also help the employee to feel that his/her involvement in the joint university-industry activities, and sometimes work in private companies, was being appreciated. An example of academic staff involvement and motivation in UBC is the Hebrew University of Jerusalem, which has a validated procedure, by which the direct extra pays are paid additionally to the basic salary, in order to reward employees for work and efforts in the implementation and execution of the joint projects (ibid.). Depending on the faculty Statute of the organization the motivating factors may be very different, it may be the possibility to be promoted, and if this option is very complicated due to the organization's internal documents order, it may then be an office renovation, the possibility of support for industry trips and internships, etc.

Communication from the Commission to the European Parliament (2009) on the new partnership for the modernization of universities, states that "in order to develop an entrepreneurial culture at universities the profound changes in university governance and leadership are required". The Communication also highlights that industry and university relations may be developed through the involvement of businessmen in the university, for example, lecturing, while university academic staff should be provided with opportunities to cultivate entrepreneurship. Students and university employees are encouraged to visit the

enterprises, show interest in their activities, draw practical knowledge that would help students to develop the partner companies or spin-offs, which would help the university to disseminate their experience and knowledge to the outside, while maintaining close relationships with students, academic faculty, or even set up by academic faculty “spin” enterprise. According to the European Communication (2009) the direct exposure of university staff experience in the industry world would help them to better understand the changing training and innovation needs. On the contrary - more abundant participation of corporate representatives in university boards, scientific research, admission panels, curriculum development groups, their involvement in training and quality assurance systems could significantly improve universities' teaching, research and innovation level.

The University academic staff providing the training needs should be ready to do it online, as business companies are looking for new knowledge and skills to be applied in business processes. Business companies should look for innovation solutions. As Philipi, Maccari and Cirani (2015) pointed out innovation through UBC has become an alternative for companies seeking to remain competitive contributor to the country's competitiveness. The way in which the university and business company meets such challenges depends on the external and internal processes within the both institutions.

## **2. EMPIRICAL RESEARCH METHODOLOGY OF THE ACADEMIC STAFF READINESS TO PROVIDE ONLINE LEARNING SERVICES IN UBC FRAMEWORK**

### **1. Learning perception through Pragmatism theory supported by Social Constructivism**

Learning is an ongoing process not limited by either time or experience, so Dewey (1997) emphasises interoperability and continuity. So the logical sequence could be as follows: the personal experience and the changing situation make further influence on prospective experience. The fact of continuity is very important for education. Dewey (1933) also made attempt to show the close relationship between theory and practice, because in that way he tried to combine the theory through practice, as knowledge was born out of practice and was designed for practical applications. The practical application is very important, because it leads to learning. Each of the available experience is relevant and important for the further decision-making. The educational process has a number of important components: the learner's experience available, clear language, as well as "teacher's" experience and level of consciousness. For this reason, it created problem-solving methodology containing five logic circuits: Uncertain situation - Problem identification - Hypothesis formulation – Problem solving and conclusions –Consultation/checking.

The Pragmatism school perceived educational process as an integral process, where an important role was played by previous knowledge, skills and experience. For integrity factor curriculum content it was difficult to predict, because the environment encouraged the integration of experiences. However, it must be acknowledged that pragmatism and theory has weak spots and sensitive to criticism aspects. According to Duoblienè (2006) the pragmatic education is the way to attain really valuable and useful outcomes, but at the same time fragmentation, lack of systematic approach may be observed.

Social Constructivism theory according to Jarvis et al, (2003) which states that every person constructs one's own individual understanding, by assessing and interpreting, linking interpretations with one's previous interpretations and experience. According Crewell (2007) Social Constructivism puts the researcher into direction with the goal of research is to rely as much as it is possible on the participants' views of the particular situation and at the same time researcher should make an interpretation from their own experiences and backgrounds. As it is stated in *Towards Social Constuctivism in Preservice Education* (2006) one of the principles

which has been noted there is a need to tailor knowledge to people's lives and social nature of learning itself, pointing inclusiveness and equity in learning. Social Constructivism has main concern and focus on „learning communities“ and knowledge formation created within educational institutions. According to Vygotsky (1978) who explored social constructivism with strong impact of language and culture on learner, not only stressing social factors importance of dialogue with others in knowledge constructions.

In order to clarify the search of logical connection between these two paradigms, probably we should define the learning itself. According to Gedvilienė, Zuzevičiūtė (2007) the learning concept where the learning is understood as a change in the quality of skills, abilities, competencies and attitudes, while the individual is actively performing in the social environment is very suitable for the analysis of business enterprises' learning context.

The development of new concepts and their emergence open up roads for the dialogue of the educator and the learner, their consultation with regards curriculum, assessment methods and other issues. It is a very suitable premise for university-business collaboration, as the provision of the services' content is being developed and created in conjunction by consultation.

As the representatives of neo-pragmatism are increasingly more focused on benefits and the future, thus emerges a distinguished accent – creation of useful future. Hope is examined in different aspects, even romantic hope appears. According to Rorty (1989) constantly emphasizes individual that is to be called to be the strong poet, liberal ironic and romantic intellectual, with the need and desire to be exclusive. According to Rorty (1982) individual alongside has the fear that one is only a copy or replica. Meaningful learning greatly depends on the learner and his/her relationship with the learning context. One of the worthwhile ways of learning is when the problems that are addressed closely relate to real-life situations or even are the real situation, that is, such problems that are completely related to a specific job place and the employee's specific responsibilities. This way of learning increases the motivation, improves understanding that the theory and practice may be closely linked. According to Dewey (1997), pragmatism representative, put forward the idea that the learning environment is one among those by maximum close to the real social environment.

In the development of learning it should be noted that this methodology advocates support to the idea that an adult person cannot be taught and it is not possible to teach one, you may only help him/her learn. According to Dewey (1997), reflective thinking requires continuous evaluation of our expectations, the emergence of new hypotheses, and which should contribute To constructively evaluate the available data and thus avoid future false interpretations. Educator's modus operandi, while applying the problem-based learning should be creation of an experimental, laboratory environment, where the new ideas are being born and the natural

search processes are going on. This means that a continuous renewal takes place through the processes, knowledge and actions, where happens the perfect merger between the basic ideas, experiences, principles and strategic decisions. The disadvantage that may be clearly identified – would be the potential chaos and the inability to cope with the pedagogical situation (a “runaway”). The critical reflection happens to be not only a training method; it is a way of life. The more educators apply this particular method, the more discoveries they will make. The more questions they will have, the more they will have new opportunities.

According to Burbules (2010) the learning method not only changes the person's skills and knowledge, but also gives a whole new world for the future. It is a daunting enough challenge for academic staff because the teachers will face new approach to their study course that needs to contain the latest research, knowledge and also the academic message. The learning requires activeness not only from the academic faculty members but also the students'. The hierarchical relationship between the teacher and student should be completely extinct. The teacher must conceive the learners as personalities and by maximum respond to their needs. If we assume that there is an approved knowledge, their transfer by pragmatism theory, so naturally, there emerge the following questions: Who is transmitting? What is being transmitted? Transmitted to whom? How? In what way? What is the impact?

Returning to the pragmatism and the learning parallels' search we would suggest that the pragmatism and the learning proponents argue that in learning it is necessary to apply the individual integrity of the existing personal experiences and the problem-solving method, as everyone must not only be able to solve one's own problems, but alongside to design future solutions by actively using their personal and social experience. The learning also has a future vector, because in this case the personal experience is integrated together with external expertise, which is based on the relevant evidence.

## 2. Research Design

The methodological assumptions of this research are based on Pragmatism as a general theory supplemented by Social Constructivism theory, with regards to the coherence of theory and practice and attempts to find answers to specific questions of life practice (see Figure 7.).

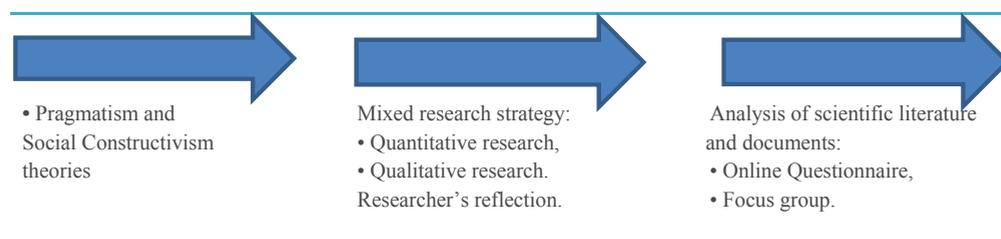


Figure 7. Research design scheme

The philosophical provisions of pragmatism are significant for the emphasis on the socially useful process - University and Business Collaboration, the impact of which is expressed by the chosen forms of interaction. Pragmatism ideas in the dissertation are relevant to justify the applicability of practices and knowledge. Pragmatism ideas are enriched by Social Constructivism. The dissertation research is also based on assumptions for the empirical research design consisted of the analysis of scientific literature, related to the university-business collaboration promotion, academic staff readiness, analysis and reports prepared by EC, EUA, OECD, UNESCO, different countries reports, Business consulting companies as EY, Mckinsey, Deloitte; countries reports, EU projects dedicated to UBC, the review of documents, the scheme of which is presented in Figure 8. Research was conducted in two phases: quantitative research as the first phase; qualitative research as the second phase and researcher's reflection has been done in a parallel way.

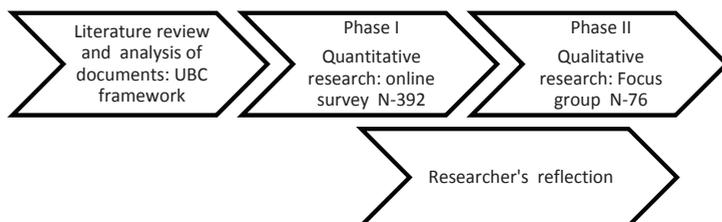


Figure 8. Empirical research scheme

The methodological provisions, on which this research relied, were based on the theory of Pragmatism and Social constructivism. Humans engage with their world and make sense of it based on their historical and social perspectives – we are all born into the world of meaning bestowed upon us by our culture (Creswell, 2008 p. 41). The theory and practice coherence and the attempt to find answers to specific questions of life practice. Dewey (1933) states that “every experience is the driving force”. Dewey (1997) argued that certainly not every experience has developing potential. At the same attention should be paid to the reconstruction of experience, which is both personal and social. Dewey (1997) focuses on problem solving. Problems are being solved on basis of the already available individual experience. The philosophical provisions of pragmatism were significant with the emphasis on the socially useful process - university-business collaboration, the impact of which was expressed via the chosen form of interaction. The pragmatism ideas in dissertation are relevant to justify practices and knowledge applicability. According to Jarvis (2003) the dissertation research is also based on social constructivist theory, which states that every person constructs his/her own individual understanding incurring by assessing and interpreting, linking the interpretations with previous interpretations and experience. The social constructivism theory has been chosen also because the respondents of both surveys were adults, deliberate, active in life of work persons, who directly make decisions on their future careers and perspectives of development. According to Young (2008) the ‘social constructivist’ view of knowledge is implicit in the concept of hybridity has always appealed to radicals as a basis for exposing the vested interests associated with existing boundaries.

The choices are directly influenced by the social environment, that is, the real social and professional world. According to Bryman and Bell (2011) the first meaning might be thought of usefully as constructionism of relation to the social world, the second as social constructivism is relation to the nature of knowledge of the social world (and indeed the natural world). Social constructionism usually is understood as an ontological position in relation with social objects, which are socially constructed. Taking about literature’s role in the research Cooper (1984) suggests that literature reviews can be integrative in which researcher summarize broad themes and literature.

According to Bitinas, Rupšienė and Žydžiūnaitė (2008) the research was based on combining the consistent qualitative and quantitative research strategy. Sequential research - is the research in which the quantitative and qualitative data are being collected sequentially one after the other. Subsequently, the collected data is used with the intention to elaborate, extend or supplement the previously collected data on the basis of the results obtained. The research employs a mixed strategy, which combines different methods to collect both quantitative and

qualitative data. Mix method strategy combines different data in such a way that data collected and analysed with the help of one method would supplement, enrich or verify that data collected and analysed by another method. According to Bitinas (2006) it is concluded that quantitative and qualitative cognition of education phenomena may be interpreted as two methodological paradigms, the application of which is based not on confrontation but rather on a mutual scientific tolerance. According to Creswell (2008) thus, for the mixed methods researcher, pragmatism opens the door to multiple methods, different worldviews, and different assumptions, as well as to different forms of data collection and analysis in the mixed methods research empirical data will be collected using a hybrid sequential exploratory research strategy. The sequential exploratory research strategy means that the investigation will be carried out in two stages, the first method and the results will be the basis for another investigation. According to Creswell (2007), there are three methods of mix research strategy from which we will use: Sequential procedures research, when the quantitative and qualitative data collected sequentially one after the other. Subsequently, observations will be used with the intention to elaborate, extend or supplement previously collected data on the basis of the results obtained. The researcher may start with qualitative methods aiming to perform certain exploratory analysis; then the researcher will apply quantitative methods in order to gather representative data on the population. The researcher may also initiate an investigation by quantitative methods in order to verify theories or hypotheses, and then continue the investigation applying qualitative methods, with a view to a deeper understanding of several cases a more detailed analysis, or the like. In this case this particular solution is taken when the quantitative method is selected and later the qualitative method is added. When choosing the mixed method strategy/mixed methods research strategy it is important to answer some questions according to Creswell (2008):

- What is the sequence of different approaches' application?
- Which approach - quantitative or qualitative - will the priority be given?  
At which stage of investigation the quantitative and qualitative data will be integrated?
- Will the research be based on any dominant theoretical perspective?

This may involve beginning with a qualitative method for exploratory Purposes and following up with a quantitative method with a large sample so that the researcher can generalize results to a population. According to Creswell (2008) alternatively, the research (Table 9): may begin with a quantitative method in which theories or concepts are tested, to be followed by a qualitative method involving detailed exploration, with a few cases or individuals.

Table 9. Aspects to Consider Planning Mixed Design Methods (adapted from Creswell (2008))

Timing	Weighting	Mixing	Theorising
No sequence concurrent	Equal	Integrated	<b>Explicit</b>
Sequential – Qualitative first	Qualitative	Connecting	
Sequential – Quantitative first	Quantitative	Embedding	<b>Implicit</b>

The combination of different methods aims at extracting a fuller picture of the object under study, at getting more detailed information. While combining methodologies the underlying assumption is that looking at the research object from different perspectives it is possible to obtain more reliable data (if by different methodologies collected data are not in conflict with each other or are complementary).

**Quantitative research method** has been chosen for Phase I. According to Jaschik and Lederman (2014) in the study *Inside Higher ED survey of faculty attitudes on technology* conducted by Gallup® Gallup collected 2,799 web surveys from faculty members and 288 surveys from technology administrators. Among others of findings would be interesting to mention those: about one in three professors say they have taught an online course, with some variation across position type. Among those who have never taught an on line course, the three main reasons they give:

- never having been asked,
- not being interested,
- not believe that online teaching have educational value.

Most academic staff do not feel that they have been appropriately involved with decision making surrounding the expansion of online course offerings. Also one finding need to be mentioned that academic staff are reserved about quality of online courses compare to face-to face courses.

In this study questionnaire survey was chosen in order to get the widest possible range of university academic staff's views about their willingness to provide the service to business online. The quantitative research instrument - anonymous online survey. According to Aliaga, Gunderson (2000) this is a method, when the analysis seeks to explain the phenomenon of collecting the figures, the analysis of which is based on mathematical analysis methods. Online survey questionnaire contains the questions entered with the multiple-choice answers and it is

allowed to choose the proper answer(s) or record one's own answer. Such an instrument was chosen deliberately, because the Internet – is one of the prerequisites of measures to implement the online learning.

**Data collection.** The survey was conducted in October – December, 2013. The prepared questionnaire was placed in Google surveys; it was active and available for respondents for 86 days. Invitations to participate in the survey were sent by e-mail, regular mail, using the e-university general mail addresses. After 14 days, having received not a single completed questionnaire, the survey was closed. The invitation was sent repeatedly to the general email addresses and the vice presidents for studies with a request to forward it to their university academic staff. The researcher did not meet with the respondents directly. The duration of filling in the questionnaire was designed for 22 to 42 minutes.

**Survey sample.** This research was designed for university academic staff, the number of which, according to data of the Statistics Department, at universities during school year of 2012-2013, comprised the total of employed 6987 academic staff members. Option for a 5 percent error and taking 95 percent level of confidence, the sample size should be 365 respondents (<http://www.raosoft.com/samplesize.html>). In total 399 questionnaires were filled in, but 7 did not fit for the analysis, so the results were calculated and presented as the results of 392 respondents.

**Sample/participants.** The research involved academic staff from 12 universities of Lithuania (see Table 10). Most of the surveyed teachers were representing the biggest universities in the country: Vytautas Magnus University, M. Romer University, Kaunas University of Technology and Vilnius University. This information is only to demonstrate the scope of the survey. The comparisons for different universities were not carried out. 12 universities participated in online survey. All universities except European Humanitarian University and ISM are public universities.

Table 10. Distribution by universities

University	Number	Percent
Aleksandras Stulginskis University	24	6,12
European Humanitarian University	6	1,53
Šiauliai University	14	3,57
ISM University of management and economics	8	2,04
Kaunas Technology University	48	12,24
Klaipėda University	26	6,63
Lithuanian University of Education Science	30	7,65
M.Romeris University	72	18,37
Vilnius Art Academy	22	5,61
Vilnius Gediminas Technical University	22	5,61
Vilnius University	44	11,22
Vytautas Magnus University	76	19,39
<b>Total</b>	<b>392</b>	<b>100,0</b>

The larger part of the education sector employees are women, and so in this survey, the majority of respondents were women (67.9 percent), and the rest - men (Table 11).

Table 11. Distribution by Gender

Gender	Number	Percent
Woman	266	67,9
Man	126	32,1
<b>Total</b>	<b>392</b>	<b>100,0</b>

The minimal age of the respondents was 26, the maximum - 70, average - 43.68 (standard deviation 10.68), available least work experience - 1, the maximum - 50 years, the average work experience - 18, 34 (standard deviation 10.56). Attention, meanwhile, should be paid to the fact, that almost half of the respondents had considerable experience with online learning: the results indicate that they comprised 45.4 percent (Table 12). But at the same time it is necessary to draw attention to a sufficiently high percentage (38.8 percent) of the respondents who did not have the online learning experience and they did not want to acquire it.

Table 12. Experience in online learning

	Number	Percent
Up to 1 year	62	15,8
More than 1 year	178	45,4
Non experience with online learning; not willing to gain/work	152	38,8
<b>Total</b>	<b>392</b>	<b>100,0</b>

Despite the fact that the greater part of the respondents having the online learning experience (61.2 percent), the online learning experience with businesses or organizations by 78.1 percent do not have any respondents. This demonstrates that the majority of respondents apply the online learning practices solely in their direct work with the students (see Table 13).

*Table 13. Online learning experience working with business organizations*

	<b>Number</b>	<b>Percent</b>
Yes, I do have	32	8,2
I do have, but just fragmentary	54	13,8
I do not have	306	78,1
<b>Total</b>	<b>392</b>	<b>100,0</b>

The respondents who took part in the research essentially reflect the situation at the end of 2013: there were more women working at university with a broad scope of age – the fresh graduates from studies to persons who have reached retirement age, more than half of them have had experience with online learning, but only a small part of them were working with businesses or organizations.

**Research Instrument.** The construction of the online survey questionnaire (see annex 1) was validated and based on the expert judgment (the experts – e.learning expert, the experience of 23 years; representative of business organizations, the experience of 8 years old, a university professor, experience - 32 years) The following evaluation criteria as well as socio-demographic bloc was compiled and consisted of four areas the:

**University and Business forms of collaboration.** Strategic partnerships designed to run for 5-10 years deliver greater and often unexpected benefits to both sides. For the university they provide a longer stream of secure funding that can bolster academic strength. They help modernise teaching and learning by fostering an exchange of ideas and developing people with the skills and competencies needed as new innovations transform markets and industries. Universities are among the external partners for business that offer high quality of knowledge and access to enormous global pool of talents and skills. To leverage value created by university business executives need to consider two key dimensions:

- The first one, time horizon of the collaboration,
- The second dimension is the degree of disclosure of the results of the partnership.

According to Perkmann et al (2013) for crafting the right partnership we should take into consideration that university sector is large and complex, with the wide range of institutions. Some universities are highly skilled in partnering with industrial partners; some of them don't

have any experience or very limited experience on single student project basis. Business managers should also be careful on assessment of the level of collaborative capacity of their potential university partners. This rule is to be valid also for universities selecting industry partners- they should look for the both side capacity balance. There is another issue need to be discussed “who owns the invention?” In most universities the inventions of academics are owned by university. But in some EU countries academics themselves own their inventions. By determining the best model for university and business collaboration in selection the valuable partner managers from business side should carefully assess the nature of potential university to be selected for partnership. In both short run and long run valuable partnership – the relationships should be designed in advance to meet both organisations’ goals.

Social and economic changes forces drive the universities to develop new set of learning environments. According to Pinto and Doucet (2007) universities are forced to starting deliver learning without restrictions on time and geography. With the speedy development of information and communication technology (ICT) tools, the e-learning environment has become more dynamic, flexible and attractive to work professionals who may reluctant to sacrifice their jobs to return to learning. According Ferrari (2012) society beoming more and more digitalized it mean that knowledge, skills and attitutes are needed to be digitally competent are consisting of digital literacy covering: digital literacy, media literacy, information literacy, internet literacy and ICT literacy. The bureaucratic system and work culture in these two sectors are different. Some of the organizations’ leaders consider that university researchers are focused only on their field of research and that they are far removed from real life, in particular from the business world. According to Kozlinka (2009) as a result, even the high competence having researchers remains underestimated, but at the same time, universities are, in the eyes of some of the businesses do not have authority and power. Therefore, in order to ensure smooth collaboration, substantial attention should be paid to the training of university representatives, on the one hand, while their knowledge on entrepreneurship could be transferred to the learners, providing them with the necessary knowledge; on the other hand, in order to have full-fledged dialogue with business representatives, analyse their needs, plan possible united research, improve the competencies of the employees and so on.

**Resources and Quality.** According to Stoškus, Beržinskienės (2005) due to the fact that among the most important elements of the organization's internal orders’ procedures are: human capital (personnel) structure, strategy, objectives, tasks and technology it is important to assess the resources available and their quality. According to Atkins et al., (2007) OER role is seen with strong adaptability aspect of OER’s as future demand with focus of adaptation of open educational materials worldwide- it should be taken into consideration thinking about resources

available. University leadership is vital by designing intensives for university academic staff and providing resources to manage cultural shift that does not undercut basic research but puts a very clear priority for business and university mutual benefit and the significant benefit for society as well. It is very important to recognize, that academic staff members determine the success or failure of university-business partnerships. In order to attract business involvement, universities should have academic staff capable to build and manage relationships. Collaborations could be successful only in case if it is managed by people who can easily cross boundaries by having deep understanding of the two cultures they need to bridge. Universities must to be more open giving people leading positions for those bridging activities to be managed. They need multidisciplinary individuals who could become a mentors or/and “bridge – builders” between university and industry. Universities should create opportunities for academics and organizations executives with shared interest to come together and start developing possible dialogue. Informal exchanges over lectures or seminars, trainings can bring together both sides by sparking professional conversations and it could lead to new relationships. Once the potential business partner is indicated, university should engage with top management.

Academic staff needs to get in contact with the senior level management to discuss strategic issues to be addressed in collaboration. After the partnership has been launched, it is necessary to continue in a productive way; joint executive board should be formed and two ways communication between academics and senior officials need to be done on a regular basis.

**Development Opportunities for University academic staff.** The academic staff members and their training aspect in this process is very important because it is the competence and skills of employees involved in collaboration with business process that the success of development and consolidation of relations with business depends upon. What is important is that success depends both on the academic staff as well as from the administrative and technical (support) employee. Only a handful of universities world-wide have conducted surveys in order to identify the specific competencies required and to draw up plans as well as actions for their improvement. According to UNESCO (2000) report the most common experience is that the development of relations with business, personnel selection and development of competencies are rarely based on needs analysis, usually this is done in an ad hoc (i.e. for this purpose) principle.

**Academic staff readiness to provide online learning services.** Aiming to attain the quality of collaboration and the outcome, it is important to have the involvement of employees with the necessary competencies. They need to precisely know their role, what they will get out of it, in which way will they be able to improve their skills and so on. The factors motivating

scientists to engage in collaborative activities were presented before. The rest of the employees involved in the activities are also provided with possibilities to expand and develop relationships, learn from each other, share best practices, implement their career opportunities. It is important that the organization allows the perception that employees are equally important and that they invest in partnerships' development. The academic staff readiness to deliver online learning services for business could be designed in three directions:

- Connect academic staff members with colleagues and resources,
- Give them understanding of existing university's best practices,
- Help the academic staff members to effectively develop successful courses.

There are three areas need to be discussed: 1) the drivers of change in university; 2) change in pedagogical methods based upon progressive educators; 3) changes in educational models that one of the horizon for higher education itself. Education becoming more and more participant-centred (it is very important when we are talking about lifelong learning (competence based) then students are becoming learners for life, where learning is one long and continuous process. According to Rautenbach (2007) the facilitator is no longer a traditional teacher, but someone who provides knowledge, and a facilitator of learning, is someone who enables learners. Talking about knowledge transfer we should be aware that now we already need to discuss knowledge translation. Knowledge translation is a broader action compare to knowledge transfer having more integrated approach. According to Jonson (2005) knowledge transfer and knowledge translation need to become integral concept and important strategies of providing client-centred, evidence-based practice. It will not stop after the university graduation, but will continue as learners need new skills for career development, job trainings or personal motivation. Those universities and academic staff take the challenge of this change and adapt will have opportunity to reach lifelong learning students as never before – to educate people of all ages to be productive, educated and responsible members of the society. According to Giroux (2002) many educators already use email, networking, and web resources in a very productive way. Academic staff readiness using technologies in the life content of MOOC's plays crucial role in this change. It all begins with embracing change and of course of changing our thinking first of all.

Socio-demographic characteristics in each group of criteria there were formulated from 5 to 14 Likert's scale of claims, which asked to evaluate from 1 - strongly disagree to 5 - completely agree. The possibility to mark the answer 0 - do not know was left open. The fifth block of the scale of assessments consisted of 4 options: 1 - I have to learn it, 2 - I can, but I need professional help, 3 - I can, but I think it is professional's function, 4 - I can carry out by myself.

**The internal consistency** was checked using Cronbach  $\alpha$  value.

The whole questionnaires indicate for Cronbach  $\alpha$  value is 0.949 - high internal consistency index for analysis. Each blocks of criteria Cronbach  $\alpha$ , (Table 14).

Table 14. Cronbach  $\alpha$  of criteria

Criterion	Cronbach $\alpha$
University-business collaboration forms	0,892
Resources and quality	0,879
Academic staff development opportunities	0,871
Academic staff readiness to provide online learning	0,902

The individual scales estimates obtained exceed 0.85 and are suitable for analysis to predict general trends.

**Data analysis** of the results of the questionnaire survey was carried out by the application of corresponding mathematical statistics analysis method, using MS Excel and SPSS (*Statistical Package for Social Sciences*) version 19. Summarizing of the data was carried out using descriptive statistics, parametric, non-parametric criteria. The descriptive statistics was used for data collected to be presented as summaries of frequencies, percentages, calculated averages, as well as presenting the results by graphic diagrams. The nonparametric (Kruskal Wallis) and parametric (ANOVA) criteria were used to compare responses among different groups of respondents (with varying levels of experience with online learning, online education service business). The research applied one of the security measures of Cronbach's alpha, which demonstrates the internal consistency of the scale. In case this value exceeds 0.6, the compatibility must be regarded as sufficient; in case it is between 0.7 and 0.9 - good, and if it exceeds 0.9 - great compatibility.

**Research Ethics.** The respondents with respect to researchers – were anonymous, as not only the instrument itself was anonymous, but the distribution and collection of the information. The quantitative study was carried out in accordance with the ethical principle as presented by Babbie (2004):

*The voluntary consent* to participate in the research was applied. Since the questionnaire was uploaded online, the respondents had the right to decide to participate or not to participate in the research.

*Absence of harm to respondents.* An anonymous questionnaire filled in was followed by the data complement within the data matrix; the respondents did not have any adverse effects on them.

*Anonymity.* The feature of filling in online questionnaires is the impossibility to determine who filled in the questionnaire. This ensures anonymity.

*Confidentiality.* There was no intention to receive personal information about the participants of the research, which could help to reveal the research participant's identity.

*Presentation of complete information on the research.* Details of the research will be presented in the dissertation itself. Objectivity of analysis and of results' presentation. The results will be presented on the basis of the data collected, without distorting them.

**In this study qualitative method** has been chosen for the Phase II. According to Bryman (2008) not all proponents of qualitative research give support for such combination of methodologies in similar studies. Focus Group Methodology was chosen for the Phase II with the purpose to better conceive the participants' connotations and interpretations of a selected group of people to gain better understanding of a specific issue to be discussed by the selected group. According to Parker and Titter (2006) like other qualitative research methods focus groups have a potential to generate unpredictable outcomes. For that reason focus group participants active and open participation is very valuable for the research process. Methodologically, the focus group interviews involved groups of 6 to 8 persons who were coming from similar social, cultural backgrounds. They had similar experiences, expectations and concerns. They were getting together to discuss specific issues with assistance and help of a professional moderator. Moderators engaged them into an active and dynamic discussion for one or two hours. It is very important to point out that focus groups in principle do not aim to reach consensus on the issue discussed. A focus group helps to get a range of responses which provide a greater understanding of opinions, feelings, attitudes, behaviour and perceptions of the group participants. The focus group is not simply a means for obtaining counts of individuals as it is a means to set up personal debates. Debates provide a unique opportunity for researcher to discover the uncovered aspects of understanding of the issue discussed. This method allows getting closer to the "local voices". The interaction between participants substitutes themselves for their exchange with the researcher by giving more prominence to the respondents' points. The strength of the focus group method is that the researcher has great opportunity to appreciate the way the people see their own reality and the way they communicate that.

**Qualitative research** was focussing on what are the business staff expectations from online learning. As in *The State of European University-Business cooperation* (2011) findings for Lithuania Lifelong learning activities among others learning services has been indicated above average – for that reason object of survey was training programmes delivered for business staff including online aspect. Another significant reason for choosing training service with online aspect is finding coming from Phase I indicating experience in consulting and training as

one of significant services provided to business. More and more businesses are moving from traditional metrics such as turnover and revenue now they are looking for employees' engagement, retention and team encouragement. So it means that traditional learning and development doesn't engage younger employees or to bridge the gap between team members and leadership, but by aligning business objectives with the learning needs concentrating on innovative technology and improve learning functions related to the workplace. For that reason it is very important employees' initiative in designing the learning programmes and initiatives using new technology solutions. As employees take responsibility employers must also focus on their team members and the individual needs of single person to move business forward to the success. This means embracing adaptive learning strategies need to be taken into consideration. The key is to develop a plan that works for both business and employee needs in common. The real challenge for online training is converting teaching into learning. There are two ways to turn online training into effective learning: humanise learning and individualise learning. Humanise learning means – feeling a part of a large community by using chatrooms, social media, online instructors support. The core of humanise learning is interactivity: interaction with the content, classmates and instructor. Individualise learning could be seen in the light as every person has different learning styles, so individualised learning allows people to create their own plans, methods and modules to be learned based on their competences. Individualised learning provides value in learning by focusing on learners' competences and personal needs. Online tools can help humanise and individualise learning.

**Data collection.** According to Flick (2011), focus group enables participants during research to go beyond their normal limits and to consider their approaches in other contexts. For situation analysis, to define whether business and universities collaborate, what type of collaboration, the focus group interviews with one foreign-owned telecommunications' company employees' has been invoked. This choice was determined by an investigation carried out in 7 European countries; interviewing more than 400 small and medium organizations' managers-owners were interviewed on aspects of e-learning in their company. According to Admiraal, Lockhorst (2009) generally, both owner-managers and employees show fairly negative attitudes towards the use of technology, e-learning would not be of use in this environment due to its cost, generalised subject matter and inaccessibility. Focus group interviews were organized in coordination with the employee's manager, agreeing on the time and place of the interview. It was asked to allocate from 30 to 60 minutes for an interview (nobody gave agreement to have a longer duration). Later the details were negotiated with the potential research participants. Information was collected during April, 2014, by arriving to the location convenient and agreed upon with the informants. The interviews were recorded, with

the prior consent of the informants; all the informants were presented with the same questions. The interview duration was from 28 to 54 minutes, the average duration comprised 42 minutes.

**Research Sample and Participants.** According to Morgan (1998) each focus group participant should have relation to the topic. The participants were selected with the assistance of the personnel manager, i.e., applying the criteria-based selection. All the participants were requested to have had taken part in training sessions and have had online teaching/learning experience. The “X” international telecommunication company was selected, the one that has had clearly identified the online learning value in their Human recourse development policy. 8 group meetings were organized in groups involving 6-10 employees (a total of 76 employees).

**Research Instrument.** Focus groups were organised with an attempt to receive answers to the following 3 questions including sub-questions:

**Remember the training you really liked most of all.**

- Indicate, please, in which way it was useful for your professional development?
- Indicate, please, in which way it was useful for the efficiency?
- Indicate, please, in which way it was useful for the productivity?

**Remember the training you liked least of all.**

- What was it that you liked least?
- What was causing discomfort?

**Have you ever taken part in training, which has used online tools?**

- What training it was?
- How much do you assess it’s value?

According to the theory analysed, it was attempted to assess the experience of the employees, their readiness and the needs for educational services with regards of both - content and form. The content validity was used as an instrument to ensure the validity. Based on the theoretical insights that collaboration between universities and businesses/industries may take various forms, it has been sought to get information from the informants on the existing forms of collaboration, ways and areas; through successful and unsuccessful experience it was aimed to reveal their expectations.

**Data analysis.** According to Krueger (1994) the context in which comments were made, the extent of comments, the specificity of answers, the main ideas all those factors should be taken into consideration. Freitas et al (1998) pointed out that Focus group has high “face validity” it should be understood that participants tell their perceptions on the topic, which cannot be achieved during other form of data collection. As Krueger and Casey (2009) pointed out that of the different personalities participating in the focus group discussion some more

active or more aggressive personalities may influence process of discussion and group dynamics. The audio materials gathered from the focus groups were transcribed, the transcription was analysed by content analysis method. The texts were analysed sequentially, highlighting the key statements made about the company and university collaboration and making generalizations.

**Research ethics.** There are always some ethical concerns regarding research process itself. According to Parker, Tritter (2006) focus group like other qualitative research methods and techniques has the potential to generate unexpected and unpredictable outcomes both in terms of the data and research process as whole. Researcher, in order to ensure the anonymity and the confidentiality of the survey participants has personally collected the information needed. At the beginning of the research the respondents were familiarized with the research purpose; it was explained that the information collected will be used only for scientific purposes - the respondents were informed about the process of the study, the answers were given to the emerging questions. According to Bitinas, Rupšienė and Žydzūnaitė (2008) the research ethics demands that people should participate in the research exclusively on a voluntary basis. Voluntary principle has been assured, because the research included only those who have agreed to get involved. The research intended to ensure equal conditions during all of the surveys - based on the principle of equivalence. The research participants were assured of their confidentiality: the outcomes of the research are at the exclusive disposal of the author of the work.

**Limitation of the research.** According to Hyden and Bulow (2003) focus groups generate both individual and group level data and it is difficult to disentangle one from the other. According to Krueger (1994) disadvantages compared to other research methods could be named as follows: it is not based on a natural atmosphere; it is not possible to know if the interaction in the group person contemplates himself/herself or not the individual behaviour; it takes demand to assemble the groups. The qualitative research selected telecommunication business organization to take part in, although it cannot reflect the total business sector employees' view, thus by selecting another business sector employees one may predict that the result would be different.

**Researcher's reflection.** As a parallel phase for phase I and II in this survey researcher's reflection is presented. As it was already mentioned researcher is considered as practitioner having own personal of more as ten experience related to UBC scope.

### 3. EMPIRICAL RESEARCH TO DISCLOSE ACADEMIC STAFF AND BUSINESS EMPLOYEES CHARACTERISTICS ON ONLINE LEARNING SERVICES

#### 1. Phase I: Academic staff readiness to provide online learning services to business

The 392 respondents, who took part in the quantitative research, rated their environment (university) conditions and personal competencies that were needed to provide online learning services to business organizations.

**University-Business Collaboration forms.** The opinion analysis of the University employed persons, in relation to the directions in which mainly the collaboration took place the respondents had been presented with six statements.

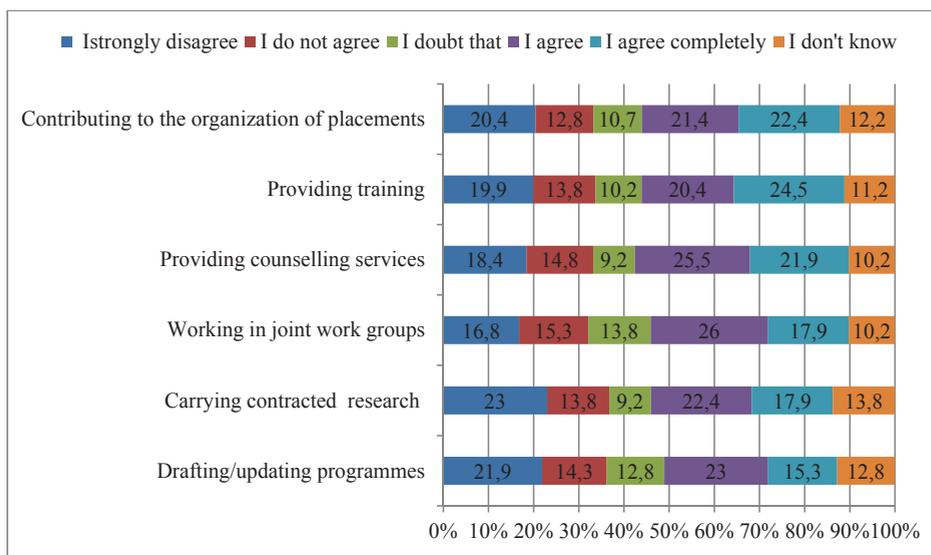


Figure 9. Collaboration between universities and businesses

Collaboration with business organizations and companies in almost all aspects were evaluated in a very similar way. The most common case is to collaborate by providing counselling services, conducting training (see Figure 9). However, execution of the contracted research and joint programmes or their improvement could be smoother. If judging by their experience in the application of online learning the differences were not established, but judging by their experience with business organizations there were significant differences (see Table 15). The differences were insignificant in two cases: the evaluation of the organizations' and universities collaboration in organizing placements, but carrying out the contracted research.

Table 15. Collaboration assessment based on experience with business organizations (Kruskal-Wallis test criteria)

Statement	$\chi^2$	df	P
In developing/upgrading programmes	11,066	2	0,004
In carrying out contracted research	5,903	2	0,052
In working in joint work groups	12,123	2	0,002
In providing counselling services	13,418	2	0,001
In conducting training	10,006	2	0,007
In contributing to the organization of placements	2,579	2	0,275

During the development, upgrading of the curriculum most actively collaborates the of higher education institution academic staff, having most training experience in collaboration with business organizations. (see Figure 10).

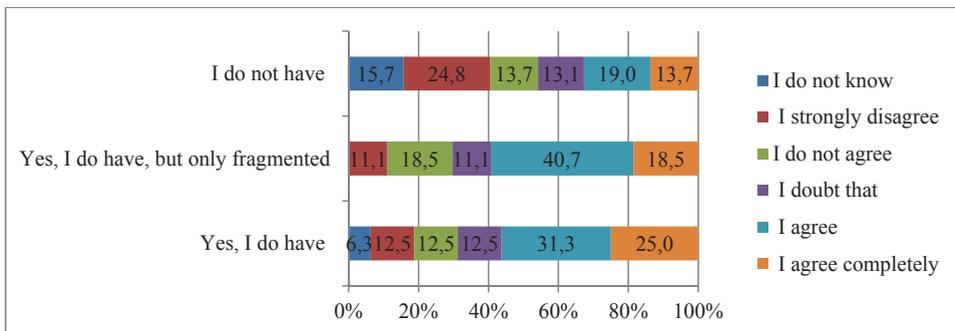


Figure 10. Development/upgrading of curriculum based on experience with business organizations

Those respondents who have more experience of collaboration with the training of business organizations' employee agree at more than one half cases that the higher education institutions have to collaborate with business organizations while developing or upgrading the curriculum meant for training. (see figure 11).

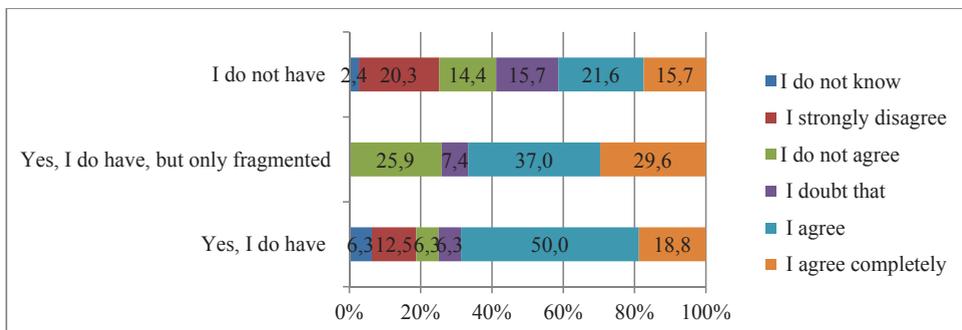


Figure 11. Work in groups by experience with business organizations

Figure 11 demonstrates that respondents who have more experience of collaboration with the training of business organizations tend more often to work with business representatives in joint work groups. Those without experience are less active also in joint work groups.

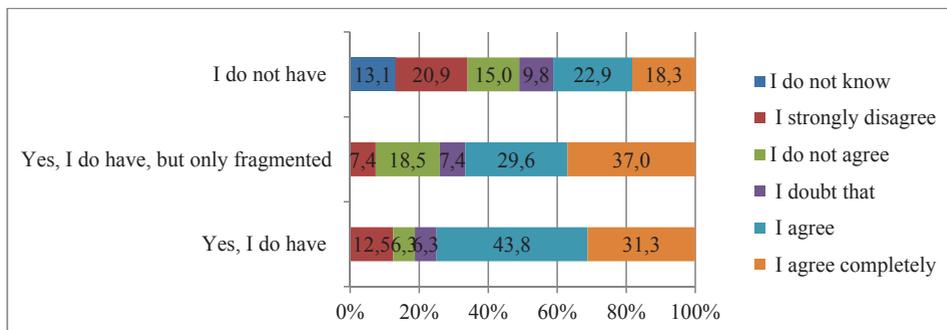


Figure 12. Counselling experience of business organizations

Most of the respondents, who have experience on providing trainings, were much more often engaged in counselling of business organizations (see figure 12). Positive responses were received from more than 70 percent of respondents who taught business organizations' employee and only slightly more than 40 percent of the university academic staff who did not have such experience.

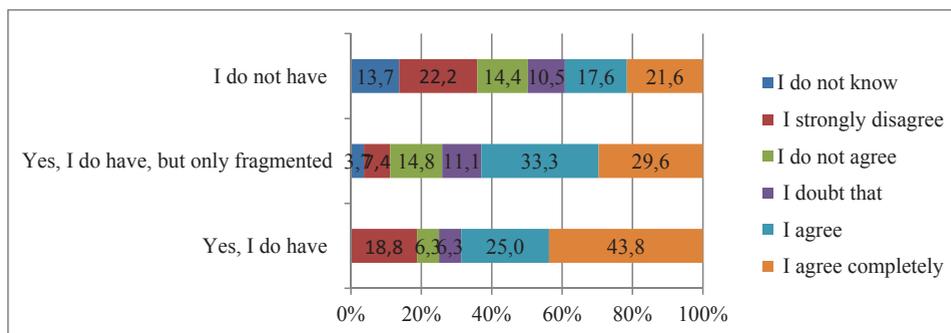


Figure 13. Conducting training for businesses by experience with business organizations

According to the information provided in Figure 13. it can be stated that close to 70 percent of respondents with experience in collaboration with organizations providing them with online education services often also provide other types of training. In other words, the academic staff collaborates in organizing training courses in various forms. Those without experience in online education business, much less often provide any kind of training organizations. Recently the latest trend is to have contacts with business organizations generally realized directly via educational services using IT. The established contacts are important and

often manifest themselves in different ways. Carrying out of contracted research, the organization of placements were misrelated from training, so significant differences were not observed.

**Resources and quality** as one of the most important issues in an online environment has been analyzed by investigating academic staff opinions on 14 related to resources and quality area. Figure 13. demonstrates the answers given „agree“ and „completely agree“.

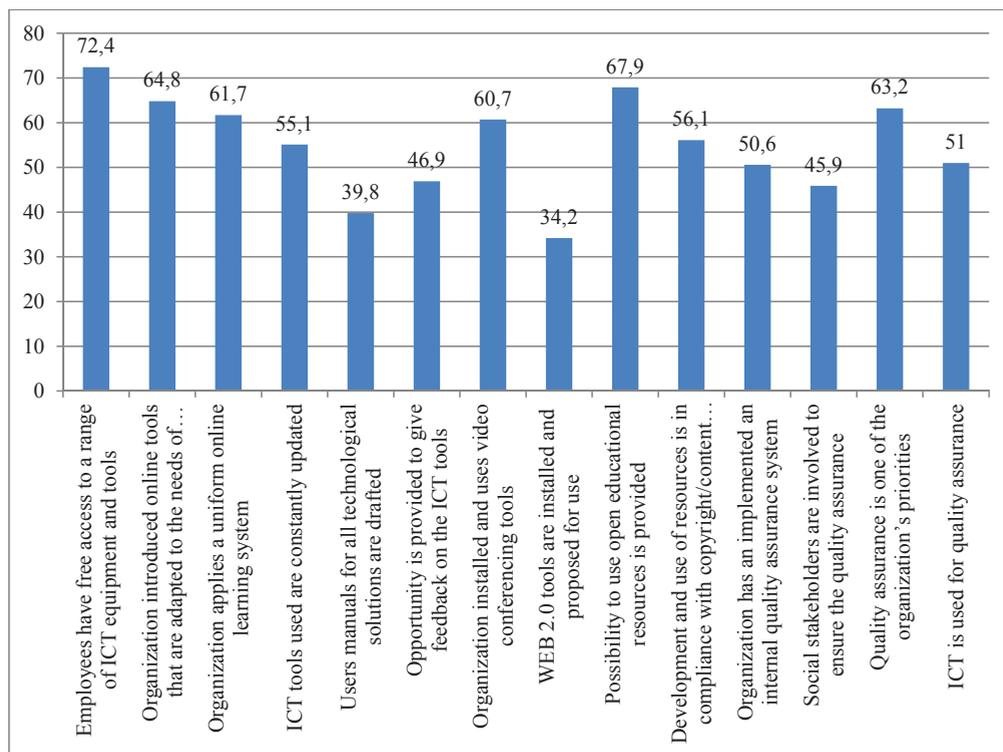


Figure 14. Resources and quality assessment of universities (agree and completely agree)

In relation to the resources available at university, it can be noticed that the teachers argue that the staff have free access to a range of ICT equipment and tools (agree and completely agree comprise 72.4 percent, Figure 13), use the open educational resources (67.9 percent). The lowest number notes that Web 2.0 tools were installed and offered for use (34.2 percent). The results demonstrate that quality assurance in higher education institutions is important and recognizable - summing up the answers agree and completely agree the responses exceed 45 percent, while 63.2 percent identify quality assurance in organization as the priority.

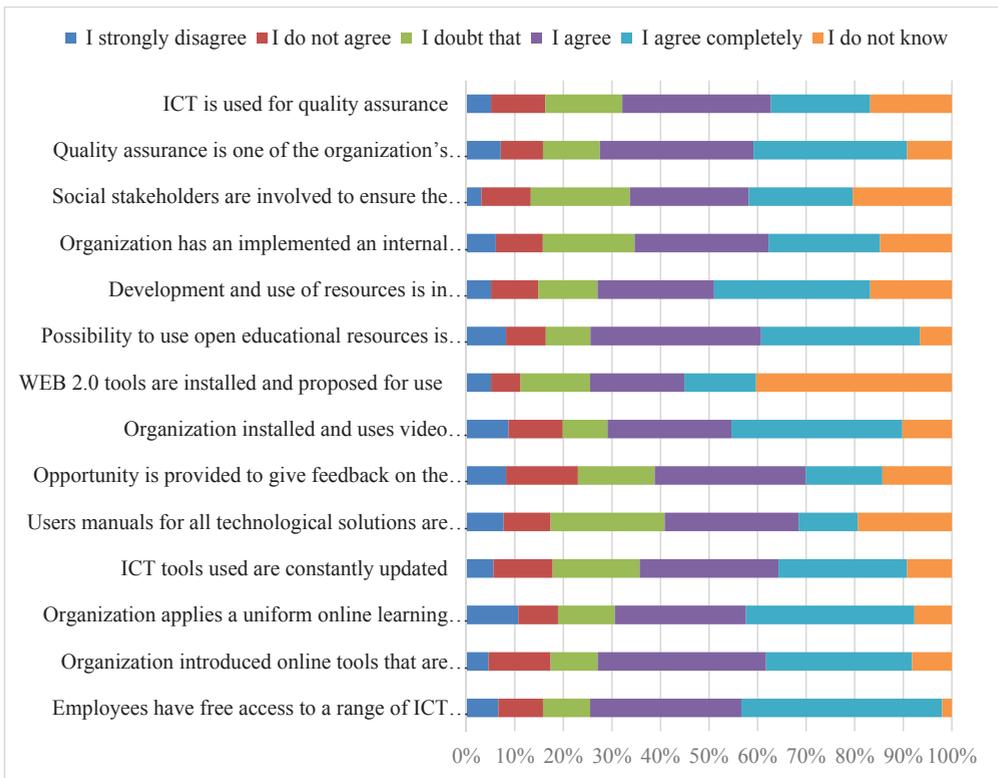


Figure 15. Assessment of resources and quality of universities

It is interesting to note that more than 40 percent of respondents could not say whether their organization did use the Web 2.0 tools. It is possible that the educators were not familiar with this term - most likely, the teaching tools were used. About 20 percent of the study participants indicated, that they did not know whether the user manuals were prepared, or whether the stakeholders were involved in the quality assurance. Almost 70 percent of respondents indicated the possibility to use OER it could be considered as quite high percentage and at the same time it could be understood as academic staff has good access to open educational resources. Nearly 60 percent indicate online tools are adapted to organisational needs – it could be considered also as a good access to online adapted tools in universities. Such a percentage maybe could be explained by another indication of uniform online learning system – almost 60 percent agree on this statement. Analysing quality assurance factors it is evident academic staff is well informed and engaged in this process as daily academic one, so for that reason quality assurance is recognised as institutional priority.

Table 16. Resource evaluation depending on experience working with online learning

Statement	$\chi^2$	Df	P
Employees have free access to a range of ICT equipment and tools	5,211	2	0,074
The organization introduced <i>online</i> tools that are adapted to the organization needs	5,884	2	0,053
The organization applies a single online training system	20,418	2	0,000
ICT tools used are being regularly updated	11,451	2	0,003
There are user manuals prepared for all the technology decisions	14,141	2	0,001
I have the possibility to provide feedback about ICT tools	12,822	2	0,002
The organization has installed and used the video conferencing tools	8,316	2	0,016
The <i>WEB 2.0</i> tools were installed and offered for use	5,184	2	0,075
I use the open educational resources	12,111	2	0,002
The development and use of resources lies in compliance with the copyright/content protection rights	3,584	2	0,167
The organization has implemented the internal quality assurance system	2,723	2	0,256
The social stakeholders are involved to ensure quality	5,352	2	0,069
The quality assurance is one of the organization's priorities	3,644	2	0,162
The ICT are used for quality assurance	5,332	2	0,070

The differences, as evidenced by Kruskal Wallis test results table (Table 16), by the great majority of claims in the case depending on respondents' online education experience. Regardless from the years served, there is assessment of compliance with the copyright, the use of Web 2.0 tools. No differences were identified with regards the assessment of the quality assurance within organization.

However, differences emerge according to their online experience as the academic staff members recognize the online education system used in their organization, the ICT tools used, user manuals, video-conferencing tools, and the use of open education resources.

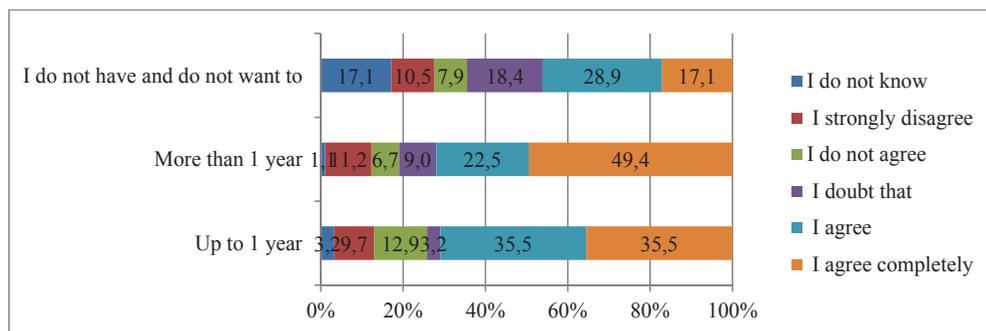


Figure 16. Use of united online education system by experience with online learning

Those, who have more years of working experience with online learning, evidently, better recognise the internal the online education systems (see Figure 16). The ones without experience have just fragmentary knowledge about the online education systems in their organization.

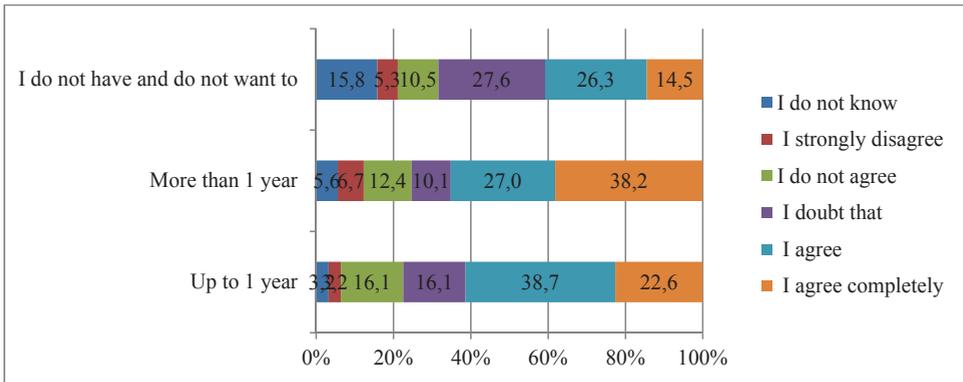


Figure 17. Use of ICT tools by experience with online learning

The academic staff, employees, who by time have longer experience of work with the online learning in more cases, visualize the updated ICT tools; 60 percent of respondents agree with the statement, the respondents having one or more years of work experience with online learning (see Figure 17). Meanwhile, only 30 percent with no online learning record are able to identify changes and more than 15 percent cannot present any answer.

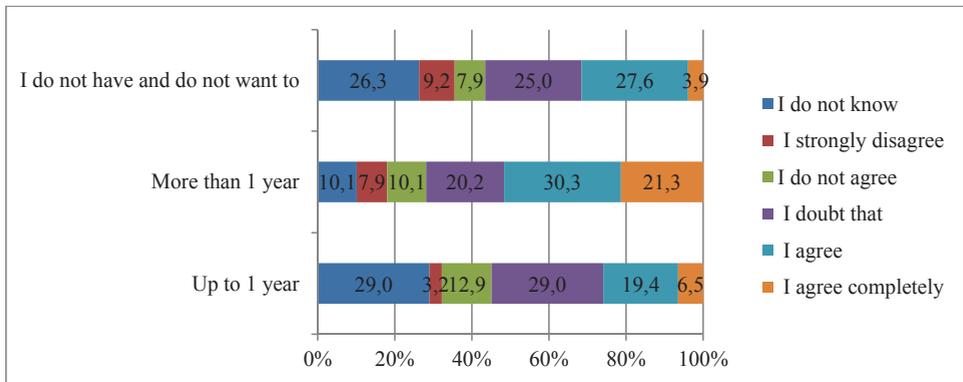


Figure 18. User manual drafting by experience with online learning

In Figure 17 we can see that only those who have more than one year of experience can easily perceive what is the user’s manual about. More than a quarter with little experience or completely with none, the user manual is not recognizable - the respondents indicated the answer “I do not know” (see Figure 18). The positive evaluations are also higher with those having more years of experience.

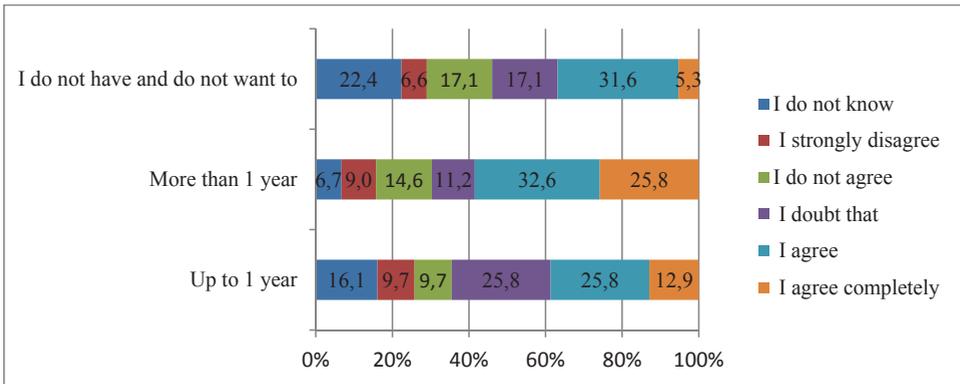


Figure 19. Feedback about ICT assessment by experience with online learning

The results have demonstrated that those with longer experience with online education tend to more actively express their opinions and know how to do it; how to apply the ICT tools (see Figure 19). The less experience (or none) is found, the less active is the feedback.

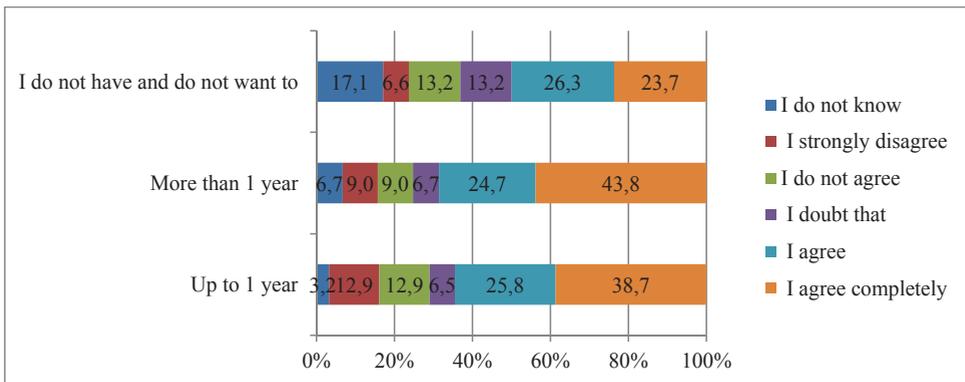


Figure 20. Video conference equipment tools assessment by experience with online learning

The presence of video conferencing tools and its availability for use in higher education institutions cannot be questioned - 50 percent of the respondents, who do not have experience with online education, are aware of the possibility of video conferencing (see Figure 20). Those with the experience in online education present positive assessments exceeding 60 percent. However, a large enough proportion of the respondents, who do not have any experience, know about the video conferencing options - as indicated by 17.1 percent of the survey respondents.

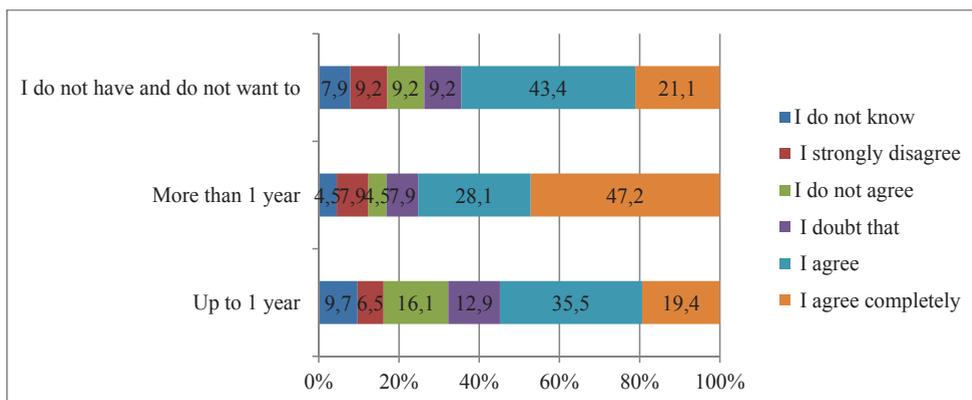


Figure 21. Use of open educational resources by experience with online learning

The use of open educational resources most favourably is assessed by the academic staff having more than one year experience (see Figure 21). It is interesting to note, that those having no experience with online education are a bit more favourable about the open educational resources, which they also use more. The comparison of differences by a variations of experience within collaboration with business, there were no statistically significant differences identified.

**Academic Staff Development Opportunities** has been analysed in the first twelve blocks of questions we aimed at the assessment of development possibilities for university, HE institutions’ academic staff who would help to provide high quality training services to business online. Figure 22 demonstrates the estimates of the answers as the sum of responses “agree” and “completely agree”.

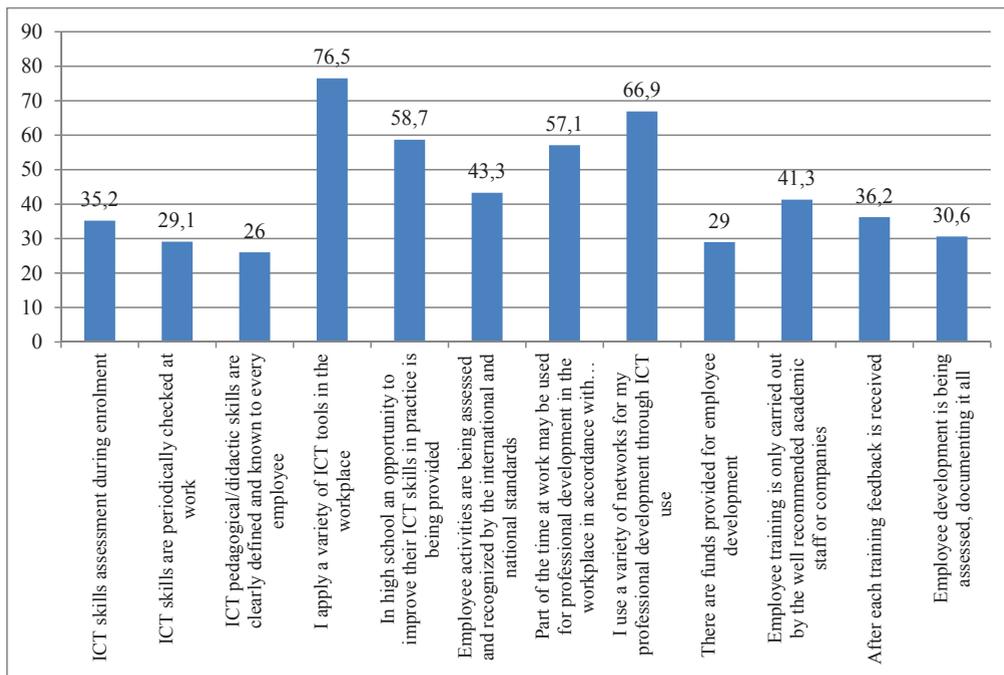


Figure 22. University academic staff' development possibilities (agree and completely agree)

The assessment of employee development at universities shows that the academic staff most clearly and positively assessed the availability of different networks and a variety of ICT at their workplace (correspondingly by 66.9 percent and 76.5 percent). However, a significant proportion of academic staff indicates that their ICT skills at work were not regularly checked or clearly defined. It was also only 29 percent of respondents who indicated that there were funds allocated especially for employee development. Only 26 percent of respondents indicated that the pedagogical/didactic competencies were clearly defined and known to every employee. This demonstrates that clear and precise requirements were not defined.

While analysing the answers to this block of statements, it should be noted that in some cases more than 10 percent of respondents could not, failed to assess some of the statements.

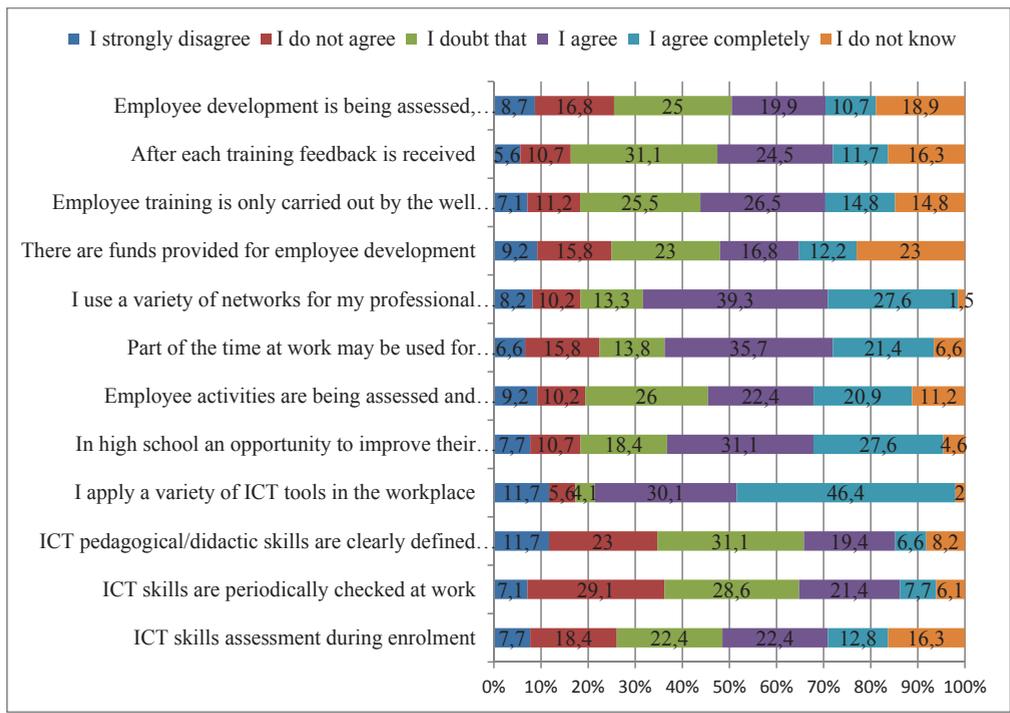


Figure 23. University academic staff development possibilities

The respondents considered the statement on funding for employee development to be most equivocal (23 percent, see Figure 23). Also, the respondents could not clearly answer whether the employee development could be evidenced in documents (18.9 percent). The analysis on whether there were differences between those who have different experience with online education and the employee development possibilities within organization, has disclosed while applying Kruskal-Wallis test. It was established that significant differences were related to only one statement: *At higher educational institution the possibilities are provided to upgrade the ICT skills in practice.* ( $\chi^2 = 10,728$ ,  $df = 2$ ,  $p = 0.005$ ). Most possibilities for improvement were seen by those with the greatest experience. The ones who did not want to upgrade their ICT skills were most doubtful among all the groups or have chosen the answer “I do not know” (see Figure 24).

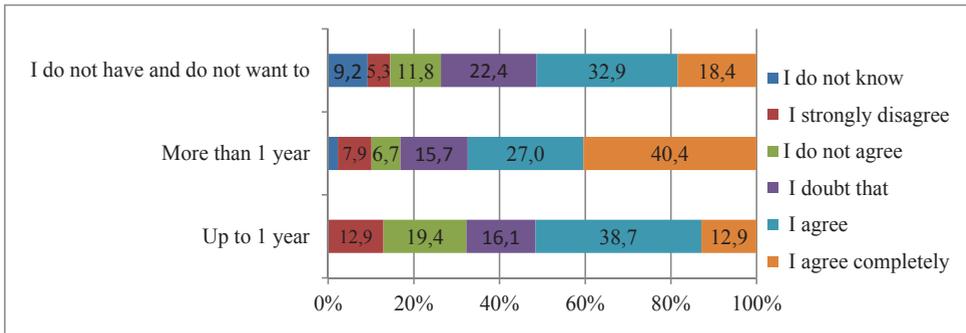


Figure 24. Possibility to upgrade ICT skills in practice (percent) by the experience in online learning activities

The results were different with varying levels of experience with business organizations in assessing the statement ICT pedagogical/didactic competencies are clearly defined and known to every employee ( $\chi^2 = 9.158$ ,  $df = 2$ ,  $p = 0.010$ , see Figure 25). Those who have more experience of work with business organizations clearly recognize the pedagogical/didactic skills, are able to define them as well as recognize. In other cases, the differences were not statistically significant.

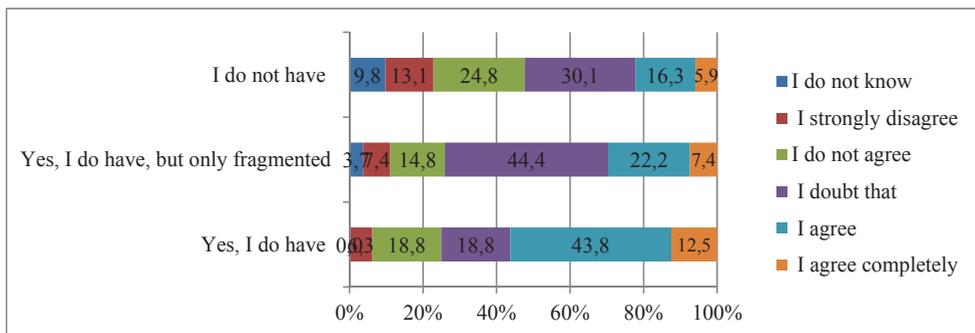


Figure 25. ICT pedagogical/didactic competencies in accordance with the experience of work with businesses

**Academic staff competence to provide online learning** has been analysed in more explicit and detailed way, paying more attention to academic staff ability to plan, design and administer the online course and ability to use the online tools needed for learning process. Most study participants were successful in assessing the progress and achievements, to use discussion and chat forums; but the least proficient is the users' administration and the connection as well as reading, moderation and responding to questions during the video conferences (see Figure 26). Applying the chi-square test it was established that the assessment of their skills differed statistically significantly among those having different experience of work with online education ( $p = 0.000 < 0.05$  for all competences assessment, see Figure 26).

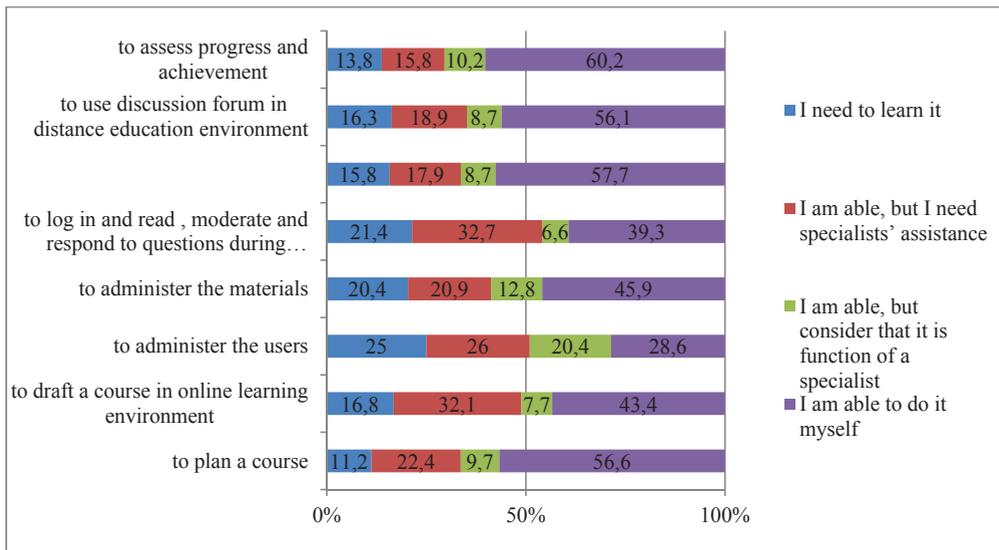


Figure 26. Academic staff' ability to provide online learning

Analysing academic staff ability to provide online learning it is very important to consider specific actions as readiness to plan, design, deliver and assess online course (Table 17). In planning, designing and assessing the course respondents having more than 1 year experiences are leading. Attention should be given to the group of “I have none and do not want” those respondents indicate need to learn and need of specialists’ assistance – this indication could be considered as possibility to academic staff be better involved in online course development progress.

Table 17. Academic staff ability to provide online course

Course design and delivery		I am able to do it myself	I am able, but consider that it is function of a specialist	I am able, but I need specialists' assistance	I need to learn it
To plan a course ( $\chi^2=28,781, df=6, p=0,000 <0,05$ )	More than 1 year (N=89)	71,9%	6,7%	18,0%	3,4%
	Up to 1 year (N=31)	58,1%	9,7%	29,0%	3,2%
	I have none and do not want (N=76)	38,2%	13,2%	25,0%	23,7%
To design a course in the online environment ( $\chi^2=61,602, df=6, p=0,000 <0,05$ )	More than 1 year	65,2%	7,9%	24,7%	2,2%
	Up to 1 year	51,6%	6,5%	35,5%	6,5%
	I have none and do not want	14,5%	7,9%	39,5%	38,2%
To assess progress and achievement ( $\chi^2=29,928, df=6, p=0,000 <0,05$ )	More than 1 year	76,4%	10,1%	10,1%	3,4%
	Up to 1 year	61,3%	3,2%	22,6%	12,9%
	I have none and do not want	40,8%	13,2%	19,7%	26,3%

As it was observed the importance of online environment in providing online learning services, the use of online tools is one of significant components. In use of online tools situation is more or less similar as in previous course planning and designing stage. Those questions are focussing on technical/practical skills. More successful part of respondents using online tools again are respondents having experience, but nevertheless this group also indicates “need to learn”, by demonstrating ongoing and updating process. At the same time it is interesting to point out, that those “I do not have and do not want” have also indicated that around 30 percent are able to use online tools. The highest percentage of all respondents groups has been indicated for the ability to use chat forums ( Table 18).

Table 18. Academic staff ability to use online tools

Use of online tools		I am able to do it myself	I am able, but consider that it is function of a specialist	I am able, but I need specialists' assistance	I need to learn it
To log on and read, moderate and respond to questions during video conferences ( $\chi^2=20,900$ , $df=6$ , $p=0,002 <0,05$ )	More than 1 year	52,8%	7,9%	24,7%	14,6%
	Up to 1 year	38,7%	0%	45,2%	16,1%
	I have none and do not want	23,7%	7,9%	36,8%	31,6%
To use chat forums ( $\chi^2=36,288$ , $df=6$ , $p=0,000 <0,05$ )	More than 1 year	76,4%	9,0%	7,9%	6,7%
	Up to 1 year	54,8%		32,3%	12,9%
	I have none and do not want	36,8%	11,8%	23,7%	27,6%
To use discussion forums in the online education environment ( $\chi^2=49,184$ , $df=6$ , $p=0,000 <0,05$ )	More than 1 year	78,7%	10,1%	5,6%	5,6%
	Up to 1 year	54,8%	0%	29,0%	16,1%
	I have none and do not want	30,3%	10,5%	30,3%	28,9%

Providing online learning pedagogical, technical and administrative skills are needed as a complexity. The situation with administrative ability of academic staff is as follows: experienced group of respondents having “more than 1 year” and “up to 1 year” indicated significant need of “need to learn” and “need of specialists’ assistance”. For those who are under “I have none and do not want” demand for assistance and learning need is considerably high. The shortage of ability could be observed in action “to administer the material”. Situation for action “to administer the users” in all three respondent groups are differ: the highest request almost 73 percent for “I need to learn” and need of assistance was indicated by respondents “ I have none and do not want”. This indication shows that administrative abilities are missing (Table 19)

Table 19. Academic staff administrative abilities to provide online learning

Administrative abilities		I am able to do it myself	I am able, but consider that it is function of a specialist	I am able, but I need specialists' assistance	I need to learn it
To administer the users ( $\chi^2=30,122$ , $df=6$ , $p=0,000 <0,05$ )	More than 1 year	40,4%	25,8%	19,1%	14,6%
	Up to 1 year	35,5%	16,1%	32,3%	16,1%
	I have none and do not want	11,8%	15,8%	31,6%	40,8%
To administer the materials ( $\chi^2=31,113$ , $df=6$ , $p=0,000 <0,05$ )	More than 1 year	60,7%	13,5%	16,9%	9,0%
	Up to 1 year	54,8%	6,5%	25,8%	12,9%
	I have none and do not want	25,0%	14,5%	23,7%	36,8%

It is important that those without experience in online education usually show a desire to learn something new and not familiar to them. The specialists usually want to transfer only the user management (from 15.8 to 25.8 percent).

It is interesting to note that men and women were of different opinions while assessing the course development in the online education environment ( $\chi^2 = 8.315$ ,  $df = 3$ ,  $p = 0.040 <0.05$ ), video conference moderation ( $\chi^2 = 10.189$ ,  $df = 3$ ,  $p = 0.017 <0.05$ ), the use of real-time (online) chat forum ( $\chi^2 = 8.228$ ,  $df = 3$ ,  $p = 0.042 <0.05$ ), discussion forums ( $\chi^2 = 15.984$ ,  $df = 3$ ,  $p = 0.001 <0.05$ ) as well as progress and achievement assessment ( $\chi^2 = 8561$ ,  $df = 3$ ,  $p = 0.036 <0.05$ ). For men it is easier to manage technology.

The study not confirmed that for the younger academic staff members it was easier to handle online learning, so it means there is no correlation between age and online learning delivery. In all cases the statistically significant differences by age were not observed (all  $p > 0.05$ ). No significant differences were found in comparisons by their working experience.

*The respondents were requested to name the advantages of online learning, among which they have usually indicated the following:*

- time convenience (122 responses),
- location convenience (106 responses),
- autonomy of education development (56 responses),
- variety of possibilities for material presentation (44 responses).

*As negative aspects the following were mentioned:*

- absence of direct contact (76 responses),
- learning process was more time consuming (24 responses),
- problems related to IT use (16 responses).

The online learning was favourably assessed by those having more experience with online learning. In summary it can be stated that online learning is attractive because of the possibility,

on the one hand, to freely choose learning time, place, possibilities to learn in a self-directed way, but, on the other hand, it is also causing problems, such as lack of direct contact, longer duration the learning takes place, or even have problems in use of technologies.

The academic staff' experience with online learning is one of the decisive factors which determine how well they are doing in training with the application of didactic aspects. Those who have more substantial experience perform better. The survey has revealed that online learning was mastered better by men. In order to assess which criteria were demonstrating the readiness of Lithuanian universities to use online learning services best, and the ones in need of improvement, the indices of blocks were counted (index expressed in average).

Comparing the indices obtained on blocked data ANOVA demonstrated that differences were statistically significant ( $F = 11,914$ ,  $df = \check{c}.457$ ,  $p = 0.000$ , see Figure 27).

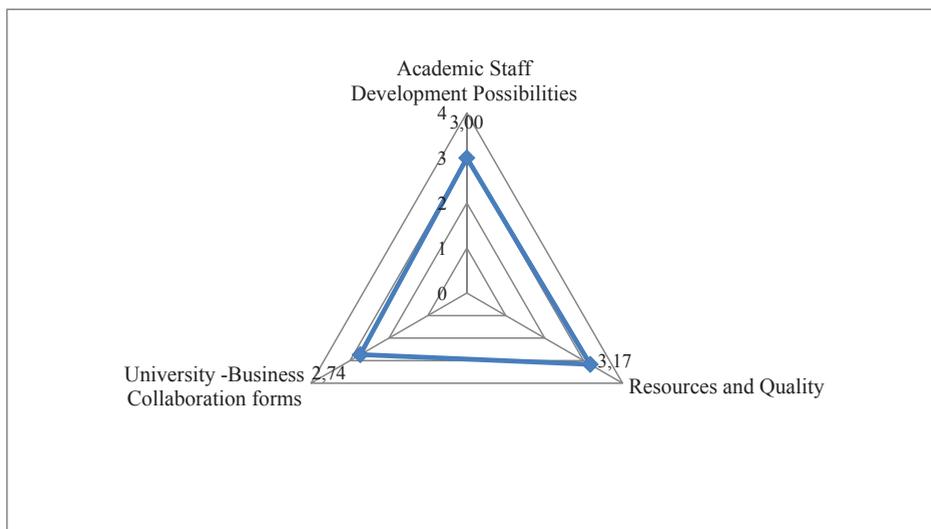


Figure 27. Comparison of aspects for UBC

The results demonstrate that the worst estimates given by universities academic staff lie to the collaboration with business organizations. The highest estimates were given to the resources available and quality. This indicates that the options available are not sufficiently exploited in providing a range of services to business, including lifelong learning activities, online training.

The quantitative results of the study have demonstrated that the higher education institutions have got enough resources assessed well by academic staff themselves; the aim is to achieve the high quality of their use by academic staff members. However, only teachers working in the field of online learning, who have gained greater experience, are able to identify those resources and apply them properly in practice. Collaboration between universities and

business is going on in different directions, but it is evident that the active academic staff members have accumulated more experience in online learning for business they get involved into a wider range of collaboration activities. The online learning is viewed more positively by those already experienced in provision of this kind of learning for business.

## **2.Phase II: Business employees' expectations from university academic staff providing learning services'**

Talking about skills and knowledge to be used in work place experience by professional business consultants should be remembered according to Alveson (1993); Fincham and Clark (2002) for a long time questions have been raised about what consultants could offer to clients, and criticism has been growing ever since. So it means that delivery of trainings, consultations to business client is real challenge not only for academic staff, but for professional business consultants as well. Business consultants facing not only those problems, but from their experience according to Wallace and Wolf (1991) based on conflict theory perspective, individuals will fight for their own interests – and such a power is at the heart of all social relations. It means social relations establishment plays one of the general roles is consulting process.

A substantial share of the survey participants has had various online learning experiences. Upon request to identify the training liked most, the one that has left the impression, the first and foremost distinction by the participants during the discussions was the role of personality of the trainer. Discussion participants pointed out that the strong personalities who were leading training have left a good, deep impression (see Table 20). Most remembered were the trainings during which the acquired knowledge could be put into practice; the ones when trainings were immediate and giving the benefits to the skills and knowledge could be use at the work place

Table 20. Most favourable trainings by category

Category	Subcategory	Opinion
Teacher's personality	Teacher's experience	Valuable academic staff' experience and knowledge.
		People knew their subject well, clearly and simply presented in a clear way and the overall consultation was afterwards with the help of computer.
	Teacher's personality	Very understandable ,clear specific, strict teacher
		That was a very impressive teacher. He not only speaks about the topic, but after all is a charismatic personality, what is very attractive, also the presentation of the content.
		Interesting in conversation, delivery, thus the course was interesting.
Teacher's importance	The teacher, a very charismatic personality.	
Practical application	Numerous practical assignments	The person, providing the training, affects more than by 50%
		Little theory, a lot of practice. A lot of practical assignments. Very briefly presented theory.
		Theory must be absolutely very little
		I liked when we had to act, do something, not only to listen to
	Application at work	More psychological training with practical assignments
Training format	Discussion format	When afterwards one could adapt all that at work, even a questionnaire has been composed on how to work, all teak because it was adapted to our work questionnaire, how to work, was suitable to all, because it was adapted to our work.
		The training has continuity, the monitoring remains.
	Using technology	I liked the discussion format, when it was possible to discuss after the lecture
		It should be a discussion, the training should be interactive
		I like when the technologies are being used
		When during lectures the knowledge is being checked electronically
	Diverse presentation of information	It was filmed there on the spot, immediately it was specified in detail what I did wrong, or I was doing wrong. Even the gestures were analysed.
		I love direct training in the sense when you see the person, communicate directly
		It was the first encounter with online education, what I liked there it was that one can adapt very much to one's schedule, when you can listen to, read
	Collaborative learning	Work in groups
Concrete knowledge and, let's say, division according to the level. Differentiation of training to the relevant groups of people		
Collaborative learning always gives the greatest benefits		
Communication		In small groups is most important
		For those starting, at the beginning the internal training was held, it laid grounds for further work: communication with people, sales, etc.

Most often study participants emphasized the teacher's personality, its importance to training. The participants of 7 groups have emphasised the role of personality of the trainer. The informants reported that the strong personalities at trainings have left a good, deep impression.

(“It's a very impressive teacher, he is a charismatic personality, it attracted very much”: “The person who delivers the training - his impact influenced for more than 50%”; ”A very understandable, specific, strict teacher”).

7 out of 8 group discussions' participants have distinguished the practical applicability. The analysis of the learning needs of the informants revealed their desire to learn less theory and more practice, especially when it can later be adapted at their work. The informants noted that most remembered trainings were those through which the acquired knowledge could be put into practice; when the training was immediate; and when the benefits were gained. The very theme of the training was also an important issue. One would like to have urgent, interesting learning topic. In addition, the informants tended to learn from best practice examples. (“Liked most those which have contained more practical assignments”, “The most important thing was a sufficient amount of practice”, “When the real practical examples were presented”; “It was useful only in case one learns to apply the acquired knowledge in practice”).

6 participants of focus groups emphasized the necessity of a friendly learning environment, the presence of the user-friendly interface, graphical icons. It is very important that the learning environment would be functional, universal – so that it would be possible to use a variety of mobile devices, a variety of different operational systems. It is important for the informants to stop the lecture, while learning, to go back and repeat it. The focus group participants stated that “I would like that there would be a range of measures that we could use while learning in different environments, such as machinery”, “simplicity and minimalism, avoiding too much detail and so that it does not distract, and that the structure would be very clear”, “that it would be intuitive management to ensure a clear understanding of what to click, where to click”, “so that the environment would be user-friendly, to contain some sort of reminders with light stops, returning back, the possibility to whenever repeat, so that we could make inquiries online”. The teaching materials as such, in the respondents' opinion, should not be complicated.

4 focus groups informants expressed a wish to have the learning materials presented in various formats: text, video, audio. The informants stated that it was important to “explanations containing the drawings, the forms, not just plain black text on a white sheet, the schemes”: “the same computing and writings written, video and in other formats”.

The further discussion results allow presuming that the integrated student learning needs interface with the motivation criteria were also disclosed during the group discussions, as suggested by Laužackas (2001). During the group discussions, the most pronounced criteria were those of social links, personal achievement, and external expectations, motivational. As the interviews took place in the workplaces, generally mostly emphasized was the pursuit of

professional development. The discussion participants stated that it was important to strive to become the best specialist in their field, while allocating even one’s personal time to company’s goals.

In case when the informants were asked to remember the training they most disliked give answers questions on what the most disliked and what was causing the discomfort, there was disclosed a negative attitude towards the incompetent academic staff members, the not properly prepared training materials, the inadequate training environment and so on.

Even 6 focus groups disliked the generally incompetent academic staff members’ delivered training, when the audience were familiar with the situation much better than the teacher; the audience-proof teachers. The training was not interesting if the teacher failed to control the audience. It is also boring to have the same academic staff delivering the courses year by year. In informants’ opinion, the external training was more beneficial, because teachers were much more professional. (“Boring, slow pace teacher”, “It was not possible to discuss with him, the inappropriate language, she used a lot of slang, numerous English expressions; speech was viscous; it was hard to listen to her; this was annoying”; “Lack of communication, lack of understanding between the audience and the teacher”; “We knew more than the teacher, we were more prepared in comparison to him”). I disliked mostly the training delivered by incompetent teachers, when the audience is familiar with the situation better than the teacher, who does not react to the audience. The audience gets annoyed also when the teaching materials are not ready or prepared improperly. The audience does not concentrate when the training environment hinders: not regulated sound, image, the premises appear too big or too small for the intended audience (see Table 21)

Table 21. Least favourable trainings by category

Category	Subcategory	Opinions
Environment not suitable	Not comfortable environment	The premises are not properly adjusted, in terms of climatic conditions – it was very hot
		It was either lack of air, or awfully big premises
		It is bad when the pace is slow, one gets sedative and even the fresh air is turned off, the water is not available
		Environment: airless rooms, not possible to absorb the information, the head gets tired
		Closed auditoriums
		The premises were badly regulated, in terms of climatic conditions it was very hot, behind the wall there were other courses, even during the course itself someone would come from another auditorium to calm us down.
		The lecturer was very angry
		It happens -boring teachers
		Teachers categorical mode, it was not possible to discuss with him
		Teacher happens to be slow-paced, everything is presented monotonously

Category	Subcategory	Opinions
Teacher's incompetence	Inability of the teacher to communicate	The teacher's lack of experience, pause, silence
		Lack of communication, lack of communication between the audience and the teacher
	Quality of training	The lecturer, the language was not acceptable, very much slang was used, the numerous English expressions, stretchy speech, it was hard to listen to her
Inappropriate materials	"Bookish dry" theory	Materials were blurred, we knew more than the lecturer, we were more Prepared in comparison to him upon request one would not get a straight answer
		The presentation contains only information that is readily available to all, and which you can read in Google
		I do not like the bookish theory
	Not adapted materials	I do not like when there are internal trainings held when come from Vilnius and present "dry" theory
		"dry" theory while learning online, not only slides online.
		I was online education, the information presented was dry and tests were given at the end of each topic.
		Tried to tackle problems that we did not have
		It was not based on some sort of evidence, the presented was something what was invented by themselves
		When they underestimate the knowledge level of the audience, where you know that for 100 years already, and you get to know nothing new
Expectations' mismatch	Real- life problems	There is nothing worse than to take part in such training, to sit an hour and understand that this was meant for the advertisement
		Expectations' mismatch
		It is 7 years that the training is provided by the same persons, it sometimes makes you want the fresh blood. The external training is more beneficial, as those are more professional
		The topic of the training is an important issue. I would prefer topical, interesting learning topics

5 focus groups' participants expressed dissatisfaction with the improper material presentation, its poor quality and the cases when the teaching materials were absent, not prepared. It is unacceptable when a teacher before getting to know the audience, started to teach, e.g., problem-based methodology, raising issues that were not characteristic to the particular informants. ("The presentation contains only information that is readily available to all, and which you can read, for example, from Google, bookish dry theory"; "I have come to get new knowledge, but I got the same"; "It was not based on some sort of evidence, they teach something what was invented by themselves", "When they underestimate the knowledge level of the audience, where you know that for 100 years already, and you get to know nothing new).

The investigation has revealed that informants in 6 focus groups the inadequate environment was an obstacle in learning: the sound was not adjusted, the image, too big or too small premises for the intended audience, and the lack of air when hot or cold. Bad were even chairs on which it was difficult to sit all the day. ("Airless rooms, not possible to absorb the

information, the head gets tired”, “the premises were badly regulated, in terms of climatic conditions it was very hot, behind the wall there were other courses, even during the course itself someone would come from another auditorium to calm us down”).

A few focus group participants had a negative approach to the expectations’ discrepancy. In the informants view, such training is a waste of time. I did not like even the training content that did not coincide with the title of the lecture and did not meet participants’ expectations. (“There is nothing worse than to take part in such training, to sit an hour and understand that this was meant for the advertisement”).

6 focus groups within the online learning environment would prefer to have discussion and communication tools: forums, chat, opportunities for simultaneous discussions, so as to be able to directly discuss with the teacher, with the other learners, but also to see them. (“Being able to ask questions both by live and chat principle”; “Important is the possibility that in case you do not understand, by chat form or by just some kind of board that you could discuss with the other participants who also take part in the session”).

2 focus group participants would have liked the time management tools. (“Calendar, exposing at least the date of the month, so that one could plan”, “Calendar with reminders”, “You receive a calendar entry in Outlook and you save it and you look at your daily schedule”).

5 focus group participants have expressed a desire to gain more professional knowledge and skills. For the informants it was especially important to learn professional, business foreign language (the English was the most wanted, some preferred the Russian language), sales management, customer psychology. (“For me it is very important to learn foreign language online”, “For my position at work - the sales techniques, languages, especially to upgrade the English, Russian”, “I also need the psychological ones, the teamwork, explanation of the customer behaviour, the relationship of vendor with the client”).

The informants from 8 groups have mentioned the personal qualities as expression of the learning needs. For them it was important to learn about time management, the art of public speaking, humility, loyalty to the enterprise, job satisfaction and emotional intelligence. (“The training focused perhaps not entirely to the technical matters, but to the employee’s self-motivation, internal competence development”, “learning to speak less and listen more”, “and the attention to management, concentration, that would not be so that one is listening to something, and is thinking about something else”).

The participants from 5 focus groups were in favour of the technical competencies/skills training. They considered important to learn about the different mobile platforms or software. (“Knowledge of technologies such as the newly appeared iPhone, we cannot manage to read all

the information about them, cannot keep the pace to read. You come to work and people are approaching and asking about them”).

### **3. Researcher’s reflection**

According to Creswell (2008) researcher is considered as key instrument however researcher’s role is also very significant and it should be admitted and taken into consideration that every researcher include statements about past experiences that provide background data though which the audience can better understand the topic, the setting, or participants around the researcher’s interpretation of the phenomenon. My personal and professional experience is also related to my research topic as well. During the last ten years I am working in higher education sector with strong business cooperation direction: starting with ISM University of management and economics (ISM) Executive School, continuing at the Ministry of Education and Science Higher Education and Technology department and ending in Vilnius University International Business School. Working at ISM period my general goal was creation of Executive school with executive education programme portfolio. According to Paulin and Suneson (2012) knowledge transfer by itself is no so evidence phenomena as knowledge can’t be transferred but has to be re-developed by each individual and the same time new knowledge should to fit a mental model and also there is no way to explain what knowledge is because of the close connection to earlier experiences and personal background and values. Executive education in this context was understood as Master of Management programme modules, customized, tailored made training programmes, consultancy services etc.;. One of the biggest challenges in my responsibility of creation of Executive School was faculty competences/readiness to deliver such programmes, trainings to business clients. For that reason I was involved in EFMD (European Foundation for Management Development ([www.efmd.org](http://www.efmd.org))) activities just to better understand business/management education. Also I was scholar in Harvard Business School with the purpose to learn case study as a method for executive education. Those activities were very important to understand how faculty should work with business employees to better fulfil their expectations. That time ISM Executive School academic faculty was divided into two categories: academic staff with academic and pedagogical experience and consultants working only with training programmes. In my case the most difficult integration was between those two different categories. Solution was found by creating “expertise areas” and putting together academic programme and training programme in one “expertise area” – it was a short term goal having in mind long term goal with staff integration with the synergy aim as such. I should say that consultants were much more open and more flexible in this integration process. Academic

staff wanted to remain only in teaching, supervising thesis. In order to get Master programmes modules more practically orientated and get more interactivity, case based approaches in teaching process consultants has been involved into lecturing process. From this decision Master of management programme gain interactivity and application through case study effect. The most of success could be name the action then Project management module has been customized according “X” company needs.

Talking about experience and practice working with the business companies providing training programmes, I have notice that foreign capital companies are willing and have capacity collaborate with the universities, but to have mutual benefits two way efforts need to be taken.

Talking about learning though experience Argote and Miron-Spektor (2012) underline the fact, that according to organizational learning theory, organizations are able to obtain knowledge from their own experience and successfully incorporate into daily routines, processes and other collective memory systems. From university side more marketing and sales efforts need to be put. From company side it depends on company Human Recourse strategy.

In our case we had well developed CRM (Client Relation Management) sales project managers were responsible for development of relationships with the “old” and “new” clients: phone calls, visits, business proposals, client events, business lunches etc.; Visits to the companies was one of most significant activities organized by sales project managers together with consultant or managing director. In company trainings had success in competing with consultancy companies. Scheme for in company trainings which was used is presented in Figure 28.



*Figure 28. In company training (tailored made training) steps (created by author)*

In company training or tailored made training is done in four steps:

1. Identification of the training needs in the company through application of the latest and most advanced methods: covering organisational and individual needs by gap analysis.
2. Cooperation with company’s HR manager and designing a training programme corresponding to the company’s training need.

3. Training during which the real work situations of employees are analysed and effective ways of solving them are searched for with the help of situation analysis, group discussions, video training, individual practical tasks.
4. After training is completed, feedback about the preparation of the participants to apply the knowledge gained in their working activities and about their level of motivation is provided. A further development plan for employees is also discussed.

By presenting proposal to customer also it was important to identify training methods used as Pareto analysis, control charts analysis, The Fishbone diagram, Brainstorming, case analysis, round tables etc.;. Another issue related to financial implications has been discussed as well; it means that budget was planned annually.

By summarizing my ISM Executive School experience I strongly support the idea of faculty readiness to deliver learning services, not only lecturing, trainings, but contracted research projects, consultancy, academic mobility, knowledge strategic sessions etc.; to business as the one of the most important. In our days learning by using IT becoming more and more valuable for the businesses dues to number of factors as time saving, flexibility and technology based learning ability.

Working in the department of Higher Education and innovation in the Ministry of Education and science I was engaged into Lifelong learning activities to be introduced in university service portfolio. Two especially composed initiatives have been announced with extra dedicated funding (State budget and EU Social Fund budget). Some of those initiatives were organised in a very good way except the situation then project was finished – no commercial continuity was identified. It means that universities are lacking commercialisation capacity and ability as a competence, but on other hand organisational structure should be created for endorsing UBC activities. Academic staff involvement in this process plays on of central role in UBC development.

## **FINDINGS and DISCUSSION**

The framework of university business collaboration was developed on the, analysis based of scientific literature and related European, global, national documents and reports. Special attention was given to European reports and projects, as European Union is investing more and more in UBC development during last decades. This study was concentrated on academic staff readiness to provide online learning services for business in order to promote university-business collaboration. Literature review confirmed that UBC topic is widely discussed in different forms: R&D, collaboration directions, benefits, economic development, compliance with vision, joint projects, Lifelong learning activities etc. The framework for successful UBC is most important, so it means different levels (political, administrative, operational) need to be set up and developed. Following Etzkowitz's "Triple Helix" concept at the same time broader context of collaboration government-industry-university should be considered more seriously. By analysing drivers and barriers for UBC many different factors (benefits, strategic decisions, services to business, academic staff role) have been discussed. According the sources found strategic decision for UBC for every university should be carefully analysed. In this study main focus was given to academic staff readiness to provide online learning services to business as IT application is more and more becoming part not only as learning but as work activity as well. On other hand in this study was focusing on academic staff (operational level) as main value creator in UBC's supply chain.

Academic staff readiness to provide online learning services has been investigated by applying following criteria:

- University–business collaboration forms,
- Resources and quality,
- Academic staff development opportunities,
- Academic staff competence to provide online learning to business.

Talking about UBC collaboration forms it was found that the most common case is to collaborate by providing advisory services, conducting training. However, execution of the contracted research and joint programmes or their improvement could be smoother. Those respondents who have more experience of collaboration with the training of business organizations' employee agree at more than one half cases that the higher education institutions have to collaborate with business organizations while developing or upgrading the curriculum meant for training. Most of the respondents, who were carrying trainings, were much more often

engaged in counselling of business organizations. Positive responses were received from more than 70 percent of respondents who taught business organizations' employee and only slightly more than 40 percent of the university academic staff who did not have such experience. According contracted research results it can be stated that close to 70 percent of respondents with experience in collaboration with organizations providing them with online education services often also provide other types of training. In other words, the academic staffs collaborate in organizing training courses in various forms.

In relation to the resources available at university, it can be noticed that the teachers argue that the staff have free access to a range of ICT equipment and tools (agree and completely agree comprise 72.4 percent of respondents). It is interesting to note that more than 40 percent of respondents could not say whether their organization did use the Web 2.0 tools. It is possible that the educators were not familiar with this term - most likely, the teaching tools were used. About 20 percent of the study participants indicated, that they did not know whether the user manuals were prepared, or whether the stakeholders were involved in the quality assurance. The differences, as evidenced by the great majority of claims in the case depending on respondents' online learning experience. Regardless from the years served, there is assessment of compliance with the copyright, the use of Web 2.0 tools. No differences were identified with regards the assessment of the quality assurance within organization. However, differences emerge according to their e.learning experience as the academic staff members recognize the online education system used in their organization, the ICT tools used, user manuals, video-conferencing tools, and the use of open education resources.

Academic staff development possibilities have been investigated in close relation to resources. Those, who have more years academic working experience with online learning, evidently, better recognise the internal the online education systems. The ones without experience have just fragmentary knowledge about the online education systems in their organization. The differences by their experience in the application of online learning were not established, but, at the same time there were found significant differences by collaboration experience with business organizations. The insignificant differences were obtained in assessing how organizations and universities collaborate in organizing and carrying out placements and contracted research. The academic staff, having longer working experience of work with the online learning in more cases visualize the updated ICT tools; 60 percent of respondents agree with the statement, the respondents having one or more years of work experience with online learning. Meanwhile, only 30 percent with no online education record are able to identify changes and more than 15 percent cannot present any answer. The results have demonstrated

that those with longer experience with online learning tend to more actively express their opinions and know how to do it; how to apply the ICT tools.

A significant proportion of academic staff indicates that their ICT skills at work were not regularly checked or clearly defined. It was also only 29 percent of respondents who indicated that there were funds allocated especially for employee development. Only 26 percent of respondents indicated that the pedagogical/didactic competencies were clearly defined and known to every employee. This demonstrates that clear and precise requirements were not defined.

The respondents considered the statement on funding/investment in academic staff development to be most equivocal (23 percent).

Evaluating situation with academic staff readiness to provide online learning services to business attention, meanwhile, should be paid to the fact, that almost half of the academic staff respondents had considerable experience with online learning: the results indicate that they comprised 45.4 percent. But at the same time it is necessary to draw attention to a sufficiently high percentage (38.8 percent) of the respondents who did not have the online learning experience and they did not want to acquire it. Despite the fact that the greater part of the respondents having the online learning experience (61.2 percent), the online learning experience with businesses or organizations by 78.1 percent do not have any respondents. There were more women working at university with a broad scope of age – the fresh graduates from studies to persons who have reached retirement age, more than half of them have had experience with online learning, but only a small part of them were working with businesses or organizations. In general it is interesting to note that men and women were of different opinions while assessing the course development in the online education environment - for men it is easier to manage technology. It is important to note that younger academic staff members easier handle online learning was not confirmed. In all cases the statistically significant differences by age were not observed as well. No significant differences were found in comparisons by their experience of work. It is interesting to note, that those having no experience with online education are a bit more favourable about the open educational resources, which they also use more. The comparison of differences by a variations of experience within collaboration with business, there were no statistically significant differences identified. That the higher education institutions have got enough resources assessed well by academic staff themselves; the aim is to achieve the high quality of their use by academic staff members. However, only teachers working in the field of online learning, who have gained greater experience, are able to identify those resources and apply them properly in practice for providing online learning services for business.

Business employees expectations for online learning of the focus group have demonstrated business staff expectations to online learning services provided by academic staff. Some significant findings should be mentioned: most often study participants emphasized the teacher's personality, it's importance in training process. The participants of 7 groups have emphasised the role of personality of the trainer. The informants reported that the strong personalities at trainings have left a good, deep impression. ("It's a very impressive teacher, he is a charismatic personality, it attracted very much": "The person who delivers the training - his impact influenced for more than 50%"; "A very understandable, specific, strict teacher").

7 out of 8 group discussions' participants have distinguished the practical applicability. The analysis of the learning needs of the informants revealed their desire to learn less theory and more practice, especially when it can later be adapted at their work.

*Friendly learning environment*, the presence of the user-friendly *interface*, graphical icons. It is very important that the learning environment would be functional, universal – so that it would be possible to use a variety of mobile devices, a variety of different operational systems.

The participants stated that it was important *to strive to become the best specialist in their field, while allocating even one's personal time to company's goals.*

In case when the informants were asked to remember the training they most disliked give answers questions on what the most disliked and what was causing the discomfort, there was disclosed a negative attitude towards the incompetent academic staff members, the not properly prepared training materials, the inadequate training environment and so on.

The business staff noted that most remembered trainings were those through which the acquired knowledge could be put into practice; when the training was immediate; and when the benefits were gained.

Focus groups participants within the online learning environment would prefer to have discussion and communication tools: forums, *chat*, opportunities for simultaneous discussions, so as to be able to directly discuss with the teacher, with the other learners, but also to see them.

The participants from 5 focus groups were in favour of the technical competencies/skills training. They considered important to learn about the different mobile platforms or software.

*Summarizing* it can be stated that online learning is attractive because of the possibility, on the one hand, to freely choose learning time, place, possibilities to learn in a self-directed way, but, on the other hand, it is also causing problems, such as lack of direct contact, longer duration the learning takes place, or even have problems in use of technologies.

The academic staff' experience with online education is one of the decisive factors which determine how well they are doing in training with the application of didactic aspects. Those

who have more substantial experience perform better. The survey has revealed that online learning was mastered better by men.

The ANOVA results demonstrate that the worst estimates given by higher education institutions' academic staff lie to the collaboration with business organizations. The highest estimates were given to the resources available and quality. This indicates that the options available are not sufficiently exploited in providing a range of services to business, including online learning.

Collaboration between universities and business is going on in different directions, but it is evident that the active academic staff members have accumulated more experience in online learning for business they get involved into a wider range of collaboration activities. The online learning is viewed more positively by those already experienced in provision of this kind of education for business.

Living in the digital economy individuals and organisations are oversized with information. As academic staff is considered as knowledge creators and providers they should more and more concentrate on solving problems matching their readiness and expertise. According to Haas, Criscuolo and George (2015) since information overload is a growing challenge, the question of why organisations members decide to allocate attention to addressing particular problems online is an increasingly urgent concern for organisations. According to D'Este and Perkmann (2011) having to manage the balance between academic and entrepreneurial UBC activities, academics are increasingly interested in bridging the worlds of academia and business rather than concentrating primarily on research. There are number of studies investigating online communities and knowledge sharing using social media technologies. Implications addressed in UBC framework and research findings support academic staff readiness to provide online learning services in more business problem solving/matching way. Another issue which could be part of the future research interests: assessment in online learning. According Report of Assessing Online Learning: Strategies, Challenges and Opportunities number of possible assessment mistakes has been identified: expecting a bell curve, the wrong type of assessment, not valid (enough) assessments, poorly written multiply-choice tests. This study offers fresh insights for future studies examining University Business Collaboration framework allocating specific attention to academic staff readiness in digital economy development content with strong emphasis on online learning services provisions. Those indications could be useful directions for future research.

## CONCLUSIONS

This study should be considered as interdisciplinary as educological scope has been analysed in management and business framework, for that particular reason quite diverse literature review has been done. The university-business collaboration directions discloses that different authors present different visions, but all agreed that successful collaboration requires an ongoing dialogue and information exchange and strategic provisions. In recent years, the activities of universities began to expand and they are expected to play a much more active role in society with the economic development component. The closed nature of at least one party constitutes barriers to successful collaboration. Another important point – was the maintenance of the long-term relationship and the presence of the overall vision, uniting the mutual benefits and interests at different levels. The services offered by the universities to business could be diverse, but at the same time it is very important statement was confirmed the actual mode of knowledge creation and transfer. It is interesting to point out that universities mission is widely discussed not only by scientists but by consulting companies like *EY*, *Deloitte*, *Mckinsey group* etc.; This interest could be explained by greater and greater numbers of “knowledge workers” and technology influence in business development. Universities are changing by introducing new services. One of the examples could be presented the corporate universities having a significant impact to parental companies in the strategic decision-making. Universities may be one of the main sources of the innovation expansion strategy in companies, as they conduct research projects, trainings, academic mobility that create the opportunities for technological development in those particular companies and organizations. For universities it is important to understand the needs of the market, only in that case the commercial application of university knowledge transferred could be enhanced by the established by universities research results and knowledge commercialization mechanisms. From the business side the openness is also required, so as to allow the possibility for young scientists participating in activities to provide the necessary assistance, joint consultations on conducting of the research and the processing of results. In addition to contracted research, the scientists recommend the staff involved in university and business collaboration to undergo the organized training that required for quality assurance activities. With regards to learning services university has the mission of knowledge creation and its transfer to the business, while business speaks in favour of development. It depends on the various forms and ways of collaboration, one of which is the training of business staff online learning. The need to learn is judged within the company by analysing the needs at different levels. In general the directions on service level for university and business collaboration remaining mainly those: mobility of students, curriculum development, lifelong

learning, contracted research, etc.; .The collaboration with business organizations and enterprises by almost all aspects was evaluated in a very similar way. The most common way of collaboration is via providing the counselling, advisory services, as well as the educational ones. Anyway, the conducting contracted research or the execution of joint programmes also the upgrading should be smoother.

This research was focussing on academic staff readiness to provide online learning services for business. University academic staff providing educational services needs to be ready to do it online. In this matter one very important finding should be admitted as more of one third of academic staff don't have experience with online learning and even don't want to have. That's a very significant finding witch should be taken into consideration as a serious one by approaching digital changes. Providing online learning pedagogical, technical and administrative skills are needed in complex. The online learning was favoured by the ones having more experience with the online learning. Every university need to set up administrative structures with technical employees supporting academic staff or train academic staff to be able to apply technical solutions. It was very evident, that part of academic staff has experience in counselling and trainings, even conducting online trainings. So this factor should be taken into consideration for strengthening existing experience in counselling and training introducing more and more online learning services improving academic staff pedagogical and technological competences and maybe attitudes. The online learning was attractive because of, on the one hand, the possibility to freely choose learning time, place, opportunities to teach self-dependently, but on the other hand, it was also causing problems, such as the absence of the direct contact, the learning takes place longer or even there arise problems in use of technologies.

Recourses needed for online learning are quite sufficient for online learning services to be provided. Having good technological infrastructure in the universities it is evident that not all academic staff uses it and don't know about existing technology possibilities. This part should be improved maybe by offering specialized trainings, as competence development part in the survey was evaluated as week one. Quality assurance process doesn't cause problems as it is part of academic routine. As universities agree to such challenges - it depends on the internal processes within the institution. Successful collaboration between the two sides results in benefits of applicability of relevant knowledge obtained, bring the enterprise's development, while at the same time the profit, the mutual relations are being improved. Seems to be that OER are known and used by many of academic staff including personal needs. In relation to the processes going on at universities, which are indicators on how much the academic staff is ready to provide the educational services to business online, it can be stated that the university

academic staff in principle is ready, although the administration does not always control the academic staff' ICT skills. Universities own a sufficient amount of ICT resources, which are at users' disposal free of charge; they are being constantly updated. Most of the teachers stated that quality assurance in higher education institutions was an important and recognizable phenomenon.

Business company employees during the investigation have stressed that it was important for them to learn what was really critical, interesting. The informants tend to learn from best practice examples. As the interviews took place in the workplace, generally the emphasis was put on the professional development. The discussion participants stated that it was important *to strive to be the best specialist in their field, or even allocate their personal time to company's goals*. Mostly study participants emphasized the teacher's personality, its importance to training. In the opinion of the informants the satisfaction was important so that the training would meet their expectations. Because the study participants were employees of telecommunication companies, they agreed that the online learning would be a suitable qualification upgrading and personal development.

Summing up it is very important to note, the most important issue in UBC framework is academic staff readiness to provide online learning services to business should be considered as a complexity of pedagogical, technological competences and strategic UBC decision.

The actual benefits of successful university and business collaboration depend strongly on the nature of the collaboration intended objectives. Approach of solving real-world problems could be one of the successful collaboration aspects carried also improvement of skills to students and faculty. As one of the instruments for promoting UBC analysed *Scorecard* approach could be used by assessing complexity of academic staff readiness to deliver online learning services to businesses. By having different values, goals and cultures university academic staff should learn how to reach business: talented academic staff can become "intelligent knowledge bridges" to business. Through academic staff readiness and engagement university-industry collaboration could be strengthen and become mutually benefited.

## RECOMMENDATIONS

**For universities:** Strategic decisions for UBC should be taken with high responsibility. Revision of possible services provided to business need to be carried out in order to match capability and ensure sustainability. Ensure that business needs align with vision and strategy of the university. Understanding own role in economic growth and responsibility for the society try to find right balance in the framework of UBC. Evaluating „Digital era“ approach and rapid changes in Human Capital development to be prepared for update services offered to businesses. To think about administrative structural changes to be better engaged in business needs. Academic staff development and involvement plays crucial role in this process, as it was mentioned many times academic staff their attitudes and readiness to deliver services to business takes main role and part promoting UBC.

**For business:** There is no common agreement in reviewed literature, that university-business collaboration depends on company size, but it is evident that bigger companies have close and more successful cooperation cases due to richer resources in their companies. The number of possible collaborations for business not only internships, employees competence development, R&D, governance. Talking about new generation approaching labour market online learning solutions taking more active place. Universities are equipped with technologies and used different solutions during their study process. It could be great possibility for business companies to become part of online learning services provided by university staff using existing university IT infrastructure. Strongest motivator for UBC from business side remains alliance with both side visions and strategies.

**For government:** Better commitment and leadership – leadership in universities, in business and government need to be ensured. Administrative structures at governmental level should be re-evaluated with the clear UBC provisions. UBC should be supported by government not only by European and national policy and documents, reports but by administrative better co-ordinated support, taking as example UK establishment of Department of Innovation, Universities and Skills and subsequently the Department for Business, Innovation and Skills has proved a key governance change in the field of business-university collaboration. Another USA idea of Corporate university concept in Lithuania could be professionally discussed as well. UBC reports should be written not only by academic staff but in equal cooperation of business representatives.

## LIMITATIONS

Several limitations of this thesis must be acknowledged. First, selection of „X“ telecommunication company for focus group could not reflect the whole business employees expectations to the online learning services, but having in mind that this particular company has a very clear HR strategy on personnel development and use of online tools in their training programmes could be better explored for future research. Secondly, academic staff readiness was not investigated on academic staff motivation, as some researchers underline attitude factor as complex part of academic staff readiness. For more complex understanding motivation factor could be one of the major factors for academic staff readiness to provide online learning services to business.

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## APPENDICES

We invite you to participate in the study,

### **“Academic Staff Readiness to Provide Online Learning Services to Business Companies”**,

This was prepared and is being carried out by researcher Birute Miškinienė. The aim of the research was to evaluate the university academic staff readiness to provide online services for business. Your answers will be used exclusively for scientific study, will be published in a summarised way.

Thanks for collaboration!

**Please,**

**Indicate your gender**

Male

Female

**Indicate your age.....**

**Indicate your academic working experience.....**

**Indicate your institution.....**

**Indicate your experience with online learning**

Up to 1 year

More than 1 year

I do not have and do not want to

**Do you have any experience with online learning with business organisations?**

Yes, I do have

Yes, I do have, but only fragmented

I do not have

**Please, name the positive and negative aspects regarding online learning:**

Positive aspects

.....

.....

.....

Negative aspects

.....

.....

.....

Please, give your opinion on the situation in your higher education institution by the presented statements,

Where 5 – I agree completely 4 - I agree 3 - I doubt that 2 - I do not agree,  
1 – I strongly disagree, 0 – I do not know.

ACADEMIC STAFF DEVELOPMENT POSSIBILITIES								
	ICT skills assessment during enrolment							
	ICT skills are periodically checked at work							
	ICT pedagogical/didactic skills are clearly defined and known to every employee							
	I apply a variety of ICT tools in the workplace							
	In high school an opportunity to improve their ICT skills in practice is being provided							
	Employee activities are being assessed and recognized by the international and national standards							
	Part of the time at work may be used for professional development in the workplace in accordance with current internal regulations							
	I use a variety of networks for my professional development through ICT use							
	There are funds provided for employee development							
	Learning needs of the staff are being identified at least once a year							
	Trainings are being planned according to the learning needs identified							
	Employee training is only carried out by the well recommended academic staff or companies							
	Quality training for employees is delivered by experts from abroad							
	After each training feedback is received							

	Employees share the experience gained with colleagues							
	Employee development is being assessed, documenting it all							
<b>RESOURCES AND QUALITY</b>								
	Employees have free access to a range of ICT equipment and tools							
	Organization introduced <i>online</i> tools that are adapted to the needs of organization							
	Organization applies a uniform online learning system							
	ICT tools used are constantly updated							
	Users manuals for all technological solutions are drafted							
	Opportunity is provided to give feedback on the ICT tools							
	Organization installed and uses video conferencing tools							
	<i>WEB 2.0</i> tools are installed and proposed for use							
	Possibility to use open educational resources is provided							
	Development and use of resources is in compliance with copyright/content protection rights							
	Organization has an implemented an internal quality assurance system							
	Social stakeholders are involved to ensure the quality assurance							
	Quality assurance is one of the organization's priorities							
	ICT is used for quality assurance							
<b>UNIVERSITY-BUSINESS COLLABORATION FORMS</b>								
	Drafting/updating study programmes							
	Carrying out contracted research							
	Working in joint work groups							
	Providing counselling services							
	Providing training							
	Contributing to the organization of placements							

ACADEMIC STAFF COMPETENCE TO PROVIDE ONLINE LEARNING TO BUSINESS					
		I am able to do it myself	I am able, but consider that it is function of a specialist	I am able, but I need specialists' assistance	I need to learn it
Course design	to plan a course				
	to draft a course in online learning environment				
	to assess progress and achievement				
The use of online tools	to log in and read, moderate and respond to questions during video conferences				
	to use chat forums				
	to use discussion forum in online environment				
Administrative ability	to administer the users				
	to administer the material				

Please give your opinion on the situation in your university by the presented statements, where:

5 – I agree completely 4 - I agree 3 - I doubt that 2 - I do not agree, 1 – I strongly disagree, 0 – I do not know.

<b>ACADEMIC STAFF DEVELOPMENT POSSIBILITIES</b>		1			4		
	ICT skills assessment during enrolment	7,7	8,4	2,4	2,4	2,8	6,3
	ICT skills are periodically checked at work	7,1	9,1	8,6	1,4	,7	6,1
	ICT pedagogical/didactic skills are clearly defined and known to every employee	11,7	3	1,1	9,4	6,6	,2
	I apply a variety of ICT tools in the workplace	11,7	,6	4,1	30,1	46,4	2
	In high school an opportunity to improve their ICT skills in practice is being provided	7,7	0,7	8,4	1,1	7,6	4,6
	Employee activities are being assessed and recognized by the international and national standards	9,2	0,2	6	2,4	0,9	1,2
	Part of the time at work may be used for professional development in the workplace in accordance with current internal regulations	6,6	5,8	3,8	5,7	1,4	6,6
	I use a variety of networks for my professional development through ICT use	8,2	0,2	3,3	9,3	7,6	1,5
	There are funds provided for employee development	9,2	5,8	23	6,8	2,2	3
	Learning needs of the staff are being identified at least once a year	7,1	1,2	5,5	6,5	4,8	4,8
	Trainings are being planned according to the learning needs identified	5,6	10,7	31,1	24,5	11,7	16,3
	Employee training is only carried out by the well recommended academic staff or companies	6,1	12,8	26,5	34,7	13,3	6,6
	Quality training for employees is delivered by experts from abroad	8,7	16,8	25	19,9	10,7	18,9
	After each training feedback is received	7,1	9,1	8,6	1,4	7,7	6,1
	Employees share the experience gained with colleagues	11,7	3	1,1	9,4	6,6	8,2
	Employee development is being assessed, documenting it all	11,7	5,6	4,1	30,1	6,4	2
<b>RESOURCES AND QUALITY</b>							
	Employees have free access to a range of ICT equipment and tools	6,6	9,2	9,7	1,1	1,3	2
	Organization introduced <i>online</i> tools that are adapted to the needs of organization	4,6	12,8	9,7	4,7	0,1	8,2
	Organization applies a uniform online learning system	10,7	8,2	11,7	27	34,7	7,7
	ICT tools used are constantly updated	5,6	12,2	17,9	28,6	26,5	9,2
	Users manuals for all technological solutions are drafted	7,7	9,7	23,5	27,6	12,2	19,4
	Opportunity is provided to give feedback on the ICT tools	8,2	14,8	15,8	31,1	15,8	14,3
	Organization installed and uses video conferencing tools	8,7	11,2	9,2	25,5	35,2	10,2
	<i>WEB 2.0</i> tools are installed and proposed for use	5,1	6,1	14,3	19,4	14,8	40,3
	Possibility to use open educational resources is provided	6,6	9,2	9,7	31,1	41,3	2
	Development and use of resources is in compliance with	4,6	12,8	9,7	34,7	30,1	8,2

	copyright/content protection rights						
	Organization has an implemented an internal quality assurance system	10,7	8,2	11,7	27	34,7	7,7
	Social stakeholders are involved to ensure the quality assurance	5,6	12,2	17,9	28,6	26,5	9,2
	Quality assurance is one of the organization's priorities	7,7	9,7	23,5	27,6	12,2	19,4
	ICT is used for quality assurance	8,2	14,8	15,8	31,1	15,8	14,3
<b>UNIVERSITETY-BUSINESS COLLABORATION FORMS</b>							
	Drafting/updating programmes	21,9	14,3	12,8	23	15,3	12,8
	Carrying out contrated research	23	13,8	9,2	22,4	17,9	13,8
	Working in joint work groups	16,8	15,3	13,8	26	17,9	10,2
	Providing counselling services	18,4	14,8	9,2	25,5	21,9	10,2
	Providing training	19,9	13,8	10,2	20,4	24,5	11,2
	Contributing to the organization of placements	20,4	12,8	10,7	21,4	22,4	12,2

<b>ACADEMIC STAFF COMPETENCE TO PROVIDE ONLINE LEARNING FOR BUSINESS</b>					
		I need to learn it	I am able, but I need specialists' assistance	I am able, but consider that it is function of a specialist	I am able to do it myself
	to plan a course	11,2	22,4	9,7	56,6
	to draft a course in online learning environment	16,8	32,1	7,7	43,4
	to assess progress and achievement	25	26	20,4	28,6
	to log in and read, moderate and respond to questions during video conferences	21,4	32,7	6,6	39,3
	to use chat forums	11,2	22,4	9,7	56,6
	to use discussion forum in distance education environment	16,8	32,1	7,7	43,4
	to administer the users	25	26	20,4	28,6
	to administer the materials	20,4	20,9	12,8	45,9

CRITERIA	AVERAGE	STANDARD DEVIATION
<b>ACADEMIC STAFF DEVELOPMENT POSSIBILITIES</b>	3,00	0,933
<b>RESOURCES AND QUALITY</b>	3,19	1,150
<b>UNIVERSITETY-BUSINESS COLLABORATION FORMS</b>	3,10	1,487
<b>ACADEMIC STAFF COMPETENCE TO PROVIDE ONLINE LEARNING FOR BUSINESS</b>	2,74	1,442

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Birutė MIŠKINIENĖ

**ACADEMIC STAFF READINESS TO PROVIDE  
ONLINE LEARNING SERVICES PROMOTING  
UNIVERSITY-BUSINESS COLLABORATION**

Doctoral Dissertation

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