Universities' research and development strategy in the perspective of sustainable economy

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Abstract – the paper deals with a private higher education institute, which planned a research and development strategy in the perspective of sustainable economy of Latvia. The objective of the present strategy is to increase the effectiveness of research carried out at Information Systems Management Institute (ISMA). To achieve this, the Institute must modernize its academic working environment to attain a level necessary for effective participation in the EU research area.

Keywords – University's research and development strategy, higher education, sustainable economy.

Introduction

Research, creation and exchange of knowledge and technology are at the heart of all university education. The performance of a university's research staff represents a measure of that university's quality.

Our societies currently face the consequences of a global financial and economic crisis. In order to bring about sustainable economic recovery and development, a dynamic and flexible European higher education will strive for innovation on the basis of the ***integration between education and research at all levels***. We recognize that higher education has a key role to play if we are to successfully meet the challenges we face and if we are to promote the cultural and social development of our societies[1].

Information Systems Management Institute (see Annex 1) Research and Development (R&D) Strategy specifies the aims and planned R&D activities set out in ISMA Strategic Plan for 2009–2015 as well as the trends of knowledge-based Latvia and the Lisbon strategy, as well as European University Association Prague Declaration, where the second part sets out a long-term strategic agenda for universities identifying 10 factors that will determine our future success[2]. The common vision is of autonomous universities as dynamic, flexible institutions promoting excellence and innovation in teaching, research, and knowledge transfer.

1. R&D Success Factors

ISMA R&D success factors (for SWOT analysis, see Annex 2) are as follows:

- ISMA is currently developing in Latvia recognized private higher institute, as well as lead researchers and research groups applying these;
- integrated research in priority R&D areas and the more traditional IT fields in collaboration with the natural and social sciences permits ISMA to undertake

[1] The Bologna Process 2020 - The European Higher Education Area in the new decade. Communiqué of the Conference of European Ministers Responsible for Higher Education, Leuven and Louvain-la-Neuve, 28-29 April 2009

[2] EUA. Prague Declaration from 18-21 Marc 2009.

comprehensive development efforts in teaching and R&D activities crucial to the Latvian economy;

- cooperation with the scientists and teaching staff of other countries and the ISMA is growing in all areas, in particular in priority R&D areas;
- constant analysis and updating (taking into account the development trends in internal and external environments) of strategic plans elaborated at ISMA has become an established part of the Institute's management.

2. Vision for 2015

- increased the number of doctoral students successfully completing their degree to a level sufficient for ensuring replacement of the Institute's teaching and research staff and creating the necessary preconditions for expanding R&D activities;
- developed a comprehensive network of legal and organizational bases, as well as an effective incentive system required for successful collaboration with businesses;
- established intelligent R&D support structures (Institute of Information technology, Institute of Business, Centre of the Business competences) whichever, among other things, must be conducive to science transfer;
- established a research centre in its priority R&D areas, and as a repository and provider of know-how in production, having at its disposal the infrastructure and teaching and research staff required for engagement in effective cooperation;
- developed, as a result of the evolution and integration of priority R&D areas, the economic research enhancing business environment and supporting economic growth.

3. Objectives, development directions and performance indicators

3.1. The objectives of scientific progress are:

- using results of research conducted at ISMA as well as the achievements of international research to speed up Latvia's development and provide better teaching and research services;
- continuity of research, topicality of research themes and the efficiency and quality of the work carried out.
- important development directions and expected results:

3.2. Continued development of priority R&D areas:

- Scientific progress in all ISMA activity areas**.** ISMA will create preconditions and opportunities for the development of all R&D areas — technology, natural, economic and management sciences — among other things, using the opportunities accompanying participation in EU research area.

- Development of new research areas and directions**.** ISMA will organize a competition to launch intra-university projects to shape new research areas and directions, employing EU funds and the Institute's own endowments.

- Supporting the sustainable development of R&D areas representing significant importance for Latvia**.** These areas are, in particular:

- Increasing the size of research groups and integrating research themes. ISMA will increase the number of researchers (research and teaching staff and/or doctoral students) participating in research groups.

- Increasing the number of research publications. ISMA aims to attain the level of up to 5 international peer-reviewed research publications per year by research theme or by fundamentals-oriented R&D project by 2015, the respective figures should be up to 10. Increases in the quantity of research output should be accompanied by strenuous efforts to also raise its quality.

- Enhancing R&D cooperation. By 2015, 50% of ISMA research themes should involve at least one partner from a Latvian or international university or other R&D institution, to involve partners from other universities or R&D institutions and corporations in the work on most of its research themes or collaboration projects.

- Improving the evaluation performance of research areas and research units.

3.3. Transfer of knowledge.

The **objectives** of knowledge transfer are:

- receiving and using scientific knowledge and innovative technologies to improve the competitiveness of Latvian economy;

- providing quality research services, including applied research, to Latvian business sector.

Important **development directions and expected results**:

- *Effecting the transfer of knowledge by teaching***.** ISMA will organize its formal studies and advanced training in a way conducive to effecting knowledge transfer to students in the course of their studies and to specialists in the course of their in-service training.

- *Defining the research services provided at ISMA and increasing the number of different services on offer.* ISMA will define a list of know-how based activities (services) which can be performed when commissioned by businesses sector.

- *Significantly increasing the volume of testing, certification and laboratory services and in-service training***.**

- *Increasing the number and volume of collaboration projects* (including collaboration agreements). ISMA will significantly increase the number and average volume of new R&D projects prepared and launched in collaboration with partners from businesses or the public sector by 2015.

- *Establishing a sound foundation for a support services system facilitating knowledge transfer.* The system and the support services provided will be developed in accordance with the respective demand. Support services will be provided with the help of outside partners.

3.4. Members

The o**bjectives** of expanding ISMA membership are:

- ensuring replacement and permanence at ISMA of researchers in technology, natural, economic and management sciences;
- improving the performance of magisterial and doctoral studies and providing a sufficient number of graduating specialists to meet the needs of Latvian businesses and science.

3.5. Important development directions and expected results:

- creating new positions of research fellows and practitioners to surpass the number of teaching staff positions;
- providing incentives for researcher replacement and permanence at ISMA and increasing the proportion of researchers and practitioners active in knowledge transfer;
- setting up an R&D incentives system, showing flexibility in giving financial and other recognition to good performers;
- creating relevant opportunities and conditions for employees' continued education;
- significantly increasing the intake of doctoral students, raising the performance of doctoral studies programmes and creating a system for managing and evaluating the quality of doctoral studies;
- aiming to make doctoral studies curricula interdisciplinary;
- expanding the involvement of promising Bachelor's and Master's students in research; among other things, regular competitions will be organized to select best ISMA student research papers;
- disseminating knowledge transfer experience by means of internal and in-service training.

3.6. Organization and management

The **objective** of improving organization and management lies in creating a platform for raising the efficiency of R&D work. **Important development directions and expected results:**

- *Enhancing the role and responsibilities of academic structural units* in R&D management and financial planning; academic structural units will be free to plan and finance R&D in their areas in accordance with their strategic plans.
- *ISMA will facilitate the creation of interdisciplinary research groups* involving representatives of other universities and research institutions. It is important that infrastructure development be accompanied by the creation of such new research groups in all priority R&D areas.
- *ISMA research institutions will integrate closely with the University through interdisciplinary research groups**,** centre of excellence and the organization of doctoral studies.*

4. Implementing the Strategy

The aims and activities envisaged in the Strategy at hand are specified in the following documents:

- Strategic programmes of key ISMA R&D areas, to be approved;
- the strategy for knowledge transfer and for enhancing cooperation with businesses and the public sector, dealing with provision of research services;
- Strategic plans of ISMA structural units, to be drawn up together with the University's new overall strategic plan every year;
- at least once in every years the entire R&D Strategy will be revised.

Annex 1

Information Systems Management Institute (ISMA) is a private higher education institution that was founded in 1994 on the former Riga Aviation University base. ISMA is well known both in Latvia and abroad and possesses the permanent accreditation. ISMA offer the opportunity of education for Bachelor's, Master's and Doctor's degree and Lifelong Learning programs in the sphere of business administration, entrepreneurship, information technologies and tourism management. Every year ISMA organizes international conferences on Open Learning and Distance Education, Information Technologies and Management and conferences on Student Practice. ISMA take part and also was the coordinator in some EU projects.

Annex 2

SWOT and critical success factors

Internal environment strengths: long knowledge and skills base together with human resources embodying these; established research areas and groups, competence in ISMA traditional R&D areas; established contacts with researchers in other countries, international cooperation relations; strategic thinking and planning has taken root at ISMA in recent years; ISMA has accumulated to research needs of businesses sector; ISMA teaching and research staff have long-standing relationships with partners in businesses sector.	*Internal environment weaknesses*: relatively high average age of research and teaching staff; limited career opportunities, lagging promotions; lack of funds to finance new research themes and groups; insufficient experience and poor performance in marketing research services; relatively low salaries; international recognition has been reached partly in certain research fields and priority R&D areas; .

Opportunities presented by external environment: accession to the EU with its R&D support instruments enable ISMA to increase its participation in international R&D networks. the EU's R&D priorities are conducive to the development of key ISMA R&D areas. the allocation of doctoral study places may favor ISMA.	*Threats emanating from external environment:* government financing of R&D will not materialize; national R&D financing scheme will be unfavorable to the development of technology sciences; national R&D infrastructure modernization programme will not be implemented on the scale expected by ISMA; the number of state-commissioned doctoral study places and the approved expenditure for training one doctoral student will not be accessible; salaries in other sectors of the economy will grow faster than in higher education and R&D; constructive collaboration between Latvian R&D institutions and universities, as well as international collaboration, will fail; development of Latvian businesses continues to lag.