

The University Science Research Management Systems

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Abstract

This paper aims to assess the University Science Research Management Systems and especially the effectiveness of the Science Research Management System at the Tsenov Academy of Economics, Svishtov.

There are several kinds of Science Research Management Systems in the universities all over the world and different roles and responsibilities of the project participants. Most of the European universities are oriented to the requirements of European Commission.

The system of Science Research Management at the Tsenov Academy of Economics, Svishtov consists of several entities. Some of them are directly connected with the Science Research Management System and others are peripheral. There are two main problems with the Science Research Management System. They can be overcome with training and reorganisation of the project team coordination. As a result we hope that in the next few years the Academy will have bigger success in economic and management scientific research.

Keywords: *science research, management systems, project management*

JEL Classification: I23

Introduction

The Management System of the higher schools is very important for their performance. The Universities are equally global, national and local player. Creating a good organization that will lead to best outcomes in terms of research impact is a key factor for the competitiveness of these institutions.

The objective of this paper is to deep in the features of the University Science Research Management Systems and especially to explain characteristic of the System at the D. A. Tsenov Academy of Economics, Svishtov. It is one of the oldest higher schools in Bulgaria and has good traditions in economic and management education.

Despite of the well established structure, the Science Research Management Systems has developed and improved in the last years, persuading higher effectiveness and performance.

1. Beginning and development of the research universities

Universities are founded on long histories of well established structures. As is known, the first university (of Bologna) originated nearly 1000 years ago – in 1088. However, science research has been carried out in the universities much later – from 19th century, when emerged the so called German and French model of a university.

The German model, known as a Humboldtian model, has features as freedom of study for students (*Lernfreiheit*), unity of teaching and research and university autonomy. The most important is that the student teaching is based on the fundamental laws of science and the university education is a student-centered activity of research. The Humboldtian model has a great influence throughout Central, Eastern, and Northern Europe [Anderson, 2004].

The French model replicates to some extent the German organization, viewed through the ideas of Republican ideology. But the French system is characterized by much greater control and prescriptive curricula. It is more centralized and is associated with a restriction of freedom, including in the field of research [Anderson, 2004].

In the 19th and 20th centuries the universities already started to develop science research and the learning became much more practically oriented. Students had the opportunity to do research in laboratories and to make their doctoral theses and research based study preparing to enter the professions [Rüegg, 2004].

Today there are about 10,000 universities globally, with Universities Worldwide [Universities Worldwide 2014] providing links to 9288 universities in 205 countries. Many of these institutions are organized on the western model, i.e. they pursue teaching and research together for society benefit. This model remains relatively constant for centuries and has spread globally. The universities today are indicator for national and local development [Gospodinov, 2012]. They are a key factor for economic growth and basic circumstance in the knowledge triangle [Parashkevova, 2012] and the knowledge economy [OECD, 1996] [Olssen, Peters 2005].

According to Alan Johnson [Jonson, A. M., 2013, p.41-42], regarding the science research all universities have a basic Academic Organizational Unit (AOU). It can be a department, center, school, college, etc. If there are several AOU, they may make even a faculty or other similar structure.

Usually the vice rector or vice president is responsible for the scientific research at the university. But in many times he/she is in charge for research outcomes and outputs, without directly supervising the staff, who do the research. The main reason for that

inconsistency is that these AOU have their own budget, which is not under the control of the vice rector.

In most cases the governance of research within the university depends on the national funding and organizational models in place [Jonson, A. M., 2013, p.43].

The analysis of the EUROSTAT information for Romania and Bulgaria shows, that the funding models of RD are very similar. The indicator for Gross domestic expenditure on R&D (GERD) is shown on Table 1 and Figure 1.

Table 1

GERD by source of funds in Romania and Bulgaria (%)

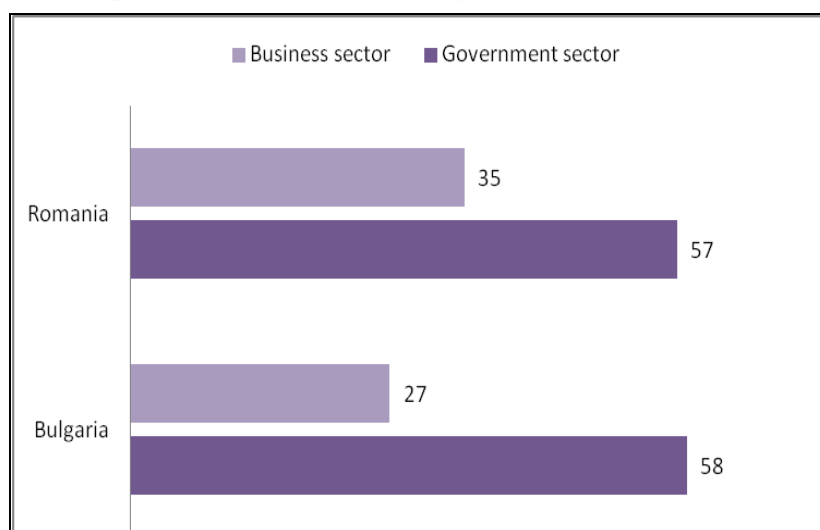
Years	2003	2004	2005	2006	2007	2008	2009	2010	2011
Romania									
Government sector	48	49	54	64	67	70	55	54	49
Business sector	45	44	37	30	27	23	35	32	37
Bulgaria									
Government sector	67	66	64	62	57	61	61	43	39
Business sector	27	28	28	31	34	31	30	17	17

(Source: GERD by source of funds (%), EUROSTAT)

The average share of the government sector funding for research and development in Romania (GERD by source of funds) for the last years is 57% and in Bulgaria - 58% [EUROSTAT, 2014]. Only the business sector funding for RD in Romania is greater. The average level for 2003-2011 years is 35% for Romania and 27% – for Bulgaria.

Figure 1.

Average share of the government and business sector funding for research and development in Romania and Bulgaria for the 2004 – 2011 year, %



(Source: Author calculations)

2. Good governance practices

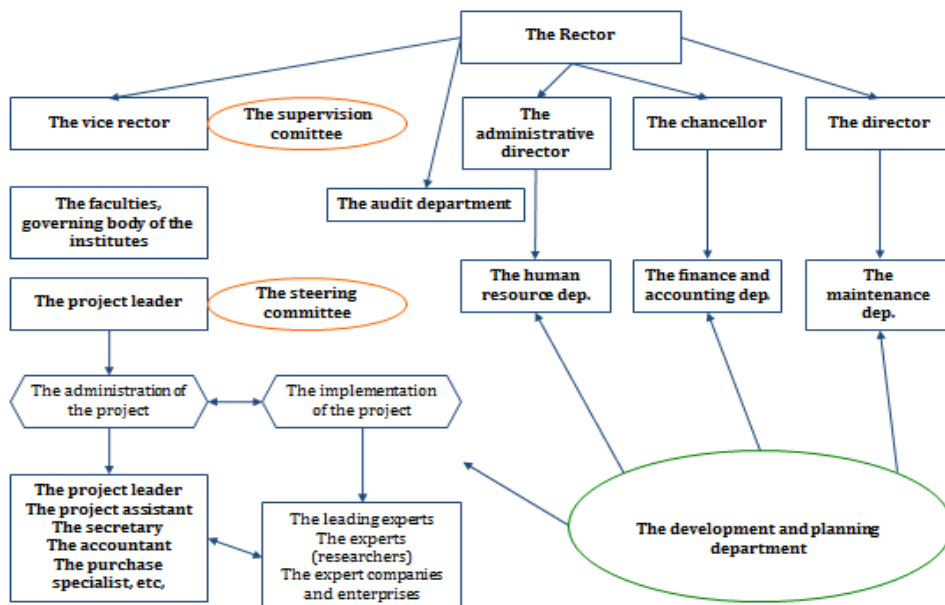
Today most of the European universities have structure, orientated to the EU fund requirements. Usually there is a Program Director, who is authorized by the organization to direct the project or program to the appropriate grant scheme. It is possible for an organization to have a few people in the role of Program Director. They are accountable for the applicant organization and the project partners, for the management of the project, including for the applying of the project proposal.

There is created an Association of Program Directors/Principal Investigators in the United States. This is an independent organization for contacts in a network of researchers from different fields of science. A lot of studies show that a researcher can spend half of his/her time on administrative and financial matters related to research. All general questions – for example regarding financial support, supervising lab staff, mentoring graduate and postgraduate students, teaching, writing papers, serving on committees, etc. can be done by external experts.

The University of Latvia has built in recent years management structure very close related to the research. The University has created a special structure – Development and Planning Department, which administers the preparation and execution of research projects.

Figure 2.

Overview of the project management system in University of Latvia



(Source: Sandra Strole. Development and Planning Department Project Unit, University of Latvia, 2013)

The university is working second decade of European research projects and has good experience in that field. Despite that the administration is working on improving the process of managing. It creates unified platform for project development and try to optimize and coordinate effectively the work of the different departments.

3. The Science Research Management System at D. A. Tsenov Academy of Economics, Svishtov

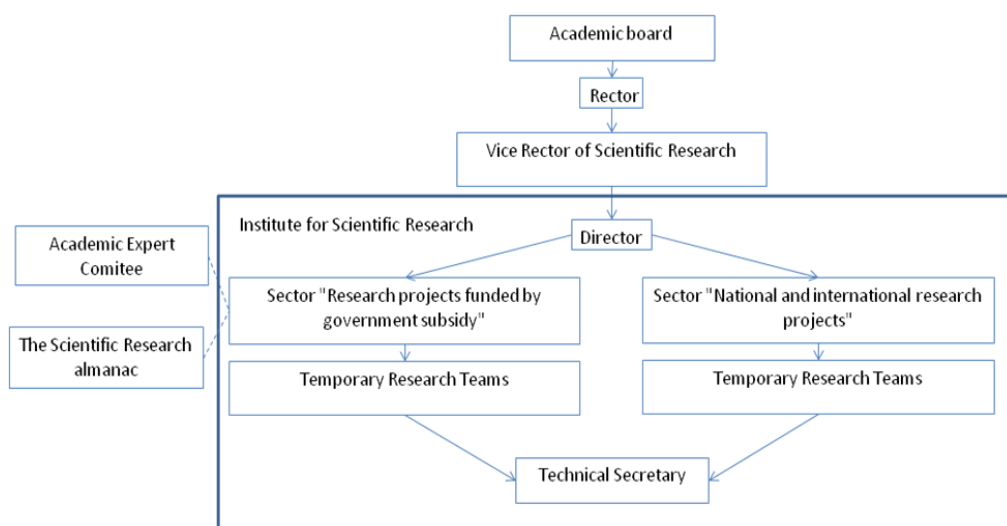
D. A. Tsenov Academy of Economics, Svishtov has established traditional management structure of science research. The basic academic organizational unit (AOU) is called Institute for Scientific Research (ISR). The mission of ISR is *to organize theoretical and practical scientific research in line with the scientific specialization and the role and place of the D. A. Tsenov Academy of Economics in the European and the national scientific and educational systems in order to support and develop its scientific function* [D. A. Tsenov Academy of Economics, Svishtov, 2014].

The organizational structure of the ISR includes:

- Director;
- Sector "Research projects funded by government subsidy";
- Sector "National and international research projects";
- Temporary scientific research teams – the major building blocks of the university research
- Technical secretary

Figure 3.

Overview of the project management system in the Tsenov Academy of Economics, Svishtov



(Source: D. A. Tsenov Academy of Economics, Svishtov, 2014)

Besides that there are two units – Academic Expert Committee for organizing, conducting and reporting on tenders for research projects funded by the Ministry of Education and Editorial Board of the "Scientific Research" almanac – a scientific magazine for publishing research project.

ISR is responsible for development of the University Science Research Strategy and for the implementation of some measures/projects.

The management body of the university has the intention to create Council of the Scientific Secretaries of departments. This council will be a mediator between ISR and members of the academic staff. In particular, scientific secretaries will participate in the transfer of information on projects and they will participate in informal teams to ISR project development.

The ISR works according to internal rules (regulations) on how each element of the ISR should ideally work.

There are several major issues in the D.A. Tsenov Academy regarding the management of research. In this report I will focus on two of them:

- lack of a administrative capacity for project management
- poor coordination between the units involved in the management of research projects

In response to the first problem, ISR has developed initiative in formation of Academic Club "Project Management". It is on a stage of concept design adopted by the university management. The club will have two types of members: mentors – teachers and researchers with some experience in project management and; trainees – young assistants and doctoral degree students. There is developed and approved operating rules of the club. The core competencies of the individual teachers for project management are defined. Curriculum is developed, which will be flexible for the individual players at the club. It is intended that participants will study only the subjects in which they have a deficit of knowledge and skills. The training will be carried out on the principle *learning by doing*.

Among the subjects in curriculum are:

- Problem analysis and goal setting
- Development of activities
- Budget
- Project administration – building a team, sharing of tasks in a team, organization of meetings;
- Procurement;
- Reporting Project;
- Working with Managing Authority, visualization;
- Team building;
- Training of Trainers;
- International projects - financing schemes to access information on-line application, communication with partners, intercultural communication international

projects, administration and reporting of multilateral project etc.

The second problem is more directly related to the management of research. Practically besides the above mentioned structures, in the project management there are included the following departments:

- Finance and Accounting Office;
- Finance management and control and procurement;
- Human Recourse Department.

Contacts with them are not well regulated, resulting in gaps in the project management at the university level. For example there is no unit to accumulate information on the number of teachers' hours per day. There is no practice of sharing of experience or lessons learned from mistakes so there is no mechanism for prevention of that mistakes in the future work of the temporary teams. All this leads to loss of profits and reduces the efficiency of the implemented projects.

For these reasons ISR has developed concept for coordination in the project management in the Academy, which is under deliberation from the management board now. The concept contains makes explanation of the communication processes, the frequency of meetings, the duties of the individual departments and teams etc. Practically this is expected to improve the average level of science research management – program level.

Conclusion

Russian historian Pavel Uvarov argues that universities are able to survive in every crisis. Indeed sometimes they are closed, as during the French Revolution, but in general they are vital structures. They are agents of globalization. [Уваров, П., 2010]

However, universities in general and their individual structures should be improved. This is particularly important in the era of knowledge-based economy and with even greater force is relevant to higher education institutions from Romania and Bulgaria, which in recent years entered in the highly competitive education market.

Despite that the organizational mechanisms are relatively uniform there are significant differences between individual higher schools due to the precise mechanisms that distinguish the best performers from the rest.

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