

SWOT ANALYSIS OF ACADEMIC AND INDUSTRIAL COLLABORATION IN CONDITIONS OF UNIVERSITY OF ZILINA.

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Abstract— *This paper deals with SWOT analysis of cooperation between academic and business environment. We specify the SWOT analysis elements in the conditions of University of Zilina. The fundamental objective of the analysis as to the cooperation between academic and business environment is to identify trends, impacts and conditions that can influence the cooperation. The process of the strengths, weaknesses, opportunities and threats identification as to the cooperation between academic and business environment at the University of Zilina is the basis for definition of specific objectives of the University of Zilina in sphere of the technology transfer. The objectives in the technology transfer sphere define what the University of Zilina wants to achieve in this field.*

Index Terms 34 Business, cooperation, opportunities, strenghts, SWOT analysis, threats, university, weaknesses.

INTRODUCTION

As to Slovak Republic characterisation, last year (in 2001) on an average 2 917 business units monthly were established. This number includes 118 business establishments and 2799 individual enterprisers. On an average monthly 2073 business units lapsed – including 38 enterprises and 2035 individual enterprisers. Every day approximately 68 business units were liquidated – 1 business establishment and 67 individual enterprisers. Table I describes how many business units were established and liquidated in Slovak Republic concerning the branches of business.

TABLE I

NUMBER OF ESTABLISHED AND LIQUIDATED BUSINESS UNITS

Branch of business	Number of established business units	Number of liquidated business units
Trade	14 170	9 683
Industry	5 053	3 335
Building trade	5 025	3 238
Immovables, leasing, merchant services, research and development	4 655	2 515
Production mineral raw materials	6	4
Posts and telecommunications	24	18
Banking and insurance	64	34

The statistical figures presented in the introduction of the paper are not groundless. They can serve as a leaving point leading to their analysis and interpretation. They represent characterisation of our situation in business enterprising in pre-accession period before acceptance of our republic to European Union. Which role do universities play in the process?

It is well-known fact that national wealth depends on degree of development of Eunits. (business subjects) The development of business enterprising is determined by various external and internal factors. On account of this paper topic and with accordance with the aim of the conference we focus on one of these factors, namely on cooperation between academic and business environment.

For the problem is rather broad we have decided to use unusual approach that resides in application of SWOT analysis as to the cooperation. [1]

SWOT ANALYSIS OF TECHNOLOGY TRANSFER

SWOT analysis can be used provided that sufficiency of data and information for audit of the cooperation is available. Afterwards it is possible to evaluate internal conditions of the cooperation, its strengths as well as weaknesses and to compare them with opportunities and threats that come from external environment. This is an analogy with well-known analysis that is used for example in marketing or management, when we by means of finding strengths, weaknesses, opportunities and threats search relevant and useful information for acceptance of strategic measures for example to meet a demand in some market segments.

The importance of the analysis resides in the following facts:

- Any change in internal environment can have relevant influence on quality and level of the cooperation. Forecasting situation and flexible answer to the change can be used for benefit of the both concerned partners.
- Universities and also enterprises are situated in complicated environment. The analysis helps them to orientate and to find aspects, which have supreme importance from the point of view of evaluation.

Some aspects of the cooperation can be considered as strengths and at the same time as weaknesses. Most questionable factors must be divided in partial factors, which

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afterwards can definitely be allocated either to strengths or weaknesses.

Using the same approach we can evaluate opportunities and threats related to environment, where the cooperation of university and business subjects takes place.

The component part of SWOT analysis is in general also proposal of activities, which should be accomplished to take advantage of opportunities, eliminate threats and weaknesses and to emphasize strengths of the cooperation. We decided to present an example for one of the SWOT analysis elements, namely the strengths:

- The broad profile of University of Zilina.
- The high level of present cooperation with business environment.

Significant specification:

- The wide use of expertness and skills of the University of Zilina specialists in various business units.
- The professional approach of experts and consultants.
- The meaning profile of the both concerned partners.

Necessary measures:

- To improve informedness of business subjects with emphasis on broad opportunities of possible cooperation with business environment.
- To create database of experts including detailed characterization of their professional specialization.
- To lay emphasis on present results of the cooperation
- The program to keep up existing cooperation at its present level
- The stimulative system for the most efficient experts

The SWOT analysis must specify objectives and measures; otherwise it would have only limited applications. In conditions of University of Zilina the analysis of cooperation with business environment can be described as follows.

Strengths

- The level of scientific research and development at University of Zilina – the existence of relevant institutions, which work directly as a part of the University of Zilina or are in a close relation to it. They are first of all these organisations: CETRA, Slovak Centre of Productivity, IPA Slovakia – Fraunhofer association, Science and Technology Park, etc.
- The existence of Industrial Liaison Office at the University of Zilina. [2]-[3]
- The high level of cooperation among the University of Zilina and other universities and research establishments in the Slovak Republic.
- The high level of involvement of the University of Zilina students and PhD students in solving problems of business environment (diploma works, thesis).

- The aspiration of academic experts as to the increase of their earnings concerning the low standard of lecturers' wages compared with standard of the category wages for example in Czech Republic or in European Union countries.
- The University of Zilina experts compete in strong competitive environment. They establish many international contracts.
- The University of Zilina in collaboration with other academic establishments and Ministry of Education forms Slovak information and consulting academic network.

Weaknesses

- The lower level of business skills in compare with technological skills at the University of Zilina.
- The lower level of cooperation between the University of Zilina and the Slovak Academy of Science.
- The insufficient market research in the field of business needs in technology transfer.
- The existence of internal competitive environment at the University of Zilina among its faculties and departments instead of common actions and collaboration of experts.
- The business establishments in the Slovak Republic have not yet made a profit from results of the European Union projects in technology transfer.

Opportunities

- The worldwide trends as to development of technology transfer and research ideas to business environment. The conception of technology transfer development in developed countries is described in the Figure 1. [4]

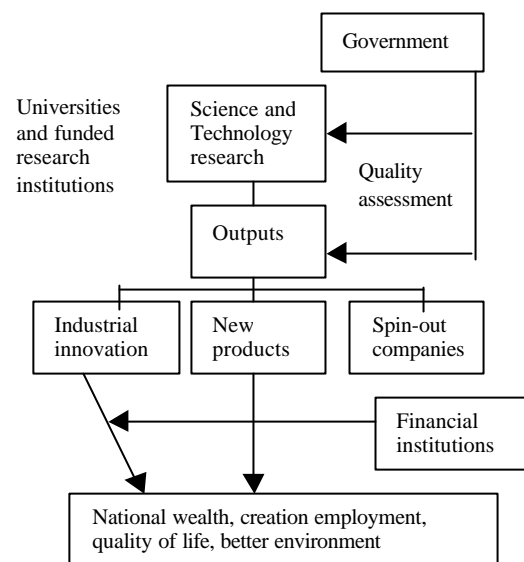


FIGURE 1

CONCEPTION OF THE TECHNOLOGY TRANSFER DEVELOPMENT IN DEVELOPED COUNTRIES

- Support for science

and technology research by means of the state, European Union programs.

- Support for the new innovation companies formation and development by means of the state, European Union programs and programs of National Agency for Small and Medium Enterprises Development.
- The existence of a new university law, which enables the contact with business environment on qualitatively higher level.
- The existence of legislative support for the industrial zone formation that is going to be situated in close interconnection with the University of Zilina.
- The stimulative budget of the European Union's 6th Framework program (approximately 16 270 millions EUR).
- Zilina is the seat of the University of Zilina. This town is the communication crossing of Slovak Republic.
- After its highway interconnection and airlift intensification its position will represent relevant opportunity.

Threats

- The existence of private consulting firms (in most cases with higher price for provided services).
- The low share of financial resources which small and medium enterprisers devote to innovative and development processes.
- The excessive bureaucracy and complicated processes by obtaining grants, for example within European Union's frame.
- Slovak Republic has within the last four years contributed more than 900 millions crowns to the science and research development programs of European Union. In contacts of Slovak organisations fewer than two thirds of the resources have been repaid for the time being.
- From the point of view of the European Union's 5th Framework program European Commission has up to now approved and contracted approximately every fifth project, in which the Slovak partners participated. Till the half of March 2002 the Slovak participants have obtained the contracts amounting to 12,67 millions EUR (529,61 millions SKK). It means that not even will be returned our republic membership tax to the European Union's 5th Framework program amounting by February 2002 to 22,12 millions EUR (924,62 millions SKK) to Slovak Republic.
- The actual return on investment can be expected in several years after commercialisation of results in form of sale, licence, etc.
- The expenses for science and research in Slovak Republic represent only 0,69 percentage of gross

domestic product in comparison with European Union's average that is 1,89 percentage.

- The existing barriers of technology transfer in Slovak Republic. There are the following barriers concerning various aspects:
- From aspect of supplier there is the absence of appropriate law that is suitable for technology supplier, obstruction for enterprisers, bureaucracy, corruption, instability.
- From technological aspect there is the need for connection of new technology to existing technology.
- From cultural aspects there is insufficient protection of intellectual property.

SUMMARY

The process of the strengths, weaknesses, opportunities and threats identification as to the cooperation between academic and business environment at the University of Zilina is the basis for definition of specific objectives of the University of Zilina in sphere of the technology transfer. The objectives in the technology transfer sphere define what the University of Zilina wants to achieve in this field.

By means of strategy of technology transfer at the University of Zilina the ways, by which the university wants to reach its objectives are defined.

The University of Zilina chooses the differentiation strategy as one of the generally known strategies for technology transfer. The strategy says that the University of Zilina focuses on achievement of perfect performance in some important field, for example it tries to gain leading position, mainly in the fields of transport, information technologies, telecommunications, productivity, quality and in other fields which relate to the University of Zilina specialisation.

REFERENCES

- [1] Corejová, T., Rostášová, M., "Technology transfer trends at the University of Zilina, *Proceedings of 7th International Scientific Conference COFAX, April 2001.*
- [2] Rostášová, M., "Science and Technology Park of Zilina", January 2001.
- [3] Rostášová, M., "Industrial Liaison Office", *Proceedings of International Conference Medzinárodné vedecké dni 2001*, July 2001.
- [4] UNIDO Slovakia – internal materials.