

# **Regional Development -in view of academy-industry cooperation**

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## **Abstract**

In the knowledge-based economy the inter-organizational cooperation between academy and industry plays a crucial role for the regional development. The networks such as regional initiatives and local and sector agendas have to be strengthened. A special emphasis is centered on collaboration and synergies should be generated with the aim of exchanging and becoming more competitive in the global century. This paper presents the objectives and strategies of regional dynamic interaction of Hochschule Wismar (HSW) and Mecklenburg Western Pomerania (WM) and discusses the topic of the role of university in the field of regional development.

## **INTRODUCTION**

There is transition from post industry to knowledge based age; besides the land, labor, and capital, knowledge acts as a cultural capital in the society. Teaching as the first mission of universities, complies with the need of a region, supplies the human capital. Through the process of knowledge management, there are creation, storage/retrieval, transfer and application of knowledge. Universities are large players in the region in terms of knowledge production and their economic impact. [1] The second task of universities is research. There are two important output-indicators: R&D's investment and patent numbers in a region. Mostly interesting for the regional development is from the creation to application. The famous examples of cooperation between academy and industry in USA are Stanford University in Silicon Valley, Massachusetts Institute of Technology and the route 128 in Boston, Cambridge University in Cambridge shire. Innovation gap flows from the shorter life cycle of products. On the one hand, investment for new products development and innovation increased, on the other hand, the actors (industries) looking for collaboration with research institute (universities).

A highly skilled workforce, capable of continuous learning and able to adapt to change, will be an essential foundation for the economic and social well-being of people and their communities.[2] Guile (2001) indicated that life long learning principally based on the assumption of a causal relationship between qualifications, employment and economic success.[3] More recently, the rhetoric around lifelong learning refers to the rapidly increasing pace of technological change and harnessing this change to drive wealth creation mirroring the employment rationale of EU policies. [4]

Drucker (1999) analyzes the new realities of strategy, shows how to be a leader in periods of change, and explains "the new information revolution," discussing the information an executive needs and the

information an executive owes. He also examines knowledge worker productivity, and shows that changes in the basic attitude of individuals and organizations as well as structural changes in work itself are needed for increased productivity.[5]

#### HIGHER EDUCATION INSTITUTES

According to John H. Cardonal Newman, a university should offer liberal education; the task of university is knowledge-transfer. W. von Humboldt, whose university model has strongly influenced other European and western universities, he emphasized that research is the main mission of universities.

The former president of California University, Prof. Clark Kerr has outlined what the function of a university should be in the future: the university should be the “Service Station” in the society. This increased effort to involve universities in regional development processes is often referred to as the “third task” of a university. There is both a need and an opportunity with regard to the surrounding region to tackle these developments in an integrated manner.

Levis stressed that, universities have become instruments of national competition as well as instruments of peace. They are the locus of the scientific discoveries that move economies forward, and the primary means of education the talent required to obtain and maintain competitive advantage. [6]

#### Lisbon Strategies

In 2000 European Union heads of state and government met at a summit in Lisbon, they set the goal of making Europe “the most competitive and dynamic knowledge based economy in the world.” The most effective modern economies will be those that produce the most information and knowledge, and make that information and knowledge easily accessible to the greatest number of individuals and enterprises. When Europe competed with countries that offered low-skilled work at low wages, the time is long gone. The most effective modern economies will be those that produce the most information and knowledge. If Europe wants to retain its competitive edge at the top of the global value-added chain, the education system must be made more flexible, more effective and more easily accessible to a wider range of people. [7]

Europe’s school systems will have to make considerable headway if they are to meet to demands of modern societies. There are three of five recommendations in Schleicher’s point of view, which related to the field between higher education and regional development: First of all is to create and maintain a system of diverse, sustainable and high-quality educational institutions to respond to demand and accountable for the outcomes they produce. The second one is to encourage universities to involve so that their leadership and strategic management capacity matches that of modern enterprises, with appropriate strategic, financial and human resource techniques to ensure long-term financial sustainability and accountability requirements, and the last point is to ensure that universities are governed by bodies that reflect a much wider range of stakeholder interests than the academic community.

Education and skills will be the key for Europe to achieve its ambitious goals. Europe's capacity to compete in the global knowledge economy will depend on its higher education institutions can meet the fast growing demand for high-level skills. Initial education alone is no longer to meet the rising and changing demand for skills. Promoting "lifelong learning" therefore has become a goal of European education policies.

## REGIONAL DEVELOPMENT

Traditionally, economic theory mentions the following factors for comparative advantage for regions: land, location, natural resources, labor and local population size.

The strengths in field of regional development in Mecklenburg Western Pomerania (WM) are

? comparatively good conditions

- ? numbers of regional active players
- ? regional thinking, will to regional policy
- ? integration of enterprises (companies) and
- ? economic association.

Contrary the weaknesses in the field of regional development in WM are

- ? no clear regional decision structure
- ? lack of clear distribution of tasks and competences
- ? lack of common regional vision
- ? distance between public and private players
- ? no standard image
- ? deficit by flow of information and
- ? dependence on means of conveyance, promotional funds. [8]

## COMPETITIVE ADVANTAGE OF Mecklenburg – Western Pomerania (WM)

The diamond model of Michael Porter (1994) for the competitive advantage of nations offers a model that can help understand the competitive position of a nation in global competition. This model can also be applied for geographic regions.

The interlinked advanced factors for competitive advantage of a region in Porters Diamond framework are,

1. Firm strategy, structure and rivalry: The world is dominated by dynamic conditions, and it is direct competition that impels regions to work for increases in productivity and innovation.
2. Demand conditions: The more demanding the customers in an economy, the greater the pressure facing regions to constantly improve their competitiveness via innovative products, through high quality.

3. Related Supporting Industries: Spatial proximity of upstream or downstream industries facilitates the exchange of information and promotes a continuous exchange of ideas and innovations. The whole school system, the quality of students.
4. Factor conditions: The specialized factors of production are skilled labor, capital and infrastructure. The general use factors, such as unskilled labor and raw materials, can be obtained by any company and, hence, do not generate sustained competitive advantage.
5. The role of government in Porter's Diamond Model is "acting as a catalyst and challenger; it is to encourage- or even push-companies to raise their aspirations and move to higher levels of competitive performance..." [9]

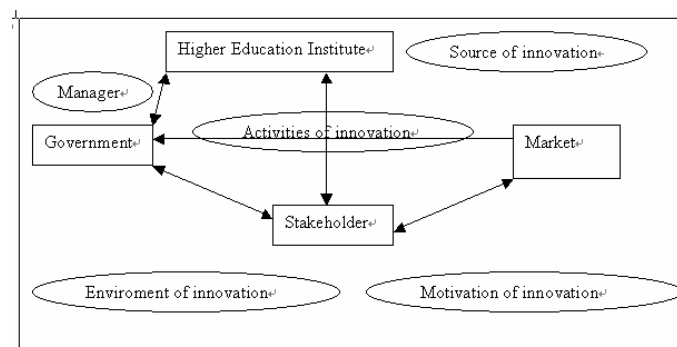


Figure 3: The correlation of innovation under HEI, Public sector and industry

J. Wilson illustrated the following features of a competitive university in the 21. century are: differentiation (keep the characteristic, special quality), globalization (competitive and collaborate globally ), mass customization (curriculum design for students' need) and focus (on own power).

#### SWOT ANALYSIS OF Hochschule Wismar (HSW) in Westmecklenburg (WM)

##### Border of Westmecklenburg

Westmecklenburg border the state Schleswig-Holstein and the Hamburg, The river Elbe and state Niedersachsen form the south boarder. The eastern end connects the Mecklenburgs Seenplatte. North marks the boarder between Lübecker bay and Wismarer Bay. In Westmecklenburg there are two cities, Schwerin and Wismar, and three counties, Ludwiglust, Parchim and North-West-Mecklenburg. The surface is 6.997 qkm and inhabitants are around 498,372 . The inhabitant number tends to decline.

A SWOT analysis is an instrumental framework in value based management and strategy formulation to identify the strengths, weaknesses, opportunities and threats for an institute. Strengths and weaknesses are internal value creating factors such as assets, skills or resources, which an institute has at its disposal relatively to its competitors. Opportunities and threats are external value creating factors, which an institute cannot control, but emerge from demographic, economic, political, technical, social

or cultural factors.

### Strengths

? New innovative service: The project EGOS is a great regional network of actors who all have the same aim namely the strengthening of the capacities and the fundamental knowledge of the region in the frame of lifelong learning. Kinderuni and university for the seniors are characteristic. Furthermore, HSW is one of the “family friendly university”.

?International collaboration: The project IQN—International Quality Network. Within this project, faculty and students exchange could be funded. HSW is for foreign students more attractive.

?Cooperation with industries, HSW is on a close collaboration with the Technology and Commercial Centre of Wismar. The Technology and Research centre that located in the TGZ was founded by the HSW in order to support the industry related research and to function as a kind of transfer centre to the region. Entrepreneurial Education is a priority stream of HSW. The project INFEX has been running with great success within this orientation since 2000.

? Location: Westmeklenburg is surrounded with booming economic centers such as Hamburg, Berlin, Hannover, and even across the Baltic Sea to Copenhagen and Malmö, in the Baltic Sea Region.

### Weaknesses

? Location: MV is one of the poor regions in EU. Mecklenburg Vorpommer belongs to one of the less developed regions in Germany. Especially there are deficit of middle /large size industrial plants. The insufficient economic development reflects the unemployment figure of around 20 %.

? Undifferentiated products and service: Compared with other HEI, HSW is a respectably small university. However, they are not necessarily large universities in their national context. Their relative size gives them the potential to play important enabling roles in the regional policy making. This means that universities in these regions are better positioned to shape the institutional environment to their own ends, which gives them the capacity to engage proactively and to seek to determine the regional agenda.

### Opportunities

? Developing market: The responsibility of the region for the constantly growing numbers of the older generation, distant learning, and language centre.

? The concepts of life long learning and learning region are developing.

? Mergers, joint ventures or strategic alliances: collaboration with foreign universities.

? Moving into new attractive market segments: HSW joints lot of international cooperation projects.

## Threats

- ? Demographic developments a significant aspect need to be taken into account.
- ? Financial problem: less and less from government means
- ? New regulation: in the future it must be paid for the tuition fee in German universities, EU for the accreditation.-rules.

However the HSW undertakes the following important activities to face the challenges.

- ? Has an excellent educational infrastructure;
- ? Fosters close collaboration with industry
- ? Develops and actualizes study programs according to industry demands,
- ? Implements modern technologies in education, in e-learning systems [10]

## HIGHER EDUCATION IS MOTIVATION OF REGIONAL DEVELOPMENT

- (1) Competitive Theory: There are eight factors, which are belong to national competitiveness, and core competitive factors are quality of the nation and technology. 22 of 44 indicators in the quality of nation, 19 of 26 indicators in technology belong direct or indirect to education.
  - (2) Growth -oriented Theory: knowledge and human capital are the spill-over effect for sustainable regional development. The creation and maintain of workplaces are most significantly important. The environment of the research and technology area at extended and strengthened in order to develop specialized and excellent regional knowledge clusters.
  - (3) Not Balanced-developed Theory: The industrial renew structure is based on higher education; it is also minimize the difference between the regional economics. The three tasks of higher education are teaching, research and service. HSW aims to foster research projects for sustainable regional development in the field of renewable energies. Additionally, sustainability plays a significant role in sustaining the economy with activities carried out by the university in close collaboration with the public and industry.
  - (4) The connection of innovation centre and human capital has led to more economic power for the region and attracted more people to settle in Westmecklenburg.
- Effects of Demand and Offer

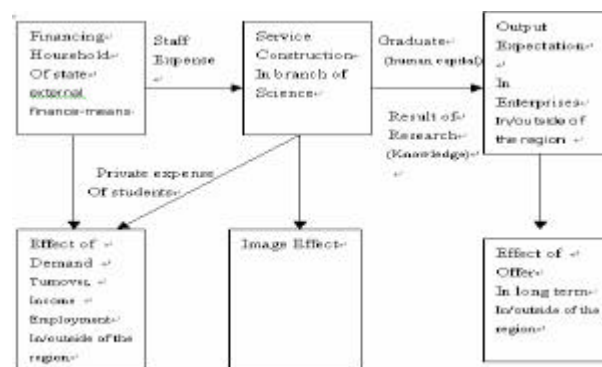


Figure 4: Dependent on Rosenfeld, Martin

T.W., Franz, P and Roth, D (2003), modified by researcher. [11]

D. Swaminathan mentioned, the need of the hour is to have a strong industry-institute (industry-academy) interactions, which will result in pooling, sharing and optimizing resources, first, the development of indigenous technology appropriate to national resource; secondly, adapting the imported technology wherever needed for preparing the industries to meet global competitiveness, Enriching teaching and research in universities with practical and field experience. And the last one, universities and R&D laboratories will gain the valuable clues for research orientation. The process of interaction will not only lead to mutual benefits of the partners but also contribute to national development. [12]

## HIGHER EDUCATION SUPPORTS THE REGIONAL DEVELOPMENT

Kolter and Levy (1969) developed the “Broadening the concept of marketing”, extended the marketing concept to none-profit organization; also McCarthy (1988) proposed the objectives of none-profit organization is to satisfy needs and the needs of society’s must be considered.

The products of higher education are students, which including the students and students graduated from the HEI and service, which the HEI provides. The people (customers) are no longer belonging to one target-group.

Higher education has developed from elite type to mass type (universal type). The structure of students, Market I (18-24 years old) has changed to Market II (so called, none traditional students), and Market III (retired people) asked more and more higher education

HSW has already been very successful in improving the approach to the younger generation as well as to the generation of the third age. For this purpose the Kinderuni, children at university, has been operating since the winter semester of 2004/2005-initially with seven lectures. Over 500 children between 8 to 12 have attended the lectures.

65% of HSW ‘s students are from MV. HSW From the perspective of human capital, the graduates from HSW offer the working force for this region. Besides, the staff and expense of HSW and private expense of students act as an economic factor in WM.

HSW is situated the topic “entrepreneurship and entrepreneurial education”, which plays a key role in the framework of regional activities. The development and promotion of entrepreneurial thinking at university leads to more transparency and acceptance concerning entrepreneurship and this importance for the regional development.

## Research Tools

In order to understand the newly situation of the HSW in WM the researcher modified the questionnaires of Rosenfeld [11] and developed three kinds of questionnaires for the public sector, university staffs and enterprises as a pilot study during 2006 May-June . These questionnaires are based on the role of Hochschule Wismar in Westmecklenburg.

## Analysis of Data from the questionnaires

(A) Report on the Questionnaire sent out to the public sector within the framework of the cooperation between academy and industry:

### Contact with the Universities

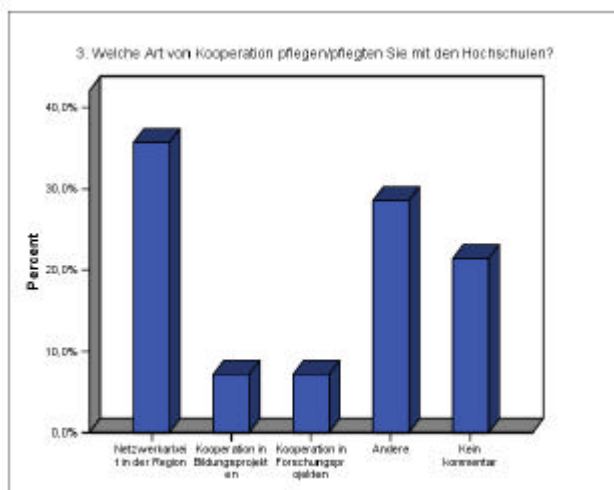
All of the firms contacted reported that they have had contact with universities. Half of the contact had been exclusively with universities in Westmecklenburg but the others had also had contacts with universities outside of the region. When asked a multiple-choice question about the type of cooperation fostered with the universities, 50% mentioned regional networks, 10% cooperation with educational projects, 10% cooperation with research projects, 40% mentioned other miscellaneous projects. However, 30% did not reply to this question.

Nobody responded to the question asking which items were considered essential for cooperation with universities.

The firms were asked about the nature of the support gained from the cooperation with the university. Of those which replied, 40% said that it was a consultation function for the regional development, 50% said that they received support in the acquisition of other resources, 20% mentioned the provision of practical placements for students and final dissertation of the degree support. 30% did not reply.

When asked if they had worked with HSW on joint projects in the last three years, 50% said yes, 10% said that they hadn't but would be interested to do so and 40% did not respond.

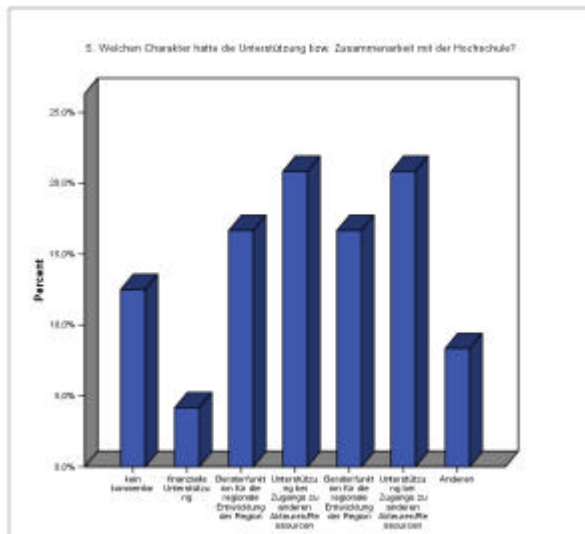
In reply to a multiple choice question, 50% said that the cooperation developed as a result of approaches made by the university, 70% claimed it was as a result of their own initiatives, 20% said it was as a result of other links (e.g.: from EU applications, Interreg. III B – project, again, 30% did not reply,



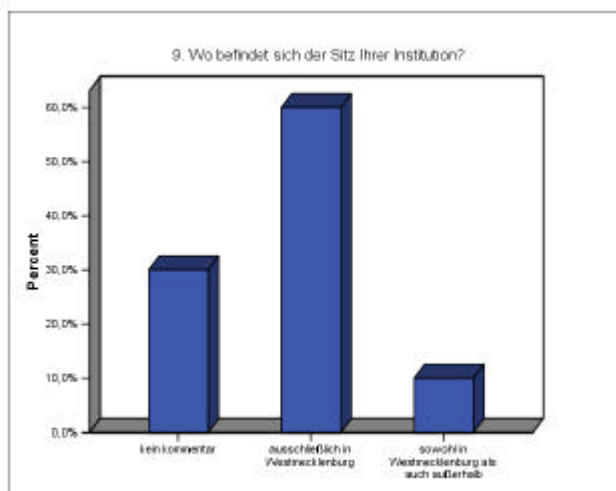
When asked what advantages have the contacts with the universities brought you, 30% did not reply but 70% did and gave examples:

contacts with students, cooperation with professors by means of local presentation; knowledge transfer; advantageous for the university; support for regional projects by projects researches (Agenda 2020 will

be supported complete by Wismar Town); economic related deliveries, university has provided human resources suitable for the region; closer cooperation between city and university, knowledge exchange; usage of the research results.

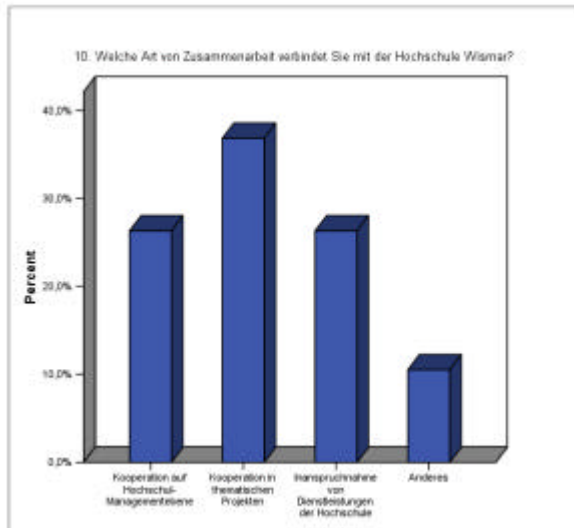


60% of the companies which replied are located exclusively in West Mecklenburg. 10% said they had sites outside, as well as within West Mecklenburg. Again, 30% did not reply.



## II Assessment of the cooperation with HSW

Type of cooperation with HSW: 50% cooperation with University-Management, 70% Cooperation in subject related projects; 50% use of the service of university (experts' reports, Internships, graduates), 20% others: organisations; contracts of cooperation



40% of the municipal offices and other public authorities reported that they had experienced problems when dealing with HSW.

The following types of problems occurred during cooperation with HSW:

- in 20% of cases the areas which university is interested in, did not satisfied the requirements of the quotations;
- 10% bureaucracy barrier of the side of university; no problems in time planning or financial guidelines of the university;
- 10% reported other problems such as shortage of manpower
- However, 70% reported no problems.

Finally, the authorities were asked what they thought could be improved in order to enhance the cooperation between university and private industry. Of the 40% who replied to this question the answers ranged from wanting better access to information to wanting more presentations from the university. Also, they felt that there was a need for a clearer structure which would be more comprehensible to an outsider

(B) Report of the results of the questionnaire sent to college-members

Answers in percentage from the faculties

60% Faculty of Business

40% Faculty of Engineering

0% Faculty of Design

Contacts with Private Enterprises

This group of questions is about particular contact-forms such as:

the utilization of technical facilities, licenses and patents of the business,

award of expert-orders,

cooperation in the development of products / procedures or research contracts.

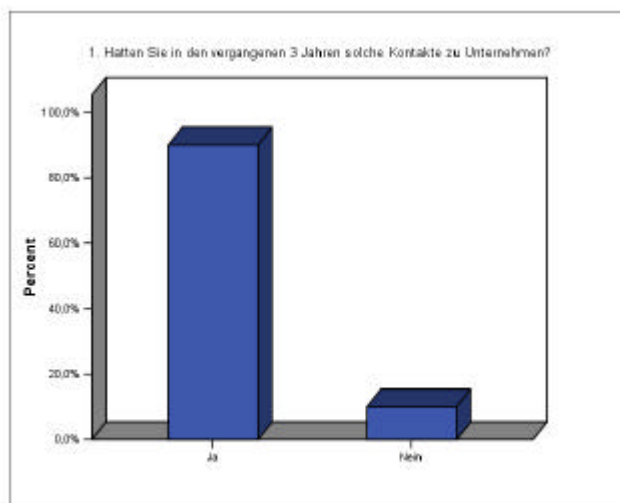
90% of the staff reported that they had had contacts with private enterprises in the last three years, whilst 10% said that they had not.

When asked about their particular experiences about working with private enterprises kind of contacts with enterprises?

10% said that their contacts where concerned with research or teaching,

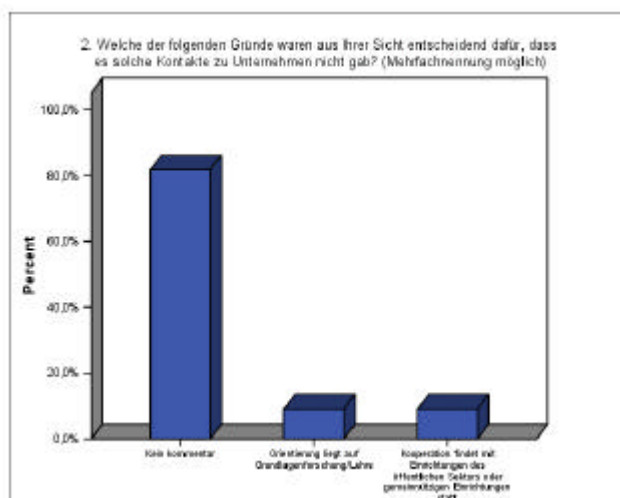
10% said that their contacts where only with the public sector or with organizations set up for the public benefit.

This question allowed multiple answers, however 90% did not reply.



The next questions asked for more detailed information about the nature of the contacts in the last three years.

When asked if they had sold patents or had assigned licenses to any enterprises in last 3 years, 90% said they had not and 10% failed to answer.



10% of the staff had encouraged the contact enterprise to use the technical equipment of the university,  
80% had not done so  
and a further 10% did not respond about this.  
60% had acted in an advisory consultancy capacity,  
30% said that they had not and  
10% did not respond about this.

They were asked if they had received contracts from the enterprise to develop new products or processes, or assist in their development in last 3 years - as research contracts.  
30% said yes,  
60% said no  
and 10% failed to answer.

When asked if they had cooperated with the enterprise to develop new products or processes in past 3 years (cooperation research)  
70% said they had,  
20% said no  
and 10% did not answer.

They were asked in which fields the enterprises belonged to with which they had had contacts in last three years? The responses were:

Software -development, Banks, IT-Service X2  
Medical Technology, Raw Material Industry, Plastics Industry X2  
Museum(TLM) EGOS Learning products, Town Wismar  
Tourism Concept for the region Dassow, plant construction  
Engineering firm, consultancy finance,  
Construction and Accident Research of social service provider

Question 9 asked if they had provided any form of further education for the co-workers of the private enterprises in the last three years.

10% said yes  
80% said No  
And 10% gave no answer

Question 10 asked about which other forms of cooperation had been undertaken were there in the last 3 years.

30 % gave no answer,  
Two said refinement of topics for the practical degree dissertation,

Two mentioned research cooperation projects, other items included: development of marketing-concepts, assignment analyze, care of diploma-works, diploma-works, engineer - receipt-works, thesis

A multiple-choice question asked: From whom did the initiative for the cooperation with the relevant businesses mostly originate?

80% said that cooperation originated with private businesses,

70% said it was their own personal initiative,

10% said it was university initiative,

30% claimed other sources

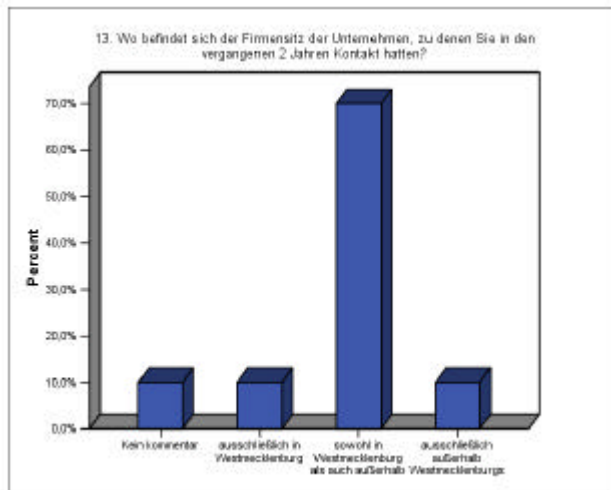
and 10% did not reply.



When asked what advantages they had gained from their contact with private business 40% mentioned the technical knowledge gained which had fed directly back into teaching and updated practical information, more opportunities for finding placements for students and financial opportunities.

Question 13 asked for the location of the headquarters of the firms with which contacts had been made in the last two years.

- 10% said the firms came exclusively from West Mecklenburg,
- 70% said both outside and inside West Mecklenburg,
- 10% said they came exclusively from outside West Mecklenburg
- and 10% gave no answer.

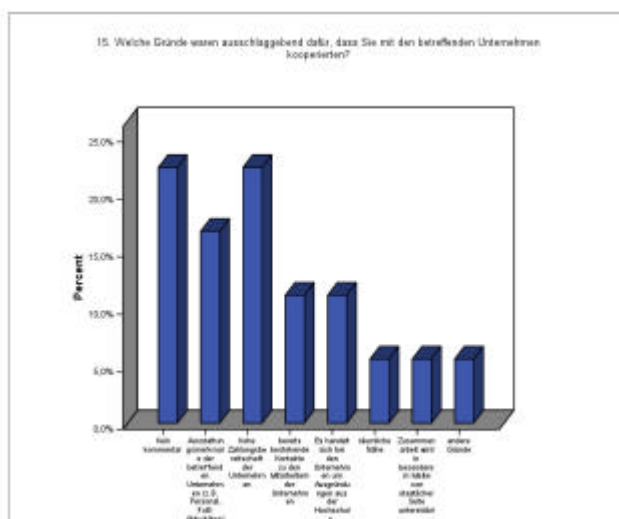


The contacts came from the following regions of West Mecklenburg: 60% Wismar, 70% Schwerin, 10% Parchim, none from Ludwigslust. 10% did not reply to this question

## II Evaluation of the cooperation with the private businesses

When asked which reasons were crucial in cooperated with the relevant businesses (again, a multiple-choice question),

- 40 % gave no answer,
- 30% mentioned the equipment available in the enterprise,
- 40% cited the willingness of the business to pay well for the support,
- 20% mentioned foundation of the business in the university,
- 10% said special proximity was important,
- 10% said support – particularly from the state
- and 10% mentioned other reasons such as innovative ideas and impulse.



Concerning the experiences of cooperating with the enterprises 10% had experienced some problems in

their cooperation with businesses during the past 3 years, 70% had not but 20% did not say.

The types of problems mentioned were:

- the lack of qualifications of the co-workers,
- temporary financial handicaps within the businesses,
- internal bureaucratic barriers on the part of the university,
- Fear of businesses that their resources were being drained.

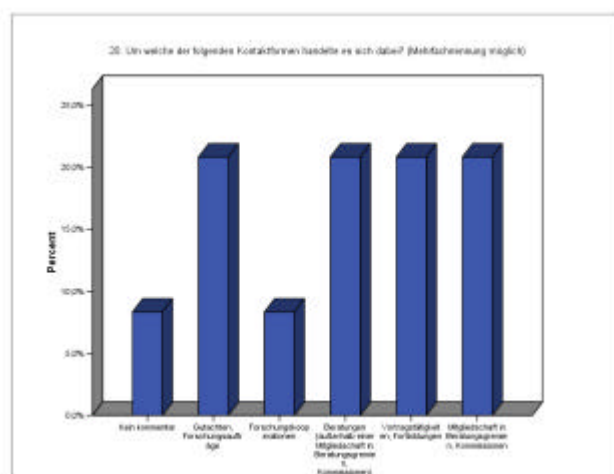
When asked what they thought could still be improved in order to intensify the cooperation between university and businesses in West Mecklenburg, 70% gave no answer and 30% thought that better use could be made of the existing platforms for the exchange of information, e.g. Day of Wismar Business Informatics Day. Also, the capability of the HSW and its staff and students should be more well-known.

### III. Contacts with other facilities

The staffs were asked whether they had contacts with facilities of the public sector personally in the last 2 years? 80% said yes and 20% did not reply.

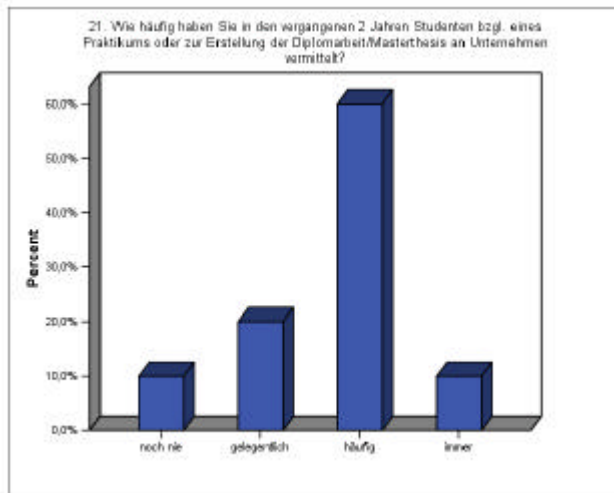
The following contact-forms took place:

- 50% certificate, research assignments,
- 20% research-cooperation,
- 50% consultancy (outside of membership of advisory committees),
- 50% lecture-activities, advanced trainings,
- 50% membership of advisory committees,
- 20% gave no answer.

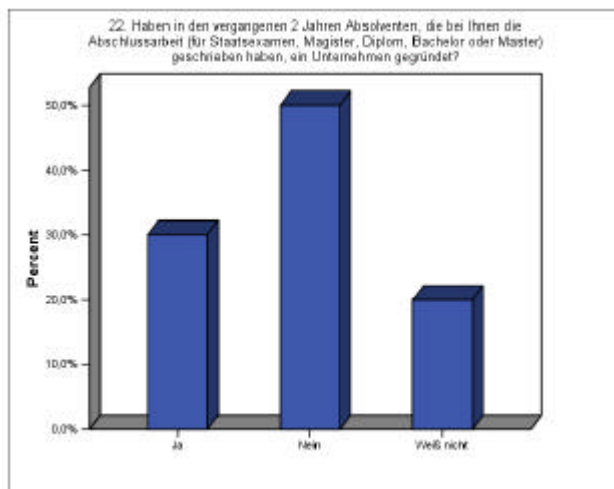


#### IV. Foundations of businesses

When asked how frequently they had placed student in the last 2 years, either on practical course or for the preparation of the diploma-work / Master thesis, with businesses, 10% said not ever, 20% occasionally, 60% frequently and 10% said constantly.



30% of staffs have had recent graduates who have established businesses in the last two years established. However, 50% had not and 20% did not know.



Report of the results of the questionnaire sent to companies

##### I: Types and sizes of the businesses in the region

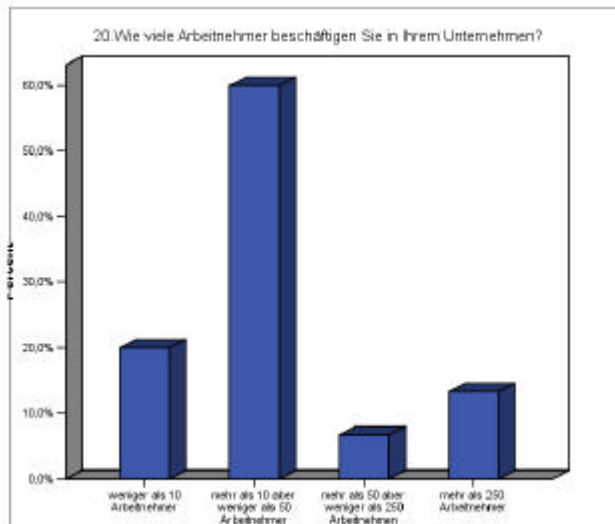
The questionnaire began by attempting to obtain a clear picture of the number, size and types of companies in the region. It found that

18.75% of companies employed less than 10 people,

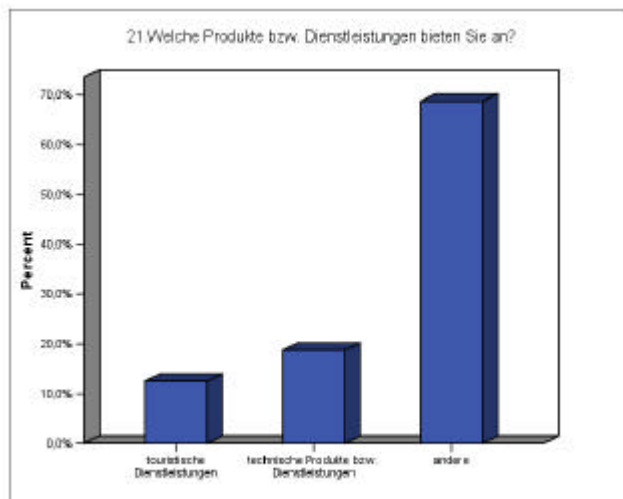
56.25% employed between 10 and 50,

12.5% had between 50 and 250 and

Another 12.5% employed more than 250 people.

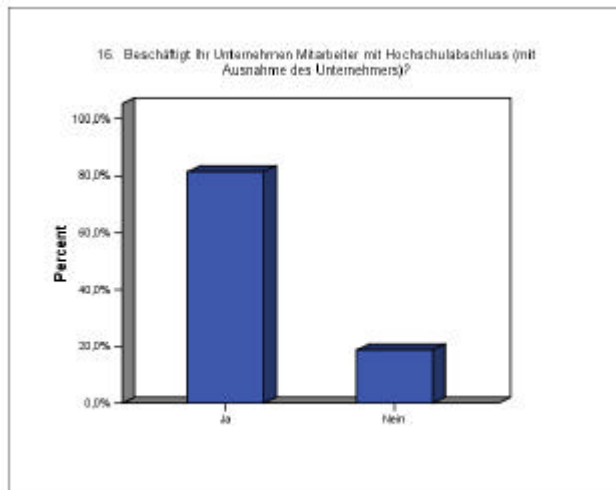


The products or services which are offered by the companies are best shown graphically.



III: Analysis of the take up of students, who have graduated from HSW in the last 12 months

81.25% of companies said that they did employ new university graduates in the last 12 months and 18.75% replied that they did not.

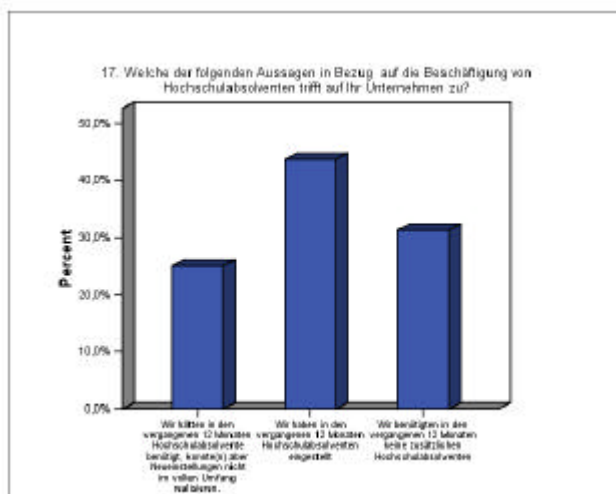


The next question asked specifically about the employment of HSW graduates.

25% of the companies said that they had employed graduates from HSW in last 12 months, but not sufficient to satisfy their needs.

43,75% replied that they had been able to employ sufficient graduates from HSW in last 12 months and

31.25% claimed that they did not need to employ any new graduates in last 12 months.



When asked about the reasons for not employing new graduates.

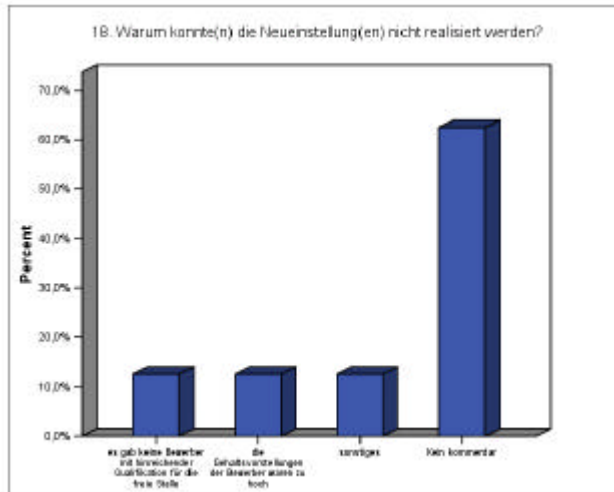
12.5 % responded that they did need to employ new graduate from HSW in last 12 months but the numbers available did not match their needs.

12.50% said that there were no suitably qualified applicants for the vacancies that they had.

12.50% reported that the applicants asked for higher salaries than the were willing to offer and

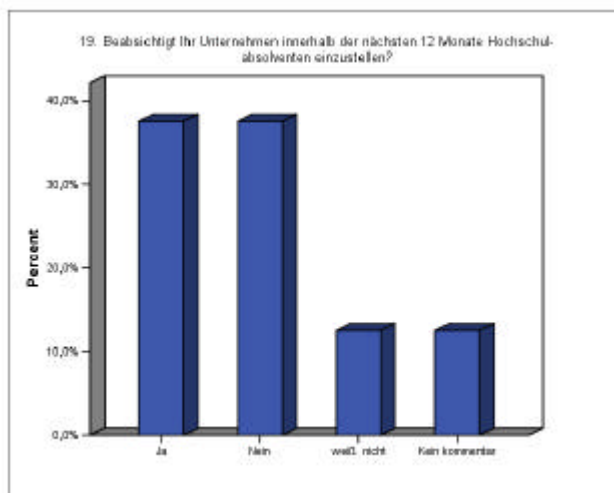
12.50% had other reasons.

62.50% did not respond to this question.



The companies were asked whether they plan to employ graduates from HSW in the next 12 months.

- 37.50% said yes,
- 37.50 said no
- and 12.5% said that they did not know at this time.
- 12.5% did not respond to the question.



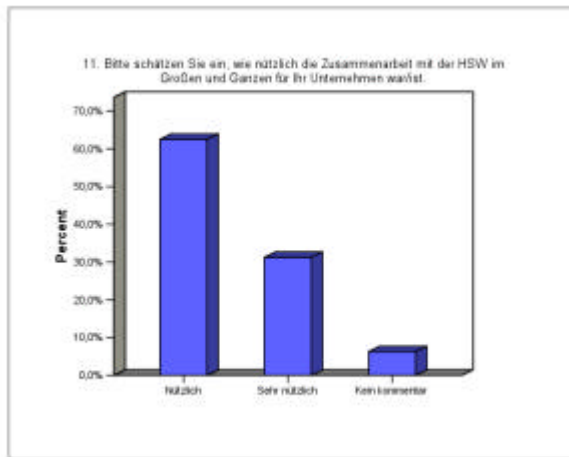
## II: Estimation (Evaluation) of the cooperation with HSW

Companies were asked to comment, in general, on the effectiveness of the availability of the cooperation between their enterprise and HSW.

31.25% reported that the cooperation was very effective and 62.5% thought it effective.

Nobody thought it was less effective or ineffective.

Only 6.25% did not reply to this question



When asked who had initiated the idea of cooperation between themselves and HSW:

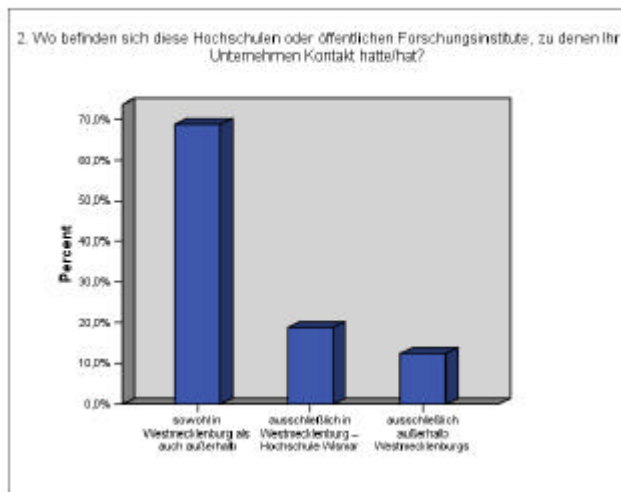
- 81.25% claimed that the initiative came from the companies themselves,
- 43.75% said that it came jointly from HSW and the research institutes and
- 37.5% felt that the initiatives came from both HSW and the companies themselves.

This was a multiple choice question which is why the percentage answers add up to more than 100%.

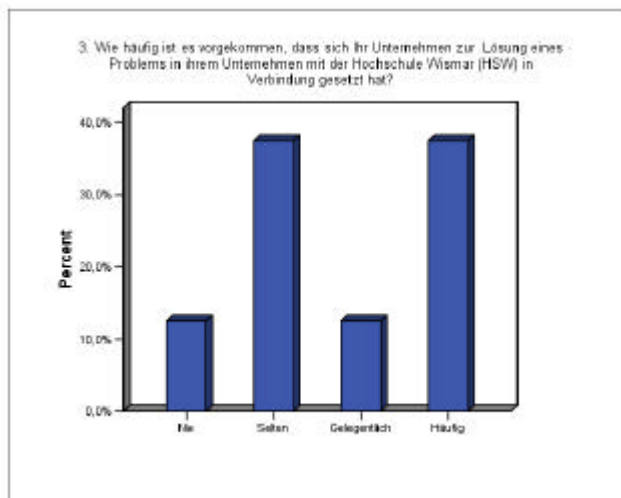
12.5% of the companies did not reply to this question.

One question asked which reasons were decisive for them choosing to collaborate with HSW.

- 25% cited the specialized alignment of HSW to their needs,
- 50% thought the specialized competence (qualification) of the contact person at HSW was important,
- 50% felt that the convenience of HSW being nearby was also important.
- 43.75% had long-term existing contacts with the college.
- 31.25% said that specific cooperative support from the government was decisive.
- 6.25% quoted other reasons but nobody considered the availability of technical equipment at HSW was an important factor.
- 6.25% did not respond at all. Again, it had been a multiple-choice question.
- IV. Relevance of science-facilities for your business
- 
- All of the firms which responded had had contact with HSW or a public research institute within the last 3 years. 18.75% had had such contacts exclusively with Hochschule Wismar, 68.75% had had contacts with public research bodies outside Westmecklenburg as well as inside and 12.5% had such contacts exclusively outside the region. All respondents gave this information in the questionnaire.



When asked how often they had contacted HSW when trying to find a solution to a problem, 37.5% said they frequently consulted the HSW and 12.5% said they occasionally did so. However, 37.5% said they seldom consulted HSW and 12.5% said that they never did. Everybody who responded to the questionnaire answered this question.



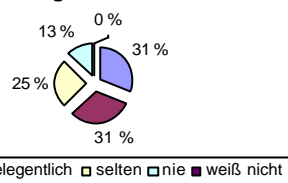
Companies were asked how often their employees took up offers of advanced training or continuing education, including speeches or seminar activities, from HSW or public research institutes.

31.5% reported that their employees frequently took up these offers and 31.25% said that they occasionally did so.

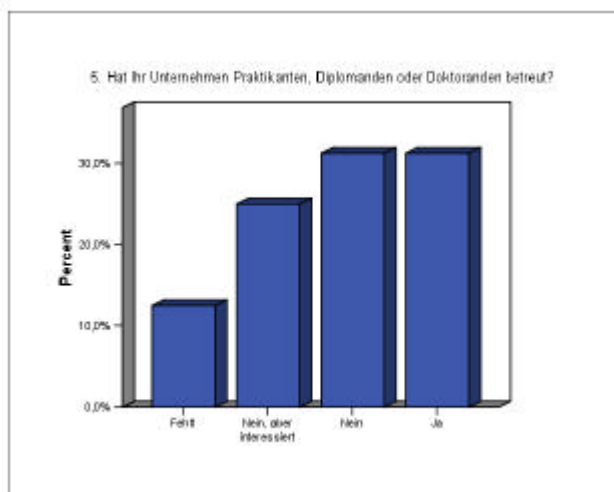
However, 25% said their employees seldom took up these offers and 12.25% never did so.

All respondents gave a definite answer this question – there were no 'don't knows'.

**4. Wie oft haben Mitarbeiter Ihres Unternehmens Fort- und Weiterbildungsangebote, einschließlich Vorträge und Seminarveranstaltungen von der HSW oder öffentlichen Forschungsinstituten genutzt?**

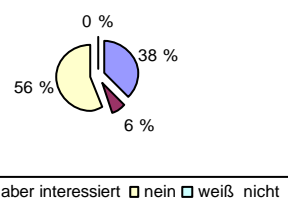


56% of companies that were asked if they had had an advisory role with students 50% had acted as advisers to interns, postgraduate or PhD students and 6% said that they had not but would be interested in doing so. However, 38% said 'No' and 6% did not respond.

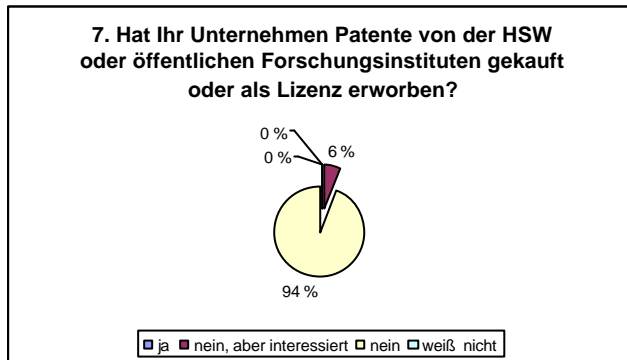


23% of companies that were asked about consultancy agreements, 38% said that they had signed a consultancy agreement with HSW or with a public research centre and 6% said they had not but were interested in doing so. However, 56% said so. They all responded to the question.

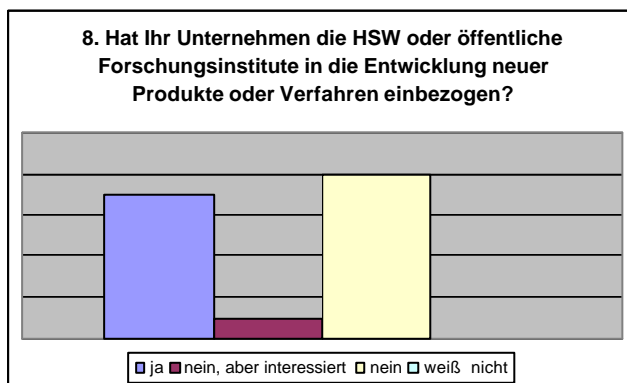
**6. Hat Ihr Unternehmen Gutachteraufträge an die HSW oder öffentliche Forschungsinstitute vergeben?**



The companies were asked if they had gained patents from their association with HSW or a public research institute. 6% said that they had not but were interested in doing so. However, 94% simply replied in the negative and nobody said that they had.



13 firms were asked if they had developed new processes or products with the aid of HSW or a public research institute. 44% said that they had and 6% said no but they would be interested in doing so. However 50% said that they would not be interested.



The companies were asked to give a short description of what types of cooperation they had had with HSW or with public research institutes. 56.75% made no comment but 43.75% did give some outline information:

## CONCLUSIONS

Gumport (2005) interpreted the two perspectives of higher education institutions; one is take the higher education as an industry, the other as a social institution. And the universities have to integrate these

“two logics” between “an industry” and “a social institution”. [13]

The universities should be market smart and mission-centered, while facing the changing environment of higher education. Regional development is not only a subject in geography. Higher education encourage the people interacted in the region positively. There is both a need and an opportunity with regard to the surrounding region to tackle these developments in an integrated manner.

For a better cooperation between industry and academy, there is a need for some structural mechanism and government policy.

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