



The dialogue of universities with their partners

The case of Umeå University, Sweden

Lars Westin and Niklas Nordman

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1 Introduction

Currently Europe faces a process of rapid integration in a broad range of commodity, information, and financial markets. This development is closely connected with the growth of cross-border and domestic mobility. International competition is strengthened with a demand for competence and a need for extended accessibility to education in all parts of society. Obviously this represents qualitatively new conditions and a major change in the arena for the European universities. As a consequence, an intensified interest has been directed towards universities and their resources, their goals, and their interaction with society. From many points of view, there obviously exist reasons for taking a closer look at the European university structure and its prospects for achieving current objectives and fulfilling new goals. Goals are set in response to ongoing changes in the determinants behind localisation, mobility, and interaction. In this context, the possibility for universities, in the short and long run, to contribute to the ambition of revitalising Europe is of special interest.

This task brings into focus the classical discussion between academic freedom within independent universities and the university in service of society although in a new environment. However, even independent universities have to follow and analyse ongoing changes with increased intensity in order to meet shifts in demand among students, staff, and fund-raising partners. Hence, university strategies in their broadest sense are in the focus of this study.

Although brief, this introduction gives a background and motive for this report on the relationship between Umeå University, located in northern Sweden, and its partners in the surrounding region. The report is the result of an initiative from the Association of European Universities (CRE) and will together with similar reports from twenty other European universities, constitute the major input into the joint report developed within the CRE. The selected universities are in turn divided into the following three regionally specified categories;

- Regions of concentration
- Peripheral regions
- Regions of economic revival

Umeå University belongs to the group of peripheral regions. This classification results in six to eight universities in each category. The categories are to be analysed separately and compared with each other. The choice of categories is based on an expectation from the CRE that these are instrumental in the analyses. However, it is still an open question as to what extent the regional structure is *the* determinative factor for the relations between a university and its local partners.

This report (and the project) may be viewed in either of two ways, both hinted at above, but it will be up to each university to individually make use of the final results. First of all, the project as such represents a step towards

an analysis of the possibility to reduce the level of unemployment in Europe through improvements in education. However and this is the second ambition, it also represents a way for European universities to identify and develop successful strategies in a rapidly changing environment. A complete analysis of such strategies and opportunities is, obviously, a rather extensive program. Consequently, the project concentrates initially on the relationship between universities and their partners in close spatial proximity to the university. Considered as partners are actors such as private companies, Chambers of Commerce, public organisations, other universities, and providers of education, students and their parents, etc. The complete network of partners for each university is of course spatially more diverse and often global in its extent. The chosen limit in space instead reflects both a realistic ambition and the fact that the given location of the university always involves some specific types of reciprocal spatial impacts on the region around the university. Financial and time constraints have further limited the number of partners actually involved as *the cluster* in this part of the project.

In the sequel, the structure and headings used in the paper closely follow the standard developed by the CRE's project leaders in the notes of guidance by Davies (1997). The opinions in the paper are those of the authors and the impressions are obtained from various discussions with the university and the partners. Hence, they are not authorised or checked by the actors within the cluster.

2 Regional characteristics, the institutional mission and its evolution

The selected partners constituting *the cluster* around Umeå University are, besides representatives of the University, representatives of the Municipality of Umeå and the County Council in Västerbotten. These two public institutions constitute locally and regionally elected governments and also represent major partners in terms of interaction with the university in the region. As will be shown below, this also reflects the industrial structure in the urban region around Umeå.

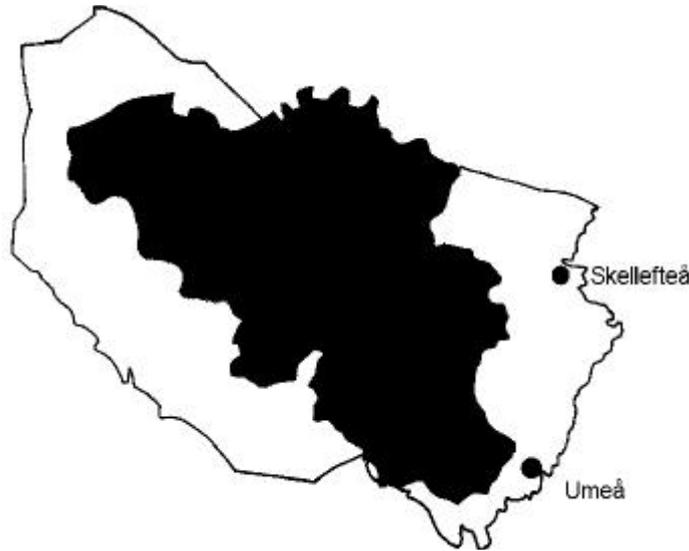
The task of the municipalities and their means of accomplishing them, are, in many fields, regulated by the national government; but there are several areas in which municipalities may act independently. Public decision-making in Sweden has over the years been more decentralised and the detailed regulations issued by the state have continuously been reduced, the field of local and regional development not excluded. The municipalities, therefore, have become important actors in the promotion of their own growth. The County Council is a specialised municipality primary responsible for public health-care in the counties, a wider territory including a set of municipal districts. In Umeå, where the University hospital accounts for a substantial share of employment and economic life, the County Council in Västerbotten is an obvious partner for co-operation from the University's point of view.

Since it was established in the sixties, Umeå University has been an important source of growth within the region, and essential to economic life in the County of Västerbotten. On the other hand, the University is dependent on the surrounding community in order to attract students and first-rate teachers. With this structure, there should exist clear incitements for the University, the County Council, and the municipality to promote development within their own areas of influence. All parties should therefore have an interest in constructive dialogue, as a way to achieve positive effects of mutual interplay. However, as we will return to, in practice this has not always been the case.

On the average, Northern Sweden is characterised by a low population density. However, more than half the population is concentrated in the more urbanised areas along the coast of the Gulf of Bothnia. In absolute numbers the Municipality of Umeå has a population of 103,000 and a population density of 45 inhabitants per square kilometre. The corresponding figures for the County of Västerbotten are a population of 260,000 and 5 inhabitants per square kilometre. From the European perspective with its average density of sixty-six inhabitants this figure is low. The comparison in Figure 1 with Belgium and its 9,9 million inhabitants and the density of 330 inhabitants per square kilometre is striking.

FIGURE 1

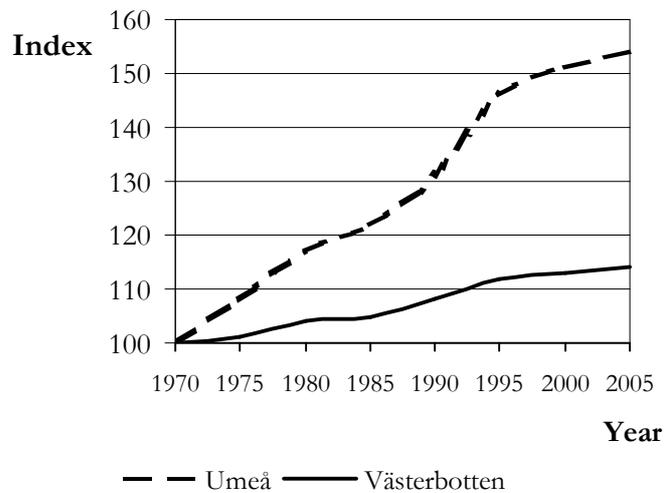
Comparing the size of the County Västerbotten with Belgium. Source: The County Administration of Västerbotten.



The inland of Västerbotten experiences a slow but, as it seems, determined out migration towards cities on the coast and to the south of Sweden. The city of Umeå, on the other hand, has had a positive population trend far beyond the Swedish average and has expanded remarkably during past years, a trend common to a couple of other northern coast cities as well. The region of Umeå was ranked above the average in a comparative study concerning the development in economic life in different regions during the period 1985-89. The concentrated growth of Umeå is the single most obvious property in the population dynamics of northern Sweden, a fact closely connected with the expansion of the Umeå University.

FIGURE 2

Population in Umeå and Västerbotten between 1970 and 1990 and a forecast for the year 2005.



The average income in Umeå is above the average level in the county but slightly below the national average. The spread within the county is, on the other hand, relatively wide. Two explaining factors, with a positive impact on

the income level, are the proportion of skilled labour in the workforce in Umeå and the employment structure of the city. The income differential partly determines the pattern of migration, with people moving in to Umeå's urban area. The large number of students also explains the high population turnover and also reduces the average income level of the city.

Northern Sweden is rich in natural resources and the economic activity has traditionally been directed towards resource oriented industries. The middle part of northern Sweden has a large pulp and paper industry, while the northern part is dominated by the mining and metal industry. The dominant share of the manufacturing industry is located along the coast as small- or medium size enterprises.

During the last century, the employment structure within the county of Västerbotten has moved from resource-orientation towards a structure closer to the Swedish average. However, manufacturing is still underrepresented while health and social services, as well as education, are over represented.

Through the rapid expansion of the university, the employment structure in Umeå has become more similar to other university cities around the country. The economic profile is as shown by Table 1 below characterised by a high degree of public administration and a proportionally small share of raw material related industries.

TABLE 1

Industry structure in the Municipality of Umeå between 1980 and 1995. Per cent of total number of employees.

Industry	1980	1995	Change
Public service, administration and education	48	48	- 0
Private services, communications	20	23	+3
Manufacturing	15	14	-1
Construction	8	6	-2
Financial services	6	8	+2
Agriculture, forestry	3	1	-2
Total	100	100	0

Manufacturing is a relatively small sector in Umeå compared to the Swedish average, and the current trend is declining. The public sector dominates the city. Construction also faces a downward development during the period, although Umeå is one of few cities in Sweden where there still are larger construction projects going on. Private and financial services belong to the group of expanding sectors. This is related to increasing population, new needs of consumption, and the fact that Umeå is now the largest city in northern Sweden.

Out of Sweden's eleven universities, Umeå University has the broadest set of faculties located furthest north, and has during its thirty years of existence expanded to over one hundred departments and 3,800 employees in most faculties. The number of students involved in education is about 24,000, including 6,000 in distance learning programmes. Distance education is in Umeå University's interest, while such forms give opportunities to maintain and expand the network to students and hence the area of recruitment for the University.

The University has its freedom to act independently and creatively in society given that it does not set aside other interests, which create unfavourable competition or act in conflict with tasks given by the government. This freedom is, of course, constrained by the fact that approximately 70 percent of the budget is dependent on the state. Given this, the University may choose its policies for fund raising, research, recruiting, and activities with partners outside the university within the framework of regulations stipulated by the parliament and the law.

Currently the revenues for the university from the government are around SEK 1,3 billion while SEK 0,5 billion are obtained from external sources. The revenues from the state budget are to some extent a function of the amount of human capital, in terms of graduate and Ph.D. students the University is able to produce. The amount of external sources is more solely dependent on the quality of research and the possibility for departments and faculties to establish strong relations with representatives of such sources.

One may use several regional subdivisions when discussing the impacts of the university and the contribution from the region to the university. The narrowest region contains the Municipality of Umeå and surrounding municipalities within commuting distance, around fifty kilometres from the centre of the city. This is the labour market region, the area foremost affected by the university as an employer. The housing for most of the students is even more concentrated to the areas adjacent to the campus.

Umeå University is, as was mentioned, a provider of higher education for almost the whole of northern Sweden since it is the single most complete alternative with departments in all faculties in the region. Approximately ten percent of all higher education in Sweden takes place in the northernmost counties, and the students in Umeå are to a large extent recruited from these counties. The overall school system in northern Sweden is an important factor in attracting students to Umeå. However, several small and medium sized university colleges previously tied to Umeå University are now becoming more independent and also have increased their supply of undergraduate programmes and contribute by this to a decentralisation of education within a more narrow set of disciplines. The fact that each county has at least its own university college has opened up stronger competition for Umeå University in its traditional neighbourhood at the undergraduate level. As a consequence, the spatial neighbourhood within which the university has had a sort of spatial monopoly due to an advantageous accessibility to the students has decreased.

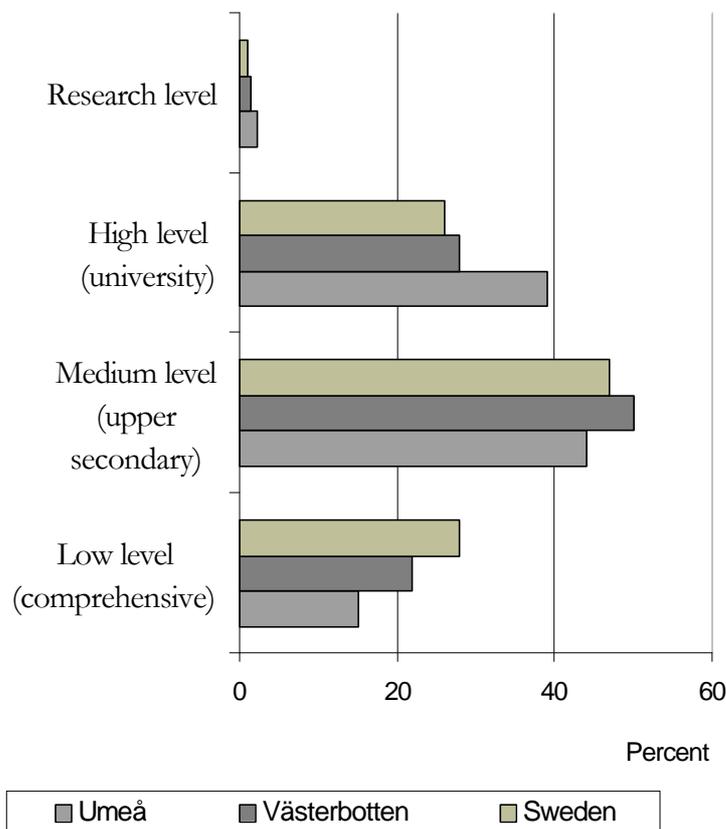
Universities and colleges are the only actors involved in undergraduate education in Sweden. Since the expanding university colleges in the region are becoming more competitive in their student recruiting, the situation in the market moves towards increased competition. Of all facilities currently providing higher education in northern Sweden, Luleå Technical University is the only one completely separated from Umeå University. Umeå has a weak technical side, so Luleå and Umeå are in this respect complementary. However, Umeå has recently established a School of Technology while Luleå has expanded their social sciences. Also here competition increases. Mitt-högskolan, one of the University colleges south of Umeå, actually consists of a joint venture between a group of cities, has in recent times applied to become a university; however, no formal decision has yet been taken on this issue.

3 Human resource development

Umeå University is by far the largest provider of human capital at the university level in northern Sweden. The University has offered an increasing number of courses and programmes outside Umeå in the entire northern region. In 1996/97 courses were directed toward seven municipalities, in 1997/98 it is 33, and the forecast for 1998/99 is about 40 municipalities. The university has clearly had an affect on the educational pattern within both the region and the city. The educational pattern among the inhabitants in Umeå is quite different from the county as a whole, and the number of well-educated inhabitants is above the Swedish average. The educational status of the population in Umeå compared with the county of Västerbotten and Sweden, as given the year 1997, is shown in Figure 3 below. Approximately 40 per cent of the population in Umeå have three years or more of university studies. This puts Umeå in the absolute top of the Swedish cities with respect to education. On the other hand, it also illustrates the strong specialisation towards human capital production in the economy.

FIGURE 3

The educational profile in the Municipality of Umeå, the County of Västerbotten, and Sweden the year 1997. Measured as per cent of the population 25-64 years.



Although not shown in the table above, there are some clear differences in the educational profile between gender. In the group with short education, men are over represented as compared to women in all three regions. Among those with a medium level education, women have a slightly shorter education while they instead are over represented among those with graduate studies.

Generally, there are no reasons to assume major differences between female and male students with regard to the aptitude for and success in higher education. Yet fewer women than men continue with post-graduate studies and strikingly few women acquire professorships and other top positions in the Swedish universities. As much as 3.4 per cent of the male working population in Umeå have a Ph.D. compared to 1.2 percent of the women. As a consequence, the male population dominates the groups with lower, as well as, with higher education.

When it comes to the number of transitions from secondary school to higher education, large changes have taken place during the past decade. Even in this case, the difference between men and women is evident.

TABLE 2

The number of transitions to college/ university within three years after secondary school. The Municipality of Umeå and the County of Västerbotten 1985/86 – 1992/93. Per cent of total population in each category.

Year	85/86	86/87	87/88	88/89	89/90	90/91	91/92	92/93
Umeå:								
Men	22	27	20	26	33	44	42	41
Women	26	29	27	37	39	47	54	56
Västerbotten:								
Men	16	18	17	20	27	33	33	34
Women	24	29	26	30	33	38	43	46

Especially the figures for Umeå and Västerbotten from the nineties are above the Swedish average. They strengthen the picture of a regional advantage concerning the ability of the school system in the region to promote growth of human resources. Of the total number of new students starting university studies from the Västerbotten County, the recruitment to Umeå University in 1995 was about 68 per cent. Given that about 40 per cent of the cohort transited to higher education this would imply that 27 per cent of the cohort in Västerbotten started their studies at Umeå University. As many as 85 per cent of the university beginners having their origin in the Municipality of Umeå, initiate their studies at Umeå University. Assuming around 46 per cent of the cohort in Umeå begin at the university, Umeå University would attract just below 40 per cent of the cohort.

Of the students beginning their studies at Umeå University in 93/94 about 47 per cent came from Västerbotten, of which 27 per cent came from Umeå while the remaining 20 per cent came from other parts of the county. On the other hand, the university attracted 25 per cent of its students from the middle and southern parts of the country. An indication of the fact that Umeå University to some extent has obtained a status as national university.

About a third of the graduated students in 91/92 still live in Umeå one year after finishing their studies. As much as 76 percent settle down in one of the four northern administrative provinces, while 8 per cent moved to the three major urban areas Stockholm, Gothenburg, and Malmö. This implies

that about 25 per cent of the students have both their origin from the middle and southern parts of Sweden and also return to these areas after their studies.

Approximately 86 per cent of the students graduating from Umeå University 91/92 obtained employment within half a year. This is just above the average for Swedish universities, which was 84 per cent. Dominant sectors are the public sector, followed by the banking and insurance business (8 per cent) and manufacturing (about 5 per cent).

What efforts are taken today by the University in order to attract new students from the region and the rest of Sweden? An important part of the marketing of the University towards the potential students is made by visits to schools and general information to the public. Students at Umeå University who come from other parts of Sweden are recruited as ambassadors for the University in their home areas, with a mission to inform and attract future students to Umeå. The University is also organising special University weeks at various sites, directed to the local basis of recruitment and the general public.

Distance education at the University, is another activity which to secure a long run and stable supply of courses and students. The project aims to mobilise resources at Umeå University with an intention to strengthen the university's profile of accessibility. A dialogue is held with municipalities and schools in the fifty northern municipalities in the country. A network consisting of the universities and colleges within this larger region has been formed. Different forms of distance education is supposed to come forward during the project, which means that education on Internet will need to be developed in co-operation with other universities. Distance education is one way to overcome the physical distances characterising the region in order to offer educational opportunities for people who otherwise would be less motivated for studies.

Directed efforts to meet the demand for education in the public sector and in enterprises have also been made in several places within the region as a part of various human resource development projects.

Furthermore, Umeå University and the University of Agriculture with the ambition to give Umeå a leading role in environmental education and research recently established Umeå Environmental School.

4 Cultural development

The University plays both an active and a passive role in relation to the cultural development in the region. The active part may be exemplified by the Museum of Pictures adjacent to the County museum in Umeå. Norrlandsoperan, the opera localised in Umeå, may exemplify the passive part of its role. The Umeå Jazz Festival, the Chamber Music Festival, and the Baroque Music Festival are also well known. Due to the university, its staff, international visitors, and students the opera and the festivals have had an interested audience.

The university also plays an active role in the cultural arena through the continued vocational training in art, design, cultural administration, and the professions of librarians and teachers. This serves as a guarantee for the provision of qualified personnel within these fields. Students and university employees are an active group within the cultural life for instance in the field of music. The University and the Student Union act as entrepreneurs for cultural activities e.g. choir and concerts. Exchange students and guest researchers also support various forms of cultural multiplicity.

Several branches of research within the university involve serving the community with literature and activities, which preserve the history of the region, its monuments and archaeological findings, and thus support the local cultural phenomena. Public lectures organised by various departments and groups within the university also strengthen the cultural supply and attractiveness of the region. The university library has also become a source for the municipal libraries in the northern counties.

As may be expected, the University makes efforts toward cultural development in the municipality. The development of a cultural profile for Umeå with the aim of attracting people to the region, and to the University, would be hard to make reliable without the University's backup of resources. However, the manifestation of the cultural profile for the municipality of Umeå is not always obvious, compared to efforts in, e.g. sports.

5 Regional economic development and the impacts of Umeå University

Compared with other urban areas along the coast of northern Sweden, Umeå has developed into a prior position closely followed by the Luleå urban area. Historically, the city of Umeå has had a long and relatively dominated by an educational and administrative profile; and after the university was located in the city, has developed a somewhat different employment structure compared to the rest of the region. The resource-based industry is, consequently not as typical in Umeå as in the region, a fact one should bear in mind when the regional impact of the University is analysed. The number of employed has shown a somewhat more positive development compared to other parts of the country. However, the city still only has just above 100,000 inhabitants while the urban area includes approximately 130,000 people. Although the development has been positive during the last twenty years, with high rankings in many city comparisons, this size by no means guarantees a robust, diversified urban structure, a structure that may compete with urban university areas such as Uppsala and the Lund-Malmö region.

Some other larger centres in northern Sweden have also faced a negative or stagnating employment trend. This is a result of a mix of factors such as the economic recession, decreased construction projects, reduced fertility rates, and extensive labour oriented rationalisation. On the whole, Sweden has had a problem generating new employment in industry and private services. The fact that the public sector during the eighties was well developed and provided a high standard in all parts of Sweden also meant that the current savings in the public sector have implied reductions in the demand for labour.

Since Umeå University has been weak in its technical programmes, the impact from the university on the employment in the region has mainly been through public and private services, while the growth of engineering and high tech companies has been less accentuated. The competition within the region of northern Sweden from Luleå, which specialises in technology, is obvious. One may thus observe marked signs in the enterprise activity in the surroundings of the urban area of Luleå, which are missing in Umeå. Luleå has created a greater number of new firms in the field of manufacturing than Umeå, probably as a direct result of its Technical University.

Different activities initiated by the University have been vital for the development of the private sector in the region. Research co-operation with firms, new business, and entrepreneurship based on research, especially in biotechnology may be mentioned. Uminova Centre has been founded with the aim to stimulate contacts, identify potential products, and develop research results for commercial use. Hence, they prepare business development, arrange meetings, and give administrative service on financial matters. Specific investments have been made in the areas of medicine, biotechnology, IT, and environmentally related production.

As examples of attempts to exploit research, one should mention the small firms within Unitek, a project within Uminova Centre. Here undergraduate and graduate students, with priority to students in the fields of technology, economy, and industrial design are made available to firms of small or medium size in the northern municipalities. Another foundation, with direction towards technology, has the specific aim of spreading knowledge generated by the University. A newly founded company with mission to provide venture capital for newly started business is expected to generate positive effects in short time.

The Department for Space Physics RFI, although a part of the University, is located to Kiruna in the absolute north of Sweden in order to exploit the advantageous conditions for this type of research. The department is working with several projects of an international character. In the computer field, the University is involved in a co-operative project with the Swedish mining company LKAB. The separate unit for computer issues within the University, Umdac, has over the years got a regional role to play, and it provides computer science services to several users all over the region.

Large reciprocal advantages have also been reached through the co-operation with the University hospital and with branches of the University of Agricultural Sciences and the Swedish National Defence Research Institute, both in Umeå. Among the more current efforts in order to develop and stimulate introduction of new technology, The Centre for Information Technology in Northern Sweden (SNIC) may also be mentioned. It is a foundation, which aims at encouraging the use and dissemination of both new and existing information technologies in the region. It works in collaboration with private firms and local and regional authorities. The trust of Umeå Business School also aims at combining students and projects with enterprise activity.

However, according to some observers the newly initiated research generated business in the region to some extent has been through a period of stagnation. The reasons generally mentioned are, apart from the overall recession in the economy, the lack of venture capital and the unwillingness among entrepreneurs to lose control over the business. The latter is a problem since the entrepreneurs with a background in research, generally have not had the primary ambition to expand their business with regard to the number of employees, but rather to increase their possibilities and the variety of means in their research. Some of the activities previously mentioned may thus be seen as attempts to overcome those problems.

It is a well-known fact from technology park studies that technical faculties have the largest impacts on the number of new entries into business; and subsequently is pushing the economic development forward in the most visible way. The previously mentioned lack of a University of Technology in Umeå is one explanation for the modest progress in commercial activities, both locally and regionally. However, the number of new business entries in the Umeå region is, compared to the size of the workforce, identical with the average for Sweden. The reason is that the region is doing better when it comes to the establishment of firms in the professional services sector. This sector is growing fast and acts as a stimulus for other sectors in the economy by providing specialised knowledge in all kind of fields. It also uses to some extent highly educated and well-paid labour, which may give employment for graduated students, and thereby contribute to the diversification and attractiveness of the labour market in the region.

According to some studies, firms in the region of Umeå seem to have better prospects of surviving than in many other regions; and the number of expanding firms is also among the highest in the country. A positive trend in the number of companies establishing a branch in the region can also be observed. The fact that the University has a positive impact on the economic life in the region is thus quite undisputed, but this impact is still quite difficult to calculate more precisely. Another important regional actor is for example the largest private employer, the truck part producer, Volvo Umeverken. Furthermore it also remains to evaluate how the closedown of the local regiment and the Combat School North will affect progress in the region.

Ironically enough, it may thus be the case that at the same time as the University acts as an engine in the economy, it may turn attention away from private business to the public sector. Without a solid reputation as a region with future potential on the private side, the chances to effectively attract newly established businesses and inward investment might correspondingly be reduced.

6 Communications and information systems

Umeå has a rather good supply of external communications through its airport, located near the city centre. The new railway, Botniabanan, planned for the coast to the south will also extend the number of alternatives in the transportation system and reduce travel time. As a matter of fact, the communications alternatives within northern Sweden are relatively poor as compared to the possibilities of travel to Stockholm, in terms of the number of alternatives and travel costs. The favourable structure of communications has also meant that the number of links between Umeå University and foreign universities are at the same level as for other Swedish universities, with the difference that the exchange is more directed toward a northern profile.

Together with the Municipality of Umeå, the County Council, and the County Administration in Västerbotten, the university has founded a *VR laboratory* for research, development, education, and practical use of information technology with direction to Virtual Reality. A foundation has left considerable amounts of sponsorship in support to the project.

Concerning the importance of information systems, the County Council has the ambition to use the new information technology as a way to improve its tasks within public service. In being up to date with IT, the organisation may increase accessibility, and thus developing its competence. Two necessary conditions for this are increased know-how in IT and further recruitment of well-educated personnel. The supply of the network is not enough for the County council; one also has the ambition to develop qualitative products to offer on the network. First with this, IT may be a potential source of regional development and a tool for the generation of revenues. IT is a field of expansion in the region, which already has resulted in newly established business. It is today at use in several fields within the County health care and new applications are being developed continuously. A few examples are the increased use of Internet information, Tele-medical services, and the investment in the previously mentioned VR laboratory.

7 Strategies for change and development

During the discussions with the cluster, different points have been discussed with regard to the future strategy of the University concerning its relation to the development in the region. *The County Council* has clearly stated its interest in the further development of the university, since it has a demand for educated and skilled personnel, which fit the demands of modern and effective health care. Its intention is that the University, through its research, should be a part of the development of the institutional competence within the county health care. Moreover, the County Council has an interest in the University, which actively engages in the development of the region, thus creating favourable health and environmental conditions for patients and staff. Such activities are also vital in order to make the health care sector stable and competitive.

In the past, the interaction between the University and the County Council may be described as strictly formal and not on basis of action. Today the situation is quite the opposite; it is still based on formal groups for discussion but they are less strict and more directed towards result oriented activities. An increased number of joint representative events take place, where both Umeå University and the County Council participate. The number of informal contacts has also increased.

An important reason for the changed relations is the fact that before the mid-eighties, the national government was the mainly responsible for all investment activities; however since then most of those responsibilities has been delegated to local units. The County Council is by now also free to supply funds for research in the medical area, and has increased opportunity to realise investments that fit the specific needs of each hospital or the health situation in the county.

A set of steps, necessary to strengthen the co-operative manner has been taken between the University and the County Council. A couple of years ago, in order to achieve the best possible conditions for the health care, an agreement on collaboration was made stating the terms governing the educational programme of physicians. A similar contract has also governed the education of dentists. A third collaboration agreement has governed the activities within the College of Health and Caring Sciences. For each of the three agreements there has been *steering committees* with regular meetings. Common working plans on a three-year basis have been developed as a foundation for the educational contracts. Plans are revised once a year.

This year the College of Health and Caring Sciences will be completely integrated with the university, and initiatives have been taken to integrate the faculties of Medicine and Dentistry into a common Health Faculty. This structure is under major revision. Relevant issues together with the course of studies given by the Department of Education will be discussed in separate panels of education. The County Council will moreover have a unique position through a representative on the Board of the Faculty of Medicine. One may assume this solution to remain also in the new common Health Faculty.

Beyond these educational units there is a joint committee, *a leading group*, in charge of overall administration and other common tasks, which need co-ordination. The group consists of the Vice Chancellor of Umeå University, the chairman of the County Council together with the head of the administrative organisations within the two bodies. The group is developing a common plan, a strategy document, for Umeå University and the County Council of Västerbotten, which deals with matters of information, education, and research financing in a more long-run perspective.

The County Council is, on a yearly basis, spending about SEK twenty millions in *medical research*. The previously mentioned field of distance medical advice, e.g. by use of telephone and computer links, has in recent years become an expanding area of health care. This is a successful and cost efficient alternative to ordinary health care.

The County Council also has agreements with each of the other four northern counties in matters concerning the supply of physicians and trainee positions for physicians together with different forms of specialist treatment.

The County Council moreover defines public health care as a *life-long learning process* since health care is undergoing a continuous change brought about by technological progress. There are programmes for continued education in order to upgrade the knowledge of the staff at all levels within the organisation. An extensive re-organisation is at hand, which aims at making health care more effective and reducing the costs, at the same time. The consequence of this type of organisational development is that the number of employees is reduced, while those remaining are expected to perform a more wide set of tasks. An example of this action is the profession of staff nurses, which is on its way out of the organisation. Instead ordinary nurses will perform their tasks also. This creates a demand for clear strategies for further education of the personnel, and extensive resources have been invested in this matter.

The County Council also gives support to a special unit at the university for information and prevention actions in the area of the public diet and nourishment activity. The background is the fact that Västerbotten County belongs to the group of lowest ranked regions in the national health-index.

The previously mentioned VR laboratory is another project of co-operation between the County Council and Umeå University, in which the Municipality of Umeå and the County Administration are also involved.

Altogether, the co-operation between the County Council and the university has, according to the representative of the county, had a positive and smooth development during the years, and may by now be described as well functioning. There are a few areas of concern, however where considerable doubtfulness prevails concerning the *relations between various decision-making bodies* within the University, e.g. with whom is the County Council supposed to sign its agreements in different projects of co-operation? Some confusion is experienced in which matters one should turn directly to the office of the Vice Chancellor, the separate faculties, the departments, or to individual researchers.

An additional drawback is that the Vice Chancellors Office and the faculties have little financial means at their own disposal, i.e. means necessary to implement long-run strategic investments. This is probably due to the way in which these different bodies are financed. If a faculty or department for some reason does not fully spend its budget, the result may be reduced funds

the following period. With this type of financial organisation there are no real incitements in saving funds to invest in strategic projects.

However, the *strategy document* under development between Umeå University and the County council, may change this situation. This type of strategy document may be a good example to learn from in other areas of co-operation with the university as a partner.

The Municipality of Umeå seems to share much of the opinions expressed by the County council when it comes to the university's role in local and regional development. *Strategic questions* concerning regional development are discussed in a group with local authorities and the University named the *Group of four parties*. The group consists of Umeå University, the Municipality of Umeå, the County Administration in the administrative province of Västerbotten and the County Council. The group was formed quite recently, in 1996, and is by now working on about 35 different projects, in different areas with regional concern.

Three examples of co-operation efforts, which have been especially interesting for the municipality may be worth mentioning. The previously mentioned *Uminova centre foundation*, which deals with seminars and granting patents for new products has been important for the exchange of information between the municipality and the university. The *VR laboratory* is also a common interest, in which the municipality has contributed with substantial means. In particular, the Institute of Working Life (*AI*) has also been established on a common basis to handle environmental questions at places of work.

The Municipality alone is involved in about 10-15 different projects with the University. The co-operation had its beginning in the eighties, at the time Uminova was founded. According to the municipality, Uminova was of necessity in order to organise and gather funds for investments in the field bio-technology where successful research was going on, but where the researchers were actively recruited by other universities.

The relationship between the municipality and the University has not been without friction, as in the case of the County Council. The municipality is, for example, of the opinion that previously, the University has not fully appreciated the total value of the wide set of contributions and investment support that has been given the university. As a consequence, from now on the municipality prefers to focus on fewer and more visible projects.

The Municipality is also of the general opinion that the means of control used in the struggle against regional structural problems must be turned around from defensive to offensive efforts in order to create economic expansion in the region. Regional problems should be identified and relevant actions undertaken, but instead of a concentration on old structures, the work should be directed towards a more preventing policy and place investments in developing sectors within the economy, in order to stimulate regional development. In short, the Municipality seems to have a demand for a more developed strategy for the University and the region.

A free set of resources is, according to the municipality, necessary in order to realise investments in the most strategic areas. Such offensive efforts are in favour of the Umeå University and the region at one hand, but also for the country as a whole. The core problem for the region, is to focus on and to stay within an area long enough to create endogenous growth. The municipality has sometimes experienced that the university had weak preparedness and could not act fast in projects of concern for the region. From time

to time there is a need for quick actions, but under the current regime such forceful actions may be difficult to realise.

According to the opinion of the municipality it should moreover be a qualification for university researchers is, to have participated in commercial business outside the University. Such merits should result in branches of research better suited for commercial use, and by this providing the development of the regional economic structure. Ideas and innovative projects would subsequently facilitate the development of new products.

However, the municipality has also learned that this is a rather delicate question for the University, which protects the line between research and business. The Municipality therefore puts a lot of faith in the imminent *incentive agreement* between researchers and the University in order to solve this matter of diverging interest.

Another field of discussion circles around the way the state handles the land property on which the university is situated. The state must make land available and reserve housing space for enterprises with the ambition to be connected to Umeå University's sphere of know-how, particularly in the field of technology. A real estate company should be founded with the aim of recruiting firms that may find locations within the domains of Umeå University advantageous. The University notes that Uminova is already supplying space for such locations in one part of the campus.

The Municipality, as well as the County Council, also views the structure of the University's organisation as somewhat blurred and indistinct. However, the current opinion at the municipality is that there should be more than one entrance to the University, as long as the structure of its organisation is distinct enough, and the appropriate decision-making body is easy to identify.

The University also points out the *group of four parties* as an important constellation of co-operation. Within this group there is a possibility to deal with among other things questions concerning regional development, IT, gender issues. The military organisations have been another party of major importance, with the regiment, the Northern Combat School, and the National Defence Research Institute in Umeå. The regiment and the Combat School are now closed down while the National Defence Research Institute has very good status and is increasing its collaboration with the University. Also the University of Agricultural Sciences, located in the campus area, is a most important actor when it comes to co-operation in research activities and education.

The University is of course pointing at Uminova's activities previously discussed as an important part of its relations to the partners within the cluster and in favour of regional development more generally. A particular project together with a large number of municipalities named KHIS, also called

Northern municipals in development is pointed out by the university as a fruitful case of co-operation for the stimulation of regional development through study centres and distance education. Together with the County Labour Board, the University is arranging trainee opportunities with firms in the region and is partly behind an information forum for unemployed that also gives advice for current and future students.

Finally, a special education project in direct response to demand from local enterprises has been established in one of the most peripheral areas. The essence of the project is that the University delivers special education programmes in engineering, ordered directly by the local firms. This project

has not been evaluated yet, but is, according to the university, a good example of progressive patterns.

When a wider regional perspective is applied on the co-operation, Luleå Technical University and the other university colleges in the region become relevant actors. However, currently the relation between Umeå University and the other actors on the higher education market in the region is mixed. At some levels there are co-operative efforts while on other they are acting as competitors. This is clearly a field where the University has to develop a distinct strategy.

Across the water, it is only 100 kilometres from Umeå to the Finnish side. The closest city in Finland to Umeå, Vasa, is a major actor of interest and an important party in co-operative matters. The primary institutions of interest are the University of Vasa, Åbo Academy in Vasa together with the Swedish College of Commerce, also in Vasa. The poor communications alternatives (by ferry it takes about four hours over to Vasa) are major obstacle to a further development of this relationship.

8 Conclusions

As we have discussed above, the relationship between the university and its partners has changed substantially since the middle of the eighties. The changes within the national financing system for education together with a broad deregulation of the decision making are related and critical factors within the university. The public partners in the region have also increased local responsibility for regional development and actors are forced at all regional levels to change their focus from request for state support, with the usual lobbyist activities, to the establishment and development of their own local and external networks. Networks that are necessary in order to promote endogenously and externally driven regional growth. Hence we may conclude that:

The decentralisation of responsibility within the national state to both local and regional authorities, as well as, to individual universities has been instrumental in developing reciprocity and engagement between the university and its public partners in the region.

The increased competition between the traditional universities and the new university colleges on the market for students should induce both Umeå University and the local/regional actors to develop strategies for their common future.

The County Council has, because of its responsibility for health care developed the strongest and *most formalised partnership* with the university. The ongoing attempt to develop a document with a common strategy is a positive example for other partnerships.

The Municipality of Umeå has also in various ways established contacts and has been in support of the University. However, it was only a couple years ago *the dispersed pattern of contacts was brought together in a formalised group* at the level of the vice-chancellor and the Mayor of the city.

The University has given education to a quite large share of the staff in the public sector in northern Sweden. However, it has also been criticised for not having a positive impact on the engineering industry and high technology employment locally. Previously we gave a picture of positive growth in the sectors with a future potential, such as private and financial services, within the region around the University. It is however apparent that the advanced knowledge oriented industrial sector has shown a weak performance. With the purpose of making the development within the technical sector of education more distinct, and to create improved conditions for an ongoing development and co-operation with the region, the School of Engineering was founded within the university.

The low degree of high technology enterprises with an origin from the university may be explained by the educational profile of the university and the industrial structure within the municipality. *The School of Engineering*

may be seen as a response to this and a way to meet a new demand from the students.

Also in the area of health care and medicine, research with intention to be internationally competitive has been established. The build-up is financed with support from the Municipality of Umeå and the County Councils in Västerbotten and other counties in northern Sweden, as well as other external financial actors have shown willingness to contribute.

Although the university has a wide set of contacts with private industry in the local region and in the rest of northern Sweden, the private sector seems to be less involved in strategic discussions with the university.

The representatives for *the private sector*, i.e. Chambers of Commerce etc in Umeå and the wider region seems *not to act as a strong partner* in the development of the university, the development of the engineering sector, or the region.

In this paper the ambition has not been to suggest strategies for the future but rather to investigate the current situation given a fairly constrained set of resources. However, the paper clearly points at fields of further studies as well as directions in which possible strategic alternatives for the actors inside and outside the cluster may be found.

The links with the surrounding community are wide and Umeå University has a dialogue with different interested parties about need for education and training, and practical use for supply and competence held by Umeå University. Hypothetically, Umeå could be a strong economic centre and guarantor for the whole of northern Sweden as a region. Today the City of Umeå does not have the critical mass, necessary to constitute such an alternative. With larger numbers of population in combination with a strong university that stands out in international measures, one may obtain and make use of the specific advantages of the region. A larger local market is in short a sufficient condition to develop specialisation and to increase the opportunities to exploit externalities and returns to scale within the region. The University may contribute to a rich environment to live in which attracts firms and qualified personnel, in other words a self-strengthening development. In order to realise this aim, the process of interaction and strategic decision making probably has to be strengthened among all parties involved.

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