

CHANGES AND CHALLENGES IN THE FIELD OF HIGHER EDUCATION - A GENERAL OVERVIEW

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Abstract

European Universities are currently in a phase of upheaval. While disparities between Alma-Mater Universities, Universities of Applied Sciences and other college forms are continuously shrinking, the several differences between acknowledged universities become ever more evident. Institutions of higher education will have to face strategic challenges in the coming years which are mainly due to altered surrounding conditions and demographic factors. Demographic changes prospect a significant shift of the aging pattern combined with the economy's increasing demand of educated labor.

Key words: *higher education, university of the future, economization of education*

1 INTRODUCTORY CONSIDERATIONS

Economic efficiency, output-orientation, service culture, human capital – all terms and definitions which are common knowledge to corporate managers and scholars of business studies. Albeit a novel aspect is, that these conceptions are becoming increasingly established in social environments to which they have been rather unfamiliar before. Authorities become agencies, students are considered customers and institutions of higher education are labeled service providers. The evaluation and assessment of organizational procedures outside of the corporate sector becomes subject to processes of „Controlling“ and „Benchmarking“. In addition an increase in demand for extra-occupational, flexible, online-based courses can be observed, particularly regarding the segment of studies for further qualification. Henceforth academic institutions are to adjust their educational offerings, the respective marketing as well as their organizational procedures (cf. Service aspects) to these shifted requirements of students and scholars. Thus universities will have to navigate within a tightened competitive environment, in which they will only prosper in the scale they are able to amplify their unique features against their competitors. This change is driven by drastic social upheavals which have been intensively discussed in recent years, mainly under the umbrella term of „economization“. In that, a key question clearly arises: To which degree is it necessary and desirable, that universities and other institutes of higher education become more market oriented? Opinions to this question differ quite explicitly. Purveyors of one side are demanding a more entrepreneurial approach from universities and are convinced that only such a shift in perception will turn the academic sector competitive in the future. Others consider such demands for more corporate action a contradiction to the very character of a university. There is the belief that there is no space for any compromise between entrepreneurship and the prime purpose of a university. In this article the Status quo of Higher Education in Germany should be described in a short way. After that the challenges of the University of the Future and how to realize such changes will be explained.

2 THE STATUS QUO OF GERMAN HIGHER EDUCATION

Progressive societies find themselves in the middle of a transformation process from industrial systems to knowledge based systems. Society and economy increasingly gather around the factor of knowledge. At the same time advantages of know-how become a primary production factor in the global race for best investment areas. These new tendencies cause a growing impact of knowledge generation and research. Aside new fields of knowledge and new social challenges applied research within present industrial structures will remain an essential core factor. A market driven regulation

will most presumably establish as a regulatory pattern. Public bodies – among them institutions of high educations – will become more than ever involved in aspects of competition via these tendencies. Regarding a macro level view one can indeed register an “economization“ which also touches the education sector. Consequently there are tries visible for turning the educational system into a market, which turns out to be quite profitable: More than two billion US-Dollars per annum are spent globally for education, mostly public funds which are also under governmental authority but there are an increasing number of private education providers seeking for their share. By now only infrastructural services such as sanitation, security or catering are widely commercialized. But there is a massively intensifying corporate interest in education aspects as well. In capitalistic industrial countries of the 19th and 20th centuries education was regarded– at least as a concept – as an elemental civil prerogative and basis for the personal development of each individual; education to be provided as a public good to people of all classes. The systematic and tactical mal-financing of public educational bodies has proven to be a successful method for transforming the educational sector into a „competitive market“. Exactly this very submission under these so-called market-mechanisms has driven education providers under the coverage of GATS (General Agreement on Trade in Services). Because only where there is a functional “market” – not education as a public commodity – there is the prospect of profit. The GATS provides private investors with respective opportunities and access.¹ There are fears of a rising “academic capitalism”. Hence private funding is sold as a way out of the public budgetary misery. In addition the chronic mal-financing by the government is systematically fostered. Subsequently the urgent necessity for spending limited public means is promoted vividly. „Getting out most of the budget“, in itself certainly no unreasonable theme of economic activity, becomes the predominant dictate. Instrumentations of Public Management are being utilized which issues respective pressure on the public educational mission. For the government the already “hot potato” named education increasingly turns into a liability. It is only traceable that the public hand tries to out-source such spending and assign private bodies subsequently. Albeit particularly in this matter, the state – although certainly only an insufficient organizer, administrator and coordinator of social interest – would be obligated to not give all its strings out of hand. But once happened, it is the hour of capital investment interest. The educational mission, maybe even in the spirit of Humboldt, is of secondary meaning at best. Wherever private equity is spent, other factors are paramount: rationalization criteria, deregulation, flexibility-transition, cost reduction and highest possible aligning to the prerequisites of capital investment. In addition factual constraints are created in order for a technocratic justification of political or strategic decisions. Short-term success is of utmost importance, sustainability is of no concern. Particularly in the education sector the outcome of an exclusively economic mindset can be fatal.

3 THE UNIVERSITY OF THE FUTURE

The so-called „Verbetriebswirtschaftlichung“² – a generic term roughly translated into „more business considerations“ leads to the occurrence of „Quasi-Markets“, artificial incentive systems as well as competition and rivalry. The decisive mindset is that of business terms, which is also reflected in a corresponding terminology: The term of “an entrepreneurial university” is coined, professors become „service providers“, students turn into „customers“. ³ Purchasing- power determines the supply. What follows is the application of the classic range of corporate instruments:

- Service culture,
- Standardization,
- Funding models,
- Cost-/Benefit calculus,

¹ see Attac Schweiz (edt.) 2005, Service Public. Perspektiven jenseits der Privatisierung, Niggli Publishing, Zürich, 125

² see. Prokla-Redaktion, Editorial – Verbetriebswirtschaftlichung, PROKLA (March 2007), 320

³ see Torsten Bultmann, Die standortgerechte Dienstleistungshochschule, PROKLA (March 1996), 340

- Output criteria,
- Result-oriented resource allocation,
- Controlling,
- Quality management,
- Performance evaluation and
- Benchmarking/Ranking.

Questions regarding location become decisive. Everything should be globally oriented and provided in English anyway. Education and scientific commodities are turned into purchasable products instead of remaining a valuable public good. Beyond education and research they exploitation of know how becomes an ever promising issue for the „Third Generation University“.⁴ Academic autonomy considerably suffers and authorities are disposed of their formal powers. The reign of business and the managers arises.⁵ This oppressiveness and the economic constraints lead to a growing “auto-economization”⁶ of the academic and other staff. The term of “auto-economization” may be interpreted in terms that all academic stake-holders are considered as managers of a corporate entity, all questions of education are reduced to aspects of business, particularly financial aspects, the language of a profit-oriented economics is used including the application of tools such as evaluation, controlling, outsourcing, and marketing. Under the umbrella of „more business consideration“, i.e. the commodification of education there are also topics such as quality control and globalization as factors for competitiveness widely discussed. Measures of quality control are to secure a certain standard for higher education (accreditation). Procedures of higher education are assessed (evaluation) and competitively placed (profile generation). Academic achievements are supposed to become more transparent via credit point systems. Within quality and competition alignment already observable contemporary trends will continue. Future challenges ahead may be seen predominantly in avoiding tendencies towards a quality bureaucracy - without neglecting effects improving acceptance and competitive positions. On the other hand, securing the core feature of higher education institutions – research and advanced teaching – the specific functional logic of science, which is actually based on a reputation-bound contest rather than on market driven price-labeling, will be of relevance. Strategies of international standardization aim on the compatibility of degrees, transferability of academic performance (ECTS) and an internationalization of curricula in order to achieve and maintain the international competitiveness of academic institutions and its alumni. Further strategies for international standardization are related to increasing the international mobility of students, the integration of intercultural competence as well as generating „Study at home“ opportunities for students with restricted mobility. To improve the international competitiveness foreign students need to be attracted via more appealing course offerings and improved marketing. Students coming from less developed countries should also given the chance of study abroad. Rising competition and accelerated technological advancement will drive the volatility of labor markets and employment relationships. On one hand there will be an increase in the share of highly qualified labor. On the other hand work is also becoming more individualized with a higher degree of flexibility eventually leading to more fragmented educational and professional biographies changes in lives. This will become visible in more intensive changes of employment, inserted phases of further education, family time-outs, a change of professional placements, occupational profiles and work venues. Course offerings are to be adjusted beyond subject-specific education towards differing social requirements and are supposed to convey specialized expertise which has not been offered by institutions of higher education before. Simultaneously universities are supposed to respond to the segmented demand for higher education by providing offerings beyond established courses. The dissolution of traditional professional profiles and an increasing individualization require an expansion of academic options. Personalized course combinations as well as a stronger support for self-management and self-

⁴ see. Johan Gooitzen Wissema 2009, *Towards the Third Generation University. Managing the University in Transition*, Edward Elgar Publishing, Cheltenham/Northampton, 23

⁵ see Henry Rosovski 1990, *The University. An Owner's Manual*, W. W. Norton & Company, New York/London

⁶ see Luise Gubitzer, *Wir zahlen, wir fordern – Kundschaft StudentInnen*, in: Paolo Freie Zentrum/Österreichische Hochschülerschaft (edt.) 2005, *Ökonomisierung der Bildung*, Mandelbaum Verlag Wien , 35

study skills are to be provided. A massive problem of social relevance and sustainability of scientific education leads to the offering that is increasingly related to profitable education contents. These are usually the ones preferably promising short-term professional success on the labor market.⁷ „Employability“, is to secure the practicability of academic education, as a purely subject-specific qualification is being regarded as insufficient for real-life requirements which also includes the term of “life-long learning” in this relation. This describes the autonomous further qualification of employees and labors for which universities are to provide demand-based course offerings. What follows is a dissolution of boundaries to traditional subject-based scientific studies. The concept of “life-long learning“ is supposed to allow and broaden participation in academic education regardless the age, status and gender. “Employability“ of this kind is in any way more important than the service for the common good. Flexible, adaptive, i.e. preferably cheap and willing wage-workers are to be „produced“. The concurrent dispute about investments in “human capital” and “elites” can also be seen in this respect.⁸ Albeit the inter-dependency between academic quality and employability still requires clarification. This requires a specification of employability, non-academic requirements and extra-functional skills with regard to their content. Employability must not be reduced to merely incorporating more practical training in the academic education. Far more relevant is a research-based education which also supports individual interoperability – may that be as academic education that provides itself via the contribution of lecturers towards the contemporary level of fundamental research, or may that be a more application-centered academic education which renders itself as the contemporary state of science between lecture and study. Those who are involved in studies today will most presumably have to decide complex issues under pressure and will have to act ascertained in such situations tomorrow. Universities must prepare their students and scholars for such an environment. On an institutional scale the tendency to a higher degree of educational participation will continue for academic institutions and will be most likely complemented by an ever more dynamic trend of life-long learning. A horizontal and vertical differentiation will hence be inevitable. The comprehensive of entrepreneurial thinking at academic institutions requires a constructive examination of the contradiction that exists between the autonomy, i.e. the interest of the university organization and the aspirations of each among its individual stake holders. If universities are to produce a certain performance/output, it cannot rely on the expectation that this will be eventually generated as sum of individual achievements of all of its members. It can be claimed that the university performance comprises all individual output of its stakeholders of course; but by no means is this a way for a university to become more competitive. This implies a shift of autonomy from the single members of a university towards the aggregated organizational body of the institution in case of the entrepreneurial university. In such a system the single stake-holder has to take into account a higher degree of personal commitment in order to achieve the targets of the umbrella organization. If one considers the traditionally immanent importance of individual freedom within the academic value system the actual problem at hand becomes obvious. It is questionable if excellent scientific achievements and lecture commitment can be ordered or prescribed. Albeit both are fundamental in order for a university to produce peak performance. Hence it will be a key for entrepreneurial universities to generate decision procedures which lead to the highest possible identification of the individual with the “organizational goals”. It will and can not work out that regulating organizational organs (like senate, deanery, rector’s office) stipulate targets and expect that all members of the university will automatically fully commit themselves to reaching them. On the other hand it will hardly be feasible that individual members will exclusively or prevalently be able to pursue their own aspirations – whether within or outside the university – regardless of the interest of the umbrella organization. A result-orientation deriving from an entrepreneurial mindset requires a shift of typical university paradigms. The university, the institute, the faculty but also administration must produce certain outputs. There is that question to which extent they are able to produce that output with a steady level of quality but with less staff, less space etc. Success is measured by results and not by the amount of resources spent. The entrepreneurial university expects its members to have a certain attitude. It provides service, thus has to focus on a “customer”. This becomes visible, for in-

⁷ see Claudia von Werlhof, Kopf? – Ab! Die GATS-Guillotine. Realsatire zur neoliberalen Bildungsoffensive, in: Jens Sambale, Volker Eick, Heike Walk (edt.) 2008, Das Elend der Universitäten. Neoliberalisierung deutscher Hochschulpolitik, Waxmann Publishing, Münster, 205

⁸ see Ralf Dziobkowski, Privathochschulen unter der Lupe, in: Economy, (September 2009), 5

stance in the way a university approaches its students: office hours of the administration, lecture and examination administration, use of social media etc. But service orientation requires considerably more: It is a social commitment of the entire university to communicate its scientific results to the public. Eventually the tax payer has the right to know where the tax money is spent and whether it is used appropriately. The economic and social relevance of research activities has to be communicated to the broad public audience. This is also one among core tasks of the entrepreneurial university. This conflict between autonomy of the general university and autonomy of the individual stake-holder certainly is also manifested in a way university deals with its competitors. Competition between academic institutions as well as other bodies of the tertiary education sector is a matter of course. At the same time cooperation between several university entities is a constructive part of university life. With the transformation of established universities into entrepreneurial universities competition among academic institutions and educating bodies will intensify. Therefore the previously natural tolerance is challenged with the fact that university members commit themselves outside their university and henceforth also for potential competitors. Consequently a new attitude towards an extra-university commitment will become necessary for universities. On the one hand it would prove counter-productive to impede own stake holders via a strict non-competition clause. This contradicts the necessary outside permeability of academic life and also the necessity for maintenance of business practice contacts. On the other hand it is no matter of course for any member of the university-„corporation“ anymore if own know-how is utilized for competitors in order to contribute to the respective supply by withdrawing resources from the own organization at the same time without prior consent. There is no simple solution to this problem. First here is a necessity for an awareness of the actual problem of matching individual with organizational interests and that a solution can only be found in developing university-wide consultation. Not only universities have to develop a new perception of themselves, education policy has to do it as well. Educational policy that cooperates with entrepreneurial academic bodies will have to continue fulfilling a variety of tasks. In that market regulations must not only be simulated but education policy has to exchange market trends with political decisions wherever a higher common social interest necessitates maintaining certain educational content. This requires “political entrepreneurship”. Ultimately it will remain a responsibility of education policy to avert by providing sufficient financial funding that the autonomy universities are imparted with does not degenerate to a mere cynicism. Promotions of entrepreneurial universities goes hand in hand with provision of competencies to survive in their environment. No company can be successfully in this world if:

- It cannot control the number of customers served
- It cannot independently stipulate its own prices and fees, or
- It receives public funds which are significantly below its own cost of production

An entrepreneurial mindset and methods applied in the right way are without any doubt able to give universities the very vitality and innovative spirit they need for their further evolution and international competitiveness. Entrepreneurial acting will also lead to universities providing their services far more productive as in times when they defined themselves as extended public bodies. Releasing academic institutions into autonomy is at least the first important step to enable entrepreneurship in the field of higher education. However, this requires an even more explicit profile shaping as a service provider and a further consequent alignment to respective service segments:

- Studies and education,
- Applied research and development,
- Further qualification / life-long learning opportunities.

The paradigm of marketing, the alignment of all activities towards the market, will be the central tool of the future. Hence it will become a core mission to develop and implement the marketing paradigm within the entire academic system with all its faculties and institutes. This also encompasses a growing responsibility for the faculties and institutes in regards to the development of the entire university. While it is most presumable that education will remain a „public good“ under state authority in order to render most favorable basic conditions, the scope of public governance and university regulation

will perspectively shrink. Supervision via agreement on goals and global resource allocation displays the change in paradigms also regarding financing and economic activities of universities. The share of public funds in university budgets will constitute a basic support within an independent budgetary plan and will merely have subsidy character. This shows a complex shift in competences from the state to the university which will eventually result in a considerable increase in freedom and executive powers of universities. The more successful will be the complementation of suitable decision procedures, economic thinking and acting, i.e. a massive change of paradigms within academic bodies, the more successful this application of these „newfound“ freedoms and hence the recognition of responsibility in terms of a sustainable university development will be rendered. It will not be sufficient to just meet the set out goals. It is rather necessary to initiate a process of change. This is to secure and expand the status of universities within the tertiary sector as well as to succeed in the competition for the most qualified lecturers, the best students, financial resources and the most attractive research partners. This process of upheaval prospectively necessitates an entrepreneurial culture for universities. Its respective development, specific and implementation will be the actual core task for the years to come. There is a need of completely new role perception for the university, the faculty and its administration and it may be achieved only via an intensive communication, development and alteration process. This alteration process requires an increasing profile development for universities. In that profile patterns should be further developed, specified or newly rendered by focus on core competences in relation to market trends and respective developments. Essential sectors of action in this respect are the following:

- Study,
- Research,
- Internationality and
- Service.

Study: The number of newly enrolled and their success quota will be vital output criteria for universities. In order to further improve upon the occupational outlook of graduates, the further development and enhancement on contextual quality, practical relevance, methodical skills and social competence, mobility and internationality will take center stage of all consideration. The transfer of values with regard to forward looking studies will be essential. It is of utmost importance that unique features are developed in this competitive environment, which particularly manifest itself through the occupational chances of graduates. However, generally the competitiveness of graduates based on their profile of professional and social skills will be the core success criterion. The continuous change, an accelerating innovation and the growth of the knowledge base unite further qualification and all extra-professional forms of studies under the roof of life-long learning. Here lies an essential resource for universities. This comprises a diversity of forms like classic courses in distance learning, courses for further qualification or postgraduate studies via distance learning as well as certified qualifications with established and approved methods. Beyond that the incorporation of e-learning-methods and social media will be a key. In this respect universities approach new ways within the education sector by offering virtual distance-learning courses for fulltime studies as well as extra-professional studies. E-Learning (electronic learning) consists utilization of all forms electronic and digital media for the presentation and distribution of learning materials and/or the support of interpersonal communication. E-learning has synonymous terms such as: online-learning, tele-learning, multimedia learning, computer-based learning, computer-based training and distance learning. A special form of e-learning is the so-called „blended learning“, which is a combination of traditional lectures requiring presence of lecturer and students and the availability of virtual course offerings. Through this novel form of teaching and learning the function of interactive multi-media is changed from being a lecturer substitute towards a communication tool for lecturers. Modern forms of teaching and learning by use of virtual media (social media) will increasingly be required as a prerequisite. Social media are digital media which enable the user to transport and discuss own ideas individually or within a community. Social interaction and cooperation within social media environments increasingly gain importance and alter medial monologs (*one to many*) to social media dialogs (*many to many*). The computer and the internet offer participants a broad variety to cooperatively and self dependently engage into different learning groups and

several discussion forums. Students can access the opportunity to involve themselves far more fundamentally into the determination of their learning subjects and question as well as modify them, than via albeit regularly but very time limited presence lectures. This supports the development of individual professional, methodical and social skills. The impact of human counseling of virtual course offerings has very long been underestimated. Learning or studying via multimedia and new media has long been regarded as a solely individual and autodidactic form of gaining knowledge. The prime interest of providers and the media didactic sciences focused on didactic design and make up of multimedia materials. It had been assumed that learners would be sufficiently provided by an according layout of learning materials, the interaction with the medium as well as electronic feedback and help functions. Albeit a substantial support of learning processes is a complex and multi dimensional matter, as it has to consider further factors beyond help and hints in regards to context such as learning strategies and it needs to attend to special requirements of each learning individual and learning groups. Contrary to presence lecturing the computer assumes the role of the “new professor“ by e-learning. Regarding distance education a personal relation between professor and student is generally omitted. Thus the question arises, whether that will be a problem for students, which are often referred to as „web 2.0-learners“. These learners grow up with media like Facebook, Twitter und Co. and regard it as completely normal to make virtual friendships. This new generation of students is well proficient in using social media and will sooner or later expect and demand such media for studies and science. Virtual universities will have to be able to deal with much higher expenses for developing and maintaining virtual media and the counseling via the internet in contrast to traditional universities. Using social media though only produces insignificant or even no cost at all. Hence the use of social media shows a considerable advantage over the use of individual and cost prohibitive software which is developed and provided by a variety of suppliers. As demand for flexible time and residence-independent (part time-) courses is ever rising, the use of information and communication technologies for academic education will be a decisive factor for the quality of lectures as well as the competitiveness of a university. The implementation of e-learning however is a tedious process and faces quite some reluctance in Europe. In many other countries the necessity for introducing these media has been recognized and appreciated already some years ago. Corresponding programs have since been developed and implemented. Learners of the “web 2.0 generation” deal with online media on a daily basis and henceforth expect the application of these media for distinct education offerings. This method increasingly transforms the role of a „traditional lecturer“ into that of a moderator and learning companion who in his turn can provide modules and work together with learners regardless the time and location as well. Particularly in North America his form of learning is practiced successfully. Now Europe has to open up for these methods as well in order to meet the requirements of the “web 2.0 generation”.

Research: The development of the university as an innovation driver is eventually only feasible via applied science and research. Here high potential for development but also respective expectations are inherent for universities. A successful implementation secures proximity and orientation of studies towards practice and subsequently one of the qualitative features of the future on the one hand. On the other side the cooperation with innovative companies is a vital image and competence factor for the prospecting competitiveness of universities.

Internationality: Activities in an international context as an occupational prospect for future graduates necessitate the use of potentials that come with temporary stays abroad. Especially the Bologna-process offers significant potential for students. In that respect the establishment and extension of international competence networks and the European cooperation must be further pursued. The development of the quota for foreign academic students should be strived via these cooperation networks, albeit will most presumably not be able to fully compensate for demographic effects. In any respect the success and employability will be essential, which set a certain level of lingual proficiency and scientific competence in advance.

Service: The several university processes are to be recognizably further developed and optimized for all students, lecturers and employees. This comprises campus and resource management systems as well as controlling aimed at further forming of the service character of a university. Most immanent among them is the development of a new communication culture with students (cf. E-Learning, Distance Education, application of Social Media).

4 HOW TO COPE WITH FUTURE CHALLENGES

Regarding the high requirements upon a future university and the foreseeable necessary developments, similarly considerable challenges are at hand for the implementation of future strategies and plans. This constitutes most evidently the implementation of suitable measures in following sectors:

- Studies and student-centered marketing,
- Applied research and development,
- Further education / lifelong learning opportunities
- Controlling and
- Public relations.

Studies: In this regard the continuous pursuit of the Bologna-process via utilization of its meanwhile widely recognized potentials for improvement but also opportunities is in the forefront. The following specific measures should be planed:

- Further modularization,
- Development of bachelor- und master course offerings which regard to the market,
- Improvement of academic organization in order to increase study ability,
- Reduction of the dropout quota,
- Further development of an internationalization of studies,
- Further development of the evaluation process in regards to academic lecture,
- Increased incorporation of corporate practice within academic studies,
- Transfer of values to students,
- Development of student incentives for excellent achievements,
- Motivation to a contribution towards the academic autonomy,
- Intensification of the development and implementation of English-language course offerings, i.e. lectures.

Student-oriented marketing: In the competition among institutions of higher education not only the apparently demanding task of maintaining current numbers of students, but also the opening towards new target groups will be of considerable significance. To be up to his challenge numerous and manifold activities are necessary, albeit their concurrent condition may not meet respective requirements:

- Appealing, informative and goal striving internet presence,
- Presentation on fairs,
- Targeted fostering of new talent via a development of regional networks to bodies of secondary education and companies,
- Targeted encouragement of new potential and focused support of elites,
- Increased communication to potential students not considering academic studies so far,
- Fostering of public perception of universities,
- Intensification of alumni work (cf. multiplication-effect)
- Use of social media for general and specific marketing measures.

Applied research and development: The shaping of a profile as service provider for the economy sets a continuous development of adequate supply for the economy in advance. In addition applied

research and development is an indicator of the attractiveness of universities. Faculties will have to stronger contribute own project concepts for the development of demand oriented offerings for the economy. The share of inter-faculty topics and services is to be raised considerably. Tackling of interdisciplinary issues provides high potential for innovation. The following activities should be given priority:

- Further development of demand oriented research portfolios with particular focus on addressing selected promising sectors,
- Fostering of regional and trans-regional networks,
- Effectivity and efficiency of knowledge transfer to industry,
- Development of an extensive service package for the economy,
- Alumni work (cf. use of existing contacts),
- Development of a generally innovative academic environment.

Further education/long life learning: Further education offers the highest potential for further growth to universities. The ever sharpening demand for specialized labor and the demographic trend demonstrate this quite clearly. Hence sustainable and economically effective offerings of further education should be developed. The following activities would particularly contribute in this endeavor:

- Focused exploitation of potentials for further education building up on the current degrees,
- Increasing marketing of modular offerings as potential for further education for the industry,
- Development of opportunities for life-long learning,
- Conception of cooperative courses,
- Cross-linking with business practice on a regional, national and probably international level.

Controlling: The rendition of goal contracts in the academic sector requires a more sophisticated form of cooperation between faculties and central authorities. Goal contracts are increasingly made visible via distinct criteria. In that respect a process of leadership is built up within universities that simultaneously increases responsibility as well as freedom within the structural units, which reflects an essential part of the restructuring process. In this respect the following factors are particularly important:

- Contraction of (realistic) goals with respective deadlines,
- Development of appropriate criteria, parameter and value portfolios,
- Development and implementation of reasonable evaluation standards,
- Conception and introduction of an internal and external reporting system (cf. Balanced Scorecard).

Public relations: The perception of the university as modern service provider, regional as well as supra-regional, has to be achieved via focused public relations work which requires the application of all instruments at disposal. A precondition for such undertaking is a working internal marketing and respective target group oriented activities of all stake holders, such as:

- Active participation in regional and supra-regional scientific events and summits,
- Development or intensification of the scientific and academic life at the university,
- Professional appearance of the general university profile as well as the specific profile in the subject-oriented and broad public,
- Increase of publication activities, particularly of special research results,
- Target group oriented and continuous event management (e.g. first semesters, graduates, annual receptions for the relevant public),

- Development of communication platforms at the university in order to link institutes, faculties and students with a selected involvement of the public.

Via direct responsibility and commitment driving forces for the future must be developed and unleashed. By strengthening faculties and institutes, their consequent alignment as service providers and by an extensive communication process universities have to face these foreseeable challenges.

5 CONCLUSIONS

The university of the future closely cooperates with its partners, especially the business sector, and ensures for its profile to fit the social and economic requirements. It henceforth makes sure that a high degree of quality in science, knowledge and technology transfer, education and further qualification is maintained. The university considers the increasing interlock of phases of education and work regarding the conception of education services and orients itself towards the demand of potential clients and the requirements of the labor market. It thus offers clearly outlined science- and also practically oriented study courses and allows for flexible, particularly extra-occupational forms of study. Within the field of science the largest part of public funding is allocated via competitive procedures organized by the scientific community itself and by strategic and practically oriented public programs. The university can furthermore raise tuition fees to finance further services. In addition the university also collects private third party funds and offers its services on the market for further education in order to provide for further income. Via professional fund raising further income for additional undertakings can be generated. The future university should combine a scientific and economic orientation in a healthy balance. The quality of its research is proven in competition with other universities and scientific institutions. The university sustains fundamental research as well as applied sciences. It conducts cooperative research projects with other scientific institutions and partners of the business sector. This as well as a continuous exchange and transfer of knowledge and technology with the business sector creates swift access to up-to-date technological developments while companies gain access to current scientific results and novel scientific professions. In summary the future university should further consider and deal with a more entrepreneurial and market oriented mindset and with respect to its individual situation (location, size, reputation etc.) decide on how far and to which extend it has to think and act more market oriented in the times to come.

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