

CHAPTER 14

The University in the 21st Century¹

Luc E. Weber

UNIVERSITIES AND THEIR ENVIRONMENT

The resilient University

The University is one of the greatest inventions of the second millennium (Rhodes, 1998). Europe can be particularly proud of this, given that the University is first and foremost a European institution which — while keeping its essential characteristics — has since spread worldwide (Rüegg, 1992). Universities have shown themselves to be particularly resilient organizations: created up to 900 years ago, they have survived the many vagaries of history and scholarship, as well as of politics and economics. Even today, the university's dynamic nature is clearly evident. It has shown that it can and does adapt to changes in its environment.

University teachers regularly adapt the content of their teaching, while keeping themselves abreast of latest developments in their field thanks to an innate curiosity for discovery and the sharing of knowledge, which can be labelled the “genetic code” of the university scholar.

However the context for the University has now changed. For centuries, universities had only a few, sometimes only one, professor in each discipline. The simultaneous broadening of knowledge fields across all disciplines,

1. This chapter summarizes the main arguments of the book I have recently published in French: *L'Université au XXI siècle, innovante, internationale et volontaire*, Economica, Paris, 2015.

together with the massive increases in student numbers during the second half of the 20th century, has resulted in the specialization of knowledge and a large increase in the numbers of university teachers and researchers. Departments and other subdivisions were created to replace professorial chairs for the organization of teaching, often along with research networks linking a group of disciplines, with decisions in these new structures being taken on the basis of collegiality. Furthermore, councils have been created to ensure that the university administration and technical staff, non-tenured teaching and research staff (assistants, etc.), as well as students, can be involved in certain decision-making processes, notably in the organization of teaching and learning.

These necessary developments have proved to have a very positive effect, since they place a large degree of responsibility with university teachers and researchers, and with other stakeholders in the life of an academic faculty or department. This shows clearly that universities have both the human and institutional resources to adapt to the challenges of a changing world, and that they are already doing this in a number of ways. Having said this, it should also be recognized that universities often react under pressure, without which they would be less inclined to change. While some of these changes are positive, others are less so.

The University under challenge

This short reminder of the University's long history and its proven capacity to adapt to changes might give the impression that it can be affected by nothing and that it is guaranteed to continue to exist, in a very similar format, for several more centuries. The rather shorter history of industrial companies and services shows, however, that there is no guarantee. Furthermore, the somewhat longer history of nations also shows that no civilization or country is immune to change.

The real question is to know whether universities will be able to adapt to the new world that is opening up, and whether they will be able to do this quickly enough, in order to preserve the quasi-monopoly which they enjoy in terms of higher education and basic research. We should remind ourselves of a number of the fundamental changes that have taken place recently, especially those which are likely to have the most impact on society in general and, more particularly, on higher education and research.

From the perspective of the universities, they become apparent in four interdependent ways, all of which change the context in which the universities must operate. Some challenges are **universal**, that is they impact on universities wherever they are located:

- **Internationalization.** Globalization means that universities have to think and act internationally, even globally: every aspect of the

university will face the challenge of internationalization, from its students, faculty and staff, to its missions of teaching, research and service, and to its funding, administration and campus life.

- **Competition.** Increasing levels of competition are particularly significant for universities, since they must remain attractive to students, teachers and research staff, and must also obtain the core funding, capital investment and research funding that they need to develop.
- **Increasing pace of scientific and technical progress.** While, to a large degree, a result of the universities' own efforts, scientific and technical progress is somewhat paradoxically a challenge for universities, given their essential capacity to make new discoveries, without which their reason to exist would be significantly weakened. In addition, this progress means that universities and their teaching staff need to keep the range of their study programs updated, including their content and teaching methods.
- **Emergence of the knowledge economy.** In order to meet today's development challenges, all countries — whether they are developed nations or still developing — need, more than ever before, to innovate and to rely on educated citizens and a qualified workforce, capable of undertaking challenging tasks that change frequently and become increasingly complex. Thanks to their long tradition, universities and the tertiary education sector generally are best placed to meet these needs. They must therefore adapt their teaching and research in order to remain attractive and to fulfil this responsibility.

Other challenges are **specific** and/or **regional**.

- Demographics and the higher education participation rate, which determine the number of students at university, differ enormously from continent to continent. In the western world and in Japan, the university student population is in the process of stabilizing at a high level, or is even beginning to decrease. The situation is completely different in continents with a much younger population, including both Africa and the Indian subcontinent where the population is still growing fast. In these regions, however, the university participation rate is comparatively low, or very low, but is increasing.
- The situation regarding the financing of higher education and research is likewise very different from one region to another. This difference can be seen in two areas (OECD, 2012). First, the share of public and private expenditure for higher education and for research compared to Gross National Product differs greatly from one country to the other. Second, the same is true for the share of the public budget dedicated to Higher Education. Moreover, public funding in the western world and

in Japan is in serious difficulty, especially since the 2008 economic crisis. In Europe (Estermann & Pruvot, 2011) a number of countries experienced large or very large budgetary reductions (notably in Eastern and Southern Europe), while only a few countries increased their budgets, notably Germany and France, thanks to their so-called “excellence initiatives”, which aim to finance advanced innovative institutional projects or in the fields of research and teaching. It is worth noting that in Europe the university sector has been relatively more affected by national financial difficulties, given that the State plays such an important role in the continent. At the same time, increasing the State’s share in GNP is difficult without having negative consequences on the private sector. The size of the State has effectively already become a problem in itself. Public funding is also very tight in the United States where, even if the overall context is improving after five years of austerity, there are ongoing announcements of large budget cuts imposed mainly by individual states. This situation has driven many universities to increase tuition fees much faster than the underlying increase in the cost of living, which in turn creates a number of problems, in particular regarding access to universities for talented applicants on low family incomes. The deteriorating financial situation for universities and for research in the United States has encouraged many higher education stakeholders to raise the alarm (National Research Council of the National Academies, 2012; and American Academy of Arts and Sciences, 2014). One of the aims of these warnings is to press home the message that scientific and technical advances are absolutely fundamental for the prosperity, health and security of the country. As a result of ongoing economic stagnation in Europe and Japan, and the increasing investment requirements in other areas where the State plays an important role, for example, health, security and transport, it is difficult to see how public funding for higher education can improve in the short term. Moreover, universities are at a disadvantage, since the results that they are promising cannot be demonstrated immediately, only at some time in the future.

The burning question

Universities, in particular research-intensive universities, have indeed shown themselves to be especially resilient, able to adapt themselves to all sorts of favourable and less favourable environments. However, the situation which universities now face is much more challenging than 20 or 30 years ago.

- On the one hand, increasingly rapid scientific advances, ground-breaking innovations and the competitive environment all

require universities to reform faster and more profoundly, in order to maintain their quasi-monopoly on teaching and their dominance in terms of research. They have in particular to innovate in the way they fulfil their traditional and basic missions, i.e. teaching, research and service to society. In addition, they need to internationalize all aspects of their activity, from students, faculty and staff to missions of teaching, research and service, and to funding, administration and campus life, through internationalizing their human resources, their academic staff and their students. They also need to pay much more attention than they have traditionally done to the quality of all that they do and to their governance.

- On the other hand, in the western world and Japan, most governments find themselves in serious financial difficulties and are increasingly called upon to provide increased funding for other public priorities. The situation is dramatically different from the generous, post-Second World War period when university budgets grew very rapidly, while scientific and technical progress then was not as rapid or even revolutionary as it is today. This period of rapid expansion, driven mainly by an increase in student numbers, also allowed for considerable growth in the numbers of disciplines and specialization covered, which in turn allowed universities to broaden their areas of expertise and research, and at the same time to provide more diverse and richer study programs. As a result, this period allowed universities to adapt to their changing environment, thanks to the additional resources received for absorbing the increasing number of students.

Today, universities are under pressures from two different directions, as if they were facing a pincer movement. On one hand, they have to innovate faster than ever before to respond to the needs of a rapidly changing labour market, take into account new knowledge, be more international, recruit excellent teachers, researchers and students from abroad, to pay more attention to quality, to be accountable, and so on. On the other hand, these huge efforts to maintain their leadership in higher education and basic research have to be done in a context of ever-tighter public budgets. This condemns universities to search for the necessary financial needs necessary to cover the additional expenditures induced by these efforts.

In the following two sections, we shall first examine the possible strategies for universities to raise the necessary funds to cover the additional expenditures. We shall then argue that universities will have to reform themselves all the more deeply and rapidly because they have difficulties raising more resources which implies an improvement of their governance system and strong leadership.

FINANCING THE NEW UNIVERSITY

Raising the necessary additional funds has become more crucial than ever for the development of universities. The fact that the number of students tends to stabilize or even decrease deprives universities of a strong argument in favour of increased public engagement, in contrast to the situation that prevailed in the second part of the 20th century. Moreover, most of the necessary innovations generate additional expenditures. Financing a proactive university that is striving for excellence has become a great challenge for many institutions.

Basically, this raises three questions: a) the degree of state support, b) the right or optimal financial participation of students (and/or their families) and c) the best ways to engage the private sector.

Governmental support. The support given by governments to universities has basically two dimensions. First, traditional state support which differs widely from one country to the other, from 90% in Scandinavian countries and Belgium to less than 35% in countries like South Korea, Chile, the U.S. and Japan and, second, its trend over the years. Considering that the degree of involvement is deeply rooted in the political culture and strongly anchored historically, it is very unlikely that universities can influence this in the short or medium terms. However, particularly in a period of tight or even decreasing public support, university leaders should never stop explaining to the public authorities, to politicians and to society as a whole that higher education and research are crucial in the knowledge society and that it takes many years before results become visible — and that the damage from a lack of support for the sector takes many years to repair. University leaders should also constantly explain and repeat that the optimal teaching and learning environment aims at preparing people to think, to be innovative and critical, and to learn how to learn, more than simply to train individuals to occupy a particular job. Similarly, it should be stressed that research results cannot be planned; new discoveries entail an important element of chance. This engagement of university leaders in favour of strong public support is all the more important in countries where the share of public financing is relatively large, but should not be neglected in countries which have a strong tradition of alternative sources of financing: all potential sources of financing have to be exploited to respond to the challenges of innovation and internationalization.

Optimal financial participation of students and families: It is difficult to imagine that, in some countries and universities, students are paying fees superior to US\$50,000 per annum, whereas in other countries higher education is almost free of charge! We believe that both these extremes should be avoided.

- Very high fees are not optimal for three reasons. First, they completely neglect the fact that the personal investment made by the university

students is not only beneficial to them, but to the whole population, as it is better to live in a well-educated society than in a non-educated one. The effort of studying made by a proportion of the population generates external benefits for the entire population (spillover effect). Secondly, the public sector has a responsibility to promote and support higher education because it contributes positively to the immaterial welfare of the entire population, which depends also on values like freedom, security, justice, tolerance and the respect of human rights. Graduates have a return on their investment in getting a more interesting, promising and better-paid job and in being less vulnerable to long-term unemployment; however, they have no immediate return for the improved immaterial welfare to which they contribute. It is therefore unfair and wrong to let them participate to the payment for that through high fees. Third, the higher the fees, the more difficult it is to ensure the fees do not become a serious barrier to access to universities for potentially good students who do not have sufficient financial means.

- On the other hand, it is also unfair not to levy any fee. Studying in a university is a profitable investment for students who, on average, can expect a better professional life and a higher income throughout their working lives. Consequently, it is just and fair that they contribute to this important advantage, particularly as the opportunity to attend university is not equally spread over the entire society: despite all the efforts made, the proportion of students from working class families remains much smaller. The consequence is that in a system without student fees or very low fees, everyone is funding higher education through taxes, even though only privileged sections of society have a reasonable chance of getting a university grade. In addition to this equity argument, reasonable fees have an efficiency advantage: they make both students and institutions and their staff sensitive to the fact that higher education is costly and must therefore be used efficiently.
- These theoretical developments are certainly useful when deciding the approximate level of fees, but insufficient to fix them precisely. They can nevertheless help to persuade continental Europe, which is traditionally opposed to any level of fees, that they could tap into this unexploited source of financial resources and, at the same time, improve the fairness and the efficiency of the system. However, one should never forget the risk of creating new barriers to access. The introduction or increase of fees should be accompanied by financial measures for students (or families) who could not afford to pay them and would therefore be excluded.

Fees paid by households (students and their families) are by no means the only source of private financing. Philanthropy is also extremely important in countries where public engagement is modest. Raising money from rich individuals and from firms with a lot of cash, with no or only acceptable strings attached, is an important responsibility of the leadership of the institution and in particular of the president or leader of the institution. The U.S. has a strong record of philanthropic funding for the university sector, while Europe, in particular continental Europe, has access to an ocean of unexploited resources. However, there must be limits to possible enthusiasm about potential funding. Developing philanthropy requires a major cultural change, which has to be done in both “camps”, the potential donors and the requesting institutions. This effort, which requires putting in place a professional organization and requires the determined engagement of university leaders, is worth making as there is a real potential for levying additional resources.

The private sector also contributes to the financing of universities and research through different forms of partnerships (contracts, joint projects, royalties...) Here again, the U.S. is an example Europe should follow. There is good potential for increased income, although strict rules should be implemented to prevent contracts and partnership restricting academic freedom and, even worse, influencing research results.

In summary, European universities that are particularly suffering from the financial difficulties of the governments supporting them — and which have in the past provided a relatively large proportion of their revenues — should engage much more in raising additional resources from the private sector (philanthropy and partnership) and households. This is the only way for them to find the necessary means to finance a determined policy of modernization, internationalization and quality improvement in search for excellence.

GOVERNING AND LEADING THE NEW UNIVERSITY

As we have seen, the University in the 21st century faces two big challenges. On the one hand, universities have to adapt to a rapidly changing environment, which requires them to change what they are offering and how they act. On the other hand, they have to secure additional resources to finance their modernization and development in a period of tight or decreasing public budgets, without forcing students to pay for the benefits of higher education which accrue to society at large.

The facts are that the situation is much more challenging than the situation in the 1960s: the changes are more rapid and the budget is not forthcoming. This is a completely new situation for university governance and leadership which concerns all universities in Northern America and, particularly, in

Europe and Japan. The situation in other continents is in general quite different, but this is not the object of this chapter.

This raises two questions: first, are universities changing rapidly enough to retain their position as the leading institution for the creation of new knowledge and of knowledge transfer? Secondly, is the system of shared governance, where most decisions are the fruit of individual initiatives and collegial decisions, adapted to implement the deep changes required?

My conviction is that it is not the case and that universities have to streamline and reinforce the decision-making process.

Improving this process is a delicate undertaking as it is important not to destroy what works well in the present system. Universities are unique organizations because in no other organization is there so much competence at the base of the hierarchy, that is the scholars, researchers, Ph.D. students and other advanced students. Professionally, they know in principle more than the head of their department, dean or member of the presidency, and they are best placed to know what should be done to be up-to-date. They are well aware of this and therefore do not easily accept instructions from the hierarchy, all the more so as they tend to apply strictly the principle of academic freedom that they enjoy. However, it is easy to demonstrate that it is inefficient and unfair to keep all decisions decentralized and to make the president a mere master of ceremonies.

Thousands of decisions are made every day in universities. Most of them concern students (admission, examination, evaluation of work done, etc.). But others are more strategic, like the creation or adaptation of a study program, the nomination of a professor, the decision to build and equip a new laboratory, the decision to merge two departments, etc. It is of the utmost importance to determine who should be responsible for the final decision and how the decision should be prepared. Universities being different from a public administration or a business, it is necessary to find a model of organization adapted to this particular type of institution. I suggest that the federal model helps greatly to determine in a university which type of decision should be taken at which level. The model is based on three principles. First, the principle of subsidiarity, which specifies that decisions should be taken as close as possible to those concerned by the decision. Second, the existence of spillover (or external cost or benefits) which highlights that some decisions (or non-decisions) generate a benefit or a cost not only at the level of the individual or subdivision that has taken it, but also at a higher level in the institution. For example, an excellent department contributes to the reputation of the whole institution, but is unable to develop as much as it should if strategic decisions are taken at its level. Third, the principle of treating equals equally depends on the preferences within the institution: if the equal treatment of equals is

considered important, decisions have to be more centralized than if it is not considered important.

These criteria are very helpful to determine the ideal level of decision-making. Basically, decisions can be decentralized as long as the spillovers are insignificant and there is a low preference for an equal treatment of equals. But, if the spillovers are important and if people attach great importance to an equivalent treatment of equals, decisions should be made at a higher level. I am furthermore arguing that the new environment is increasing the spillover of many decisions and the degree of preference for equal treatment of equals. The importance of the changes which have to be made to ensure that the institution remains competitive is reducing the possibility for subdivisions to make the necessary changes on their own. For example, the development of MOOCs or the internationalization of the institution requires a strategy at the level of the university. Decisions should therefore be made at a higher level. This does not mean that the implementation cannot be left to the responsibility of the subdivisions.

The tight financial situation reinforces strongly the need for increased decision-making power at the level of faculties or of the presidency, depending on the object. Convincing the State to do more, introducing or increasing student fees and developing philanthropy are all strategies that have mainly to be decided and implemented at the level of the presidency. The power of the president and/or presidency to decide is all the more important in cases where the decisions to be made are controversial within the institution, in particular because there are winners and losers.

The easiest decision to be made and policy to implement is to convince governments to do more. Everyone within the university agrees. The situation gets much more delicate if these efforts fail and government does not financially support the endeavour of universities to modernize. In the case of stable or even decreasing public budgets, the university leadership is invited to act more decisively. The two strategies which are, as we have seen, open to the leadership of universities are more delicate or difficult politically. One strategy consists in finding alternative sources of financing, which means taking a politically difficult decision to increase fees or to search much more aggressively for alternative additional resources through a campaign of fund-raising and nurturing other sources of income. These policies, like lobbying for increased public allocations, do not produce losers within the institution, but generate nevertheless the opposition of all those who are against students fees for social and political reasons or think that the danger that private money corrupts the independence of the institution is too great to be undertaken.

The situation gets really difficult for institutions that, for whatever reason, fail to increase their financial resources: they do not have another way to find the resources necessary to innovate other than using existing resources

differently. In this case, the university should revise its missions, objectives and strategies, and identify activities which are now obsolete, less important or whose quality is mediocre. Then, the university should have the power to act, in particular in closing them or transferring them to another institution in order to liberate the financial means necessary to finance the newly prioritized activities. This cannot be done by the subdivisions alone. The whole institution is clearly concerned, which means that the presidency should be fully involved.

CONCLUSION

The message we have tried to develop in this contribution is straightforward, but challenging for many universities in the “old world”, and in particular in Europe and in Japan. Universities have indeed been extremely resilient to change for up to nine centuries thanks to the “genetic code” of the university scholar and to a well-developed system of shared governance. Two parallel developments over the last 25 years are threatening this: today the world is transforming itself much faster than ever before and the financial environment is very different. In the 1960s and after, the world was not changing as rapidly, but a strong increase in student numbers justified — and supported — at the same a rapid increase in public budgets, whereas today the world is changing extremely rapidly in a time when public support is stagnating or even decreasing.

Universities face a double challenge. First, innovate, modernize and restructure to keep the quasi-monopoly for discovering new knowledge and transmitting it. Second, be capable of doing this with stagnant or decreasing public budgets. This situation is very challenging for the governance and leadership of the institution. If universities fail to persuade public authorities to increase their contribution to universities to cover the cost of the necessary adaptation, they have to fight aggressively to find new resources with households and the private sector (students fees, philanthropy, different forms of partnerships). And, if this strategy also fails, they have to reallocate existing resources to finance priority projects while closing or terminating older, less important projects.

REFERENCES

- American Academy of Arts and Sciences (2014). *Restoring the Foundation: The Vital Role of Research in Preserving the American Dream*, Cambridge, MA.
- Estermann, T. & Pruvot, E. B. (2011). *Financially Sustainable Universities II*, EUA Publications.

-
- National Research Council of the National Academies (2012). *Research Universities and the Future of America, Ten Breakthrough Action Vital to Our Nations' Prosperity and Security*, The National Academies Press, Washington.
- OECD (2012). *Education at a Glance 2012, OECD Indicators*, OECD Publishing, Paris.
- Rhodes, F. (1998). *The Glion Declaration: The University at the Millennium*, Glion Colloquium, Geneva.
- Rüegg, W. (ed.) (1992). *A History of the University in Europe, Vol. I, Universities in the Middle ages*, Cambridge University Press.