



Challenges of Modernising European Universities

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Abstract:

One of the paradoxes of the 21st century is that while most countries are striving to build knowledge societies and economies, the majority of universities remain conservative in modernizing their curricula. This lack of modernization includes issues such as balancing knowledge, competencies, and skills, implementing student-centered and interactive teaching methods, and involving practical experts in the study process. Awareness of this paradox is still limited not only within academia but also among governments, professional sectors, and the general public. The media, too, could play a more active role in promoting necessary changes. One key reason for the slow modernization of universities is the conservative interpretation of academic freedom and institutional autonomy. This stems from several factors, including the misinterpretation of academic freedom, the career patterns of university academic staff, the prevalent use of traditional lecture-based teaching methods, inadequate research funding, and limited inter-university collaboration. As a result of these conditions, countries struggle to fully develop their human capital, hindering their transition into innovation-based knowledge economies and impeding their international competitiveness. To address these challenges, all societal actors must play a role. Governments should stimulate the development of modern tertiary education systems, business leaders should clearly articulate the competencies and skills they expect from graduates, academia should advocate for sufficient funding for their modernization efforts, and NGOs and the media should raise awareness and urge governments to actively support the development of knowledge economies.

Keywords: Modern university; Knowledge society and economy; Importance of competencies and skills; Innovation ecosystem; Inter-university collaboration



1. Introduction

1.1. Tertiary education's division between the classical and higher professional education

The post-industrial society based on the quality of human capital is much richer in knowledge, as well as in competencies and skills, than earlier societies. That puts much higher and qualitatively different demand on the entire educational system – including on universities. This has been properly understood by only a few countries, who have reflected pragmatically, therefore divided tertiary education into classical and higher professional education.

The first remained general, knowledge-based academic upbringing of future intellectuals - expected to perform various jobs in spheres of management, administration, education, and other social services. The second, however, was designed to provide the background and skills for students who were expected to perform engineering as well as technical jobs. These programmes are usually carried out by “Technical Universities” or Colleges – normally taking 3 years (while university programmes normally run for 4 years).

This is a practical answer to the issues opened, with classical universities still facing many of the issues introduced by the knowledge society.

The questions being faced by universities in most countries around the world are not easy to answer, taking into account the changes having happened in modern societies, where knowledge is not any more the privilege of the few, and when diversification of knowledge has grown beyond anything, we have been used to, even only 2-3 generations ago.

When looking for the main causes of this challenge, we need to go some two centuries back. Namely, that was the time, when the principal role of modern universities in Europe has been to prepare the future elite of society. Therefore, it is not surprising that in that period, less than estimated 5% of youngsters entered university, and they mostly came from the upper classes. Therefore, they were actually predetermined to become part of the elite in their respective societies. For those circumstances the elite university made perfect sense, anything else would not have been accepted.

1.2. The concept of modern university:

The concept of the modern university dates back to the year 1809 when the Prussian government appointed one of its leading intellectuals, Friedrich Wilhelm Heinrich Alexander von Humboldt, to be responsible for education. He performed excellently, and his system was adopted by most European countries due to its elaborateness, systematic approach, and effectiveness in achieving objectives. This was the case two centuries ago when the majority of working people were illiterate. Now, the situation is, of course, completely different: all working people are not only able to read and write, but have also completed at least 9 years of education. About 1/3 of youngsters even graduate from university, implying that they have been educated for 17-18 years, yet they are not automatically considered the elite of their respective societies.

The following quote from von Humboldt's text indicates that he himself was much more modern than generally interpreted: “Just as primary instruction makes the teacher possible, so he renders himself dispensable through schooling at the secondary level. The university teacher is thus no longer a teacher, and the student is no longer a pupil. Instead, the student conducts research on his own behalf and the professor supervises his research and supports him in it” (Clark, 2006). This clearly indicates that von Humboldt is often misunderstood, and that he was more modern than commonly believed. In fact, this perspective taken by von Humboldt is quite different, indeed even contrary, to what is often considered the “Humboldt-type” university, which still serves as the mental background for the concept of most present-day European universities. However, this is not the case in the USA, which von Humboldt visited several times and influenced their academia.

While von Humboldt operated in the period of industrial society, we are now experiencing the achievements as well as the challenges of the digital age in the mature innovative, knowledge society. Many work operations that traditionally depended on responsible

¹ Clark CM, 2006. Iron kingdom: the rise and downfall of Prussia, 1600-1947, Harvard University Press, p. 333.



workers' reasoning and decisions are now digitized and increasingly controlled by artificial intelligence. At the same time, people's roles have shifted to primarily guiding and controlling computer-guided processes and decisions.

Unfortunately, this shift is not properly reflected in the concept of present-day European and many other universities, which have not recognized the changes experienced over the last 50-60 years and still adhere to a traditional approach in fulfilling their mission of building intellectuals. In essence, they still see their mission as enriching students with scientific knowledge to make them intellectuals and a kind of societal elite. Most academics, and consequently, also governments, therefore accept the position that teaching practical competences and skills does not fit into the world of academia and should not be part of post-secondary education curricula

2. Methods

In preparation for the article, observation research has been undertaken. A reduced interest in studying the Bologna experience has been observed since 2015. What could be the reasons for this unexpected trend? Probably the main reason could be that very little is happening in terms of the Bologna Process impacting university education. Namely, out of the 49 subscribing countries, even one third of them did not introduce the two-cycle university study concept, while there is very limited information about the implementation of the other Bologna targets.

Therefore, our approach remain mainly interpretative: it is based on published documentation, combined with some observations of the private and public universities in Slovenia. Observations are accumulated over decades from active involvement at various Slovenian universities.

3. Results

Our principal observation on the achievements of the Bologna Process is that – after 20 years since the adoption of the Declaration – the results achieved are very modest, to say the least. This qualification is justified by the fact that modern circumstances more than justify the need to update and adjust university studies, including equipping students much more with competencies and skills required in today's working environment. Obviously, one cannot blame only the universities – though their responsibility cannot be underestimated or even ignored. The more they emphasize their academic autonomy, the higher is their responsibility for failing to accept the need to change! The fundamental responsibility, however, remains with governments, which in most countries continue paying inadequate attention to education, including university education.

This fits into a more general weakness preventing many governments from accepting primary responsibility for formulating policies for building a knowledge economy and society as a building block of national development strategy. Leaving the strategies and declared policies aside, there is one indication of how much they are willing to undertake to support building a knowledge economy. This is the share of GDP devoted to financing research and innovation from the budget (GERD, Gross domestic expenditure on R&D). Governments of countries which do care, maintain GERD at 3% or more, and those which do not, achieve GERD below 2%. Of course, it's not only about how much funding is available; what matters as well is how the financial support is offered and provided. If public funding is available as a source of supporting institutions' budgets – this is simpler, but not most effective. It should be available for seriously selected and promising projects, which is procedurally more demanding, but definitely much more effective and productive. Equally important for innovation performance of a country is the development of its financial market, offering support not only to interesting research projects, but also for opening new companies (start-ups) and supporting the growth of small and young companies (scale-ups). As a share of available risk capital in GDP, the US is five times stronger than the EU average. Without important changes in the entrepreneurial environment, Europe is not facing a promising future in the global innovation-based competition! This is related also to the general awareness of the critical importance of the quality of education, science, and research – which is in most countries around the globe far from sufficient.



4. Discussion

What are the major causes for the dissatisfactory situation in implementing Bologna?

Let us first look at the universities themselves, and identify the key factors responsible for the problems preventing progress along Bologna model:

- (1) A major contributing factor is the traditional career pattern of most European university professors, who predominantly remain at the university from entering as a student, distinguishing themselves, being invited to join the staff, and normally experiencing their entire professional career at the university, up to their retirement. Therefore, they remain encapsulated in this particular environment, depriving themselves of the opportunity to experience "real-life conditions." Being gradually recognized as a problem, in some countries they are now starting to take measures to prevent this "deformation." For example, in Germany, this is now prevented by law, as well as by university rules for professors' re-elections, according to which the candidate for re-election has to provide evidence of at least some out-of-university work experience. This approach is very slowly gaining acceptance around the world, and therefore reaching beyond the old-fashioned academic tradition will obviously take some time².
- (2) Indeed, a major change from "teaching theory" to "preparing students for future work" is needed, and that is in itself rather demanding. This is not only an issue at the university level – many experts in pedagogy claim that generally and in most countries teachers are not sufficiently stimulating creativity and critical thinking in their students. This is a problem throughout the whole educational system, contradicting what is needed by people working in the 21st century in any sector. This goes particularly for workers who are surrounded by and actively assisted by high technology, including artificial intelligence. The main function of most workers nowadays is to control and guide the machines and make decisions based on options offered by the HITECH equipment. If not enabled to function in this fashion, even a highly knowledgeable and intellectually capable individual will not necessarily be very productive in a modern work environment³.

In these circumstances, besides knowledge, what determines the quality of workers is their attitude towards co-workers, their ability to communicate productively and flexibly, as well as develop critical thinking – with the objective to find solutions accepted by the respective teams. In the last British Employers Association's survey among 72,000 employers even 23% of newly engaged workers were declared to be lacking relevant skills. 3)

When commenting on this result, one needs to take into account that British universities are more pragmatic than their colleagues on the continent. The government has categorized public universities into 3 categories by the quality of their performance and differentiated levels of funding accordingly: only the best could receive more money, while the worst experienced serious cuts, and some even had to merge with others or close their doors.

- (3) A major factor in developing relevant curricula and maintaining its quality is the ability of universities to conduct good basic and applied research, which implies receiving appropriate level of funding. The average official data for European countries' on GERD (Gross Expenditures on R&D) - where universities participate with about 1/4 to 1/3 – is around 2.2% of GDP – while many member states remain below 1.5%, demonstrate that neither public, nor the private funding come close to what is required. As a logical consequence, for example, Slovenian universities have lost over the last 20 years about a quarter of their researchers due to insufficient funding. Facing this situation – which

² Employer Skills Survey 2022 – Research Report, December 2023, London, 216 pages

³ Nic Mitchell -- "University World News" Online Conclusions, 2023



undermines also the quality of teaching -- the public universities should raise this question with governments more energetically, as it is a condition for their normal functioning.

- (4) A bit of the theory-practice curriculum balance can be achieved where universities invite experienced practitioners to contribute some lectures and seminars/workshops. It is an excellent opportunity for students to hear from distinguished people from companies and other practical environments about the problems experienced in real life, understand their origin, dimensions and impact. It is important that this is well integrated into the curriculum, and treated as its valuable component. Experience shows that these "guest lectures" are highly appreciated by students, which speaks for itself.
- (5) Connected and related to the above issues is also the modest inter-university collaboration – at national and at international level.

As Swedish Professor Charles Edquist – an internationally recognized authority on innovation – has proven, the innovation contributes at least 60% to the GDP growth, and that modern innovation is not any more following the traditional linear pattern (from basic to applied research, to development, and finishing at the market). The innovation has become much more complex, involving practically all segments of society – including the government. This is particularly important through direct funding, as well as supporting domestic innovation activities through public procurement (which comes on average to 13-20% of GDP – and representing globally an impressive amount of 9.5 trillion \$).

The most undisputable indicator about the innovation awareness and commitment of a country is GERD. According to the Global Innovation Index reports 2018 – 2022, in the first category the following 20 countries appear on the top: Switzerland, Sweden, USA.

Neither most of the European universities' mind-frame, nor the relevant regulatory environments are very collaboration-oriented. Therefore, the modest extent, and the impact of national and international university collaboration is not fully in line with the intensity of present-day globalization - affecting also research and innovation activities. Limitations to productive collaboration are reflected also in the slow and modest achievements of the objectives of the Bologna Declaration – as recognized for example in the Rome Communiqué of 2020. It is even noticed that the interest for doing research on Bologna implementation seems to be decreasing after 2015.

One very graphic illustration of the above assessment is also the number of European universities actively involved in the existing alliances – for example in the European University Alliance, with only 130 members from the total of 1,706 European universities. Realizing these problems, the European Commission has created in September 2020 (with some delay – compared to other domains), the European Research Area – as a logical component of the European integration process. On this basis, and with rising awareness of the importance of creating conditions for research and innovation collaboration, the next step was undertaken in November 2021 by the creation of the Pact for R&I. The European Commission seems to be aware that - in times of knowledge economy - lack of integration in R&I domain has serious negative consequences for the European international competitiveness. Therefore, the new ERA monitoring system, including a scoreboard, a dashboard and an online policy platform, has also been created in 2023. All this is rather promising, but it is still too early to expect tangible effects. With the bulk of high quality research potential being concentrated at universities and their affiliated institutes, the prime responsibility to activate fully this potential remains with the universities, and in particular with their leadership.

Fortunately, many innovation actors tend to collaborate more intensely from year to year, but too many of the European universities remain almost unaffected by this important and promising trend. There are, however, also some good examples, and they should be identified at all continents, presenting their achievements and benefits, as well as trying to identify what are the causes behind the respective universities' collaboration orientation, and the good results achieved.



What are the reasons for slow adjustments by most universities? There is general understanding that the following factors have an impact on universities' collaboration:

- Modestly international composition of teaching & research staff;
- Funding instruments promoting insufficiently international collaboration;
- Share of international students;
- Mechanisms stimulating teachers for developing international collaboration;
- Impact of graduates' employers (wanting their future workers to have an internationally open mindset, and appropriate skills).

Conclusions

In summary, European universities are less internationalized than those in other parts of the globe – particularly in North America and in many Asian countries. In present-day circumstances exceptional achievements in training and research can hardly be achieved without intensive links among national and international colleagues (sharing and evaluating experience and challenges), and understanding wider, global trends and problems.

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