Current and Future Trends in the World of Universities

Bernard Hugonnier*

Abstract: For the past twenty years, while the world in general has deeply changed, the world of universities has been subject to many forces that profoundly upset its traditions. Indeed, since Humboldt's time where universities were described as ivory towers, this sector knows serious upheavals and disruptions. It is therefore timely to reflect on the major current trends in the world of universities to discern what could be its future. The paper shows that the resolution of the challenges faced by universities, apart from funding, depends mainly upon universities themselves. This point is crucial. It is in their initiatives, managerial skills, innovations, and strong commitments that their future is written, but also that of their region and of their country. Presumably, the adjustments will be faster in Anglo-Saxon countries but also in Japan and Korea and much less in Europe and the rest of the world.

Keywords: university, massification, excellence, professionalization, regional roots, internationalization, funding, digitization

Introduction

The world today is characterized by three key trends: dominance of the knowledge economy with the major role played by information and communication technologies; the frantic search for new techniques and technological innovation to ensure competitiveness, growth, and employment; and the reconciliation between sciences, the latest example and the most spectacular ones being between nanotechnology, biotechnology, information technology, and cognitive science (US National Science Foundation, 2002).

In all three areas, universities play key roles: they are a major source of transmission of knowledge and of new knowledge development; they are a major source of basic and applied research and thus innovation; and better than anyone, with their multiple laboratories, they can facilitate the reconciliation of science. So far more than in the past, the future depends on universities, their dynamism, their quality, and their developments.

* Professor, Institut Catholique, Paris, e-mail: hugonnierb@gmail.com

It is therefore timely to reflect on the major current trends in the world of universities to discern what could be its future.

Current trends in the world of universities

For twenty years, the world of universities has been subject to many forces that deeply upset its traditions. Indeed, since Humboldt's time, quiet and serene, where universities were described as ivory towers, this sector knows serious upheavals and disruptions.

These changes are taking place around seven major trends:

- The significant and rapid increase in the number of students who posed in some countries a problem of education quality, as investments were sometimes insufficient to maintain this quality level.
- Research by a number of universities of excellence, which may have led to a certain elitist policy that did not allow the greatest number to access the best training.
- The professionalization of higher education to better meet the skill needs of employers and make them more profitable; higher education responded to a social demand but was less responsive to the academic tradition of creating knowledge.
- The need for universities to develop their local roots led to the necessity to increase their independence, improve their governance, and to have a managerial approach, which is not really included in their "genes".
- The growing internationalization of studies that open universities, teachers and students about the world but created new inequalities.
- Funding for universities whose charges increased when public funds were reduced so that alternative methods of financing had to be found posing new management challenges.
- The digitization of teaching and learning the potential of which is not yet fully used.

Let us examine these trends.

Massification and quality of universities

The massification[1] of higher education has increased the number of students from 24% to 39% in two generations (Table 1).

Statistics show that the main reason show that with higher education qualifications, the student's chances of getting a job at a higher income level are higher than otherwise (Table 2). So there is strong social demand for more higher education. Furthermore, this education is a good investment

[1] Massification should not be confused with democratization as higher education is still not yet accessible to the whole generation (Table 1).

for the country, since it results in more innovation and thus higher competitiveness, growth, and more jobs.

Table 1. Percentage of adults graduated from higher education (2012)

	55-64 Years	45-54 Years	35-44 Years	25-34 Years	Increase Rate Between 55-64 and 25-34 Years in %
Germany	26	28	30	29	12
France	20	24	38	43	95
Canada	44	50	59	57	30
Korea	14	29	52	66	370
Japan	22	46	52	59	168
United Kingdom	33	37	45	48	45
United States	42	41	46	44	5
OECD	24	29	35	39	62

Source: Organization for Economic Cooperation and Development (OECD)(2014)

Table 2. Internal rate of return of obtaining a degree (in %) (2010)

	High Level of Secondary Education	Higher Education
Germany	6,8	13,4
Canada	6,4	10,2
Korea	2,8	12,8
United States	9,1	15,4
France	5,9	11,4
OECD	8,6	13,9

Source: OECD (2014)

Massification requires significant investment in terms of buildings, equipment and faculty recruitment. If these investments are not made, the adjustment is made through a lower quality of education. These are the risks that countries run where it is necessary to reduce both the public budget and debt.

The need to improve the quality of higher education becomes an emergency for at least three reasons (OECD, 2008a):

- Responding to growing needs by employers for more diverse and higher level skills than before;
- Responding to the social demand of parents for superior educational quality to offset increasing registration fees; and

- Responding to international competition between universities to attract the best students and recruit the best teachers (see infra question of excellence).

Improving the quality of teaching in universities faces several difficulties. While schoolteachers are trained to teach and are regularly evaluated, this is much less the case for university professors. Moreover, traditional academic lessons are shared between teaching assistants, lecturers, assistant professors, and professors, the least interesting courses being devolved to the first of these who are the less experienced. Finally, given the number of students in the early years, lessons in lecture halls are still practiced, which leaves little room for interactive pedagogies which alone can ensure quality education. As we shall see later, the Massive Open Online Courses (MOOCs) are trying to respond to this problem. In these circumstances, improving quality is a difficult goal.

One can certainly recommend a battery of measures: implementing internal quality assurance mechanisms, seek advice from students and peers, and external ones, evaluation conducted by external agencies; regularly evaluate these mechanisms; make them transparent; publish their results; take remedial measures; take incentive measures for innovation; make impact assessments of measures taken (OECD, 2008a), etc. One can add that initial teacher training in educational, followed by regular periodic training on the English model (Evans, 2016), is also a good approach. But one must recognize that as long as the three major problems given above prevail, some difficulties persist.

Note that, for some, these new measures are only transforming the profession of teachers. Based previously, essentially, on their good will, this profession may move toward the model of private enterprise, with checks, obligations of result, more hierarchy; for some, the immediate benefit of such measures on the quality of education is not actually proven (Meulemeester, 2012).

Another way to meet the need to maintain, if not increase, the quality of training offered in universities has been to resort to a policy of excellence.

Excellence policies

Many universities now often aim to be among institutions recognized as "excellent" in their country and the world. But what does this mean? For example, is it to recruit the best teachers and to select the best students? To offer the best training? To develop the best research? To have the best examination results? To better prepare students to obtain a job as quickly as possible after graduation? To be included among the best international rankings of universities? Or to facilitate the success of the greatest number and to train intellectuals engaged in solving societal problems?

For now, there emerges a more elitist kind of excellence, which consists of:

- For students: strong selection on the basis of their track record; high competition among them; important personal work; a dynamic knowledge control system; strict monitoring of attendance; strong participation during class; some international mobility, often an academic year abroad.

- For faculty: selection of the best on the basis of their research or their past professional functions; an important obligation of publication; a fixed-term contract with an obligation of result in terms of number of publications; strong competition between them; and external evaluation based on bibliographic and scientific metrics (Hugonnier, 2016).

In this situation, there are for both parties certain advantages: for teachers because they teach handpicked students who can enrich their research and for students because having the best teachers raises the reputation of their university and thus the value of their degrees. For teachers and students because they enjoy excellent conditions of studies and research.

This practice is reinforced by international rankings, which are often based on the research performance of universities. While these rankings are somewhat criticized, mostly because they primarily measure the research capacity of a university, but not exactly the quality of the latter, and not the quality of teaching, at the time they are released, they are on the desk of every minister of higher education and of every university president. It follows a race for elitist excellence without it being proved that it is in the interest of students and countries.

To gain a few places in these rankings, one tries to practice in some countries groupings of universities. This can have a beneficial effect on research, because it is recognized that it takes more momentum beyond a certain critical mass. But it is less certain that teaching quality wins, while the newly created administrative superstructures can curb initiatives.

Now, many countries intend to develop ex nihilo new world-class universities or helping existing ones to become world class. Excellence has become the expected standard to qualify the value of diplomas in professional sectors with high competition. On the other hand companies tend to recruit students from institutions of higher education recognized as excellent, that is to say well positioned in international rankings.

The risks of elitist excellence are numerous, for example:

- That the multiplication of such universities be to the detriment of other universities and to a large number of students relegated to a second-rate education.
- That increased competition between universities leads to a significant increase in registration fees excluding many students from the best universities.
- That public aid focuses on excellent universities to the detriment of other universities where opportunities to become excellent will become less. That consultant or research companies are turning first to ‘excellent’ universities at the expense of others whose finances will be especially affected.
- That the evaluation of research is based more on the number of publications (bibliometrics) than on the value of publications. This system is perverse as it pushes teachers to cutting their research in several articles, possibly to be published before the research really is completed

("publish or perish"), or to copy themselves. In other words, the number is more important than quality to the detriment of the latter.

- That less importance is given to the intrinsic value of teaching.
- That institutions are selecting the curricula which allows them to do better in international rankings to the detriment of others which are devalued while they may be equally or more important in view of knowledge development and research.

In light of these risks, the question arises whether another excellence should not prevail which, complementary to the first, could have both a social and a societal goal.

A social excellence would:

- Aim to give all students high quality training;
- Aim to give these students but also to the components of the university (faculty, laboratories, unit values ...), which have the potential and motivation, and without excluding anyone a priori, the means to achieve their own level of excellence for the benefit of the general interest and the common good.
- Not allow that financial, social or cultural conditions nor methods (such as the selection of students) impede the excellence of each.
- Result in real commitment of the people and the institution to achieving high standards of both teaching, learning, research, and expertise.

Societal excellence would:

- Work with individual emancipation in the interest of the general interest and the common good.
- Aim to train responsible citizens aware of the major issues of society: sustainable development, social inequality, and environmental protection.

As we see, these are two very different models of excellence, one elitist, tother social and societal. They are not, however, incompatible. Complementarity will be illuminated by the following example: one understands that the financial director of a multinational company must have received excellent training in the best universities. But there is no reason for the chief accountant, the accountant, and the financial aid not also to receive an excellent education, even if their institution is less prestigious. Moreover, these institutions, like the university of the chief financial officer, have to aim that these students reach their own level of excellence. And all these institutions must also ensure that all students receive training to enable them to assume the social responsibilities of those who pursue higher study.

Professionalization of studies

Increasingly, universities are asked to provide an opportunity for students to gain, beyond knowledge, skills, both professional and transversal, inter- and intrapersonal, allowing them to be quickly operational and therefore to find a job more easily. This approach is promoted by the Organization of Economic Cooperation and Development (OECD), which highlights the need for countries to develop a "skills strategy" at national level to boost growth and employment and preparing for the future through a policy of skills supply (OECD, 2015). But this approach is questioned by some for its utilitarianism and because it disrupts the traditional role of the university which, in their view, is first there to impart knowledge and develop new knowledge and not to be a tool of professionalization. Still, over the very high youth unemployment prevalent in some countries, the social demand for the latter approach tends to gain ground. What then are the questions and what answers are given?

Globalization is characterized by the emergence of new major economic players like China for industry, India for services, Brazil for agriculture, and more than twenty other countries that are all competing with products and services traditionally produced in developed countries. This results in a reallocation of jobs in the world with some countries benefitting from the situation, for example Germany, and others losing, for example a number of European countries. In these countries, unemployment is rising or remains at a very high level, which is even higher for young people leaving the world of education. It is global competition for jobs. At the same time, industries on which everyone bet to create jobs, need skills that they do not always find in the country of their location, whereby a kind of talent war.

The stakes for the economic future of developed countries, but also for their social peace, are considerable. If their situation does not improve, then one could speak for some in these countries of stall or economic regression, and such countries could become, as highlighted recently by Chancellor Merkel, some sort of museums mainly frequented by tourists but deserted by businesses.

There is hence a need to develop a new industrial policy based on research and innovation and a new policy of education based on a strategy of skills development. The two policies naturally go together; the second of course to be implemented very quickly, given the duration of the training of students. This implementation should be preceded by a robust and reliable assessment of industrial and education policies conducted so far, and their articulation in order to measure the limits and inspire the reforms needed to build the future. This shows the vital role universities will play in the coming years. For sure, as already mentioned, all academics are not convinced of this new requirement as, in their view, it might betray the cause of the university. However, the professionalization trend is here to stay and to get stronger and universities have to rapidly adjust to it.

Regional roots, autonomy and governance

The proven model of the Silicon Valley with a university like Stanford University, which, surrounded by research canters and businesses of the greater to the start-up, form exemplary economic dynamics.

Now, the university is no longer an ivory tower, but instead works with and for companies and with other universities and research laboratories. GDP in Silicon Valley, where two million people live and work for 6000 companies, is equal to that of Chile. This is the 42th economy in the world.

This model is highly effective: it better meets the skills needs of companies and administrations; better meet their basic and applied research requests; increases the competitiveness of enterprises accordingly; assists the funding of universities; develops more relevant university curricula; and facilitates student placement at the end of their studies. Universities can also play an important role in social and cultural development and promote an harmonious and cohesive society (OECD, 2008b).

To succeed, the model requires that a few conditions be met: that the university has sufficient autonomy to implement a strategy facilitating its regional roots; it maintains close ties with the government and the secondary school system; and it develops close working relationships with other universities and research laboratories working on related topics in the surrounding area, away or abroad.

It should also implement effective governance which provides for the participation of all stakeholders in decision-making, whether local employers, teachers, or other staff, even those with administrative or technical functions; provides for the use of solid management tools, evaluation and monitoring, and in terms of interpersonal relationships; the use of postures more recognition than control (Jorro & De Ketele, 2011); and aiming finally to give each constituent unit of the establishment possibilities to reach its own level of excellence that will encourage all to innovate.

The main lesson of this trend is that now all universities can and should contribute to development of the region and / or of the municipality where they are located. They have everything to gain, except in one area, that of finance which is discussed below.

Internationalization

With globalization, it is now expected students if not having a double degree, pursue at least part of their studies abroad. It is also expected that professors develop exchanges with foreign colleagues; publish abroad; participate in international conferences; and teach in foreign institutions. All these actions are now well entrenched in the habits of the most developed countries and in the most prestigious universities. Most of these universities have therefore taken the necessary measures: student and teacher exchange programs; double curriculum; double degrees; etc. Also in some cases, universities are creating new studies abroad programs.

This trend mainly concerns a small number of students because the costs incurred are important. At present the number of students abroad is four million for the world (figures from 2012), which, according to the United Nations Educational Scientific and Cultural Organization (UNESCO), is an increase of 100% compared to 2000 but represents only 1.8% of the number of students in the world (UNESCO, 2015). Five countries welcome nearly 50% of their students from abroad: the United

States (18% of total), the United Kingdom (11%), France (7%), Australia (6%) and Germany (5%), but this share has fallen. It was 55% in 2000. New destinations such as China, Malaysia, South Korea, Singapore, and New Zealand are now attracting students, but also are Middle Eastern countries such as Egypt, Saudi Arabia, and the Emirates.

Two new trends emerge: firstly, to reduce transportation costs, because of cultural proximity, students are now choosing more often than ever the closest country to them. Moreover, in some countries, students tend to study more abroad than in their own countries; it is already the case in eight countries worldwide. It is also assumed that this is where the scholarships come in numbers that student mobility is facilitated, as in Europe with the Erasmus Program and North America.

Is internationalization without risks? Not quite. There is first the risk that some differentiation occurs between students who have studied abroad and others, the first enjoying better jobs and higher salary. This phenomenon exists in all countries including developed ones, because all students do not study abroad. However, given the cost of studying abroad, presumably, only affluent students can benefit from it making these an unequal education. This may become even more important as the best-ranked universities in international rankings have agreements with their peers in the world. This selective matching can relegate students from other universities to lower-quality training and opening towards less significant opportunities, creating more inequality.

To facilitate the accreditation of student diplomas (Fave-Bonnet, 2011) and therefore their mobility, internationalization may induce a convergence of courses and curricula. Some question the impact of this trend on both cultures on languages—English may emerge as the universal academic language. Finally, the attraction of foreign qualifications, especially those in Western universities is such that unscrupulous companies were established in developing countries, offering cheaply and in a short time misleading and worthless training. UNESCO and OECD have spoken out against these practices and have developed guidelines (OECD, 2004) calling all players in the world of higher education to ensure that all courses offered abroad are of the same quality that the ones in the country of origin.

Internationalization of universities is an inevitable and irreversible trend; however, the present model presents some risks. Before it spreads, the consequences of those risks should be measured to mitigate them.

Funding

The resources universities may have is a subject of constant de bate and is exacerbated by the situation of state budgets becoming more difficult than ever. Two means are then available to universities: to increase registration fees or to trade their expertise with the private sector.

On average, the average cost of a student in OECD countries is around $12 000 per year. But in some countries, these expenditures may be lower than 50% and in others 70% higher (see table below).

As the table shows, the countries that have the highest expenses are not the ones that necessarily have the highest fees (see the case of the Nordic countries).

Table 3. Annual expenditures and fees at public universities in US dollars (PPP) - (2011)

Countries	Annual Expenditure	Annual Registration Fees
Canada	14312	4288
Korea	6856	5395
Denmark	19868	0
United States	12638	5402
Finland	20321	0
France	14225	200 to 1402
Japan	8579	5019
Norway	20647	0
Sweden	18638	O

Source: OECD (2014)

In theory, higher education should be free because their costs are covered by taxes. This is the approach taken by some countries like France, where fees are generally very low, or by the Nordic countries, where fees are nil. But one can also argue that as higher education is mostly benefiting the better off, it is normal that they contribute at least partly to the funding of universities. Especially it is possible to show that higher education is more benefit to students than society: students withdraw 65% of the benefits of education and society less than 34% (OECD, 2012). Consequently, in some countries like the United States, Canada and the United Kingdom, but also in Korea and Japan, registration fees are much higher. Must it be that other countries, short of resources, do the same to solve, at least in part, their funding problem? If this is the case, we can expect strong reactions from students. One remembers what happened in England in 2010 when tuition fees have risen sharply to reach almost 10,000 pounds.

The second way to increase the financial resources of universities is to contract with research or expertise companies. This practice, which brings together the worlds of work and education is beneficial to both and ultimately students and the economy in general. It enables companies to benefit from the research capacity of universities to develop new technologies and new techniques; universities to find outlets for their basic research on the one hand, and alternative financing, on the other; students to acquire skills that better meet the needs of local employers; and finally to the whole economy by increasing its competitiveness. As noted above, the regional presence of universities helps to better achieve these objectives.

This approach, however, is not perfect. The main criticism is that it is based on the model of American universities (Masseys-Bertorèche, 2011), the university "markets" in the sense that it now operates as a private business and depends more on private money than public. Another criticism, the university risks that its research moves away from the Humboldt objective and turns to a search which, without being entirely mercantile, becomes much more applied and forwards immediate profit. This raises a number of problems: first, a problem of independence of university research vis-à-vis the private sector that can, without any malice, wanting to steer research in one direction rather than another. Then an ethical problem: when the chairs are funded to the tune of several thousand dollars or more by private companies can one be sure that licensees are not in a conflict of interest situation (Boer de, 2015). Finally, this practice may tend to favor large universities at the expense of smaller ones because the former have a volume and quality that are more attractive and also more competitive offers. These inequalities create greater financing difficulties it is not easy to compensate.

University funding will remain a difficult problem for many universities especially those still dependent on public funds; increasingly in the future they will have to turn to the private sector. This implies that these universities will have to introduce significant changes in their management and also to review some of their main priorities.

Digitization

Digitization can help the university become more efficient. The traditional mode of academic knowledge transfer leading to the development of knowledge is made easier by the use of digital equipment through modernization of traditional teaching and learning methods with tablets and computers. Tomorrow, new didactics and pedagogies will be developed, totally dedicated to digital tools, hence their effectiveness will be multiplied. But the conditions for this are not yet in place, including the development of appropriate software.

With Massive Open Online Courses (MOOCs), learning can also improve; students can avoid going to crowded lecture halls in inaudible courses and courses can focus on practical questions; the theory being supposed known to all (the flipped classroom). MOOCs present some advantages such as: reduced costs of universities, classroom, personnel, equipment, electricity; ubiquity of service; democratization of courses, equal access to the most prestigious courses; access anytime; no traveling; and low fees. They also present some disadvantages such as: no relationship between students and teachers; no social relations among students; need to have a computer; lack of interpersonal stimuli for concentration; low value on the job market; and possible cheating. Therefore it is necessary to further improve the model. Still, this method allows for the dissemination of knowledge more widely and at a much lower cost than before which results in a certain democratization of higher education.

Future trends

Given these trends, the paramount question is to determine what are the universities that best suit them and quickly, with the aim of trying to discern what could be the future of universities in the world?

The adaptation of universities to these trends depends primarily on the severity of their initial situation. It can be high, medium or low as shown in the first three columns of the table. Then the adaptation can be done at a high speed, medium or slow as can be seen in the last three columns. Finally, the answer will depend largely on the countries where the universities are located. The table summarizes the analysis which can be distinguished from the situation in emerging countries (EC), other developing countries (DE), Anglo-Saxon countries (AGC), Europe (E), and Japan and Korea (JK).

Table 4. Current status of universities adapting to current trends

Current Trends / Situation and Adaptation	1. Situation of High Severity	2. Situation of Medium Severity	3. Situation of Low Severity	4. Quick Adaptation	5. Average Speed Adaptation	6. Low Speed Adaptation
1. Massification	DC	EC, E	AGC, JK	AGC, JK	E	DC, EC
2. Excellence Policy	DC	EC, E	AGC, JK	AGC, JK	E	DC, EC
3. Professionnalization	DC, EC	E, JK	AGC	AGC	JK, E	DC, EC
4. Regional Roots	DC, EC, E, JK	EC, E	AGC	AGC	JK	DC, EC, E
5. Internationalization	DC	EC	AGC, JK, E	AGC, JK, E	PE	DC
6. Financing	DC	EC, E	AGC, JK	AGC, JK	E, EC	DC
7. Digitization	DC, EC,	EC, E	AGC, JK	AGC, JK	E, EC	DC

The table shows that universities in Anglo-Saxon countries and those of Japan and Korea are facing the current trends presumably in a situation of a low gravity and that their adaptation to trends is faster than elsewhere. These conclusions are based on the objective observation that universities from these countries in the past 20 years have been quicker than others to evolve as circumstances and national policies have changed. This holds less true for European universities; let alone for those from emerging countries and eventually even less for those of all other developing countries.

One can note in columns 3 and 4 that the Anglo-Saxon countries have a competitive advantage in all areas; Japan and Korea have one in five areas; that Europe ranks third with only one domain while other countries have none. As seen in column 1, the Anglo-Saxon countries have no weak point. For Japan and Korea and Europe, it is the regional presence; for emerging countries, professionalization of education; regional roots; and digitization, and for developing countries all points. So the hierarchy that prevails at present could strengthen universities in Anglo-Saxon countries, primarily in the United States and England, followed by the universities of Japan and Korea. The universities of Europe come in third in strong competition for this position with that of emerging countries like China and India.

Conclusion

In a world that has deeply changed, the role that universities can play increased sharply to become paramount to their future. But universities are today facing immense challenges that force them to introduce major transformations to adjust themselves to new conditions and to avoid the avalanche that was promised to some (Barber, 2013). Presumably, these adjustments will be faster, as we have seen, in Anglo-Saxon countries but also in Japan and Korea. This means that Europe could again accuse a delay. Now, and increasingly, the resolution of the challenges faced by universities, apart obviously from funding, depends mainly upon universities themselves. This point is crucial. It is in their initiatives, managerial skills, innovations and strong commitments that their future is written, but also that of their region and of their country.

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