HAL
open science

The role of universities in searching for a sustainable future through innovation.

Jean-Michel Larrasquet, Véronique Pilnière

To cite this version:

Jean-Michel Larrasquet, Véronique Pilnière. The role of universities in searching for a sustainable future through innovation.. International Journal of Technology Management and Sustainable Development, 2012, Vol. 11.1 (ISSN : 14742748), à paraître. hal-00656954

HAL Id: hal-00656954

https://hal.science/hal-00656954v1

Submitted on 5 Jan 2012

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The role of universities in searching for a sustainable future through innovation.

Jean-Michel Larrasquet, Emeritus Professor, ESTIA Recherche, CREG-UPPA
Véronique Pilnière, Researcher, ESTIA-Recherche, CREG-UPPA

Abstract:
The world's economic and political interactions and exchanges are in a considerable mess today. All private and public sector institutions (including universities) are moving in the same direction by adapting, adopting, accepting the logic of market forces and growth as their own values and goals. It is the blind adherence to these values and practices by leaders and managers that has contributed to the chaos in our western societies. Locked into this mode of thinking, they believe that the only way to make progress is to do more and faster, but in doing so, they not only feed the dynamics of a destructive economic and political machine but also take their institutions to the ultimate terminal state. In the process, we have begun to lose our social and generous values; senses (reason); responsibility for our behaviour; social conscience; the sense of solidarity. And paradoxically we are also losing creativity, initiative, genuine innovation and generating conformity. All societies are moving towards entropy. That is fundamentally why tensions have begun to rise and to become definitely unsustainable.
In this context what should the role of universities be? Should they all have the same purpose? Should universities reflect the same destructive values as those in society or should they be the leaders highlighting the dangers and offering alternatives? What role should universities play in the reduction of inequalities? What is innovation at social or collective levels? How could we measure the contribution of innovation to the improvement or destruction of the society? In this context, what is sustainable innovation?
All these questions challenge the direction taken not only by western societies but also by human civilization as a whole. There is an urgent need for social debate. In this debate, universities should help participants to understand the implications of the choices being made for the future development of human societies. Then, let that debate inform universities, so as to allow them to make their strategic choices, regarding scientific activities, education, research, transfer and innovation, in a better informed manner.

> *"Without a change in the pattern of thoughts we will not be able to solve problems we created with our current pattern of thoughts" Albert Einstein*

The crisis of the Western development model

Any holistic consideration of the mess in which the world is leads to the conclusion that the Western development model is no longer sustainable for the planet. Private and public sector institutions (including a large number of universities) are moving in the same direction by adapting, adopting and accepting the logic of market forces and growth as their fundamental values and goals. Their leaders and managers' blind adherence to these values and practices has contributed to the chaos in which our western societies are. Locked into this mode of thinking they believe that the only way to make progress is to do always more and proceed always faster, but in doing so, they not only feed the dynamics of a destructive economic and political machine but also take their institutions to the ultimate terminal state. In the process, we have begun to lose the social and generous values which make up the fundamentals of sustainable societies (Mauss, 1925), senses, responsibility for our behaviour, social conscience, the sense of solidarity. Paradoxically too, this mess entails the loss of creativity,

initiative, genuine innovation, nonconformism, critical thinking, etc. All developed societies are moving towards entropy, in other words the famous “final abyss” Edgar Morin fears.
Some large developing countries have rushed into this model these last years, precisely in search of their development, aiming at doing “better” than older ones, exceeding their targets and making things less expensive. Doing that, they have been boosting and giving air to the system (widening the demand and the areas open to capital accumulation). But at the same time, they have been generating increasing imbalances (company relocations, massive exacerbation of competition in increasingly numerous branches of industry, unemployment, public and private debts, etc.), combining the destruction and creation of activities in extremely complex interactions.
These contradictions brought “the system”, i.e. this worldwide huge mechanics, to a kind of dynamics generating systematic overhangs which led the actors to find their (short term!) future only in doing more of the same thing, i.e. pure financial transactions (finance financing finance without any consideration for the real economy). At the beginning of this macro-cycle, a good number of big companies and financial institutions played the role of leaders in this headlong rush into ruin, the rest of the actors being mere followers, progressively aspired by this systemic logic. The continuation of the cycle is fed by itself, i.e the fact that progressively an increasing part of the transactions become of a pure financial type, with the mechanical impact of the rarefaction of investments in the real economy, including the production of goods and services, but also universities, public expenditure, cultural activities, etc. The individualistic logic is based on this basic economic formula: “get” the maximum and give the minimum, forgetting Mauss’s theory of the “gift / counter gift”, and making social cohesion definitely not sustainable when its application is generalized (Mauss, 1925).
The hypertrophy of the financial sphere which develops on this basis makes the financial system feed itself, functioning in a bubble, without common relation with the development of the real economy. Actually, the development of finance is no more based on a genuine creation of value. As an indication, the total amount of pure financial transactions is currently estimated 20 times higher than the transactions carried out in the real economy (production of goods and non financial services). The financial system is therefore feeding its rise by its rise, i.e accentuating all the overhangs on which it has developed without any control in the last period. In such cyclical phenomena, growth nourishes growth as long as confidence in the markets is maintained (it is built first on a period of euphoria related to easy gains and on ideologies spread through several channels, primarily universities: neo-liberalism has long been presented as ‘the’ economic science, when it could be considered as a mere ideology). But a time comes when the returns on investments begin to decrease, then a simple grain of sand (for instance the *subprime* crisis) is enough to lock all gears. The error is to think that the growth is unlimited. It cannot be! Decreasing yields announce a trend reversal ; confidence initially exhausts and then crumbles. This mechanism is well-known in economy. The crisis is then opened, spreads and, by the blast waves it produces, drags all sectors down with the financial sphere.
Socially, in developed countries but also worldwide, the number of excluded persons and groups is getting higher, inequalities reach unsustainable levels, with a dramatic acceleration when the crisis deep effects begin to impact.
This development model is thus increasingly founded on convergent behavioral laws: “always more”, “always shorter term”, “make more and faster than the others” in terms of financial results in order to remunerate more and faster the invested capital (the shareholders). As underlined above, it is today strongly amplified by the role of emerging countries. An increasing part of the system is organized according to this model. Any person in charge in any company (and not only in financial institutions) is supposed to reach objectives which are those of the previous period increased by a percentage (X % and today very often “two digit

objectives", i.e higher than 10%). These objectives are always expressed in a financial way (in Dollars, Euros or Yuans…), i.e they direct the activity and the production towards what will financially more easily yield in the short run (they are expressed for one year, or sometimes six months, or less). *De facto,* social regulation rules are progressively brought into line with this imperative financial order. In this operating mode, little consideration is left to the quality of what is done, or to its impact on sustainability, or to the way in which these activities are organized (Reynaud, 1997).

The system leads companies and actors, at least those who accept or even crave for such game rules (which finally consist in maximizing short-term profit) to enter the game and become captive of it. This generates, at macroscopic level, a feed-back effect to implement very "morphostatic" and "poor" modes of development, i.e very similar to what precedes in terms of products, technologies, operating processes, economic rules, institutional aspects, etc. That is why radical innovation oriented towards a responsible development is so difficult in developed societies. Companies and governments usually first promote those developments which present only small shifts in relation to what preceded. Such developments, as they primarily lay stress on volumes and financial masses, are trailing behind all the consumption of resources and services (supply chains), developing a quasi-homomorphism and, in the mean time, deepening the ecological crisis.

The same causes producing the same effects, without deep changes in the social organization and regulation, it is likely that crises would go on, following one another. The various "partial" crises, if one can use this term, combining together will generate the famous "systemic crisis", and precipitate the world into chaos, misery and the announced ecological disaster. The danger is indeed that mankind, its politicians and deciders would finally be unable to cope with such a situation. It is the abyss mentioned by Edgar Morin, like a huge tremor that will trigger off social unrest among the nations, a form of social tsunami (Jayaratna, 2011). The recent looting incidents, protests and demonstrations ("the indignados", rebellions...) are certainly only a minor taster of more serious events to come. The scenario of the social tsunami is going to be very real involving people who "have had it" with misery. Under such conditions, governments will no doubt take emergency measures and take on exceptional powers to try to stop such a tsunami. Who knows what may happen then?

How are universities playing in the game?

Over the last three decades, institutions have undergone a quick change of values. They shifted from social, economic, cultural and ethical concerns to be dominated by a combination of two fundamental values, financial and political, at the highest levels of public government and governance of the most trusted institutions (in particular the banking sector). Obviously, universities have been heavily impacted by such evolutions and have played their role in them. These are value shifts, but evidently, they evolve more or less directly in relation with social practices as they dictate most of our actions and behaviours at a practical level. At the same time, these practices reinforce the values in use, as Giddens's theory of structuration (Rojot, 1998) demonstrates very well. They are hence very difficult to dislodge without challenging the underlying principles, when our real 'problem' is that the political and financial focus prevents us from confronting any of the causes directly.

As a result, in universities we have ended up with a lot of highly political managers well-trained in these new value set and management practices. These leaders have also been educated in universities, sometimes prestigious ones. Many of these leaders have weak problem-definition skills, which they compensate by using problem-solving and very strong problem-avoiding or deflecting skills, remaining locked in the value set they believe in (intellectually and out of mere interest).

That is why so far, at Government or institution management levels, very few solutions are focused on the underlying principles and values. That is also why they cannot stop the decline

of the economy and certainly do not help us recover from the dire straits we are in. Universities must stop offering the kind of conformist education they widely offer, without any critical analysis of this model. We should make sure that we do not spend a single euro on pseudo-research and pseudo-education that do not address the above mentioned underlying principles and values.

Western countries have all the resources they need, and more, (which should allow them to participate in scientific networks with developing countries) to tackle their most urging 'problems'. As explained above, we are in this mess because inequalities have dramatically increased in the last period in western societies and in the world and have become absolutely unsustainable. In order to build this society which is finally collapsing, resources have been misspent and the future has been mortgaged. Our leaders with the new value sets keep on wasting millions on pseudo-solutions (which in fact increase the level and nature of problems) because of their very weak understanding of underlying principles. A lot of academics in universities go on explaining that it is the good way! What we need are different ways of understanding the nature, scale and level of 'problems', without considering preconceived solutions and the costs, constraints, politics or implementation issues first.

Which role for universities?

In this context what should the role of universities be ? Should they all have the same purpose? Should universities reflect these same destructive values or should they be the leaders highlighting the dangers and leading projects for building up alternatives? What should the role of universities be in the reduction of inequalities? What is innovation at social or collective levels? How could we measure the contribution of innovation to the improvement or destruction of society? In this context, what is sustainable innovation?

Behind the same single word ("university"), very different realities are hidden! Words and things are not the same thing (Foucault, 1966). What is common between the MIT, Harvard, Cambridge, these famous world-class universities and some universities in India, Africa, France, in some large towns or in small towns on the planet, in regions with specific identity features and development problems? It seems that they are supposed to educate youth and produce research. But students and researchers are not living out of the world! The conditions of each place in the world and the development-related issues in these places are not the same. Why should all universities, if their purpose is indeed to serve the society, follow the same logic and develop the same model?

Today, it seems that many of our universities have moved away from educating students (developing knowledge developing with their students' abilities related to the socioeconomic conditions they are living in) to become a kind of information delivery service for students, if not a mere market for degrees (achieve ever increasing success rates, first and second class grades despite taking on ever more students with lower qualifications and with reduced class contact time). Today many have become qualifications-marketing and awarding businesses in return for higher fees. This is despite the fact that knowledge resides in the mind and can never be a product or a commodity that can be delivered or traded on the market place. Just like the banking sector, this sector will crash spectacularly just because their leaders have been able to produce successful results by corrupting the processes through which those results have been achieved.

As far as education is concerned, is the exploitation of rich foreign students from the developing countries the only possible way for universities to design their development strategy for the future? On the other hand, the research production in social and human sciences is generally poor because it is increasingly aimed at the production of papers with the objective of being published by "starred reviews" (another worldwide business!) and to strengthen the CVs of academics, without any consideration for the social utility of their

works[1]. This does not mean, of course, that all the research worldwide must be applied, but this means that it is not normal that all universities work (or pretend to work) following the same logic linked to the "pseudo-excellence" of the Shanghai ranking. All these systems are surreptitiously becoming institutionalized (Lourau, 1979) and raise little opposition from those who are the actors, in this case researchers.

At the same time, due to various conditions (the financial aspect is not the only one), a lot of young people remain excluded from university studies, being unable to enter the university, to follow its programmes or obtain any degree. As far as research is concerned, all the questions of the development of the fringe zones, of genuine development in underdeveloped countries and in the poor areas in developed countries, very complex problems indeed, are largely ignored by the kind of research which is being done today.

As long as this logic is at work, ignoring increasingly the social and moral responsibility they should have in taking their part in the formulation and building of solutions to the above mentioned problems, particularly considering genuine triple-helix type approaches (Etzkowitz, 2006), universities gradually take up and promote the neo-liberal values and are getting eventually transformed by them. Because of the cuts in public financing, but also because of the lack of ethics at strategic level, they have surreptitiously being centring their activity on financial objectives (doing enough money to survive), doing marketing and playing political games to reach them. Fundamental values (honesty, learning, sense of service, university social involvement, solidarity, initiative, genuine innovation...) have been progressively forgotten. Even if a lot of them are currently "selling" the idea they are promoting innovation, our idea is that they are essentially promoting conformism, doing commerce with titles and developing sterile "research", mainly oriented to the international publication business, which supposes individual CV building with theoretical and mono-disciplinary publications and international university rankings, based on the sum of individual CVs. This mode is certainly not the one suitable for generating (liable to generate) responsible and genuine innovation.

As regards research, another existing mode is to develop applied research in relation with companies and various organisms in society. It is certainly an interesting way of practicing research. Nevertheless, in this case too, ethics, sustainability and responsibility principles are very often forgotten facing the perspective of making money out of contracts (see footnote number 2).

In fact, universities are developing the operating mode we have described above, which is, to our mind, the neo-liberal mode of development for universities. This sets the question of the actual social utility and legitimacy of universities!

Even the EU, which cannot be suspected of being a dangerous nihilist, is really alarmist with this statement: "Europe needs to make a step change in its research and innovation performance. As the Innovation Union pointed out, this requires research and innovation to be better linked. We should break away from traditional compartmentalized approaches and focus more on challenges and outcomes to be achieved, linking our research and innovation funding closer to our policy objectives"[2].

---

[1] We also have to state that in science and technology (significantly more than in human and social sciences), an increasing part of research is made as part of contracts with companies. This question is obviously related to our subject. Nevertheless, for reasons linked with the volume of this paper, it will not be directly and deeply addressed here.

[2] GREEN PAPER, From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding, EU, 2011, http://www.ekaicenter.eu/wp-content/uploads/EUResearchAndInnovGreenPaper.pdf

To our mind, this wave of ideological and practical conformity, “intellectually and politically correct”, has led universities, considered as a whole, to defend by their behaviour the destructive values that lead societies to the abyss. We have to change.

Towards responsible innovation

Universities should be the place where the dangers of such a model are highlighted and not institutions which participates blindly in any innovative development, whatever the innovation is. As explained above, there is a lot to do in re-founding the way we define problems! And of course, the way we are able to think about solutions to these problems. We believe that this is a better way to conceptualize innovation than the way in which most universities do, being “on the move”, without thinking about the question of the “why” (Latour, 1991).

Responsible innovation should be conscious of the consequences of the proposals that are made by academics, researchers and innovators. It is not sufficient to go just where there is a supposed market. As we have explained above, the core of the problem of our societies is the above mentioned set of principles and values and of course, related to it, the question of the abysmal and always growing inequalities existing in the world. Today, the system is working like an inequality-increasing machine. Doing innovation strictly enslaved to the system’s logic, in order to make it “work better” will very often bring about more inequities, inequalities, ecological problems... Doing innovation without any social and ecological consideration is therefore a lethal way of working. For our research labs, as research and innovation must be linked to each other stronger than they are (see the European Green Paper quoted above), this means that the choice of research subjects and the way research is carried out must be grounded and managed on a responsible and sustainable basis.

Obviously, all research must not be directly submitted to this applied responsibility principle: a significant part of a kind of research responding first to scientific curiosity must be preserved. But this also means that a fair amount of the research projects must be applied, and in this case, they must be developed respecting the responsibility and sustainability principles. This supposes that these principles are defined in a collective and consensual way and then are effectively applied (precisely also in a responsible and sustainable way and not following a mere bureaucratic mode as we have done with quality procedures, norms and standards). This also supposes that research is led in a more “flattened” (less hierarchical) and reticular way, mixing academics, sociologists, practitioners on a trans-disciplinary basis (Lawrence and Despres, 2004). Developing in practice such a model and a genuine system of research recognition and rewarding should certainly be an interesting subject for international conferences (Gibbons, 1994).

Defining socially responsible innovation is therefore an important issue today. Universities should play the central role in this effort for defining whereto and how the development of applied knowledge should be channeled and how this could be done. The question of the relationships between science, education and citizenship, the development of a “science with conscience”, as Edgar Morin put it (Morin, 1994), are extremely meaningful and must be taken into account by universities. The importance of this question requires that it should be treated in a more systemic way, in all academic programmes and research (at least as far as applied research is concerned). This also demands to open the doors to complex epistemologies and systemic approaches, integrating economic, social (societal), ecological and cultural dimensions in every question researchers, teachers and innovators are dealing with.

Another aspect of the question is to decide if we have to wait for governments to decide something in this direction. If they do so, then let us follow the way they have opened. The problem is that most governments are still advancing in the opposite way. Consequently, the other choice we have, as responsible citizens, is to begin to do something in that direction, at

all levels, that of each researcher, each teacher, each team, each department, each university and to develop (social) networks. This is certainly the right way!

Bibliography

ETZKOWITZ, Henry, The Triple Helix of University - Industry – Government, implications for Policy and Evaluation, *Science Policy Institute*, Working paper, 2006.

FOUCAULT, Michel, *Les Mots et les Choses, Archéologie des sciences humaines*, Gallimard, NRF, 1966.

GIBBONS, Michael et al. *The new production of knowledge: The dynamics of science and research in contemporary society.* Sage, London, 1994

JAYARATNA, NIMAL, *The crisis in occidental societies*, Working paper, ESTIA-Recherche, 2011

LATOUR, Bruno, *Nous n'avons jamais été modernes, essai d'anthropologie symétrique*, L'Harmattan, 1991.

LAWRENCE, Roderick and DESPRES, Carole, Transdisciplinarity. *Futures*, vol.36, no.4, 2004, pp. 397-526 (numéro spécial), 2004

LOURAU, René, *L'analyse institutionnelle,* Editions de Minuit, 1979

MAUSS, Marcel, *Essai sur le don. Forme et raison de l'échange dans les sociétés archaïques*, in L'Année sociologique, n.s., I, pp. 30-186, 1925

MORIN, Edgar, *La complexité humaine*, Champs-L'essentiel, Flammarion, 1994

REYNAUD, Jean-Daniel, *Les règles du jeu, L'action collective et la régulation sociale*, Armand Colin, 1997

ROJOT, Jacques, *La théorie de la structuration chez Anthony Giddens Structuration et management des organisations*, L'Harmattan, 1998.