

London School of Economics Public Lecture

Can the Internet Economy be Governed and if so, How?

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Roger Silverstone

Good evening, ladies and gentlemen, welcome to the LSE. My name is Roger Silverstone, I am Professor of Internet Communications here at the school; and it is my very, very great pleasure to welcome Bill Melody here this evening.

Bill Melody is Visiting Professor in Media@lse currently. He was, until recently, at least very recently, Professor of Economics of Infrastructures in the Faculty of Technology Policy and Management at the Delft Technical University in the Netherlands. That's quite a mouthful but it's not the last mouthful. He's also Managing Director of Learning Initiatives for Reforms in Network Economics.

His long productive, and by no means over, career has taken him from the University of Nebraska where he undertook his academic training; to the Federal Communications Commission where he was Chief Economist; to the Annenberg School for Communications at the University of Pennsylvania; to Professor and Chair of the Department of Communications at Simon Fraser University in Vancouver and then to the UK as the first Director of the ESRC (Economic Social Research Council's) programme on information and communication technologies, which was where I met him for the first time. I have to say it was a meeting that significantly changed my career – for the better or for the worse, is another matter.

After that he went to St Anthony's College in Oxford; to Victoria in Australia where he established a new centre for research on the communication and information technologies, and then to the technical university of Denmark where he contributed to the establishment of the Centre for Tele-Information.

His work ranges from economics to policy in telecommunications and post-telecommunications and he has published over 150 books, reports, articles and professional journals.

His views are both radical and challenging. Above all, at least from my point of view, what distinguishes him from so many working in his field, is his sensitivity, both to the human and to the social, at the heart of the analysis of the economics of communication. So it's my great pleasure this evening to welcome Bill Melody to lecture on, or at least to answer the question hopefully, "Can the Internet economy be governed and if so how?"

Ladies and Gentlemen, Bill Melody.

William Melody

Thank you, Roger. As you can tell from Roger's introduction if you keep moving fast enough they won't catch up with you.

It is indeed a pleasure to be here, and to be part of a new activity at the LSE. I have had the good fortune of spending a good portion of my career in association with the creation of new ventures: new centres; new programmes; new units of study. They have all involved multi-disciplinarian activities, they've all carried great interest, great challenges, great excitement, and great problems and now that Roger is leading a new initiative here at LSE, it's my pleasure to join and be part of it.

The topic for this evening is extremely timely, for I think we are at a momentous period in the development of not only the Internet, but of the 21st century economy and, I guess before I get into it, I should thank you all for coming back from the May Day demonstrations to participate in this event.

Introduction

Until the collapse of the dot com stocks plunged the information and communication technology sector into decline, the prevailing dominant view of Internet governance was that governments should stay away from the Internet. They could only do harm by restraining this giant wave of unparalleled innovation that was creating a new unbelievable Internet economy. The charge was lead by the likes of the colourful John Perry Barlow of the Electronic Frontier Foundation with his declaration of independence of cyberspace, and the “then” ICT technology guru and prolific author, George Gilder.

In fact, although generally not recognised by the public, the Internet was governed at the time in a variety of ways. Indirectly by, the US Department of Defence that was funding the developments: AT&T that was providing facility networks; and the US Federal Communications Commission which was regulating terms and conditions for the provision of all services. But it was not an overt or recognised form of governance. In retrospect, it was not very good governance at all. In part, because governments gave too much credibility to the hype being pumped out by the immediate beneficiaries of Internet development under a biased and narrowly focused system of governance.

Some governments, including the UK, were sucked into believing that they too could get a piece of the Internet economy bounty through monopoly 3G spectrum options and so contributed significantly to the boom and bust, or at least the bust, of the first Internet economy business cycle, rather than to the stabilisation of Internet economy growth.

The dot com collapse dramatised both the need and the demands for strengthened Internet governance institutions and structures in many different ways. These range from a major restructuring of the current governance organisation, the Internet Corporation for Assigning Names and Numbers, or ICANN, to the strengthening of existing forms of

regulation, such as financial reporting standards applied to dot coms and ICT sector firms, and to new laws relating to intellectual property rights, electronic contracts, privacy, security, fraud and related matters. Last year, ICANN President, Stuart Lynn, joined a growing list of ICANN critics and proposed that its governance authority be strengthened and government representatives be appointed to ICANN board positions. This prompted ICANN critic, Michael Froomkin, to observe that ICANN, which was created to save the Internet from government, is now turning to government to save ICANN.

During the period of the rise and fall of the dot coms, the continuing convergence of ICTs, the digitalisation of communication and particularly telecommunication networks, and the increasing development of multimedia services on the Internet, prompted recognition in many countries that the existing structures of industry specific governance in telecommunication and in broadcasting were becoming obsolete. They needed to be refashioned in light of the characteristics and requirements of integrated electronic communication networks and their increasingly important role in the future economy.

The Internet is rapidly becoming the foundation for the future economy in a manner similar to the role of electricity and transport in the industrial economy. The evolution of the new economy is variously labelled the Internet, information or knowledge economy. Clearly the time is right, if not overdue, to address the issue of Internet governance in an Internet economy.

This governance structure must examine Internet related issues at three different levels. Firstly, direct Internet specific issues, such as domain names, route server structures and the architecture of code development, which tend to be relatively new governance issues. Lessons can be learned from examining the experience of ICANN to date, as well as the historical evolution of other technologies such as the telegraph and telephone.

A second level of governance relates to ICT sector governance issues that are rendering obsolete the inherited industry specific governance mechanisms for telecommunication, broadcasting and computing. The UK's Communications Bill, and the creation of the new "merged" regulatory agency, OFCOM, are a response to these developments.

The third level of governance relates to broader issues associated with the implications of widespread Internet use throughout the world and for its implications economic, social, cultural and political relationships. These influence such issues as privacy, security, consumer protection, intellectual property rights, electronic contract enforcement, and increasingly spam control. Approximately 50% of messages on the Internet are now spam and it is growing. The challenge here is adapting or replacing inherited economic governance mechanisms to the new Internet economy environment so as to reflect societal values and public policy objectives. These are the most pervasive issues of Internet governance but their scope for effectiveness is determined, in significant part, by the constraints imposed and/or the opportunities made possible by governance at the ICT sector and Internet specific levels. The combined effects of governance at all three levels

in this structure will determine the extent to which the Internet economy is governed and how.

The effectiveness and implications of the governance system for a new medium of communication such as the Internet will significantly shape future economies and societies. One is reminded of the work of Harold Innis on the development and application of earlier communication technologies and his observation, "We can perhaps assume that use of a medium of communication over a long period will, to some extent, determine the character of knowledge to be communicated and suggest that its pervasive influence will eventually lead to the emergence of a new civilisation."

I have posed the question "can the Internet economy be governed?" deliberately, as it is an open question whether traditional forms and structures of governance can be applied effectively in the Internet economy. This dilemma has been posed by a few leading economists examining the future economy without any special reference to Internet developments. For example, in his book, *21st Century Capitalism*, Robert Heilbroner notes, "The question for the future then becomes our estimate of the extent to which market processes will threaten economic growth and stability, and of the likelihood that the redress of market failures will lie within the political capabilities of a social order whose vitality lies in the accumulation of capital."

From the very different perspective of an Internet development specialist, Manuel Castells concludes his recent book, *The Internet Galaxy*, by observing; "The new economy is overdue for new flexible procedures of institutional regulation Systemic volatility of global financial markets and vast disparities in the utilisation of human resources require new forms of regulation adapted to the new technology, and to the new market economy. It will not be easy."

Unfortunately, those authors who have documented, in various ways, the need for a new system of governance of the Internet economy have not indicated how such a system of governance might be designed or function in order to avoid what economists refer to as the risk of systemic market failure, that is, major instabilities with periodic economic crises.

Governance and Regulation

It should by now be clear that the issue of governance of the Internet economy goes well beyond the narrow debates about industry regulation and deregulation that have characterised much policy research and discussion in recent years. Indeed, much deregulation was, and is, justified by the obsolescence of inherited regulations established in a different era that are no longer relevant. The re-regulation is justified by special failures in the new market arrangements in specific reshaped communication industries. Each reflects a response to specific developments and problems in a specific industry or sector, at a particular stage in its evolution.

The existing governance and set of regulations of a specific industry or sector of the economy, such as telecommunication or broadcasting, was established to address specific

issues of market failure, that is, unsustainable conditions of effective competition, and/or the specification of extra market public policy goals - the standard examples being universal service or public interest broadcast programming. Regulation attempts to compensate for the inherent deficiencies in the unregulated functioning of these industries.

In contrast, governance at the level of the Internet economy as a whole is needed to address issues related to the very success of the new Internet economy. If Internet development achieves all its potential and fully pervades most economic relations, what are the likely implications for the functioning of such an Internet-based economy? Is it likely to be stable and provide benefits for all segments of society? Will it be possible to govern such an economy in a roughly parallel manner to the way governments at least think we govern the existing economy? You will note the concept of governance here is similar to that used in engineering or biology. Governance mechanisms keep the components in a system functioning in a controlled and balanced manner so the system, whether a machine, a human organism or the economy, will not collapse, but will continue functioning effectively. The challenge of governance for the Internet economy, then is whether it can be controlled and directed to meet societal objectives.

Evolution of the Internet Economy

As a reference point, we might look at the evolution of the Internet economy to see what insights that might throw up. Unfortunately, our inherited knowledge from the fields of both economics and communication is not very helpful to developing a comprehensive understanding of the characteristics of a new economy built on a foundation of a new form of communication.

The economic theories that underpin policies and regulation for economic governance today, do not even recognise communication as a factor in the analysis. Perfect information and communication for economic decision - making is assumed. Although research on the implementation of asymmetric information clearly demonstrates the weaknesses and limitations of standard economic theories, they do not yet provide an alternative theory as a foundation for policy development.

Communication theories, in similar fashion, fail to explain the interrelations between communication and economic processes, or the implications of economic arrangements on basic communication processes. Moreover theoretical development in both fields tend to focus on static rather than dynamic conditions, providing little guidance for assessing the implications of a new medium of communication such as the Internet on economic development.

The evolution of the Internet economy can be seen as having several phases directly associated with government policy decisions liberalising the role of the market in the telecommunication sector. Perhaps the landmark year in telecommunication liberalisation was 1984. Two major events mark that transition year. One was the AT&T divestiture, i.e., the break-up of the AT&T monopoly in the United States; and the second was the privatisation of British Telecom and the establishment of the UK telecom regulator,

OFTEL. The other major landmark in the development of the Internet economy is the privatisation of the Internet by the US National Science Foundation in 1992, which marks the beginning of the serious commercialisation of the Internet.

These important events allow us to establish certain phases in the development of the Internet economy. In the period from 1969 to 1992 we might say the Internet was in a phase of research and experimentation. The Internet experimentation was made possible by the telecom liberalisation decisions by the US Federal Communications Commission that allowed the provision of communication services on the telecommunication network by parties other than the telephone company. What made this possible was a change in telecom regulation providing the unbundling of network facilities and services so that the Internet—the provision of independent services over the telecommunication system - would be possible. That was not possible by law and by policy in the United States before 1969 and it was not possible in the UK and Europe until the mid-1980s.

A. Research and Experimentation, 1969 - 92

The period 1969 to 1992 for the Internet was one of research and experimentation on the telecom network. It was governed in a very uncoordinated fashion by the US Department of Defence, the National Science Foundation, the Federal Communications Commission and AT&T. In terms of economic analysis this period of development was shaped by a “grants economy”. It was the granting of funds for research and experimentation that shaped the development path and provided the foundation for John Perry Barlow to talk about “independence” from the government that was feeding the Internet baby.

B. Internet Sector Growth, 1992 - Present

The period from 1992 to the present is one of growth primarily in what I would call the Internet sector, in the ICT sector. The development has been focused on self-governance of a new private sector to promote innovation and growth within that sector. This is primarily self-contained development. This also has led to the cultivation of major economic interests around the Internet, and development problems relating to conflicts in the pursuit of those interests.

Now, at the turn of the 21st century, we find that the industry specific focus of the Internet has now broadened sufficiently to be in the early stages of the development of the Internet economy. This is associated with increasingly pervasive applications of Internet services throughout the economy and, as those applications begin to grow wider and have more economic significance, problems get exposed. As we have seen, then demands grow for a more coherent and coordinated system - wide governance to address the range of these evolving issues.

C. Internet Economy Development, 21st Century

The recognition of the need for governance of the Internet economy has come basically from a decade of what one might call ‘*learning by doing*’ in a more liberalised market environment. Throughout the 1990s, the prevailing view was that the Internet economy would be thoroughly deregulated, and the trend seemed to be in that direction. The absence of regulation in the information technology sector was seen as the source of

innovation and rapid beneficial technological change, making the Internet possible. The unbundling of services from facilities in the telecommunication sector made Internet services possible and continuing telecom liberalisation ultimately would lead to the abolishment of telecom regulatory agencies as the sector could be treated like industry in general, subject only to competition authorities. In this new liberalised environment Internet applications everywhere would improve efficiency and productivity, leading to unprecedented economic growth in the brave new global economy.

In retrospect this conventional wisdom was all pretty naïve. Now even Internet leaders are calling for strengthened governance involving governments. Effective competition has not developed in the telecom sector as expected; incumbent telcos are seeking protection from regulators and governments; regulators are discovering new elements of monopoly in telecom services, such as mobile service termination prices; and telecom regulation is being refashioned for the future economy.

The widespread use of Internet and other frontier ICT services in the financial sector is creating such instability in currency and stock markets that a wide variety of strengthened regulations are being advocated for that sector. This is the sector that has the most pervasive applications of Internet services in providing financial services. It seems the liberalised Internet economy is uncertain, unstable and potentially threatening. Why is this so?

Traditional conceptions of market theory and the corresponding assumptions of the market models used for designing policy and regulations have treated information and communication activities either as elements of transaction cost between independent trading entities, or as search costs associated with taking more informed decisions. In each case the problem is essentially one of cost minimisation or optimising perceived benefit - cost trade offs. Even in more dynamic economic models, where attempts are made to incorporate such factors as technological change, innovation and learning as endogenous factors in the models, the essential characteristic of market behaviour is assumed to be simple trading among independent, self interested actors. In such a model the benefits of the Internet can only be positive. Negative consequences are not permitted in the traditional model. Reality of course is a different story.

The key characteristics of the evolving Internet economy are determined by its new and distinctive communication properties. Electronically based trading not only changes the character of trading relations between buyers and sellers but it also fundamentally changes the independent character of traders, both sellers and buyers, dramatically increasing the significance of interdependencies on both sides of the market. Buyers and sellers are increasingly part of networks of buyers and sellers, which involve a variety of competitive, cooperative relationships. Success in many cases may be determined more by strategic negotiations within particular buyer and seller networks, than by successful trading across networks. We have seen many examples of this in the development of Internet services. In addition, there are significant network externality benefits from many trading relations. Economists have not yet developed an economics of an Internet

economy that is founded upon an Internet system of communication and information transfer.

Principles for Governance in an Internet Economy

What then are the principles that one might think about for governance in an Internet economy? It seems a governance structure for the Internet economy must be built upon a simple and widely accepted principle: opportunity for access and participation at a global level, to communication and information services, and to experiment and innovate in the development and application of new services.

As a network, or network of networks, the Internet is clearly global in scope. At least it is global to those who are connected to a telecommunication network, - that is, about a third of the world's population, - and of course to those who can afford PCs and Internet access and usage charges. That lowers participation opportunities further. Then of course users must have the skill and living environment to realise some potential benefit from the Internet. Making the Internet truly global will be an enormous challenge. Making the governance structure truly international, rather than a representative body of nation states, seems to be a self evident requirement.

Yet international agencies do not have a record of effectiveness, accomplishment, or real commitment from the most powerful countries - and particularly the US, which as has been demonstrated vividly recently. International agencies are typically less transparent and accountable than equivalent national agencies, and are noted for excessive bureaucracy, inefficiency and the stifling of creativity. A few years ago the suggestion that the International Telecommunication Union would be the most appropriate international governance institution for the Internet was greeted with near universal condemnation based upon the past performance and functioning of the ITU. It is the oldest UN agency, established to facilitate international standards, coordination and cooperation in the provision of electronic communication services. The Internet would seem to be a natural extension from the telegraph and telephone. But, given the rapid pace of change in Internet development, the ITU is clearly a follower, not a leader in the field.

We can then look to other international agencies that might play a significant role. The World Trade Organisation(WTO) has been established as a body for liberalising trade throughout the world, yet in its experience, it has developed a reputation not only for secrecy, lack of transparency and lack of accountability, but essentially functioning as an organisation to resolve trade disputes among the leading developed countries and to facilitate industries in developed countries to attack markets in developing countries. In the history of the WTO there has only been one instance where a developing country brought a successful case against a developed country. Having won the case, they realised that any penalties they might impose would hurt the developing country much more than the developed country. The US, the EU and Japan have not allowed certain markets even to be put on the table of WTO negotiations, including agriculture, textiles and labour markets, where they distort markets with subsidies, tariffs and entry

restrictions. Liberalisation in these sectors of course would benefit developing countries primarily at the expense of privileged sectors in developed countries. It is difficult to see much credibility in the WTO playing an active role with regard to the development of a truly global Internet.

The third international agency that has come in for consideration is the World Intellectual Property Organisation (WIPO), but its reputation isn't much different from the others. It exists primarily to protect the intellectual property of dominant firms in developed countries from expropriation by developing countries, and to facilitate the extension of intellectual property protection. I could continue with other international agencies, but the model of international organisations that I have outlined here is essentially the same with respect to transparency, accountability, participation and basic functioning. The organisational model of these organisations would not be acceptable in most democratic nation states for their domestic regulation.

With respect to the Internet specific level of governance, however, I think there is an opportunity to establish a new international agency designed to overcome the problems and deficiencies that have been exposed in the functioning of ICANN and in existing international agencies. The challenge is to create a truly international agency that is not simply an institution for negotiating the vested interests of nation states and the dominant firms based in them; an agency without national allegiances, which is structured to provide expertise and to represent the full diversity of interests in implementing network development objectives. In theory, this has great potential, simply because formal Internet governance has not been established within nation states or among national governments yet. The issues are clearly international and one country's interest in development should really be no different than another's. This would then be the vehicle for the establishment of a new kind of truly international organisation. This challenge needs extensive research.

With respect to governance at the second level of the newly converged ICT sector, it is evident that the telecom infrastructure, or as it is increasingly called, the information infrastructure, provides the foundation for the cornucopia of Internet and other content services, including digital broadcasting. This network of physical facility connections, made up of a variety of technologies, determines fundamental access and participation opportunities on the Internet. Based on the inherent characteristics of these networks, borne out by recent experience, direct regulation is necessary both to overcome market failure deficiencies and to achieve the extra-market and public interest objective of universal access.

We have come to recognise that telecom facility networks have a number of distinctive characteristics that prevent competition from being fully effective and promoting efficiency, consumer choice and public interest policy objectives. These include, the requirements for very large scale investment in fixed network facilities; use of essential, often limited, public resources such as rights of way, radio spectrum, numbers; the presence of significant monopoly power by incumbent operators; the necessity of interconnection among competing networks on reasonable terms; monopoly over the

telephone numbers on which calls are terminated; limited consumer choice for some essential services; and expanding requirements for universal services in the Internet age. The challenge is defining a governance and regulatory structure that can address the specific market failure deficiencies and extra-market public interest objectives. Here it seems that a key element of that structure must be the central governance principle that made it possible for the Internet to develop, namely the separation of the carriage of communication signals from the communication and content services, including voice, Internet services, television broadcasts and other services being carried over digitalised telecom facility networks.

If one thinks of the most appropriate roles for national, regional and international regulation in this respect, it seems clear that telecom regulation - particularly in this part of the world with its growing Internet economy – should be the responsibility of Europe, not individual countries. The development of a single European market has been under way for more than two decades. A key element in the development of European markets is a European telecom network. A key task in getting a unified, coordinated single European telecom network is to establish a coherent structure of European governance. European governance, perhaps with national regulation as the vehicle for most effective implementation, may be the most appropriate model. But clearly the policies that drive the governance should come from the European level.

A separation of telecom regulation from broadcast regulation also would seem to be called for by these developments, by experience and by the principles of governance outlined here, not an integration of the two. Broadcast is just one of many content services on the network although perhaps the most important. Combining telecom infrastructure with broadcast content regulation invites intractable problems of vertical integration, fairness, consistency and asymmetric regulation. It attracts undesired political attention to a governance institution that is supposed to be, and supposed to be seen to be, independent, transparent, accountable and detached from political interest or favoured treatment by the government. From what I have been able to read in the newspapers about the development of the new UK communication bill, I am well informed about Rupert Murdoch's global media empire and broadcast lobbying, but poorly about the rest of the bill, and virtually uninformed about the telecom reforms which will have by far the greatest significance in the longer term.

There will be a continuing need for public service broadcasting as part of a programme of public service provision of a variety of public information. In the Internet economy, the principle of public service requirements remains as in an industrial economy. But the public service commitment needs to be redefined for the Internet economy and the information society. Moreover, these services are primarily national, whereas telecom infrastructure policy and regulation is increasingly becoming regional and international. In addition, EU governance of an integrated EU telecommunication network is required to support the current policies for electronic commerce, including the establishment of standards for privacy, security, electronic contracts and related matters essential for the e-economy.

On issues at the macro economy level relating to terms and conditions of trade, reform must work through existing institutions, but if the Internet governance issues are handled well, they may provide a catalyst for constructive reform. This includes institutions such as the World Trade Organisation, the World Intellectual Property Organisation, the IMF the World Bank and other organisations. We can expect continuing debate on the issues I have touched upon today, among which I think the most important in the Internet economy will be over intellectual property rights, which is essentially the heart of information. If IPRs are to be managed in the best interest of the public of the world, an effective international governance structure that reflects the diverse and collective interests in the world is essential.

Conclusion

In conclusion then, to answer the question raised in this presentation, "Can the Internet economy be governed," as you can tell from what I have said so far, the answer is, maybe. How can it be governed? I've outlined a framework and some principles. In theory, the Internet can be governed, but whether it can be governed in practice remains an open question and will require continuing research on the spectrum of policy and regulation issues that will make up the overall governance structure. The task ahead is defining and shaping the detailed international structure for governance of the Internet economy, so as to achieve generally acknowledged economic and social objectives.

This task is similar to that taken up during the 19th century for effective governance of the industrial economy by groups of activists in many countries. In Britain the major contributors to that enterprise were the Fabians. They established a new institution in London for research and education on the issues as an important part of their programme for reform. Perhaps the LSE can play a role in establishing effective governance mechanisms for the Internet economy of the 21st century, similar to that which it played for the industrial economy more than a century ago.

Thank you.

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