DOES THE INTERNET CONTRIBUTE TO INNOVATION AND PROGRESS?

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Abstract: The title proposed for this paper consists of three words: “internet”, “innovation” and “progress”. Among these words, there is no necessity to long discuss the first one - what the internet is, how it was born, what role it plays in modern society. Other, more specialized studies, are addressing that topic. By contrast, the words “innovation” and “progress” raise interesting questions. They have given rise to myriads of books in various disciplines. To avoid any form of duplication, I have been asked to address, more specifically, the following question: can the Internet be considered a source of innovation and progress? That question will be examined in a peculiar perspective. (a) Having a legal education, I will seek to analyze the issue from a legal perspective. (b) The approach will be international as we are engaged in Europe in a progressive integration of national economies and as exchanges are increasingly become global at worldwide level. (c) Competition law and consumer protection will have, in my approach, a particular importance as the conference takes place at a forum organized by the Italian competition authority, in charge of policies in these areas.

1. A HISTORY OF “TOOLS”

To develop that perspective, I found it would be appropriate to consider the question in the light of the role that “tools”, instruments, that is, have played, throughout History, in progress and innovation. To do so, we will revisit, in the following sections, the emergence of the Internet, in the light of functions played by “tools” in the past.

Thus far, “tools” have been used to accomplish things that men or women could not do themselves3. As an illustration: at this stage of their development, human societies are not capable, for technical reasons, to send astronauts, through the solar system, to Mars. To remedy that difficulty, they are sending, to

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that planet, rockets, with robots, aimed at fulfilling tasks men or women would carry out there if were able to reach that destination.

In History, “tools” have been used, also, by mankind, to do things men or women would not be able to do, with the same degree of satisfaction. In that context, we use “tools” because they are quicker, cheaper, more reliable etc. than if the tasks in question were carried out by human personnel.

The development of “tools” was mapped by Thompson Konstansten Jurgen - a Danish scientist in the eighteenth century. In his writings, that scientist proposed to divide in three stages the emergence and the development of “tools” in the history of mankind. In his taxonomy, the first stage was the Stone Age – when men and women started to use instruments made of stones. The second phase was the Bronze Age, where human societies shifted to bronze as that metal was easier to manipulate to design and manufacture “tools”. This happened, roughly speaking, three thousand before Christ. The third stage is the Age of Iron or Steel, which started fifteen hundred years before Christ. All these periods started in given territories – not necessarily identical – and spread, progressively, to other regions, as a result of military conquests, immigrations and/or commercial exchanges.

2. **The Production of Energy**

To understand the role of “tools” or instruments in progress and innovation, one must link them to the developments that have taken place, in parallel, in the techniques for the production of energy. Originally, the main source of energy was, of course, human labor – by the people themselves or by those they submitted to their jug. Human societies also used the energy they could find in animals, which were domesticated, among others, to that effect. Other sources of energy developed successively: renewable energies obtained from natural elements (water, wind, sun); non-renewable energies (coal, oil, gas); and nuclear energy.

The interconnected development of “tools” and sources of energies gave rise to the industrial era, where the production of substantial quantities of goods started to play an essential – the essential – role in the economy. Substantial transformations took place, in many regards. Socially: people left their villages for cities. Politically: as they concentrated in aggregates, people formulated social and political demands. Economically: workers started to earn cash by reason of their work in factories where, beforehand, they were surviving through product exchanges. The

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consumer society was borne and with it, an education based civilization where children, and adults, must master vast quantities of knowledge to function properly in society.

3. INFORMATION AND COMMUNICATION TECHNOLOGIES

This is the point where the internet started to appear. First, the internet developed as a result of a significant evolution in the capacity of mankind to handle information – data, that is. We generally think of those big, mainframe computers when we think of information technologies. But the techniques used in computers emerged much earlier. Traces of them are found, for instance, of analog computers such as the “Abacus” - an instrument which was used in ancient Rome to facilitate commercial computation. After the Second World War, companies and organizations started to use the mainframe computers referred to above. These gave rise, afterwards, personal computers, susceptible of being used by all individuals. Later on, information technologies were introduced in other products – giving rise to the concept of intelligent objects.\(^6\)

Information technologies developed at the same time as new communication techniques\(^7\). Nowadays, these latter technologies include the wireless transmission of data, fiber optics and the constitution of so-called “intelligent” networks. Such networks are wire or wireless connections coupled with software allowing all sorts of possible usages. As was stated with respect to information techniques, communication technologies did not only develop in the second half of the twentieth century. They had been prepared, during a very long period, by inventions or innovations such as: the development of written expression, the telefax, the telephone etc.

4. QUESTIONS RAISED BY THE INTERNET ERA

In a nutshell, the internet era is regarded, from an economic point of view, of the resulting


situation created by the development, in conjunction with one another, of these four types of technologies: production, energy, data handling, and communication.

The industrial era brought about substantial changes. We can expect the internet age to do the same – for instance:

a) With the development of information and communication technologies, will privacy still exist? Forms and governments are now able, as a result of the development of these technologies, to know much about each and every individual and entity. In such a context, will privacy still have any form of consistence?

b) Will elections disappear? In our current system, voters elect representatives who are managing political entities until the next elections when they must respond of their management before voters. With the possibility of instantly collecting the opinion of voters at all times, or almost, will the idea of periodic elections still have any sport of relevance?

Among all questions raised by the internet society, four will be examined in more details in the sections that follow.

5. CHANGE IN GEOGRAPHIC ALLOCATION OF ACTIVITIES

One concerns the geographic allocation of economic activities in Europe or in the world. Delocalization is not a new trend. Throughout history, entrepreneurs have changed the localization of production sites on the basis of variables such as the cost of production, the accessibility of major transportation routes, the skills existing in a population, the size of the nearby markets where products could be sold etc.

Delocalization has thus existed since ancient times – but the combination of the technologies presented earlier in this paper have made it easier, and much more profitable, to use it. To give an example I experienced personally in my academic activities: publishing a book or a journal with Oxford University Press now implies “production” activities with people located in different parts of the world. A book I had written in the United States where, was transferred electronically to the UK. It was examined by different reviewers, some of them outside of that country. The type setting was done in India. The proofs were handled by a free-lance professional in the UK. The book was printed in the UK – but not in Oxford.

Is there anything related to competition in those de-localizations, and the fact they are now facilitated by those techniques? To answer the question, it may be wise to recall that that the possibility of de-localizing stems from legal

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decisions - decisions to dismantle barriers which, beforehand, made it more difficult, for foreign producers or service suppliers, to import items in Europe.

In the context of commerce among nations, these barriers are called “barriers to trade”, or “trade barriers”. But they are identical, in their substance, to the legal barriers that Member States, some time ago, had erected to protect national public monopolies, and impede access to some markets reserved to public operators on their territory. Trade or more generally entry barriers form part of competition law – and decisions to dismantle these barriers can be analyzed as being taken in the context of competition law regimes.

Indeed, the reasons why barriers are dismantled in both contexts instances are, ultimately, identical. On the one hand, there is the hope that dismantling barriers will create welfare for all – at least in the long term. On the other hand, there is a willingness to give consumers, and business operators, more liberty on markets, in order for them to make choices according to their needs. After all, this is what competition is about: by granting choice opportunities to people within the economy, there is a desire to express, in the economic sphere, the organization existing in the political side of society – where voters can choose their parties and their representatives.

6. Shift From Physical to Virtual Intermediaries

The second transformation raising questions nowadays, in connection with the perspective adopted here, concerns the pressure exercised by the internet on economic agents called “intermediaries”. Intermediaries are everywhere in society, when it comes to economic activities. One can rarely purchase products or even services from the producers or the final supplier themselves. Goods and services are packaged and sold to final addressees by intermediaries.

Currently, this function of intermediation in the economy is being altered, radically, by the combination of information and communication techniques. To buy a book, consumers used to go to bookshops. To reserve a flight, they used to call a travel agent. To purchase a CD, they used to ask a CD or music shop. Today, these operations can be carried out on the internet. The functions are performed by software running on machines established away from the place where the final consumer is located. In most instances, these machines are operated in, or from, the US.

9 Protection of national economies, protection of national monopolies.

Is there a competition law problem if physical intermediaries are replaced by virtual ones? Competition law is based on choice. Consumers are granted opportunities to choose what they consider best to fulfill their needs. The same possibilities are offered to business actors, who can determine what partners they want to deal with.

As it lies at the heart of competition analysis, choice intervenes in every single question one has to respond when solving an antitrust case. One question in that regard is how markets must be defined. When markets are defined, authorities seek to determine whether a specific product is considered substitutable in the eyes of consumers to other one.

This, exactly, is the question which is raised in the context of the transformation of intermediation. The question, to be more precise, is to what extent consumers are ready to purchase their book, cd or flight seat through the internet rather than with the intervention of a physical person. One can thus say that that possibility of shifting from physical to virtual intermediation is central to a competition based economy.

In the current state of society, the existence of choice for consumers and business actors appears as a no-negotiation issue. Citizens and, thus, voters will never accept to go back to an era where they had no choice on economic markets – and no choice in the political system either. In our democratic societies, people want to be free – and that freedom entails, in the economic sphere, the possibility to choose. For instance, people want to choose the supplier from which they get flight seats. They want to be able to make the reservation at all hours in day- or nighttime, depending on their individual availability. They want to choose the location of their seat in the plane, according to their individual preferences. And they are ready to bear the consequences of their choices being inadequate – an attitude they are not likely to adopt where the reservation service is provided by a physical intermediary.

7. EMERGING INTERNET RELATED MARKETS

The third transformation is caused by a pressure experienced on competition. With innovation, markets are emerging. In those new markets, the first move enjoys a substantial advantage. For instance: Google was probably the first company to propose an efficient and user-friendly search engine – one that provided an alternative to the search mechanism then proposed by Microsoft on the ubiquitous platform Windows. As it was the first firm to really professionalize the search function on the internet, Google built, on that market, a


“first mover advantage” - which now turns difficult for competitors to challenge.

That question is typical of “pre-competitive markets” – markets that are created by one company and which, by nature, did not exist before being created. By virtue of their creation, these markets only have one actor. In the context of competition law, the question is to what extent competition authorities are ready to accept such a situation.

The situation becomes even more complex when the market gains in maturity. When that stage is reached, consumers generally prefer a variety of suppliers among which they will have an opportunity to choose the one they consider best for their needs – that choice being different depending on individuals.

Another question to be dealt with in competition law regimes is to what extent the system can tolerate the possibility for such a company, being so strong on this mainstream market, to use that power to extend its position to ancillary activities. That question is addressed during this conference where, among others, the concept of “internet neutrality” is examined. With that expression, the questions asked is, for instance, whether, today dominant on the search market, the US firm Google should be allowed to give advantages to its own services, on its search engine, or whether, as a result of that domination, that engine should be tailored to provide each supplier a fair chance to present its products or services to the public.

8. PRESSURE ON REGULATION

A last area where current arrangements are being challenged by the development of the internet society is the pressure on regulation. This has been exemplified by the development of the US firm Uber, which provides a software based intermediation service making it possible, for clients, to reserve car services independent of the structure currently in place. On the one hand, traditional “taxi call centers” are being circumvented by the operation of that new online service. On the other hand, the drivers themselves are not necessarily traditional taxi drivers - but can be any person with a car and willing to participate to the provision of the new service.

That new phenomenon challenges the way we have tended to organize markets thus far. In our tradition, markets are regulated to ensure mutual benefits for all participants. Thus, taxi ride markets are regulated to ensure the protection of consumers – avoid fraud and ensure physical safety in the first place. Other rules seek to protect environment - by ensuring that the cars used for taxi services are compatible with the highest anti-pollution norms. And there is an obligation, for taxi drivers, to transport anybody requesting it – thereby ensuring mobility in areas, during periods or for categories for public transportation is not an option.

That regulation, which has a territory based character, is being challenged by the use of software which, by nature, is beyond territorial reaches. As they are using internet technologies, innovators are capable, on that sort of market, of circumventing existing rules.
By doing so, they can threaten the presence of such rules – and the very existence of the idea of regulation organized markets. Indeed, there is a demand, on the part of regulated segments of the relevant industries, to relax or even drop the rules applicable to them if the latter are not applied to all in the same fashion.

9. SAME LEVEL PLAYING FIELD FOR ALL

At the outset of this presentation, the question raised was whether the internet could be considered a source of “progress” and/or “innovation”. As regards the latter, the answer must be, absolutely, affirmative, as it would appear. The combination of production, energy, information and communication technologies has made it possible the development of new products, services and markets. This, certainly, constitutes “innovation”.

To the extent it relates to innovation, the statement is also true as regards the other concept – that is, “progress”. But “progress” cannot be considered, exclusively, from an economic point of view. To conclude that “progress” has been achieved, other aspects must be considered, among which social considerations and the impact of innovation on civilization.

To limit these considerations to an economic dimension, I would submit, as a second conclusion, that achieving progress, or creating the conditions for progress to take place, is not enough. That progress is only possible if two conditions are met.

The first condition is explained in this section and is that, in order to provide benefits to society, a competition based system must be based on rules identical or, at least, similar for all participants. Competition is about selecting the best. This selection process can only work, and is only legitimate, if participants are submitted to identical or similar rules. A difficulty, in that regard, is that that condition is far from being met in the current state of affairs in the world and even within the European Union. On our continent, for instance, social and tax provisions, to only mention them, vary, sometimes substantially, from one country to another.

One way solve that difficulty would be to extend the mission currently attributed to the rules of competition. To give rise to a sustainable progress, the rules of competition must be defined as covering every aspect with consequences on the equality that must exist among players. This means that the scope of competition law regimes must be extended beyond the traditional realm of behavior adopted by undertakings. In the legal regimes, it should include the treatment to be given to all sorts of barriers to entry or expansion with an effect on the competitive situation of market participants.
10. THE NEED FOR COMPETITION TO BE SUSTAINABLE

Second condition: the system of competition which is central in our economies is not eternal. Scholars rarely think about it in terms of being a system which could disappear – yet the probability that it may disappear is not negligible. For competition to remain the basis of our society, the system has to be designed as being sustainable.

i) A system based on competition, is only viable in the long term if we have geographic mobility. People who lose their job in certain countries must be able to seek another job where employment exists, even if it is in other countries.

ii) The sustainability of competition law regimes also requires professional mobility. If travel agents are not able to make flight reservations anymore, they should live in a society making it possible, and, even facilitating, the transition, to other jobs. This requires an efficient education system, with offers directed towards the youth but also towards people already engaged in a professional activity.

iii) For the regime to be sustainable, we need social acceptability. Competition and consumer choice are accepted, to a certain extent, in countries like Italy because citizens know that, if firms fail in parts of one country, people losing their job there will receive social payments financed by firms winning the competition game in that same country. Thus, competition law requires, to be socially acceptable, the existence of a satisfactory social security net making sure that people who cannot change their geographic location or their professional orientation, are not left aside, at least during a certain period and to the extent other sources of subsistence cannot be found.

iv) Scholarship has concentrated on the necessary existence of a minimum of competition for markets to be efficient. I would stress that, in order to be viable, competition a superior limitation should also be set. Societies are not able to support the same degree of competition. For instance: the US economy is tailored to resist to fierce competition by virtue of the flexibility of labor markets and also resilience attitudes spread among the population. That same degree of resilience does not exist everywhere. To be sustainable, competition must be introduced gradually on markets and in societies – or else firms, cities and countries will fail and give the world an image of death and sadness that cannot be reconciled with the idea that, indeed, “innovation” brings “progress”.

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