SERVICE UNIVERSALISATION *VERSUS* UNIVERSAL SERVICE

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Abstract

European countries are launching information society development programmes that dedicate major sections to fighting against the *digital exclusion* and plan, among other measures, the geographical extension of broadband accesses. If the universalisation of these infrastructures is proposed, the "natural" option should be to include them in the universal service. However, national broadband strategies are seeking other ways.

This article explores the reasons (namely, the limitations of the universal service definition in force) and consequences of this "shift".

A perspective on the usage of the *new tools* throughout the whole European Union is included, where the most noticeable of their common characteristics are studied. Public policies address both the supply and demand side of the market. These initiatives include the possibility of using structural funds, the participation of regional and local authorities, the creation of "public access points" or the establishment of measures targeted towards adding and boosting demand.

Keywords

broadband deployment, universal service, public policies, digital exclusion

Résumé

Les pays européens ont lancé des programmes pour le développement de la Société de l'Information qui comportent des volets importants à lutter contre *l'exclusion numérique* et projettent, entre d'autres mesures, l'extension géographique des accès à haut débit. Si on propose l'universalisation de ces infrastructures, l'option "normale" aurait été les avoir inclus dans le service universel. Cependant, les stratégies nationales concernant la large bande cherchent d'autres voies.

Cet article explore les raisons (notamment, les limitations de la définition en vigueur du service universel) et les conséquences de ce "changement".

On y ajoute une perspective sur l'utilisation des *nouveaux outils* dans toute l'Union Européenne, et on étudie les plus remarquables des caractéristiques qu'ils ont en commun. Les politiques publiques s'adressent tant au côté de l'offre que de la demande. Ces initiatives incluent la possibilité d'employer des fonds structurels, la participation des autorités régionales et locales, la création de "points d'accès public" ou l'établissement des mesures visées à agréger et faire croître la demande.

Mots clés

développement des réseaux à haut débit, service universel, politiques publiques, exclusion numérique

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1. INTRODUCTION

European countries are launching information society development programmes that dedicate major sections to fighting against the *digital exclusion* and plan, among other measures, the geographical extension of broadband accesses, even when operators are still moving towards covering the territory with their offer.

If the universalisation of these infrastructures is proposed, the "natural" option should be to establish some sort of universal service obligation. The need for public intervention in order to help deploy the broadband networks had been officially assumed while the new Directive on universal service was being debated. However, the new Directive, which was basically continuistic, never refers to broadband. As a consequence, national programmes are taking other courses.

This article explores the reasons and consequences of this "shift", as well as the characteristics of the mechanisms that are being used as an alternative to achieve universalisation.

The first part of the article analyses the limitations of the universal service definition in force. As interpreted today, the European concept faces three major problems: its identification with *one of the possible* practical articulations (the one financed by the sector's companies), its improper usage as a regulation instrument and, particularly, its inflexibility to admit conceptual changes.

In the second part, a perspective on the usage of the *new tools* throughout the whole European Union is included. Public activity is taking two paths: on the one hand, supply-side initiatives are increasing coverage in under-served areas; on the other, demand-side initiatives try to make these areas reach the profitability level required to attract private offer. The most noticeable of the common characteristics of these strategies are studied: the possibility of using structural funds, the participation of regional and local authorities, the creation of "public access points" or the establishment of measures targeted towards adding and boosting demand.

2. CURRENT UNIVERSAL SERVICE LIMITATIONS

The European concept for the universal service faces three major problems that have corrupted the idea used in its initial development: its identification with *one of the possible* practical articulations (the one financed by the sector's companies), its improper usage as a regulation instrument and, particularly, its inflexibility to adapt to conceptual shifts.

First, there is a dangerous association between universal service and "operator-financed mechanism". This is, without a doubt, the circumstance that has fed its armies of critics and poisoned any debate on its evolution. This association can be understood as a heritage from the times when the monopoly was in charge of internally organizing the mechanisms required to obtain funds for network deployment.

The causes which are most frequently used to protect the possible decision of extending universal service to include advanced services (their consideration as merit goods, their incidence in equity or in economic development[1]) go clearly beyond the scope of the sector. Adopting any of these approaches (as do without exception in their foreword all the programmes planning broadband universalisation) supports the argument that the cost should be taken on by the whole community[2]. However, despite one of the most interesting innovations of the new Directive consists in the authorization to resorting to the state budget, apathy towards changes is proving hard to correct. Some national laws, resulting from the transposition of the new framework, do not even set forth the possibility. The problem is, of course, that governments are reluctant to paying a bill which was traditionally sent to the operators, especially at a time when tendencies given to budgetary restrictions seem to be winning, a time where money collected within the telecommunications sector itself (the UMTS license tenders come to mind) is assigned to other purposes.

Second, the regulation of universal service is plagued with "open" terms that must be made more specific via the subsidiarity principle Member States are responsible for. Thus, this unique framework covers heterogeneous national situations. Although it may be complicated (and even counter-productive) to establish specific values or formulae, it is true that the margin for manoeuvre has been revealed to be too great. Many of these concepts have been given an elegant theoretical solution but one that is very difficult to put into practice with any rigour.

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[1] A complete analysis of the causes that could justify public intervention can be found in Gómez Barroso y Pérez Martínez (2003).

[2] Additionally, from the economic efficiency perspective, turning to public funds (obtained through the tax system) has potentially less negative effects on the overall well-being since it does not distort market-established prices. As opposed to these arguments, we have, almost exclusively, *budgetary realism*. Refer to, for example, Louth (1996), Castelli (1997), Hart (1998) or Cheffert (2000).

And the problem is not only the final image of disparity between countries but also the very processes that have led to each situation. The need for interpretation gives rise to forms of action that are poorly regulated. Consider the evaluation of the "net cost": much closer to politics than mathematical economics, its calculation has often become a weapon in the State's global negotiations with operators, especially with the incumbent one. Therefore, universal service is sent to the toolbox of the competition policy, thus "contaminating" its first and utmost nature of being a social policy.

This experience should have proved the need for "less comfortable" definitions, or, alternatively, solutions that do not rely so much on individual opinions and reserved information. Nevertheless, the new Directive continues to operate as a vaguely generic framework, once again accumulating concepts that are open to interpretation (specified quality, affordable price, adequate supply, functional access...) and hollow directives ("objective, transparent and proportionate manner" or "in the light of social, economic and technological developments"). Therefore, predicting the outcome of this application, interpreted from the perspective of a unified European policy, does not seem too difficult .

The third problem is the lack of flexibility of universal service to adapt to the new stage which is currently opening. The specific legal instrument defined as universal service in European legislation is designed to support the *corrective* notion of the concept (correcting problems in the offer only on a network which is almost universal by now) making it difficult to introduce any alternative *driving* conceptions into it (referred, for instance, to the deployment of new broadband infrastructures).

Indeed, at the time the first regulation on universal service was passed, the telephone network had already acquired its universal nature throughout almost the whole of the European Union. As a consequence, and despite having to connect new users in some cases, the figure of universal service has never covered an actual network deployment. Its basic purposes have consisted in protecting non-profitable customers against the possibility of an "abandon" by operators and guaranteeing rate-affordability for specific groups. The national regulations are not oblivious to this fact and are basically designed to maintain the service on a previously laid-out network. This is appreciated, for example, in the rules that govern the net cost estimation of the imposed obligations.

However, two factors were announcing, for some time now, a shift in the future practical functionality of universal service: on the one hand, the accession to the Union of countries with smaller telephone penetration rates; on the other, the requirement for connections of an increasing better quality (or, alternatively, the inclusion of advanced services into universal service).

The fact that the need to impose obligations for the construction or renewal of infrastructures shall bring on operational problems seems unquestionable and predictable. However, we have lost the chance to face them in advance. The Directive passed in 2002 is basically continuistic and, as in the case of the previous regulation, does not include specific guidelines applicable to the deployment of new networks. Surely, this is not a strict problem of legal coverage but, as occurs in many aspects of the practical implementation of universal service, of pronouncing specific guidelines channelling, and not only orienting, the actions of the regulators and, generally, of the whole sector. The general guidelines in force today allow to host a full range of solutions, in some cases, real "a la carte" interpretations that lead us away from a unified European action, with the resulting risk of market fragmentation.

3. NEW INSTRUMENTS FOR UNIVERSALISATION

The change defined in the new stage of the universalisation plans is a qualitative one although, and more importantly, and this is one of the main problems to be addressed, a quantitative one as well. Obviously, we must not lose sight of the economic dimension of a series of obligations which could extend to broadband accesses. The participation of public authorities is essential since transferring the burden exclusively to the industry's companies would create an intolerable market distortion.

Thus, governments seek solutions that are more flexible than those provided by universal service as regulated at present. The "information society development programmes" are the tool that allows the public sector to tailor the intervention pattern to the measure of their preferences and possibilities. Within these programmes, and as one of their main sections, all EU-15 Member States have now drawn up "National broadband strategies" which propose a series of initiatives to accelerate the deployment and taking-up of broadband. Many of the ten new Member States are also working on national strategies.

All strategies acknowledge the primary role of the market in broadband deployment. They also admit the role of public policy in complementing the effective operation of the market, addressing both the supply and demand sides to stimulate a virtuous circle whereby development of better content and services depends on infrastructure deployment and vice-versa (European Commission, 2004b).

As a consequence, public intervention is moving forward on two separate paths: contributing to network deployment directly as well indirectly, promoting demand, in the latter case, in order for currently non-profitable regions to exceed the business threshold required by operators for investing and providing service.

3.1. Direct measures: network deployment

The boost of the different national strategies (as well as their orientation) comes from the *e*Europe programme. The *e*Europe 2002 Progress Report addressed to the Stockholm Spring Council refers to investment in broadband for the first time, defending that it will *mainly* come from the private sector, without specifically referring to state intervention on the offer side (European Commission, 2001). Its successor, *e*Europe 2005, maintains the predominant role awarded to the private sector although, among the proposed actions for broadband development, it declares that "Member States, in co-operation with the Commission, should support, where necessary, deployment in less favoured areas, and where possible may use structural funds and/or financial incentives (without prejudice to competition rules)" (European Commission, 2002).

Making use of this authorisation, most central governments in the Europe of the Fifteen (with the exception of Belgium, Denmark and Germany) allocate public funds, or have declared they will do so shortly, to programmes related to broadband development.

Following the recommendation, a part of the money comes from structural funds, wherever the conditions for their usage apply. The Commission released a working paper with the guidelines for their usage (European Commission, 2003a). Over the period 2000-06, the structural funds are expected to allocate €6.1 billion for investment in electronic communications and the information society (European Commission, 2003b). Giving a more defined form to these initiatives, the Initiative for Growth (European Commission, 2003b) announces "Digital-Divide Quick-Start projects" to accelerate broadband deployment in remote and rural areas through a technology-neutral approach.

Central government plans are not, however, the only ones allocating funds to broadband network progress. Regional and municipal governments are, frequently, those taking the initiative of promoting and extending broadband in their territories. Sometimes their actions are incardinated within national programmes, but in many other cases they are independent. Given that regional and municipal governments can manage an important part of the structural funds, the fact that a considerable number of broadband universalisation programmes will be boosted from local decision centres is thus confirmed.

Their participation allows to extend the range of conceivable solutions. Avoiding the multiple peculiarities resulting from heterogeneous realities and requirements, the different interventions can be grouped into the following categories, which are not mutually excluding[3]:

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[3] Refer in detail to the national strategies in the annexes of European Commission (2004b).

- Direct construction of the infrastructure (Ireland, Southern Italy).
- Public-private partnerships (Greece, Ireland, Austria).
- Subsidies to network-builders operating in the private sector offered to the market in a tender (some regions in Austria) or a public procurement process (Sweden, where if private contractors are not interested, municipalities may build the infrastructure themselves).
- Municipality-driven wholesale networks[4] (Denmark; in Belgium municipalities have historically invested in cable networks where no private network already existed).
- Long-term reimbursable loans (Spain) or preferential loans (France) to operators for the deployment of infrastructure in selected areas.

The technological trend is also manifold: some municipalities have intervened by rolling out fibre optic rings; others intend to look into wireless technologies to extend connectivity. When no other technological alternatives exist, the establishment of free public access points based on satellite technology is usual. In some cases, local governments have installed Wi-Fi networks extending the connection to the whole municipality.

Public access points are one of the most usual tools used in universalisation programmes. Despite the most ambitious projects have been launched in France, Italy and Spain, their usage can be considered generalised. Their installation expects to meet several objectives simultaneously. Where there are no other broadband alternatives at that locality, their construction can be included in this section dedicated to network extension. However, they also promote digital literacy of marginal groups and stimulate the usage of advanced services, thus boosting the future demand, a fact that connects with the other great branch of the broadband promotion strategies.

3.2. Indirect measures: demand aggregation and stimulation

From the market perspective, the access and adoption issues are inextricably interwoven: adoption is impossible without access, but access is economically difficult to provide without the prospect of rapid and widespread adoption (Hollifield and Donnermeyer, 2003).

In many cases the access problem is directly linked to the adoption issue. A greater penetration of the services would imply an increase in the demand for connectivity. Once a

[4] The new regulatory framework would require that access to such networks be available at non-discriminatory conditions (European Commission, 2004b).

minimum profitability threshold is surpassed, the offer would react to that demand. Encouraging and aggregating demand is, thus, a policy that should result effective.

Aggregating customers is common in urban areas, where providers compete to hook office buildings and other nearby clusters of "data customers" to Internet backbones; it is more difficult in rural communities, yet not to do so virtually guarantees that rural demand will remain "off the radar screen" of large service providers (Malecki, 2003). As a consequence, a chapter shared by many national strategies consists in grouping the broadband requirements of all public institutions located in the appropriate area to provide a crucial pull for new networks. The United Kingdom and especially the Netherlands are the countries where more trials and experiments are being carried out in this direction, leading, in some Dutch regions, to bundling the demand of consumers, schools, libraries, hospitals and companies.

On the other hand, demand stimulation offers a enormous field for public activity. Although demand stimulation policies can include from digital literacy promotion to initiatives addressing the development of new contents and services, there is a group of core measures we could consider directly targeted towards improving the appeal of broadband in the short term:

- All Member States are promoting the development and use of online e-government, e-health and e-learning services as part of their national strategies.
- All plans are also focusing on promoting ICT in enterprises (particularly SMEs)[5].
- Work is being carried out to increase the number of broadband accesses in schools and libraries. As we noted above, the establishment of public access points complements this strategy.
- Some countries are providing financial incentives (Austria for new broadband access; Denmark for companies; Italy for broadband access, digital TV and PCs; Sweden for broadband access costs in excess of a threshold).
- In almost all cases these actions are accompanied by an effort to improve confidence in the usage of networks and stimulate consumers' trust in information society services such as electronic signature and e-payments.

[5] This can be a very effective policy, since, according to the study by Hollifield and Donnermeyer (2003), employment by a company that was using specific information technologies is the strongest predictor of individual adoption; the effect is particularly strong among those with less formal education.

4. CONCLUSIONS: THE END OF UNIVERSAL SERVICE?

Abandoning the universal service implies that service uniformity is broken. Despite *all users* finally obtained access to broadband *regardless of their geographic location*, since the mechanisms used to achieve this are multiple and disparate, *quality* shall be heterogeneous and not *specific*. Additionally, although any public programme extending the broadband offer should focus on the existence of the conditions required for the demand to answer to this effort, no mechanisms guaranteeing an *affordable price* would exist either. In any case, this situation could occur as well with the shelter of universal service establishing poorly demanding thresholds of accessibility and affordability.

However, and more importantly, the basic change is the one referred to accessibility. Regardless of access being individual or collective, universal service entitles users to a right. Service universalisation programmes are a concession: users cannot demand to be included. Thus, it is possible for the chance of each citizen to be conditioned by the interest their local government shows for including general broadband deployment plans (or their promotion), resulting in an arbitrary design of the *digital divide* map within developed countries.

Does this mean that universal service will remain restricted to the telephone service and, thus, will gradually lose importance?

Universal service is not a simple concept, and its complexity originates in its combining several objectives (national coverage, non-discriminatory access and generalized affordability) which are usually achieved in different stages (ITU, 1998). According to the actual definition of universal service, including the broadband infrastructures would imply making them "accessible to *all users* regardless of their geographical location". The current construction of this clause (despite it is not bound by the universal service concept) requires an individual access. The magnitude of this task leads one to thinking that, similarly to telephone universalisation being achieved thanks to consecutively securing increasingly more ambitious objectives during the monopolistic stage, broadband deployment requires a scenario that also provides for a greater staggering of the actions.

The most probable scenario seems to be that, thanks to the service universalisation mechanisms, and once the geographic coverage stage is well under way (and the financial effort it entails has been faced), universal service will be extended to broadband infrastructures. It would thus take up anew the *corrective* role it has at present as regards the telephone service.

The first chance is offered by the revision of the universal service Directive, planned for 2005. Without the need for major corrections, the reinterpretation of what should be considered a *functional* access to the Internet provides a way to move towards the universalisation of

greater quality accesses using universal service. However, considering the current broadband scenario in Europe, no significant modification seems to be predictable.

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