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Telecom Policy for Information Economies: Unregulation is not Enough

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THE CHALLENGE

The past two decades have witnessed major reforms of telecom markets and regulatory structures around the world through privatisation and liberalisation (Pisciotta 1997). These reforms have been focused primarily on changes in ownership models and market entry opportunities. They have not yet substantially addressed an essential challenge facing modern telecom policy, namely, how to reconcile sector-specific policies with the emerging exigencies of a digital information-based economy.

There is a sea-change underway in the way networks and services are configured, operated and used: the expansion of 'dumb' networks carrying smart information packets, the continuous innovation of multimedia terminals at the edges of networks, the evolution of business niches across both vertical and horizontal layers of networks, and the emergence of voice applications as secondary features of data services. Telecom services, combined with information technology, provide the infrastructure for data applications that drive all facets of industrial economies, including utility services, financial services, manufacturing, media, retail and even government services. More than revolutionising the telecom industry, these changes are transforming it into an integral element of the economy as a whole.

Information service innovations, however, strain against the reins of traditional regulatory concepts. Clear distinctions between types of services are proving elusive. Established regulators yearn for a multimedia future, but find themselves caught in the bonds of the voice telephony paradigms of the past. New regulators struggling to master the tools to referee competition in conventional telecom industries must leapfrog into the information age. This requires that decision makers around the globe grapple with a familiar, but suddenly confounding question: what is being regulated and why?

TRADITIONAL IDEAS

Established regulatory and policy traditions obscure the answer to the question. One tradition is that public voice telephony is a protected service to be specially

licensed and regulated for the public good, either as a service 'affected with the public interest' as recognised in common-law countries, or as a 'public service', in civil-law countries (Melody 1997b). Another traditional concept equates 'universal service' to the widespread availability of voice service over traditional technologies funded through service-specific subsidies.

Regulatory systems that accord a special status to public voice telephony tend to perceive the Voice over Internet Protocol (VoIP) as threatening the viability of traditional telephony. To the extent that the Internet is used for voice applications that might otherwise be sent over the public network, regulators may view it as a form of bypass that avoids universal service contributions. Such a view supports policies that impose on the new service the inherited constraints of the old. Such 'technological neutrality', however, places the public interest in legacy handcuffs. The debate should not be about how VoIP can be made to be more like circuit-switched telephony, but about how to best utilise the full range of multimedia applications, including voice. The problem posed by VoIP is not how to avoid bypass of a subsidy, but rather how to restructure the subsidy so that it does not impede acceptance of the valuable new service. Many regulators have yet to address this issue.

A new approach will become necessary as voice becomes increasingly indistinguishable from other data traffic. Traditional features of telephony regulation (for example, the licensing of 'facilities', control of per-minute rates, ensuring non-discriminatory offerings) cannot meaningfully be applied to voice provided over multimedia platforms. Such platforms are characterised by integrated feature-rich services provided over internetworked facilities and layered applications involving multiple interdependent niche players. In such a context, it becomes very difficult to identify or license individual providers of discrete 'facilities', or to price basic voice separately from other value added features. The more public policy tries to segregate and safeguard the provision of pure voice telephony over a particular technology, the more it denies the future.

Similarly, in light of the ubiquity of packet-based multimedia applications throughout the economy, efforts to ensure universal service solely through voice-telephony subsidies ultimately will be unsustainable.

THE UNITED STATES EXPERIENCE

In the United States, the Federal Communications Commission (FCC) sought to preserve an unregulated environment for new information services in the hope that it would reveal alternative regulatory concepts (Oxman 1999). Instead of

clarifying regulation appropriate for Internet services, this approach has created uncertainties and required a stretch of logic.

For example, enhanced-service providers in the United States have long been classified as ‘end users’, exempt from access charges and permitted to use interstate access services under local tariffs (Federal Communications Commission 1983). To ensure the same benefit to Internet Service Providers (ISPs), the FCC has had to creatively assert jurisdiction over the compensation regime for local ISP-bound traffic on the basis of a ‘one-call’ theory, that is, the end-to-end transmission between the end user and the Internet is not actually local, but is inherently interstate (Federal Communications Commission 2001a). Similarly, the FCC is currently trying to reconcile a series of decisions containing widely divergent views on the regulatory classifications of ‘information’, ‘telecommunication’, or ‘cable’ service applicable to interactive broadband offerings on cable television systems (Federal Communications Commission 2001c). In another example, both phone-to-phone telephony over IP networks and facilities-based Internet transport services have been characterised by the FCC as ‘telecommunication services’ subject to Universal Service Fund obligations (Federal Communications Commission 2001b). Nonetheless, these offerings have never been regulated as telecom services and remain exempt from universal service contributions.

ZERO-BASED POLICY

To avoid the difficulties experienced in the United States, information and telecom policies ideally should be ‘zero-based’. Beginning as if there were no public voice telephony legacy, an understanding should be developed about how information networks operate, who the players are, and how they function, including in secondary markets. Careful consideration should be given to what aspects of information networks, if any, raise public interest concerns, exactly what those concerns are and which regulatory tools can address them effectively.

In reality, there are strong incentives to work within current statute and case law, to retain familiar regulatory classifications and standards, to avoid significant disruption of industry relationships, and to avoid major changes to existing subsidies. Incumbent power, fear of local rate increases and reluctance to regulate the Internet are likely to preclude the zero-based policy approach.

THE PRACTICAL ALTERNATIVE

An alternative to ‘unregulation’ and zero-based policies is a deliberate evolution towards the future. This requires proactive regulatory intervention to realign

industry relationships that may hinder the transition to the information economy. It also requires regulatory forbearance on innovations leading to the information age. At least three essential legs of a transitional regulatory platform may be discerned.

First, regulation should promote an information-based economy. Universal service should be redefined in terms of such an economy, and with different facets requiring different approaches. To the extent that universal service objectives include advanced information systems, subsidies might best come from general tax revenues. On the other hand, to the extent that universal service objectives are focused on voice telephony, alternatives to market-distorting service surcharges might be explored. For example, voice may be provided as a secondary application over many types of platforms. A variety of voice activated and interactive information services, including those developed for transportation systems, utilities, home security and on-line retail applications, may provide serviceable substitutes for voice telephony, particularly if they interconnect with the public network. New subsidy mechanisms that will promote such alternatives should be devised.

Second, regulation must be incentive-based. Specifically, incumbent companies must be given appropriate incentives to open their networks to competitive suppliers and to refrain from abusing their market power. To benefit from an open and interoperable network of networks, regulation should ensure that infrastructure is not designed and managed solely in the interest of incumbents, but that, at least on a wholesale basis, non-discriminatory interconnection is ensured for all technologies supporting a full spectrum of innovative business plans. This will require that non-discriminatory interconnection of all types of networks and technologies be made financially attractive. It will also require an intensive regulatory focus on standards of interconnection as well as on the swift resolution of disputes.

Third, to the greatest extent possible, market distortions, including asymmetries in the treatment of different technologies and selectively applied subsidies, must be removed. For example, transport systems should be treated consistently, whether they are provisioned over fibre, cable television, terrestrial wireless systems or satellite. The treatment of content should be harmonised across different delivery systems. In doing so, however, public policy should not burden new delivery systems with legacy obligations, but instead should reduce such obligations from traditional services.

All three legs must be implemented as, in the case of a three-legged stool, the absence of one leg will make the stool become completely unstable.