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**The Future of Voice**

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# **THE FUTURE OF VOICE: CUSTOMER ISSUES**

## **BRIEFING PAPER**

DRAFT FOR COMMENTS

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This paper, alongside other background material relevant to the debate on the future of voice and prepared under ITU New Initiatives Programme, can be found at <http://www.itu.int/spu/voice>. The Future of Voice project is managed by Jaroslaw Ponder <jaroslaw.ponder@itu.int>, under the direction of Dr. Tim Kelly <tim.kelly@itu.int>.

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# 1 INTRODUCTION

Voice telephony has changed, it is no longer a rotary-dial telephone at the end of a fixed copper line, nor is its use considered to be expensive. There are now many different varieties of voice. Often it is no even a distinct service, having become but one aspect of communications and entertainment.

In developed countries there are vast numbers of mobile phones that supplement the use of the fixed network. Mobile “phones” can also perform a range of non-telephony functions, for example, acting as a banking instrument and as a source of entertainment. Handsets have become a fashion statement, for example, in the collaborations of LG with Prada, Motorola with Dolce & Gabbana and Samsung with Bang & Olufsen.

Mobile and fixed services are being combined by operators in multi-play offers for consumers. Voice telephony is included as one part of the flat-rate offer – almost as a loss-leader. Discretionary spending is associated with and directed as other, more exciting areas, concerned with entertainment and news.

The story for corporate networks is very different, where voice retains a central place. Fixed networks can now carry fully integrated voice and data. However, mobile networks are used for communications with voice and messaging, but with only minimal access to enterprise applications.<sup>1</sup>

In developing countries there are often only mobile networks, with the fixed network having declined and decayed for lack of investment. Voice telephony has become synonymous with cellular wireless networks. Yet it is unaffordable for large parts and even a majority of the population. China has reached around half its population with voice telephony, while for India that figure lies more than a decade into the future. Many people with a phone make only intermittent use because of the high charges and their low levels of income. To some extent and in some countries this gap is mitigated by the re-sale of individual calls by street vendors and by Grameen-style “telephone ladies”.<sup>2</sup>

While the transition to 3G and 3.5G has already begun in developing countries, there are few solid ideas about the business models or the sources of revenues that will be needed to pay for network construction. If these are to be based on content, then the nature of that content is far from certain and the providers do not yet exist. Mobile Voice over Internet Protocol (VoIP) at low prices carried by Fixed Wireless Access (FWA), 3G or WiMAX hangs as a threat over the future revenues for cellular operators, but equally as the prospect of affordable voice telephony for millions of potential customers.

In the bad old days, not so very long ago, there was a monopoly supplier of voice telephony and little else. This remains the case in only a very small number of die-hard countries that have refused to accept that competition delivers much more than is possible from an organ of the state. One of the more unusual of recent legal actions, an echo of the days of exclusive licences and a death throw of monopoly, was brought by the Vodafone Group against the government of Fiji, seeking to block it from introducing competition.<sup>3</sup>

The major problems lie in and arise from the structure of the markets created by incomplete and sometime stalled processes of liberalisation and privatisation. There is still insufficient competition to overcome the information asymmetry between providers and customers. The government or its proxy, the regulator, is little more informative, usually being locked in obscure and highly technical debates with the operators. It suits both regulators and operators to develop policy away from public attention and reinforces the positions of both groups – a mixture of regulatory capture and symbiosis.

The problems of crime on the Internet continue both to grow and to evolve. In the name of “light touch” regulation and the right of commercial suppliers to sell protective systems, governments have permitted the criminalization of cyberspace to a point where there is now no expectation and little hope that the problems can be contained, let alone eliminated. Commercial suppliers of software have earned billions in revenues by selling the means to limit the more extreme effects of attacks on users. It is merely a matter of time before this tide of filth and criminality engulfs voice telephony and especially VoIP. Soon we shall be inundated with spam, phishing and spoofing of telephone numbers, for which there are no known or effective policy remedies.

This paper examines the issues of competition and its relationship with affordability, looking separately at the markets for individual consumers and for corporations. It then examines the processes for the making and the resolution of complaints. The issue of information asymmetry is examined both in markets, for prices and quality of service, and then in regulatory systems. Finally conclusions are drawn and issues for further work examined.

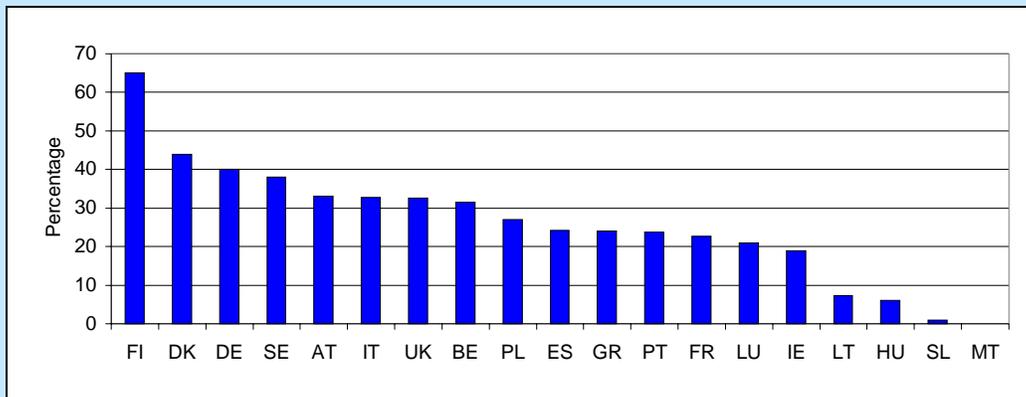
## 2 COMPETITION AND AFFORDABILITY

The primary reason for the introduction of competition into telecommunications was to improve the capacity of the sector to respond to innovation in upstream markets and to downstream demand for new services. Such a goal presupposes sufficient competition in telecommunications markets to deliver the benefits – markets in which operators change or new entrants make the changes for them.

For policy makers it requires the tracking of the levels of market concentration and innovation. They must take periodic actions to eliminate bottlenecks and to ensure the opening of markets to new entrants. Only in this way are the benefits achieved for customers and for the economy.

For fixed networks the idea of a “ladder of investment” was conceived to convey the possibility of entry at the international gateway and gradual construction of networks out to the individual offices and homes of customers. Measures to support this included the lifting of licence restrictions, the granting of permission for simple resale, the obligation on incumbent operators to provide leased lines to rivals, carrier selection, carrier pre-selection and number portability. However, the processes proved to be very slow and highly variable. Figure 2.1 shows the modest progress made across the European Union in attracting customers away from their traditional incumbent supplier of telephony.

Figure 2.1: Customers using an alternative provider for fixed voice telephony <sup>4</sup>



Long before the first ladder of investment was completed the attraction of voice revenues had switched to mobile telephony and fixed operators began to deploy broadband. This was based on a very different ladder, constructed around complex negotiations over the unbundling of local loops, then the provision of bitstream access and “naked” copper. It changed again with the appearance of multi-play and fibre to the home as the new targets.

Competition in international telecommunications was not easily achieved in many countries since the profits from the excessive or monopoly charges were used to reduce the level of subscription. This required tariff rebalancing that was and sometimes still is politically unpopular.

A report by the World Bank noted that part of the world makes international calls at a price of a few cents a minute while other, often very poor, countries paid “exorbitant” prices for international calls.<sup>5</sup> It noted that competition was sustainable over time though fragmentation of the market was inevitable.

Resistance to competition arose for many, often sector-specific, reasons. These relate to the absence of technical, regulatory and business skills required to implement competition, and sometimes to the fear of bankrupting the incumbent operator. Other reasons include:

- loss of fiscal revenues
- lack of political influence by pressure groups in favor of competition,
- corruption
- restrictions on information flows

The evidence is that countries in which the freedom of enterprises and consumers to express their concerns is high, are also the countries with a higher level of competition in the international voice market segment.

The OECD has show the sharp reductions in the prices of international calls where competition was effective. The developed countries with less competition and where its introduction was slower paid a high price.<sup>6</sup>

Mobile telecommunications had no ladder of investment and no access measures for new entrants. Instead a very limited form of competition was accepted, based on the supposed constraints of spectrum. The result was usually two, three or four operators with high levels of concentration, low levels of competition and many elements of price shadowing and even collusion.

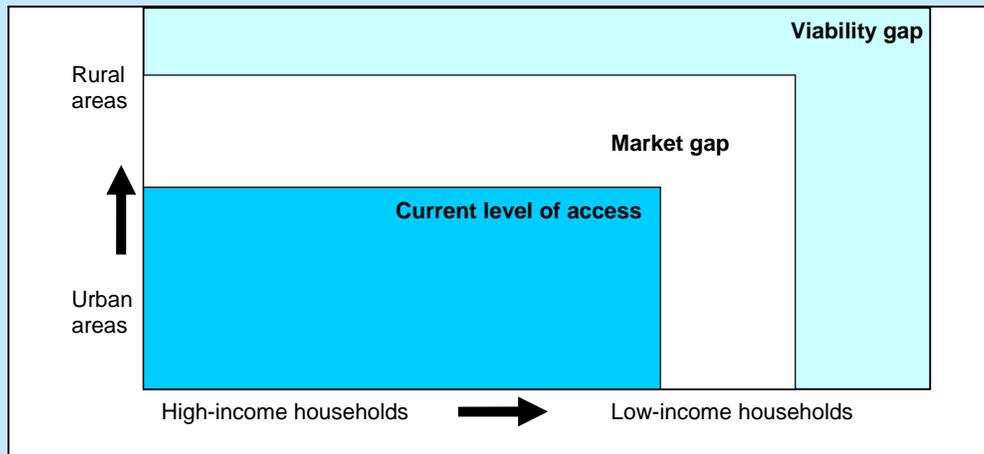
An obvious contrast in the levels of competition can be seen by comparing the concentration of the national markets for mobile service and the global market for mobile handsets. In the handset market there is much greater rapidity of change, with many segments and niches, and a fierce struggle by manufacturers for even small additional market shares or margins. There is a vast range of handsets from low cost to very expensive and from low to high functionality. A recent example of entry onto the market is my Apple Computer, offering its “iPhone”.<sup>7</sup> Whereas on the market for mobile network services there has been little prospect of new market entrants, with advance warning to competitors of their entry and the opportunity to negotiate the regulatory terms of that entry. Often this is compounded by the “new” entrant being a known competitor from another country using the same business model.

One of the enduring problems with telephony has been the inaccuracy of billing. Despite digitalization and other technological advances, operators continue to struggle to provide customers with accurate billing. Even today some companies exist off the savings they can make for corporations by finding and eliminating the errors in bills. Competitive pressure does not seem able to force the operators to be more accurate.

These problems have been compounded by dubious and illegal practices in advertising and sales. All the leading operators in the USA have been prosecuted for “cramming”, that is putting unauthorized or deceptive charges on bills and for “slamming” that is changing the provider without permission. Many operators also use “line items” which they alleges are to recover the costs of obligations imposed on them by regulators, though they are not taxes. These are extremely poorly understood by consumers.

As cellular wireless telephony and text messaging has been rolled out, the coverage has expanded in all countries where the technology has been deployed. Competition has been a significant driver, based on a highly scaleable technology. However, the limits of the market are being approached, especially in areas of low income and low population density. Developing a viable business for rural areas of a least developed country presents very real challenges. Figure 2.2 shows a gap analysis, with two conceptual gaps, one where the market can but does not yet deliver and the second where the market cannot, using today’s technologies and business models, deliver a viable service and thus would require enduring subsidies. There are related problems in the supply of electricity for base stations and for individuals to recharge mobile phones which can greatly increase the cost. The use of satellite backhaul can assist in rapid deployment of backhaul networks, but to be cost effective must be replaced by terrestrial networks.

**Figure 2.2: Gap analysis of the supply of voice telephony**



In South Africa, ICASA has conducted an inquiry into affordability. In cellular services this highlighted the problems of the high unit cost of pre-paid calls and the high level of charges for calls to mobile networks, caused by the underlying mobile termination rates. Examples were given of the lack of access in rural and some deprived urban areas, not helped by the disconnection of many hundreds of thousands of fixed lines. A study of Evaton West in Gauteng Province showed the near total absence of fixed telephony.<sup>8</sup> The incumbent operator, Telkom South Africa, has a special website created by its critics under the name Hellkom, with horns added to it logo, to show its allegedly satanic nature.<sup>9</sup>

There was a discussion of the social acceptability of inviting or begging others to call you. It was possible for individuals to call someone and hang up before they answered, leaving their number, sometimes called “pinging”. Some operators have formalized this with a call-me service using a USSD number. These were based on the expectation that the other, presumably wealthier, person would return the call. It left many with the real or perceived stigma of having to ask to be called. It also left unanswered the problems of how the poor were to call other poor people, when neither party could afford to pay.

The European Commission has undertaken considerable work to examine the needs of various groups included the deaf and the blind. This extends beyond tradition telecommunications regulation into areas of health and social welfare policies. A report on inclusive communications was prepared within the Commission, with input from various groups representing from the various groups in preparation for the year of people with disabilities.<sup>10</sup> In particular this considered the needs of those unable to use voice telephony because of deafness or hearing impairment, with the need for technological bridges between different means of communications. It also considered research areas, such as avatars that would automatically generate signing and lip movements, together with improvements in technologies that generate voice from text. A later report examined the implementation of the legal measures by the member states identifying best practices and problems.<sup>11</sup>

Despite the high levels of rhetoric about competition, the reality has been markets that are less competitive than they might and where policies have been incompletely executed or delayed in order to protect the commercial interests of operators. Great progress has been made, much of it by *ad hoc* measures that could have been applied more systematically and more thoroughly.

### **3 CORPORATE NETWORKS**

Historically, multi-national corporations built separate private networks for voice and data, using infrastructure components provided by national incumbent operators. These gradually migrated to Virtual Private Networks (VPNs) and often to managed or outsourced services. The original justification for private

networks was the economic incentive to avoid the artificially high charges for long-distance and international voice telephony. Prices for such calls had been increased by policy measures to create cross-subsidies to reduce subscription fees for residential customers. This was supposedly to achieve universal service, though no country ever attained the target.

Voice and data traffic are now being integrated on fixed networks. IP-VPNs running Multi-Protocol Label Switching (MPLS) technology are carrying voice traffic and also providing access to Enterprise Application Software (EAS). These are supplied from highly competitive markets for Business Communication Services (BCS) with strong global (e.g., AT&T, BT and NTT) and regional players (e.g., COLT and SingTel). Across the core of developed countries plus the manufacturing centres of China there is good coverage and intense competition.

A special case exists for India, where many corporations have located their call centres, requiring massive capacity into and out of the major centres. There has been considerable expansion of the undersea and terrestrial fibre optic capacity to meet demand. For example, the Bharti Group i2i cable from Singapore and the MTNL-BSNL Falcon cable to Egypt. The fall in charges for telephony and international private leased circuits came after the explosive growth of call centres and that initially the low labour costs had to compensate for the high costs of communications.

Other countries are keen to compete with India, but achieving a level of national competitiveness in labour and other inputs is difficult. Many of the potential rivals, such as Egypt and South Africa, have not yet or only partially liberalized international telecommunications, making voice calls expensive.

In addition to offering low unit costs, VPNs provide high levels of additional functionality. This includes support for hot desking, remote access to calls and voice mail anywhere worldwide, based on a corporate number plan allowing global dialing of short codes. A few corporations have found that their purchasing power on the market is sufficient to undercut the case for a separate VPN. For them, the cost effective solution is simply to use the PSTN with a substantial discount.

There is considerable regulatory uncertainty about the applications permitted on VPNs and especially IP-VPNs. In many countries the laws and regulations are silent on the questions of Internet Protocol, being framed in terms of technologies that are now obsolete. There are key concerns are the legality of break-out from a VPN to the PSTN or break-in from the PSTN to the VPN. There is often no easy way to ensure positive regulatory compliance.

The global and regional fixed network operators have, over a period of years, built up a presence in foreign markets by a mixture of investments in infrastructure and by purchasing wholesale services from local operators. A number of alliances intended to allow operators to build seamless networks collapsed due to the failure of the operators to combine their interests.

Mobile networks are very different, with little or no access being offered at the wholesale level to rivals, other than international mobile roaming. MVNOs would be one way to enter the market, though it is impractical in most countries with opportunities that are purely national, and focused on retail consumers, with little evidence of the medium term viability. A local presence would require not just a spectrum licence but also the construction of a substantial network, together proving significant barriers to market entry. There has been considerable geographic convergence by leading operators, acquiring smaller operators in other countries or winning licences.

Mobile network operators lack a sufficient footprint to meet the needs of multinational corporations. Table 3.1 shows the various “footprints” in leading European markets. Adding the USA, for trans-Atlantic businesses, leaves only Vodafone through Verizon Wireless and T-Mobile, able to tender for a contract.

**Table 3.1: Geographic footprint of mobile operators in 2006**

	KPN	Orange	T-Mobile	Telefónica	Vodafone
Belgium	Y	Y			
France		Y			Y
Germany	Y		Y	Y	Y
Italy					Y
Netherlands	Y	Y	Y		Y
Poland		Y	Y		
Spain		Y		Y	Y
Switzerland		Y			
United Kingdom		Y	Y	Y	Y

*Source:* Operator annual reports and press releases.

Vodafone has recently withdrawn from Belgium, Japan, Sweden and Switzerland, significantly reducing its capacity to meet the requirements of corporate customers. Presumably it considers its customers are content to pay for the international mobile roaming service when visiting these and other countries.

When a corporation seeks a supplier of cellular mobile services it is likely to ask for coverage of a number of key countries, yet in doing so it narrows the field of potential operators, often to only one or two. Knowing that the field has been so constrained, the operators decline to offer competitive prices. The result is that it is usually cheaper for the corporation to purchase services country-by-country rather than using a single trans-national contract.

There are complex legal issues concerning record keeping on corporate networks. For example, in the USA there are rules on positive compliance under the Sarbanes-Oxley Act (SOX). It is also necessary for detailed record keeping, not only of voice telephone calls, but of other messages under the recent 2006 Federal rules governing civil procedures.<sup>12</sup> These impose heavy obligations on network managers to ensure proper enforcement of rules and secure keeping of records.

At the end of 2006, the General Accountability Office (GAO) reported on the performance of the Federal Communications Commission (FCC) in respect of its regulation of dedicated access services provided by incumbent operators.<sup>13</sup> It recommended that the FCC develop a better definition of “effective competition” and also consider additional data to measure and to monitor competition in order to fulfill its regulatory responsibilities. The FCC disagreed, arguing the status quo was satisfactory.

In 1999, the FCC had introduced deregulation of prices for dedicated access services in metropolitan areas it could be shown that competitors had colocated equipment in the switching centre. A sufficient level of colocation was seen by the FCC as a predictor that competitors would extend their network to customers. It held that colocation was a measure of competition, rather than looking at more detailed assessments of competition in a building or for individual customers. The Court of Appeals for the District of Columbia affirmed FCC’s decision to grant additional pricing flexibility.

The GAO concluded that:

Regardless of where competition may come from in the future, it is clear that FCC does not regularly monitor and measure the development of competition, which will affect how FCC responds to emerging trends, and the actions it takes to encourage and foster such competition. We have consistently noted the need for better data at FCC to track competition and deployment of telecommunications services to a variety of consumers. Without data that are reliable, relevant, and current, FCC is limited in its ability to adequately monitor the state of competition for dedicated access, and thus is limited in its ability to determine whether its predictive judgments were correct, and whether its deregulatory actions are achieving their goals.

This reveals a very general problem of identifying the conditions when a market is sufficiently competitive to withdraw them.

Amongst business users there is a certain camaraderie, with groups of telecommunications managers having been formed over many years. One example is ATUG in Australia which is now thirty years old (see box). In addition to providing a human networking function nationally and in the various centres of the country it undertakes benchmarking and other services for its members.

**Box 3.1: Australian Telecommunications Users Group – ATUG**

*ATUG's Vision* – All Australian telecommunications users should have competitively priced, innovative, quality services benchmarked at world's best practice, as measured by the OECD.

*Competition* – Strong competition between telecommunications service providers is the best way to deliver improved price, quality and innovation outcomes for end users. Until strong competition emerges, the telecommunications provisions of the Trade Practices Act and the competition-related elements of the Telecommunications Acts, must remain effective. The core objective of competition regulation must continue to be "the long term interests of end users".

*Any to Any Connectivity* – An effective wholesale market and open access between carrier networks is critical to end users. Carriers with bottleneck infrastructure (e.g., Telstra's copper network, mobile operators' termination access, and back haul services) should provide access on cost-based, and non-discriminatory price, and non-price terms and conditions. Where commercial processes (such as undertakings) do not work in a timely way, regulated access should be provided.

*Effective Regulation* – Carriers with market power should be subject to strong regulation to prevent abuse of this power. The ACCC should have sufficient powers and resources, and apply them to respond quickly to instances of anti-competitive conduct. Until stronger competition in telecommunications emerges, the Trade Practices Act Part XIB specific "effects" test should remain. ACMA should have sufficient powers and resources to enforce necessary technical terms of interconnection. Ministerial powers of direction should be clearly defined against published criteria, to minimize grounds for legal challenge.

*Secure Online Environment* – ATUG members are concerned by increasing costs of misuse, malicious use and criminal use of the online environment. While online services can deliver significant productivity and growth, end user trust and confidence are essential. ATUG supports measures by government, regulators and industry to increase e-security and cyber-security, and to strengthen the robustness, resilience and security of infrastructure and networks. ATUG will work to raise awareness of SME and home based end users of measures that are available to deal with these threats.

*Regional Communications* – All Australian users should have broadband access at speeds of 6 Mbps or more, with consistent symmetrical performance. Government policy and funding programs should foster pro-competitive, infrastructure based outcomes for end users in regional areas. The ACCC and ACMA should report annually to Parliament on outcomes for telecommunications users in regional areas – price, service levels, range of service offerings and suppliers. ATUG supports consumer safeguards such as the Universal Service policy, the National Reliability Framework, Customer Service Guarantee and Price Control regime.

*Mobiles* – The ACCC decision in June 2004 to reduce termination rates should be implemented without further delay. Mandated termination price reductions must be passed through to both fixed-line and mobile end-users, and the price effects monitored. Australia should accelerate work with international regulators to deal with excessive termination rates on calls to international mobiles. Domestic roaming between networks should be mandated in regional areas where network expansion has been supported by Government funds. Any carrier declining an offer to roam on subsidised infrastructure should be ineligible to receive any other government subsidy.

The decline in Telecommunications User Groups (TUGs) began in the mid-1990s. Convergence caused corporations to merge their telecommunications and information technology departments, with the latter tending to be the winner in the ensuing organizational battles. This was compounded by decisions to outsource telecommunications to transnational vendors. Together these removed many of the individuals who had previously played key voluntary roles in user groups. The rise of competition caused executives to see participation by telecommunications managers in these groups and the payment of membership fees as less important, since a significant proportion of the corporate requirements were now contestable on the market.

Some operators withdrew their sponsorship of user groups or their participation in trade shows. The large shows run by CBTA in Canada, TMA in the UK and ICA in the USA collapsed, due to competition from other events, from changes in channels to market and from the downturn in the economic cycles in the sector.

The policy challenges for TUGs also changed. Initially they had been easy to understand, but difficult to implement. They gradually became more complex and abstruse questions difficult to adjust to. One result was that the policy debate became detached from the working lives of telecommunications managers. Although sympathetic to further reforms, their interest and support gradually became more abstract, as they focused on managing commercial relationships.

### **Box 3.2: Universal International Freephone Number**

A service definition developed by the ITU in the late 1990s was of interest to multinational corporations. The Universal International Freephone Number (UIFN) was assigned the “country” code +800, followed by eight digits. Despite a capacity of 100 million numbers only some 25,000 have been assigned and many fewer are in use.

The reasons for this failure are relatively simple. The International Access Code (IAC) is perceived as making this an expensive call, moreover some customers use the IAC to bar expensive calls, for example, on PABXs. Many operators failed to open up the number range and some that did charged the caller for the use of this supposedly free service.<sup>14</sup>

Given the highly uncertain and often adverse experience for customers it is unsurprising that corporations have been unwilling to expose their brands to such a risk. The European Commission has been sued by its own citizens who had called the Europe Direct line which used a UIFN number but had found they were being charged for the calls.

What should have been clear, even in the late 1990s, was that a two-sided or two-stage market cannot easily be regulated. It was necessary for the receiving corporation to pay for both call origination and call termination, with only the latter being easily negotiated. With liberalization, it was necessary to negotiate with each of the many thousands of potential originating operators and each could reasonably charge a different amount for a call. The burden of such negotiations was considerable with no obvious justification for regulatory intervention. On a national market this is usually a manageable proposition, but on a trans-national market it is far too complex.

For similar reasons, the European Telephony Numbering Space (ETNS) also failed.<sup>15</sup>

The corporate market is highly specialized with a few large players able to meet the strict demands of multinational corporations for fixed services. Geographic convergence has been largely achieved. However, fixed and mobile remain distinct and seem likely to remain that way for some years.

## **4 CONSUMER PROTECTION**

In all markets there are measures to protect consumers, recognizing that competition is insufficient on its own. There are differences in national approaches to the specific measures taken for telecommunications and for the cross-border supply of services.

The broad areas are:

- law on advertisements
- consumer protection
- competition law
- contract law
- health and safety legislation
- data protection law

The mechanisms to intervene include the public authorities, associations of consumers and telecommunications users groups.

**Box 4.1 : A mobile cartel**

In France, the Union Fédérale des Consommateurs (UCF) publishes the magazine *Que choisir* a monthly general guide to consumer issues. It made a complaint to the national competition authority about the prices for mobile telephone calls alleging collusion between the operators.

To support its complaint and to make public its position it launched a web site with the unambiguous URL [www.cartelmobile.org](http://www.cartelmobile.org).

The *Conseil de la concurrence*, the French national competition authority, undertook an investigation into the mobile market based on this complaint. It was under general competition law rather than the telecommunications laws and regulations enforced by ARCEP.

Officials of the *Conseil* raided the offices of the operators, finding references to exchanges of sensitive market data and clear efforts to share the market between the three operators. Amongst the papers was a reference to the Yalta Agreement, which divided Europe after the Second World War into three zones of influence, ironically it excluded the French. In a similar way, the three mobile operators sought to divide the French market for mobile voice telephony.

The *Conseil* found the three mobile network operators guilty of explicit collusion during the period 1997 to 2003:

- Orange
- SFR
- Bouygues Telecom

They were fined a total of over €500 millions.<sup>16</sup>

The operators took the case to appeal, where the findings of guilt and the fines were upheld by *La Cour d'Appel de Paris*.

The UFC has a campaign to obtain damages from the operators for 12,500 individual consumers who suffered losses as a result of the collusive behaviour of the operators.

At the global level there is Consumers International (CI) which links the various national associations, for example, the regional coordination offices in Kuala Lumpur covers South-East Asia. Telecommunications is given a relatively low profile by CI.

For the European Union the *Bureau Européen des Unions de Consommateurs* (BEUC) is the primary vehicle for engagement of consumer groups with the European Commission and Parliament. National ministries are engaged directly by its national associations in the twenty-seven member states. While BEUC took some limited interest in the 1999 Review, it generally gives little of its resources to telecommunications. However, BEUC has worked on Digital Consumer Rights.<sup>17</sup> It gives its overall priorities to:

- chemicals
- financial services
- digital rights
- nutrition

An recent intervention was made in the matter of roaming, where it gave public support to the proposals of the European Commission.<sup>18</sup>

#### **Box 4.2: United States of America**

In the USA there are a number of basic legal measures to protect consumers and administrative bodies to oversee this at both federal and state levels.

One unique measure is the “class action” where lawyers bind together in one case a large number of individuals to bring a corporation to account before the courts. Often there is a settlement before it reaches the court, because of the potentially high level of damages. It has proved a highly effective tool in changing the behaviour of corporations, often with rapid movements in share prices on the announcement of a class action. However, the primary direct beneficiaries are the lawyers, rather than the consumers, though they do benefit both from small sums (or vouchers) and from the modified behaviour of the corporation.

For all sectors of the economy there is the Federal Trade Commission (FTC) charged with oversight of trading practices and merger control. In recent years, it has addressed important issues in telecommunications, including downloadable dialers and the Do Not Call registry for unsolicited marketing telephone calls. It has also been active in e-commerce and Internet issues, notably in spam.

For broadcasting and telecommunications the Federal Communications Commission (FCC) has been responsible for over seventy years.

It has a web page for “children”, with a cat called “broadband”.<sup>19</sup> This offers information on number portability and the do not call service, which it claims results in parents being less frequently interrupted. It also has the “factoid” that there are more televisions than toilets in homes in the USA.

In its annual reports on competition in cellular mobile radio service, the FCC analyses the performance of the industry state by state and on lower levels of aggregation, showing trends in performance over time and geographic trends.<sup>20</sup> The number of mobile telephone customers had risen from 184.7 million to 213 million, increasing the penetration rate to approximately 71 per cent. The time spent talking had also increased as had volume of text messages, which grew to 48.7 billion SMS in the second half of 2005. Revenue per minute, a proxy for the per-minute price, fell 22 per cent during 2005 from US\$ 0.09 in 2004 to US\$ 0.07.

The FCC has a Consumer Advisory Committee (CAC) to facilitate the participation of consumers.<sup>21</sup> This includes representatives of people with disabilities, underserved populations (such as Native Americans) and people living in rural areas. However, the FCC has been subject to criticism about the presence of representatives of the operators on this committee who would have a conflict of interest.

In each of the fifty states there are:

- attorneys general
- utilities regulatory commissions
- utilities consumer advocates

These provide a number of routes for consumers with complaints or disputes to seek redress. They also have the opportunity to monitor activity and to identify trends and patterns that require more systematic remedies.

Overall, citizens of the USA have a wide range of mechanisms which they can use to make complaints and to seek redress.

Mechanisms for redress of complaints provide greater confidence in the market. These include access to justice, even in low value disputes, with the payment of compensation or the modification of future supplier behaviour, e.g., in the adoption of a code of conduct.

Dispute resolution can be achieved by a wide range of means, including:

- litigation
- alternative dispute resolution
- advice
- negotiation
- avoidance, endurance

Under the EU Universal Service Directive, users have the right to:<sup>22</sup>

- a legal contract

- transparency of tariffs
- quality of service
- network integrity

To ensure affordability operators and regulators have ensures a number of low-usage tariff plans, plus control mechanisms for expenditure (e.g. blocking of expensive calls). In some there are pre-paid fixed services as a means to provide cost controls. However, there are fewer of these worldwide than the success of pre-paid on mobile networks would suggest.

In many countries there are now a range of prices available to consumers, including some low or very low prices, for example, in telephone shops. The challenge for consumers is to determine which offers represent value for money and which are not fit for purpose. Where there is a free choice and the ability easily to switch between suppliers, then there are fewer problems, customers can simply walk away from poor quality. Mechanisms used to address consumer problems vary greatly, depending on cultural, legal and political traditions as countries seek their own sets of formal and informal measures.<sup>23</sup>

For example, the Agence des télécommunications de Côte d'Ivoire (ATCI), explained what ATCI is doing in the area of consumer protection works to raise consumer awareness and also cooperates with consumer associations helping them develop their capacity in dealing with complaints and disputes in telecommunications.

Complaints in the United Kingdom can be made to a range of institutions:

- Office of Communications (OFCOM)
- Independent Committee for the Supervision of Standards for Telephone Information Services (ICSTIS)
- Office of the Telecommunications Ombudsman (OTELO)
- Office of the Telecommunications Arbitrator (OTA)
- Advertising Standards Authority (ASA)
- Department of Trade of Industry (DTI)
- Members of Parliament (MPs) and also of the Scottish Parliament and the Welsh and Northern Ireland Assemblies
- county courts

The ASA has received “a lot of complaints” about telecommunications where upon investigation it found advertisements had been misleading, requiring them to be discontinued.<sup>24</sup> These included ambiguities about what was “free” and insufficient prominence or lack of clarity being given to the charges to be paid. Beyond this there has been growing concern about abuse and fraud around premium rate services. ICSTIS has made a number of findings against operators and service providers. However, cross-border fraud using premium rate numbers has proved difficult to address.

AFUTT is a voluntary user group in France that runs an “observatory” on behalf of ARCEP, the NRA. It collects data based on complaints by individual consumers, who it also supports in making complaints to operators. Table 4.1 shows the rankings over three years on the Internet, Mobile and Fixed networks. The growing importance of Internet complaints is very clear, as is the enduring and cross-platform problem of inaccuracy of billing.

**Table 4.1: Ranking of complaints**<sup>25</sup>

Novembre 2006	Novembre 2005	Novembre 2004
1 I Livraison, installation	1 I Connexion impossible	1 I Connexion impossible
2 I Qualité de fonctionnement	2 M Résiliation de contrat	2 I Résiliation de contrat
3 I Interruption de service	3 F Présélection non sollicitée	3 F Facturation : kiosque
4 M Contrat	4 I Erreurs de facturation	4 F Présélection non sollicitée
5 I Résiliation contrat	5 I Dysfonctionnement	5 M Résiliation anticipée sur les contrats
6 M Erreur de facturation	6 I Résiliation de contrat	6 F Résiliation de contrat
7 I Erreur de facturation	7 I Déconnexion intempestive	7 I Déconnexion intempestive
8 I Vente forcée	8 F Résiliation de contrat	8 F SAV - ligne coupée
9 M Résiliation contrat	9 I Vitesse de connexion	9 M Erreurs de facturation
10 F Erreur de facturation	10 F Facturation : kiosque	10 I Erreurs de facturation

Source: AFUTT Observatory

#### Box 4.3: International Mobile Roaming

The original complaints by business customers about the high and enduring level of charges for international mobile roaming were made in 1999.<sup>26</sup>

A formal investigation was authorized by the European Commission in July that year and launched in January 2000. It was later narrowed to a small number of operators in Germany and the United Kingdom whose offices were raided and papers seized in mid-2001. These cases remain open in early 2007 with the EC claiming that a formal result will shortly be announced. It will then be taken on appeal to the Court of First Instance (CFI) with a judgement expected in 2011.

Separately, the European Union identified wholesale markets as requiring analysis by national regulatory authorities. These were to begin in July 2003, but the progress was very slow. The results, though even now very limited, have clearly proved that the approach did not provide the means to reduce roaming charges. Moreover, the NRAs proved themselves incapable of identifying the underlying market failure.

A different form of resolution to the problem was achieved early in 2006, when the EC announced a proposal to use an EU regulation to cut wholesale prices and to cap retail profit margins.<sup>27</sup> This is presently before the Council of Ministers and the European Parliament.

While there appears to be agreement on the imposition of wholesale price controls, the majority of operators and some regulators are arguing that a retail margin cap is unnecessary. This appears to be based on the claim that retail competition between the operators will drive down prices. It also arises from a political predisposition against regulation. Yet, the clear experience over the last decade and the continuing evidence from mobile markets, especially from corporate users, is that there is no discernible competition in retail roaming prices. There is no economic incentive to pass on savings, only a temporary political expedient to avoid regulation, and the prospect of a legal obligation. Indeed, if there was competition at the retail level then over the last decade its effect would be evident and the regulation unnecessary.

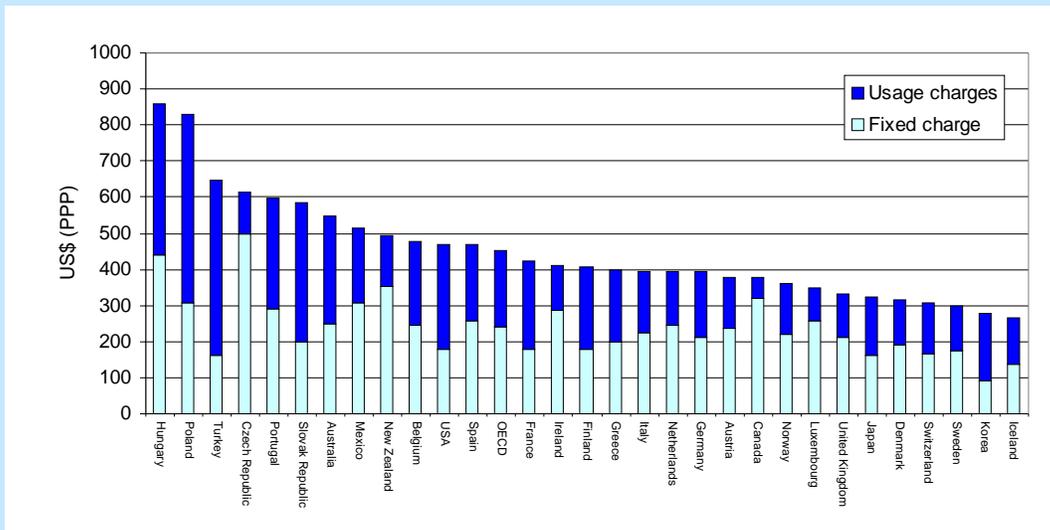
Roaming is only one part of the bundle of services which operators can keep at high prices, focusing any discounts on other elements of the bundle. A purely wholesale regulation will have little or not effect on retail markets since there is no competitive pressure on operators to reduce their prices only the temporary political pressure during the consideration of the legislation.

The most disturbing aspects of the roaming case are the length of time taken and the lack of understanding, even today, of the market, in terms of its correct definition and the dynamics amongst the operators. Ineffective action on this abuse led to the spread of roaming surcharges to non-voice services. With the prospect of considerably more complex NGNs it suggests that regulators are in a weak and potentially vulnerable position to tackle these complex problems and that the sources of new abuses will be hard to identify and harder still to eliminate.

In traditional voice telephony there was a price per minute that could be compared for a modest range of calls, primarily local and long distance, with little variation between customers. With the introduction of competition and tariff rebalancing this became more complex. However, it was the appearance of mobile network operators that introduced the real complexity to the tariff schemes, often making comparisons very difficult. It is made especially difficult since many operators reduce the sale price of a handset, with the “reduction” being recovered later in higher call charges.

One approach used by the OECD has been to create baskets of calls for different types of customer in order to compare different operators and different countries. Figure 4.1 shows the residential tariff basket for fixed voice telephony, including Value-Added Tax (VAT), at August 2004.

**Figure 4.1: OECD Residential tariff basket** <sup>28</sup>



With multi-play, the complexity of the offers makes comparisons almost impossible (see Table 4.2). Even for one country, the range of offers can be very diverse. It is further complicated by the distance from the exchange and contention ratios affecting the quality of service delivered. While all operators offer ADSL2+ the experienced service will depend on the distance from the exchange, something not usually known to the customer, and the contention ratio of the operator, again an unknown. However, these are more likely to affect higher bandwidth services than voice telephony. Somewhat unhelpfully the operators state this is 20 Mbits/second ATM and 16 Mbits/second IP, though the former is entirely irrelevant to and inaccessible by the customer.

**Table 4.2: Multi-play offers in France**

Brand name	Free.fr	orange.fr	Club Internet	Alice
Price	€29.90	€39.90	€29.90	€30
Technology	ADSL2+	ADSL2+	ADSL2+	ADSL2+
Voice free to countries	28	France	41	24
Television channels	93+VOD	?	50+PVR	40-150
Company	Iliad	France Telecom	Deutsche Telekom	Telecom Italia

Source: Company web sites.

Telecom Italia, under the Alice brand, offers a number of specific packages. The Alicemonde package for €9.95 gives one hour per month to the three French mobile networks, plus Guadeloupe, Martinique and Réunion, plus 164 other countries, with unlimited calls to five countries (Argentina, Australia, China, Israel and Poland). The package Alicemonde + ma destination préférée has the same offer plus four hours of calls per month to a number of destinations, the source of many immigrants: Algeria €18.95, Cameroon €23.95, Czech Republic €13.95, Dominican Rep. €23.95, Ivory Coast €23.95, Mauritius €35.95, Morocco €30.95, Romania €18.95, Senegal €20.95, Syria €23.95 and Turkey €13.95.

What was once a simple and easily understood service has become vastly more complex, raising concerns about the ways in which it is described by providers and billed by them. While many countries have sophisticated means to address these problems, most countries lag behind in the legislation and the mechanisms, requiring considerable development support. In the short term, further gains can be made by increasing competition to eliminate some of the problems.

## 5 INFORMATION ASYMMETRY

One of the principal sources of problems in telecommunications markets lies in the asymmetry in information between suppliers and customers. As services have become more sophisticated they are sold in less precise ways with customers less certain about the scope and the quality of what they are buying. Often they are told something is a “best efforts” service or is “up to” 3.6 Megabits/sec, with little indication of what these mean.

In some services the operators provide a brand with which the customer is familiar in order to guarantee the quality. Handset brands are very strong with names such as Motorola and Nokia. In the British Isles, Tesco a leading grocery store and retailer has entered the market as a reseller of telephony services seeking to use its brand name that is associated with value for money by millions of shoppers. Similarly, but on a larger geographic scale, Virgin has sought to use its reputation for low-cost and “edgy” services among younger customers in many countries.

More complex packages have been developed with music and sports brands, combining voice telephony and downloads. In France, NRJ is an FM radio station and also a Mobile Virtual Network Operator (MVNO). In the USA, a similar music-enhanced mobile service is offered by Amp’d. For the customer, it combines a known music brand with an important service. The overall effects on retail competition are still difficult to see.

One of the practices that has become commonplace in retail mobile markets has been the apparent discounting of handsets. Relatively expensive handsets are offered as a loss-leader to the customer for a small fraction of the true cost or even *gratis*. Of course, the operator is not subsidizing the cost of the handset, rather it is taking less initial money but raising the costs of the other part of the bundle, the calls made with the handset. In extreme cases it is difficult to obtain a service without taking such a discounted handset.

In order to avoid customers taking the apparent discount on the handset and reselling it or using it on another network, the device is usually tied to the network. In order for the customer to change to a SIM card of another operator it requires the device be unlocked.

Having created competitive markets in telephony, some countries have sought to make competitive markets in directory services. While many operators compete in this market, a few have developed a clever scam. After providing the number requested by the enquirer, they offer to connect to that number but without specifying the charge. All the caller subsequently sees on the bill is the cost of a call to a directory enquiry service. It is the sort of sharp practice that is eliminated by appropriate regulation.

At one time numbers gave an indication of the location of the person being called and, with the introduction of Calling Line Identification (CLI) of the person calling. The tight binding of numbers to the charge has changed with the loss of geographic divisions and the creation of many additional services with different charges. Several countries have flat-rate national calling plans.

After the introduction of freephone numbers, many operators sought more valuable premium and shared revenues models. However, the result has been that the complexity means few individuals have any idea of the charges for a given number. This forces service providers to advertise the number and also the price for the call.

In the case of Mobile Termination Rates (MTRs) the selfishness of humans becomes evident. We check the prices of outgoing calls to friends and colleagues, but seldom think to check the cost of inbound calls. Thus the operators are under no economic pressure to reduce the prices of their MTRs. Indeed, they create a price structure that tries to bring groups of customers onto their networks in order to maximize the revenue. While mobile operators advertise many prices, they never advertise the cost of calling from another network.

One of the less tangible qualities of mobile networks is the coverage. To some extent this can be and is presented to potential and current customers in the form of maps. It is supplemented by experience and local knowledge, about which networks are fit for purpose. In many countries the regulators have measured the quality or required the operators to do so, for example, numbers of dropped calls.<sup>29</sup>

With the growth of data services the issues extend beyond mere availability, especially as operators boast some very high speeds in their advertising materials. With HSDPA now being sold in many countries the question arises as to the real experience of its use by customers in practice in terms of geographic availability and the throughput. Advertisements tend to give only the “headline” speed, sometime only attainable in the laboratory or giving a speed for network data and not user data. While the use is limited to downloading ringtone and video clips this may not matter, but with more advanced services some performance expectation will be necessary. For corporate users, that is likely to be a Service Level Agreement (SLA).

Overcoming the problems of information asymmetry is unlikely, indeed it will get worse. Where markets are truly competitive this is not a problem, customers will be able to select from a wide range of prices, packages and brands. Most of the policy issues will arise and can be dealt with at the wholesale level. However, where competition is limited, notably in access to spectrum, and where there is leverage of power between markets problems will arise. Consequently, it will continue to be important to take measure to ensure a sufficient measure of transparency for customers of voice telephony even when it is only one part of broader package of services.

## **6 CONSULTATIONS AND REVIEWS**

Increasingly legislation specifies periodic reviews and consultations on proposals before finalizing major policy or regulatory decisions. These have become somewhat formulaic, with long and increasingly obscure documents presented to the “public” inviting their contributions. This is then followed by responses, almost entirely from operators, which in some countries generate detailed replies from the ministry or regulator. While these processes may be conducted in public they cannot reasonably or accurately be said to be of the public. As such, they appear to fail a basic democratic test.

For example, the European Commission proposed a regulation to cut the excessive charges for international mobile roaming early in 2006.<sup>30</sup> It conducted two rounds of consultations to which it received a considerable volume of formal submissions from operators, a few ministries, the European Regulators Group and a dissenting opinion from the Spanish regulator.<sup>31</sup> The proposed legislation was accompanied by an assessment of the effects of the measures in terms of the costs to the operators and the benefits to consumers.<sup>32</sup>

Throughout the consultation process and again during the legislative process there was very heavy lobbying at all levels by employees and executives of the mobile operators and their hired lobbyists. A few of these meetings were documented, but most went unrecorded. The operators used their considerable leverage to ensure access up to the highest political levels in the European Commission, European Parliament and national ministries.

Somewhat unusually, the GSM Association applied to the Ombudsman alleging it had been ill-treated by the EC. This is a mechanism normally used by individuals rather than some of the largest corporations in Europe.

Following the formal legislative proposal, the EC initiated a survey of public opinion on the issue.<sup>33</sup> This unusual initiative by Commissioner Reding provided considerable ammunition in arguments with operators, given the strong public support for the measures.

With rare exceptions these consultations are not of or for the public, they require vast and detailed understanding of the technological trends, the economics of the sector and the legal basis for any decisions. To the non-specialist, these are mind-numbing, spirit-crushing exercises conducted in a dialogue within a closed circle of experts.

It reflects the shared interests of the regulators and regulated in making issues appear to be technical and thus matters on which their expertise can be exercised. In this way the operators and regulators avoid issues being considered in a broader context, one that might ensure the primacy of the public or consumer interest. It helps the regulators to be seen as the enduring and essential agent of the people.

An important contrast exists between the discussions in Europe and North America with those in China, Japan and Korea. In the latter countries, there is a much stronger input from manufacturers keen to develop new technologies both for the domestic and export market. This requires early adoption of the technologies at affordable prices and with viable economic models, so that foreign countries will adopt them. While this does not directly represent consumers, it created a much better balance in the formulation of public policy.

#### **Box 6.1: Office of Communications**

The primary UK regulator of telecommunications, the Office of Communications, has developed a deeply troubling culture of consultation. In its draft annual plan, itself open to consultation, it proudly states that it “publish[es] hundreds of consultation documents every year so that stakeholders can contribute to the policy development process.” There is seemingly no topic on which it cannot and will not publish a two hundred page document inviting comments (see Appendix). The more significant papers are labeled strategic, such as the reviews of telecommunications, spectrum and numbering policies.

The Communications Act gives OFCOM two general duties: 34

- (a) to further the interests of citizens in relation to communications matters; and
- (b) to further the interests of consumers in relevant markets, where appropriate by promoting competition

This has led OFCOM to conflate the “citizen-consumer”, in contrast to the more traditional feudal term of “subject”. However, most OFCOM material is framed in terms of stakeholders, almost exclusively the community of operators and service providers. There is no easy way for citizen-consumer to participate in these processes.

The annual output of OFCOM is vast, requiring highly selective reading even for the most assiduous watcher. The effort required to respond to all of these invitations is beyond the reach of any organization apart from the fixed incumbent and the four mobile operators.

Some of the OFCOM documents come with a “Crystal Mark” indicating that the summary has been written in plain English. These are summarized versions of longer and less intelligible documents.

There is no sense that OFCOM is going to decline or like the Cheshire Cat gradually disappear until only its grin remains. It has far too strong a sense of self-belief and it has customers for its regulatory “products”. It can continue to consult on highly complex measures for decades. Despite the logic of telecommunications becoming a general part of the economy with no difference from other products and services, this is not a view in evidence in OFCOM.

The problem of intelligibility of consultation documents and output is generic, as was shown in the USA where a survey of web sites run by the federal government found that most required a higher level of reading than possessed by the majority of the population. Clearly, there is enormous work to be undertaken to make the materials presently available accessible to average citizens and average politicians.

The nadir of public consultations was achieved by the European Regulators Group (ERG) in its proposed amendments to its “remedies” document.<sup>35</sup> The original document was incomprehensible except to a tiny minority of lawyer-economists, while the likely changes were sufficiently subtle to require a very deep understanding of the issues, processes and markets. It was even incomprehensible to most senior executives in the regulatory agencies and operators, they had to rely on expert advice.

In the USA, dialogue with the FCC is conducted almost entirely through the members of the Federal Communications Bar Association. It is lawyers who lead the lobbying effort in the US Congress, later negotiating with FCC on implementation and finally challenging its decisions in court. The processes are governed by the Administrative Procedures Act of 1946.<sup>36</sup> Documents are filed covering all meetings with the staff of the FCC and made available to any interested party on its electronic filing system. However, the same rules do not apply to the members of the US Congress or their staff. Donations by operators and service providers are recorded and analysed. It is a very formalistic process, but no more democratic for that.

Processes at inter-governmental bodies, notably the ITU, WTO, OECD and APEC are not directly open to the public. In the USA, the Department of State operates an exemplary and possibly unique consultation prior to meetings. Nonetheless this is dominated by operators and manufacturers.

In the OECD there are national delegations composed as governments wish. These are supplemented by the Trades Union Advisory Committee (TUAC) and Business and Industry Advisory Committee (BIAC). In telecommunications TUAC has been largely silent for a decade. BIAC has increasingly become a vehicle for the views of incumbent operators, especially those in the USA. Necessarily, it is hard to reach a compromise and mostly it does not, allowing diverse views to be expressed under a single position paper. .

A group described as “civil society” has interposed itself into these discussions, notably in the World Summit on the Information Society (WSIS). However, the individuals concerned do not represent any particular or broad groups. Rather, they appear to be self selected individuals, many from universities and “think tanks”. One cynical comment was that the term was an oxymoron, since they were uncivil individuals. While they have some interesting and generally critical views they do not appear to have any democratic basis for their involvement.

Indeed the increased involvement of “civil society” further complicates matters, since it adds to the exclusion of broader, more democratic processes and views. Civil society, perhaps unintentionally, obscures the democratic deficit in individual nation states. What is required is representation in national delegations.

An example of failure of delegations to represent national interests can be seen in the debate over Alternative Calling Procedure (ACPs). A resolution on the negative effects of ACPs was adopted by the World Telecommunications Standardisation Assembly (WTSA) in 2004. These effects appear mainly to have been the loss of profits of monopoly operators now faced with consumers opting for more affordable offers from competitors. The countries pushing for action against ACPs showed no indications of democratic support for higher rates and there was little evidence of any consultation in their capitals, let alone more widely in their countries. Instead, the short term economic interests of a monopolist were presented as being the national interest.

The attempts in recent years to improve the processes of the economic regulation of telecommunications were based, in part, on consultations of the views of market players. The result has been the creation of jobs and a growth of a substantial industry that writes documents and replies, plus attending large numbers of meetings and taking. It has been achieved without any further or wider involvement of the public, rather it has created a closed and highly technical dialogue amongst experts. The democratic deficit requires a greater input of feedback to the process.

One of the problems has been the development of a culture of resistance to regulation from the operators. They forget about the importance of regulation to open the market for them and instead oppose any measure that will increase competition or require them to spend money.

At the beginning of the saga of the unbundling of local loops, the fixed network operators were accused of having a culture of 3D that is deny, delay and degrade. While the intention was that they should learn about competition from participation in the mobile markets, it seems that instead they brought with them their 3D culture, spreading it to mobile markets. Despite global variations, it is now a common feature of telecommunications.

One of the failures of the EU has been the manner of its application of subsidiarity to a number of telecommunications issues. The logic was sound, but the implementation was flawed. Member states were supposed to know better national needs and thus negotiate more appropriate outcomes than was possible in the remoteness of Brussels, though still within an EU framework. However, in a number of areas the outcomes have been fragmented or sub-optimal:

- leased lines
- local loop unbundling
- mobile number portability
- mobile termination rates

The resulting inefficiency and ineffectiveness have undermined the achievement of the single market, something that is still many years into the future. The national discussions allowed operators to create outcomes that damaged consumer interests and are taking years to bring to a European norm.

It would have been vastly better to have settled a technical platform at the European Union level, allowing the member states some variations in the timing of implementation and administrative procedures. Instead, highly complex systems of accounting rules, technology systems and administrative procedures were replicated in each member state. The waste and the delay that resulted from this have been considerable.

The damage caused by the enduring spirit of Stalingrad amongst the operators is considerable, reducing competition, limiting the effectiveness of public policy and diminishing the quality of the experience for customers. There has been no obvious response from policy makers, but to soldier on. It requires active and continuing identification and eliminating of abuses and bottlenecks.

## 7 CONCLUSION

Much has changed with voice telephony becoming ubiquitous and more affordable. Increasingly, in developed countries it is being absorbed into other services and devices as a mere feature. In least developed countries it is now available, for a substantial minority.

Nonetheless, a great many problems endure. Although there is more competition it is still far from sufficient to eliminate the problems and failings of the markets. Some of the old and relatively simple problems, for which we have solutions, have been replaced by new and much more complex problems, for which we are still seeking solutions. One obvious complexity is caused as a result of increased bundling, of leveraging power between markets.

A simple test is to ask who today is raising money to enter the voice market. The answer is only a very few start-ups offering VoIP. The real interest lies elsewhere in mobile devices and in social networking software where voice communications is merely a necessary feature.

On one level, voice telephony comes free of charge with other services leading to fewer direct complaints. However, it removes much of the policy work to ensure transparency.

Yet voice telephony is still expensive in the least developed countries, where prices are high, demand modest and often scattered across rural areas with little infrastructure of any sort. Where services are available, the prices can be ten or one hundred times the very cheap VoIP offers found in OECD countries.

Operators are bundled with regulators, tied together by mutual dependence. Their highly specialized dialogue reduces the amount of information available to the public and to politicians, leaving key decisions to a magic circle of unelected officials engaged in an opaque and closed dialogue with operators. While conducted for the people, these processes are neither of the people nor by the people.

Overall the aims are very similar amongst governments, they are to create jobs and to increase economic growth whether it is the “Lisbon Agenda” of the European Union, the Accelerated and Shared Growth Initiative for South Africa (ASGISA) or the IT839 programme of the Republic of Korea. Mostly, that is the application of telecommunications to other sectors of the economy, regardless of the interests of operators and their executives. Telephony is to be available and by comparison with other countries is cheap. However, the real interests lie elsewhere in more advanced ICT applications.

## 8 APPENDIX: OFCOM CONSULTATIONS IN 2006

Licensing in the 71-76 GHz, 81-86 GHz and 64-66 GHz bands	20/12/2006
Digital Dividend Review - approach to the award of the 470-862MHz spectrum	19/12/2006
Notice of Ofcom's proposal in connection with the award of 1785 - 1805 MHz	14/12/2006
Draft Annual Plan 2007/08	12/12/2006
Award of available spectrum: 2500-2690 MHz, 2010-2025 MHz and 2290-2300 MHz	11/12/2006
Review of the wholesale broadband access markets 2006/07	21/11/2006
Review of General Condition 18 – Number portability	16/11/2006
Recognised Spectrum Access (RSA) for radio astronomy	10/11/2006
Conditions regulating Sexual Entertainment Services	09/11/2006
BT exemptions to its Undertakings under the Enterprise Act 2002	18/10/2006
Disability Equality Scheme	05/10/2006
Proposal to Amend the Wireless Telegraphy (Exemption) Regulations 2003	05/10/2006
Determination of dispute between Hay Systems and T-Mobile for SMS termination	02/10/2006
BT Public Call Boxes	21/09/2006
Mobile call termination	13/09/2006
Assessment of H3G SMP in the market for wholesale voice call termination	13/09/2006
BT MIS Separation	07/09/2006
Resolution of price disputes concerning supply of directory information by BT	21/08/2006
Broadband migrations: enabling consumer choice	17/08/2006
Proposal to apply the Electronic Communications Code to Bytel Networks Limited	03/08/2006
3G Rollout obligations	28/07/2006
Implementing decisions from Ofcom's Numbering Review	27/07/2006
Wireless Telegraphy Licence Exemption	14/07/2006
End-to-end connectivity	14/07/2006
Higher power limits for licence exempt devices	12/07/2006
Draft Enforcement Guidelines	06/07/2006
Business Radio Trading & Liberalisation	06/07/2006
Modifications to Spectrum Pricing	06/07/2006
Award of available spectrum: 10 GHz, 28 GHz, 32 GHz and 40 GHz	29/06/2006
Waiver of BT's notification requirements for certain of BT's WES and BES prices	27/06/2006
Updating wireless telegraphy licensing procedures and criteria	16/06/2006
Approval of the ICSTIS Code of Practice (11th Edition)	08/06/2006
Conditions regulating Premium Rate Services	08/06/2006
Conserving geographic numbers	25/05/2006
Draft determination in a dispute between BT and providers about INCA/CLI	25/05/2006
Making Spectrum Available in the 71-76GHz and 81-86GHz Bands	24/05/2006
Draft determination of a dispute between BT and Telewest about geographic call termination reciprocity agreement	19/05/2006
Supplying numbers for 09 premium rate services and codes to facilitate MNP	11/05/2006
Regulatory financial reporting obligations on BT	03/05/2006
Radio Restricted Services and 55 to 68 MHz: A Consultation	26/04/2006
Spectrum Usage Rights	12/04/2006
Wireless Telegraphy Act Licence Fee Proposals for encouraging internet licensing	12/04/2006
Award of available spectrum: 872-876 MHz paired with 917-921 MHz	11/04/2006
Determination of a dispute regarding the retrospective application of CPS charges	06/04/2006
Proposed regulations in connection for award of 412-414 MHz & 422-424 MHz	06/04/2006
Award of available spectrum: 1452 – 1492 MHz	31/03/2006
Mobile Call Termination - Market Review	30/03/2006
Disaggregated Markets - Leased Lines	28/03/2006
Retail Price Controls	21/03/2006
Review of wholesale international services markets	09/03/2006
Telephone Numbering	23/02/2006
Wholesale Mobile Voice Call Termination charge controls – request for consent	22/02/2006
Regulation of VoIP Services	22/02/2006
Migrations, switching and mis-selling	16/02/2006
Notification under the Communications Act 2003 - Wight Cable 2005 Ltd	09/02/2006
Ofcom's Consumer Policy	08/02/2006
Quality of Service: Direction under General Condition 21.1 on Quality of Service	27/01/2006
Notification under the Communications Act 2003: Euro Payphone Ltd	17/01/2006
Welsh Language Scheme	11/01/2006

## 9 NOTES

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- <sup>2</sup> Malathy Knight-John & Ayesha Zainudeen & Abu Saeed Khan (2005) "An Investigation of the Replicability of a Microfinance Approach to Extending Telecommunications Access to Marginal Customers" WDR Dialogue Theme 3rd cycle, Discussion Paper WDR 0506.
- <sup>3</sup> Vodafone Fiji Limited *versus* Minister for Information, Communication and Media Relations and the Attorney General of Fiji. Civil Action No. HBC 0576 of 2005 and Civil Appeal No. ABU 0014 of 2006.
- <sup>4</sup> See Figure 18 in European Commission (2006) *Annex to the Communication on European electronic communications regulation and markets 2005* (11<sup>th</sup> Report). SEC(2006)193. (Brussels: European Commission).
- <sup>5</sup> World Bank (2004) *Competition in international voice communications*. GICT Report No. 27671. (Washington: World Bank).
- <sup>6</sup> OECD (2003) *Trends in international calling prices in OECD countries*. DSTI/ICCP/TISP(2003)2 (Paris: Organisation for Economic Cooperation and Development).
- <sup>7</sup> The use of the name iPhone by Apple is the subject of a legal action by Cisco which had a previously established claim to the name. Cisco Systems Inc *versus* Apple Inc (formerly Apple Computer Inc) has been lodged with US District Court for the Northern District of California alleging violations of 15 U.S.C. §§ 1114 and 1125.
- <sup>8</sup> Evaton West Community Crisis Committee (2005) *The social conditions of the working class in Evaton West* (Johannesburg, Khanya College).
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