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Technology, Media & Telecommunications

TMT Trends: Predictions, 2006

A focus on the telecommunications sector



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Foreword

Welcome to the 2006 edition of Deloitte Touche Tohmatsu's (DTT) Technology, Media and Telecommunications (TMT) predictions for the global telecommunications sector.

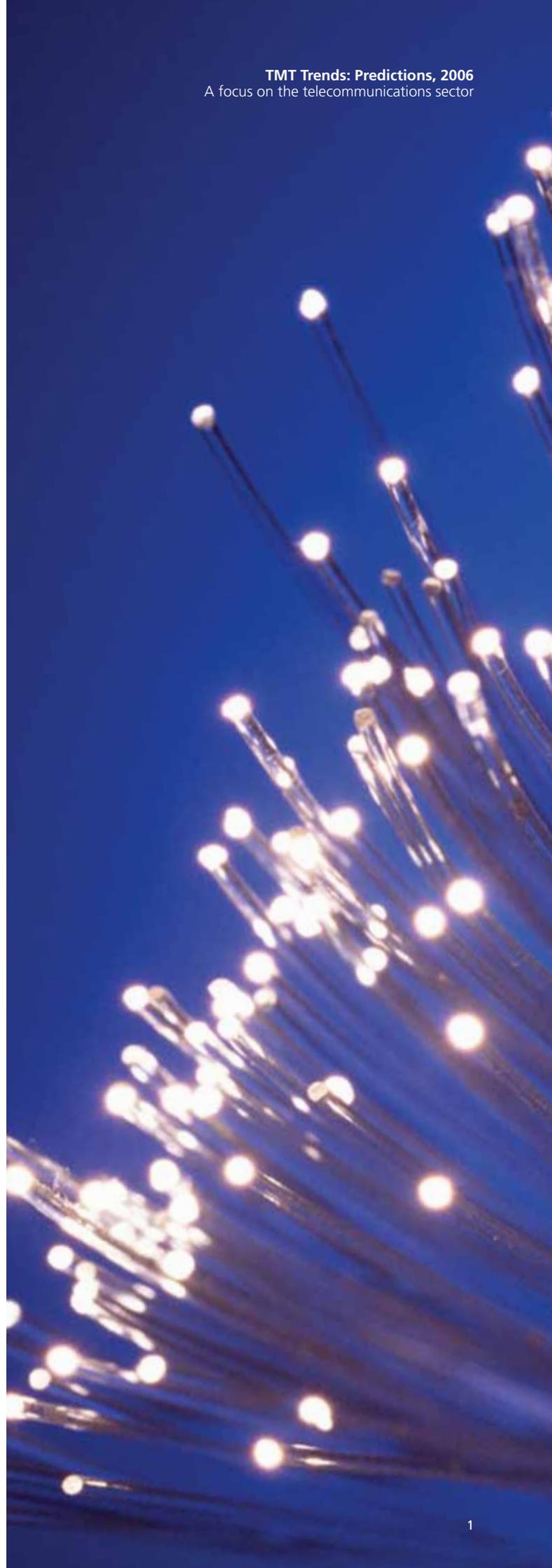
These predictions are the result of comprehensive research throughout 2005, the principal elements of which include:

- input from DTT's member firms' 5,000 TMT partners, directors and senior managers around the world;
- conversations with DTT's member firms' clients;
- dialog with leading industry and financial analysts.

Accompanying each of these ten predictions is the DTT TMT group's bottom line: the suggestions to the sector for exploiting each key development that the coming year holds. DTT's TMT group trusts that this guidance makes this report a valuable reference for your company. On behalf of DTT and the TMT practices of its member firms, may I take this opportunity to wish you all the best for 2006.

Igal Brightman

Igal Brightman
Global Managing Partner
Technology, Media and Telecommunications



Executive Summary

The global telecommunications market, comprising Public Switched Telephone Networks (PSTN), mobile communications, broadband connectivity and Voice over Internet Protocol (VoIP), should reach its highest ever number of connections in 2006. By year-end 2006, aggregate paid-for connections should exceed four billion worldwide¹. Aggregate connections should be driven by both existing users adding to their portfolio of communications tools as well as some people becoming connected for the first time ever. The principal growth driver will likely be mobile telephony, which may add half a billion new connections during the course of the year, the majority coming from developing countries². Broadband should also be a strong driver of connections, growing to an estimated 300 million³. In spite of the considerable gains made by mobile and VoIP in particular, global PSTN connections are forecast to continue to grow towards the 1.5 billion mark⁴ – although carriers in developed countries may well suffer a net loss of subscribers⁵.

2006 may turn out to be a frustrating year for 3G. Despite an encouraging fourth quarter in 2005, driven by heavy promotions, take up of 3G in 2006 may be slower than desired. While 3G's subscriber base should expand by tens of millions of subscribers, 2G (and its 2.5G variant) will likely continue to represent the majority of revenues, profits and growth for the mobile sector. Operators and handset vendors should think hard about the ideal format for 3G devices. 3G's primary advantage is data speed; yet the vast majority of 3G devices are optimized for voice, not data, with a keypad designed for entering phone numbers rather than text.

Design is likely to play an increasingly important role in the communications sector in 2006. Phone manufacturers developing products for the mobile, PSTN and VoIP markets will likely focus increased attention on styling and fashion. At the same time, a number of premium brands from outside the telecommunications sector will likely launch their own branded communications devices.

A key challenge for all telecommunications operators in 2006 should be to increase revenues, a challenge often associated with encouraging customers to use their service more frequently. However, in subscribing to the common view that people and households are the principal entities needing connectivity, the telecommunications industry may overlook a significant source of new connections – machines. In past years, excitement about machine-generated communications has led to disappointment. Costs have been too high; co-operation has been inadequate; and standards have been unresolved. But in 2006, many of the underlying enablers for machine-generated communications should mature.

In the coming year, many operators will likely compete on the basis of speed. This competition is most likely to occur within the fixed and mobile industries, as well as between them. Fixed operators will probably compete to deliver broadband download speeds in the tens of megabits per second – or even faster. Mobile operators are expected to evaluate various means of increasing their download speeds up to several megabits per second. Some mobile operators may start challenging fixed operators to a speed race; in return some fixed operators will evaluate high speed wireless technologies. Unfortunately, in this frenzied quest for speed, crucial factors such as real market needs and profitable business models may be overlooked.

Phone manufacturers developing products for the mobile, PSTN and VoIP markets will likely focus increased attention on styling and fashion.

After a prolonged period of restraint, the telecommunications industry is likely to undergo a period of intense merger and acquisition (M&A) activity in 2006. Telecommunications companies have amassed significant cash piles, ready for investment – as have other potential acquirers, including financial institutions and companies from other sectors looking to diversify. Scale is likely to be the principal motivation for horizontal transactions across all market sectors and diversification – oriented M&A may also be popular. The prices paid for some telecommunications operators may be boosted by the presence of multiple bidders, including private equity consortia.

Convergence will likely remain a key focal point for telecommunications companies in 2006. However operators, particularly fixed operators, may continue to struggle to get their full share of convergence revenues. Operators may play a fundamental role in the delivery of convergent services, investing tens of billions of dollars implementing next generation networks that will likely be the bedrock for additional convergent services; but arguably not extracting their due share of the proceeds.

The year may also see two different types of voice VoIP take shape, each following a markedly different path. Managed VoIP services, offered both by specialist VoIP service providers and mainstream telecommunications companies, should rapidly gain market share. By contrast, ad-hoc VoIP, which uses the open Internet as the service platform, may struggle to gain a mass market, revenue-generating following.



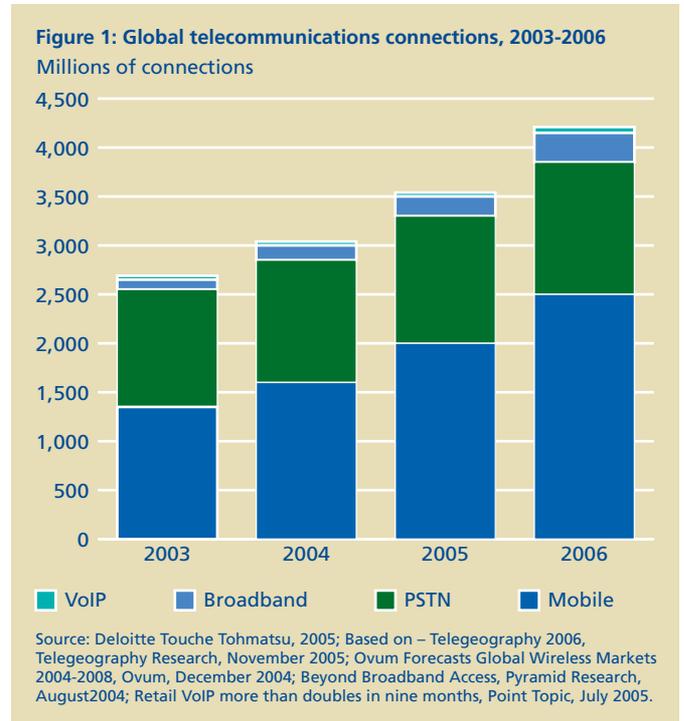
Telecommunications proliferates

The global telecommunications market, comprising PSTN, mobile communications, broadband connectivity and VoIP, should reach its highest ever number of connections in 2006. Aggregate paid-for connections will likely exceed four billion worldwide⁶ (see Figure 1).

The principal growth driver will most likely be mobile telephony, which may add half a billion new connections during the course of the year, the majority coming from developing countries. Initiatives such as the \$40 handset should make mobile devices affordable to tens of millions more individuals and may eventually account for up to 100 million additional connections per year⁷. Mobile growth may also be fueled by people signing up for a second or even third connection. Some of these additional connections are likely to be data-specific subscriptions, such as mobile data cards for portable computers; but most will likely be for a secondary mobile voice service.

Broadband should also be a strong driver of connections, growing to an estimated 300 million⁸. Adoption will likely be driven by fierce price-based competition, rising availability (in terms of footprint) and a widening range of broadband-based applications and services. In parallel, growth in paid-for VoIP should be steep, nearing 40 million subscribers by year-end, up from approximately half that number at the end of 2005⁹.

In spite of the considerable gains made by mobile and VoIP, global PSTN connections are also forecast to continue to grow. Driven almost exclusively by new demand from emerging markets in the developing world, PSTN connections will likely edge towards the 1.5 billion mark¹⁰. Looked at regionally, however, the trend will likely be different. Europe and the United States will likely continue to experience steady attrition in the PSTN market, with a slowly growing percentage of households giving up their PSTN phone altogether.



What this means is that individuals are expanding their portfolio of communications options – accumulating a greater number of communications tools, rather than replacing current services with new ones. The majority of mobile customers still retain a PSTN connection, both at work and at home. Many VoIP customers, particularly those using PC-based VoIP, also have a mobile and PSTN phone. Fixed line customers also increasingly have both mobile and broadband connectivity.

Voice service will most likely continue to be the most important source of revenues and margins for both fixed and mobile operators. Voice's share of mobile revenues is likely to remain at least 80 percent for the majority of operators. Data revenues will likely be generated mostly from peer-to-peer messaging. Third party content, primarily in the form of phone personalization (e.g. ring tones, logos, wallpaper), will probably only constitute a single-figure share of revenues¹¹.

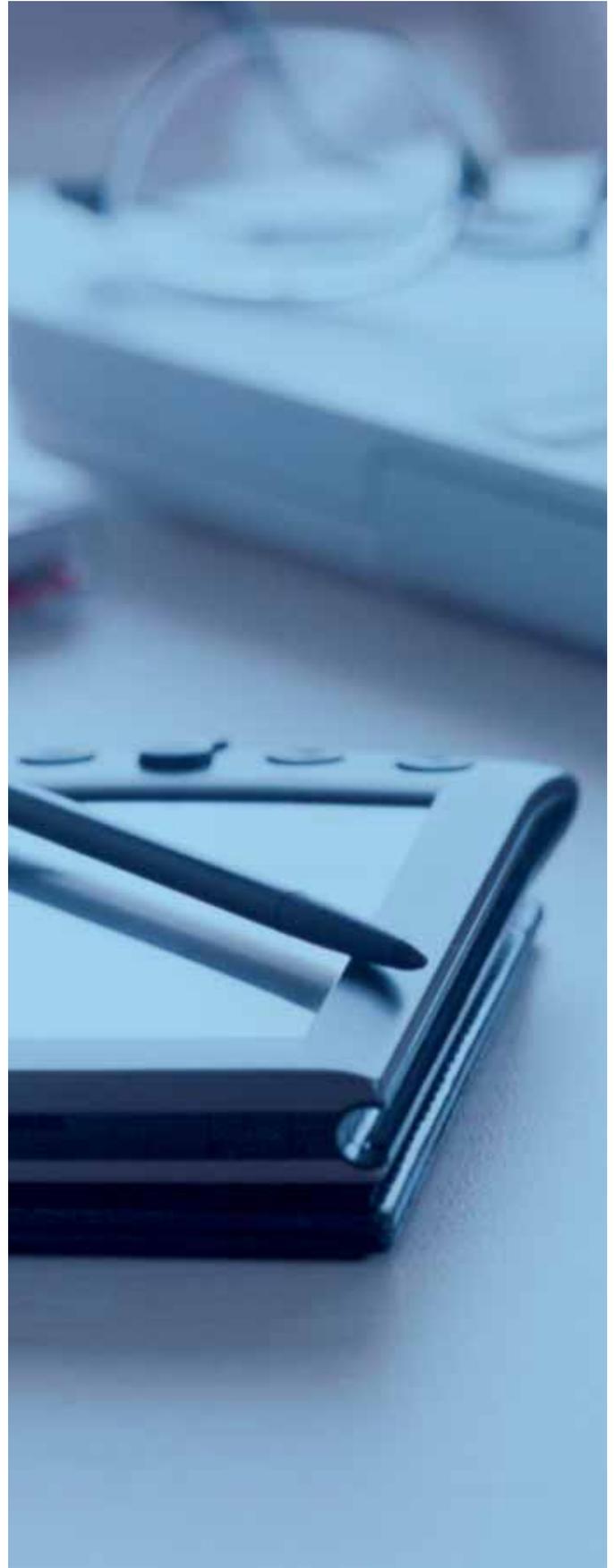
Fixed operators, on the other hand, should continue to suffer dwindling voice revenues¹², with data revenues (from broadband and dial-up services) picking up some of the slack. Almost 100 percent of fixed data revenues will likely be associated with access, not content or services.

Bottom line

Overall, 2006 should be another impressive year for the communications industry, which now generates well over a trillion dollars annually. That said, the outlook for each communications technology varies significantly and no sector has scope for complacency. PSTN, mobile and broadband operators are increasingly all vying for the same customers. Cut-throat competition is on the rise, and the cost of acquiring and retaining customers is likely to remain high. The mobile industry alone spends tens of billions of dollars each year essentially swapping customers. At the same time, telecommunications companies are likely to face increasing pressure from shareholders to improve profitability, not just revenue.

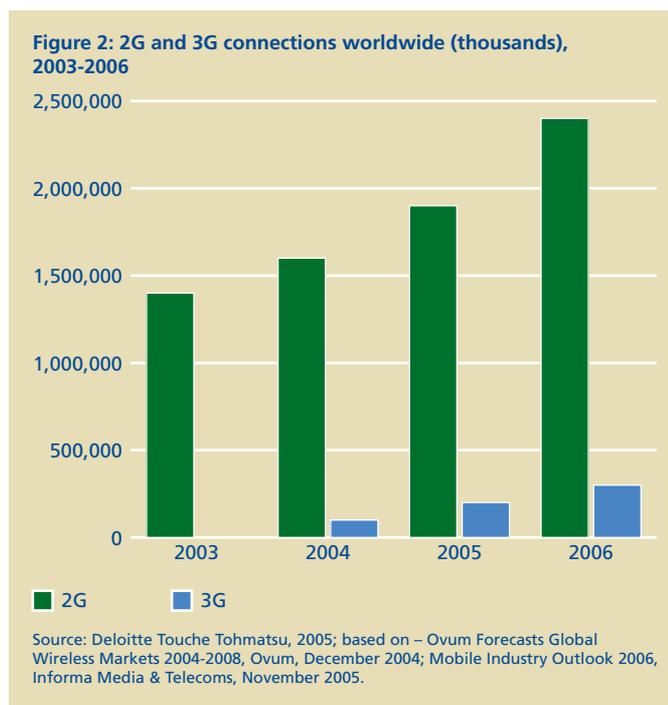
Operators may therefore find it more useful to think in terms of average **margin** per user, as opposed to average **revenue** per user, and to focus on growing customer lifetime value. Such an approach is particularly important in markets where the focus is on customer retention, not acquisition. In these situations, the push for **more users** (or **more connections**) should be replaced with an emphasis on **more uses** and **more frequent use**. In 2006, just having customers may not be enough – earning their loyalty and harvesting more value from them may be crucial for longer term success.

Most importantly, in 2006 operators should consider reassessing their penetration assumptions. While the number of connections roughly equals half of the population of the planet, human penetration is nowhere near that high. Moreover, even in the most sophisticated and developed markets, where for example implied mobile penetration is above 100 percent, actual human penetration is more likely between 60 and 70 percent¹³. Fixed and broadband penetration figures are likely also to be similarly wrong. All operators should therefore aim for a better understanding of the precise composition of their markets – not least because it is very likely that the bulk of value across all three markets is generated by the same, relatively small group of power-users. Value growth in 2006 should start by satisfying their needs.



Tapping into 3G's potential

2006 may turn out to be a frustrating year for 3G. Despite an encouraging fourth quarter in 2005, which was driven by heavy promotions, take up of 3G in 2006 is likely to be slower than desired. While 3G's subscriber base should expand by tens of millions, 2G (and its 2.5G variant) will likely continue to represent the majority of revenues, profits and growth for the mobile sector (see Figure 2).



3G's performance may disappoint, but the underlying 3G offering should be better than ever. The variety of 3G handsets will likely become increasingly competitive with 2G devices, and network roll out should advance, improving coverage quality. Indeed, it is likely that 3G networks will carry more call minutes and data than ever before – but not nearly enough to pay back the tens of billions of dollars invested thus far.

The crux of the problem may well be a dislocation between what mobile networks can offer, and what customers genuinely need – and the speed at which both are advancing. In most cases, a mobile phone user's current needs do not extend beyond simple voice calling and messaging. 3G networks have the power to satisfy those basic needs with unparalleled efficiency and quality, but that is not how 3G is being positioned. Instead, the focus tends to be on high-speed Internet access, video telephony and other advanced services that most customers may not need or understand – and may not be willing to pay for.

Bottom line

There is a real danger that 3G may find itself in a Catch-22 situation. Some 3G license owners, in their position as legacy 2G operators, may become increasingly reluctant to advance 3G roll out due to the steep investments required, both in terms of capital expenditure and subscriber acquisition costs. This hesitation could swiftly spread to handset manufacturers, and then to consumers, who generally shy away from services that lack wholehearted industry support.

The mobile industry should ask itself whether 3G should be positioned as a replacement for 2G, or merely as a complement. The right answer may reflect a little of both. In the near-term, 3G might better be offered as a complement to 2G. In the longer term, 2G networks will likely be switched off, with all traffic ultimately migrating to 3G and its associated technologies. In the meantime (which for some countries may be many years), equilibrium between these two positions needs to be established. This will likely mean that 3G network coverage, particularly in-building coverage, has to be improved. 3G cannot have a meaningful role in mobile telecommunications until its coverage is on par with existing 2G networks.

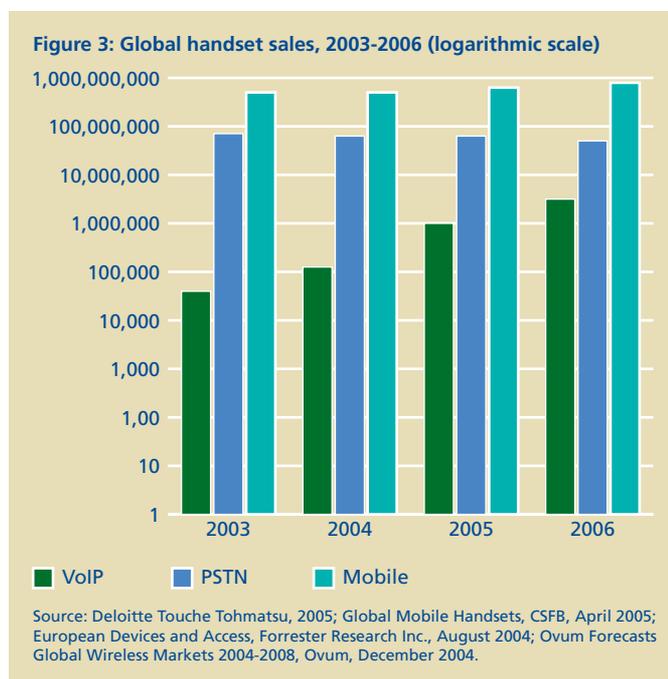
Meanwhile, operators and their handset vendor partners should think about the ideal format for 3G devices. Relative to 2G, 3G's primary advantage is data speed; yet the vast majority of 3G devices are optimized for voice, not data, with a keypad designed for entering phone numbers rather than text. Since consumers cannot see any obvious difference between a 2G and 3G device, it is not surprising that they are reluctant to pay a premium for 3G's benefits. The only truly data-specific 3G device is the data card, which provides mobile connectivity for portable computers. Although the target market for such a device is relatively small, it has been reasonably successful as the unique proposition enabled by 3G has been clear. There is good reason to believe that the potential market for 3G services will start to open up in earnest when compelling devices come to market with a radically different form factor – large (foldable) screens, full-sized alphabetic keyboards, scroll-wheels and track-pads – bringing true data capability to the mobile world.

Other slightly more niche data applications are prime candidates for a 3G connection – applications where 2G would be too slow, and digital subscriber line (DSL) or cable would be too restrictive. For example: portable security cameras that could be moved between locations; portable health care monitors that continuously track a patient's status without requiring a hospital stay; or constantly updated navigation systems. At the moment, these potentially lucrative applications are generally not being addressed by 3G.

Communications gets stylish

Design is likely to play an increasingly important role in the communications sector in 2006. Phone manufacturers developing products for the mobile, PSTN and VoIP markets will likely focus increased attention on styling and fashion. At the same time, a number of premium brands from outside the telecommunications sector will likely launch their own branded communications devices. Although many of these devices will likely be aspirational products aimed at wealthy consumers, they are likely to start an industry trend toward devices that emphasize style over function – similar to watches and jewelry.

Mobile phone sales will dominate the market by volume, outselling both fixed and VoIP handsets by several orders of magnitude (see Figure 3).



The same should be true by value, in spite of a falling average selling price for mobile handsets across the board, down to \$147 from \$152 in 2005¹⁴.

For mobile-phone makers, the burgeoning trend for fashion may in part be driven by a desire amongst manufacturers to reduce the complexity, and thereby the cost of mobile devices in line with expected retail price falls, and the need to increase margins. For PSTN phone makers, design should be seen as a means of increasing the perceived and real value of fixed handsets, which have tended to be seen in the most part as commodity items for which a premium is generally not worth paying. And for VoIP operators, good handset design represents a way of making the overall VoIP service more familiar and accessible.

Many manufacturers have also assumed that good design has enormous capacity to create new value, even when the core product is functionally unchanged. 2006 will likely see this assumption proven correct, with some consumers buying multiple variants of the same core product when each is packaged with a different design, typically paying a 'style premium' for each one.

Bottom line

The market for communications devices is massive – worth over \$100 billion annually – mostly from mobile phones. Mobile growth in recent years has been driven by phones with more and more functions; however, this trend may not be sustainable. Over the next few years, many consumers are likely to find additional functionality more confusing than useful¹⁵, which in some cases might actually reduce network traffic and revenues¹⁶. Good design, emphasizing style and ease-of-use, can help mobile operators circumvent the problem.

Mobile phone manufacturers and network operators should consider that consumers may well want several devices – one optimized for voice, another for data – rather than a single, lowest common-denominator device that does both. For every member of the value chain, this is a huge opportunity – so long as the devices are beneficial to the end-customer.

The fixed industry, which has in recent years invested far less in product design than the mobile sector, is advised to use design to retain customers and drive usage. Fixed operators should consider working with handset manufacturers to offer fixed line phones that are at least as functional and desirable as mobile phones. Ideally, fixed handsets should not simply be copies of mobile phones, but rather offer improved capabilities (large displays, alphabetic keyboards) that are not possible with a mobile phone. Ease of use, esthetic appeal, and new features that encourage people to use the phone – all of these can stimulate demand for fixed line calling.

VoIP operators may arguably be amongst the most aggressive in terms of pushing new types of handsets, as they attempt to displace both fixed (PSTN) and mobile operators in the voice market. A well designed, easy-to-use and familiar VoIP handset could serve to attract consumers to the VoIP concept and remove some of the complexity of VoIP service. Standalone VoIP devices that plug directly into a wall socket may well proliferate in diversity and number, as should hybrid devices that take advantage of the processing, display and existing contact information stored on a personal computer. In particular, VoIP operators and handset vendors should consider targeting the premium voice market, with devices that take full advantage of broadband connectivity and the power of the personal computer, to offer, for example, high fidelity stereo sound and voice-activation.

Connecting machines for revenue growth

A key challenge for all telecommunications operators in 2006 should be to increase revenues, a challenge often associated with encouraging customers to use their service more frequently. But this process has so far yielded limited results – mobile usage is growing but revenues are relatively static, broadband spending is typically limited to the monthly fee and fixed voice spending is falling apace¹⁷.

However, in subscribing to the common view that people and households are the principal entities needing connectivity, the telecommunications industry is likely to overlook a significant source of new connections – machines.

In past years, excitement about machine-generated communications has led to disappointment. Costs have been too high; co-operation has been inadequate; and standards have been unresolved. But in 2006, many of the underlying enablers for machine-generated communications should mature.

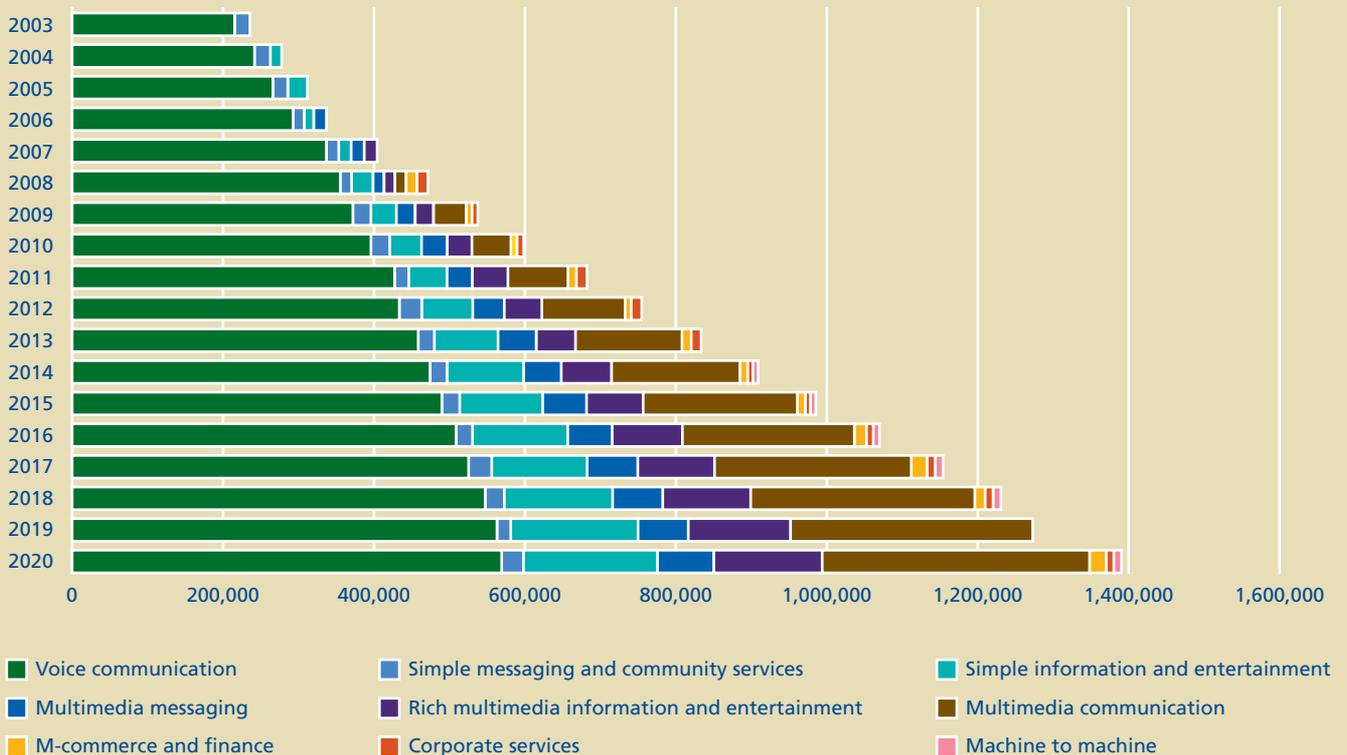
The telecommunications industry, ideally working collaboratively, can deliver a growing range of useful services for both consumers and businesses. For consumers, adding connectivity to a range of devices makes all of the devices more valuable and useful.

For businesses, remote data collection, monitoring and reporting – which are already feasible – can improve efficiency and responsiveness. Using an ever broader selection of technologies, from RFID to 3G, operators have the ability to offer everything from process monitoring to asset tracking, from traffic flow control to logistics information support systems¹⁸.

Telecommunications operators – and particularly mobile operators, who typically offer metered access – have traditionally worried that machine-to-machine communications offer only limited opportunity for growth because of the small amount of data being transferred. It is true to say that data volumes are likely to be low (see Figure 4).

However, data is likely to be charged at a premium, particularly when it is deemed to be mission-critical. Further, device sales should represent an additional source of revenues. Finally, systems design and integration services will likely be offered by operators, and these may generate significant revenue.

Figure 4: Global mobile data volumes
 Total world usage forecast – voice and data services
 Terabytes per year



Source: ITU-R WP8F Workshop on Services and Market Aspects, ITU, October 2003¹⁹.

Bottom line

There are already more machines on this planet than human beings, and their capacity to communicate is a hugely under-exploited opportunity. Connecting these devices could yield many real and potentially lucrative opportunities – in consumer and business sectors alike.

In order to address the business opportunity, operators should carefully consider their position in the value chain. Providing machine-to-machine solutions is more involved than just handing someone a phone.

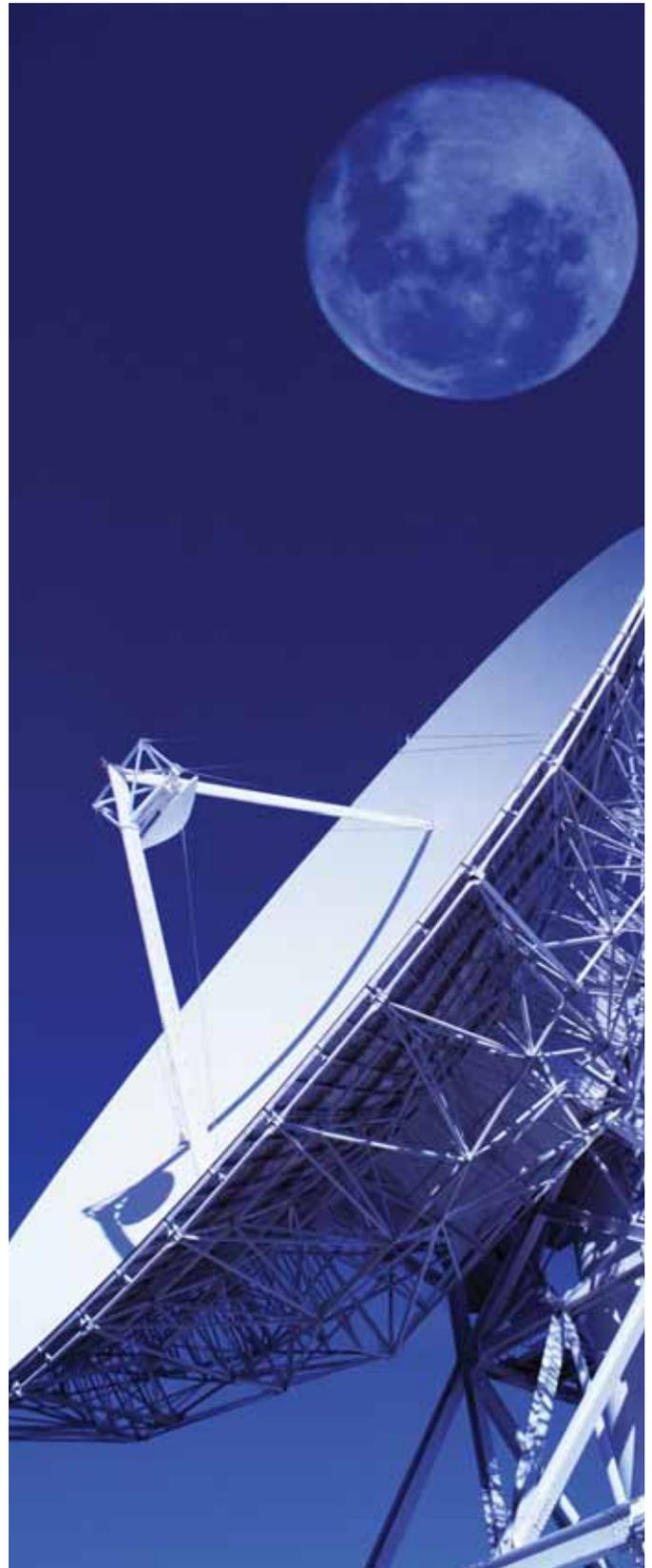
Such solutions can transform the way business is done, and are likely to require specialized skills in business process design and systems integration. Operators should ensure they have access to the necessary expertise, either through recruiting, or more likely through strategic partnerships or acquisitions.

Building connectivity into consumer devices has the potential to make the underlying product more useful and generate network traffic, increasing the potential value of the total communications market. Operators should consider working with a wide range of device manufacturers to see where connectivity can be incorporated. For example:

- Car manufacturers could offer a service to provide GPS navigation systems with timely traffic information and map updates on a regular basis.
- Portable computer manufacturers could build high speed mobile data connections into their equipment.
- Digital camera manufacturers could build in mobile data capability (allowing users to transmit low-resolution versions of their photos instantly), as well as broadband connections for transmitting high resolution photos from fixed connections or WiFi hot spots²⁰.
- Printer vendors could incorporate a broadband connection and IP address into their printers, allowing the devices to receive photos directly over the Internet without a PC.
- Domestic alarms and security cameras could benefit from fixed-wireless connectivity to the home network and backup connectivity to a 3G network.

Some manufacturers have already built connectivity into their products. For example, next generation games consoles, such as the Xbox 360 and PlayStation 3, include broadband connectivity as a default. Where connectivity is meaningful, other devices should follow.

Though machine-to-machine communications are typically short data bursts, this does not mean that value growth is difficult or impossible. SMS text messages are exactly the same, and they have become a multi-billion dollar industry²¹.



Addicted to speed, not margin

In the coming year, many operators will likely compete on the basis of speed. This competition will likely occur within the fixed and mobile industries, as well as between them (see Figure 5). Fixed operators will probably compete to deliver broadband download speeds in the tens of megabits per second – or even faster. Mobile operators are expected to evaluate various means of increasing their download speeds up to several megabits per second. Some mobile operators may start challenging fixed operators to a speed race; in return some fixed operators will evaluate high speed wireless technologies²². Unfortunately, in this frenzied quest for speed, crucial factors such as real market needs and profitable business models may be overlooked.

Fixed operators are already deploying a variety of new infrastructures, including fiber to the home (FTTH) and asymmetric digital subscriber line 2 (ADSL 2), to deliver upwards of ten mbit/s. The handful of operators that are upgrading their networks will likely collectively invest tens of billions of dollars on new high speed infrastructure.

Meanwhile, mobile operators are likely to evaluate – and in some cases deploy – high speed downlink packet access (HSDPA) and high speed uplink packet access (HSUPA), which theoretically offer speeds of up to two mbit/s.

Despite these efforts, the race for speed may not always translate into profit growth. The increased capital investments and operating expenses associated with the new technologies may well raise operators’ financial burden and may cut into margins, particularly if customers are unwilling to pay a premium for higher speed.

Although usage generally expands to take advantage of available bandwidth, revenue and profits do not necessarily follow suit. Many fixed broadband business models feature flat rate pricing, meaning that higher speed and data volume do not produce additional revenue. Business models for mobile data are more likely to generate fees based on data volume; however, overall adoption of mobile data is too low to make much difference, and there is little evidence to suggest that faster connection speeds will significantly increase usage.

Bottom Line

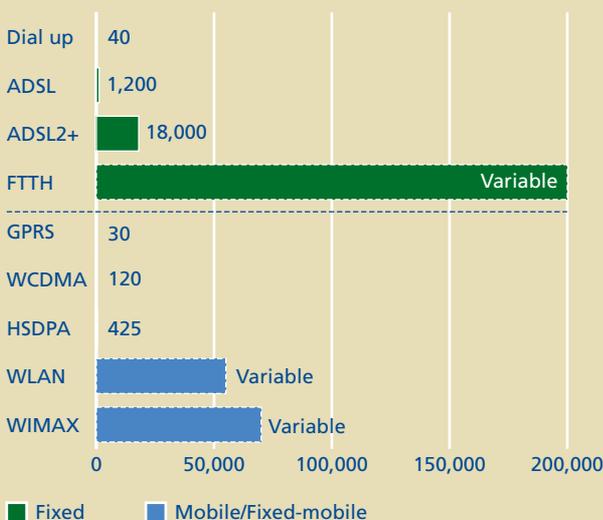
Bandwidth is undoubtedly important. But it is not as important as many other variables in the telecommunications world – particularly services. If telecommunications operators want customers to pay a premium for bandwidth, they should develop bandwidth-dependent services that are far more compelling and creative than those which exist today.

For fixed broadband operators, such services will most likely be ‘triple play’ packages (or even ‘quadruple play’), that include Internet Protocol television (IPTV), high speed Internet access and regular telephony. Offering this type of combined suite presents customers with tangible, meaningful services that are inherently valuable – and just happen to make use of high speed connectivity. Customers may not understand the value of 24 mbit/s broadband, but they can generally understand the value of 100 television channels and video-on-demand.

Mobile operators may have a more difficult time. With mobile data usage generally low, there is little practical experience or empirical evidence to build on, with the notable exception of SMS and mobile email, both of which are based on low speed connectivity. Focusing on speed is likely to be nothing more than a distraction for mobile operators. Their priority should be to establish a suite of services that consumers want to use on a regular basis – and are willing to pay for – rather than increasing speed in the hope that a ‘killer’ application will magically appear.

Finally, all operators should think carefully about the route they take through the emerging and increasingly diverse technological landscape. Many are already layering one technology on top of another, and adding both cost and technical complexity. Only a small handful of technologies are ultimately likely to become established and profitable, and operators should start to make decisions. Doing so should help to stimulate the device market (from PCs to set-top boxes) and help consumers and business to become more confident that they are able to buy a device that will last.

Figure 5: Network technology speed comparison (bandwidth achievable by 90 percent of users in kbit/s)



Source: Based on – 3G Datacards, Enders Analysis, November 2005; GPON for Fiber to the Home, Flexlight Networks/FTTH Council, 2003²³.



Telecommunications M&A: from boom to bubble?

After a prolonged period of restraint, the telecommunications industry is likely to undergo a period of intense M&A activity in 2006. Telecommunications companies have amassed significant cash piles, ready for investment – as have other potential acquirers, including financial institutions and companies from other sectors looking to diversify.

Scale is likely to be the principal motivation for horizontal transactions across all market sectors (fixed operators, mobile operators and VoIP pure plays). Mobile operators may seek to consolidate their footprints within their region, as well as expand into high growth markets outside of the purportedly mature markets of Western Europe and North America. Fixed operators may seek to develop global networks, or to gain critical mass (particularly the smaller players).

Diversification-oriented M&A is also likely to be popular, with convergence and the quest for the quadruple play (a combined offering of mobile telephony, fixed telephony, Internet access and television) being the key motivations.

The prices paid for some telecommunications operators may be boosted by the presence of multiple bidders. Historically, most M&A activity has remained within the telecommunications industry; but in recent years, private equity has also become involved. A higher number of bidding parties may make for a pleasant outcome for owners of the acquisition target. However, the implication for acquirers is to prepare deals more quickly, and actively seek out opportunities, rather than waiting until they go on sale.

When financial institutions take a stake in the deal, they may have higher expectations for the long-term return on their investment – perhaps much higher than a trade buyer. A larger group of cash-rich bidders also raises the prospect of a bubble.

As in the past, it will likely be large, multinational mobile operators that lead consolidation in 2006, and the gap between the handful of global leaders and their smaller peers may become ever greater.

Bottom Line

Consolidation is both powerful and necessary in a globally fragmented industry. However, consolidation should be driven by a clear strategic rationale. Acquisition is often the most expensive and inflexible expansion option available to a company. It has the potential to generate tremendous returns, but only when used appropriately.

M&A for diversification should be approached carefully. Many companies have at some point in their history believed that acquiring a company outside of their core business was a strategic necessity. However, the results were often disappointing. In many cases, alliances, partnerships and other more flexible approaches may be more appropriate.

M&A is most viable in the following instances:

- **Emerging markets.** All operators should consider balancing their asset portfolio by including higher growth emerging markets in Asia and South America. Although revenues per capita remain low relative to Europe and North America, large, underserved populations and rising disposable income are likely to ensure strong and continued growth across all telecommunications sectors.
- **Tangible customer needs.** Operators should clearly understand what will drive revenue growth in the short-term and medium-term. If they are not absolutely sure, they should not buy.

Winners, losers or bystanders in convergence?

Convergence will likely remain a key focal point for telecommunications companies in 2006. However operators, particularly fixed operators, may continue to struggle to get their full share of convergence revenues.

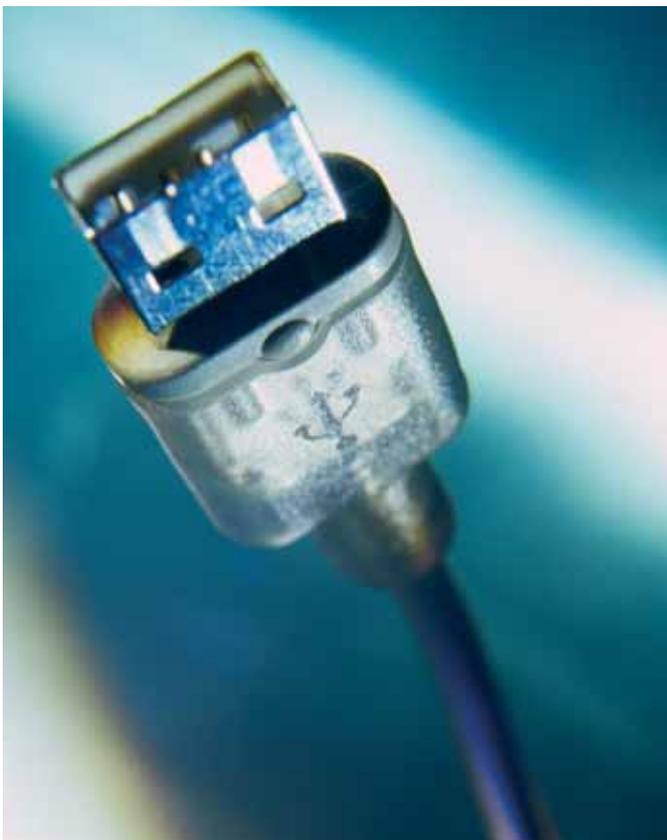
Connectivity, particularly broadband, should be the basis for a growing number of converged services. Emerging applications, such as VoIP and video security systems, as well as maturing applications, such as e-commerce and online music, will likely continue to rely on broadband connectivity. Yet unlike other companies, broadband providers may not accrue additional revenues as these services are used. Record companies are paid for every legal song download; e-commerce companies generate revenues from every transaction; security companies charge a service fee for broadband-based video monitoring systems; media companies generate fees with every web search. However most broadband providers will likely continue to charge a flat fee for broadband access; indeed, they may even be compelled to raise download speeds and lower prices as competition intensifies.

Thus in 2006, it is possible that telecommunications companies will be convergence losers: playing a fundamental role in the delivery of convergent services, and investing tens of billions of dollars implementing next generation networks that will likely be the bedrock for additional convergent services; yet arguably not extracting their due toll.

Bottom line

While every TMT company has the opportunity to gain from convergence – indeed there is a trillion dollar convergence bounty on offer through 2010²⁴ – there will probably be convergence winners, bystanders and losers. For telecommunications companies to be winners, they will likely need to develop a business model that generates additional connectivity revenues for each event, or as part of a service charge. An event may be a download, a video stream, a VoIP call, a video-conference or an Internet search. Consumer spending on telecommunications and entertainment has risen consistently over time, and although it is not a bottomless pit, there is no reason to suspect it should stop growing any time soon. Companies that are able to tap into consumers' ever increasing appetite for access and content should do well.

It may be hard to move customers away from unmetered access towards an event-based model unless pricing is transparent, simple and perceived to be more affordable than flat rate monthly fees. Tiered pricing will probably begin at the high end of the market, offering higher bandwidth, guaranteed service levels and other features designed to appeal to users with exacting needs and relatively high disposable incomes. This approach would allow telecommunications companies to continue to offer inexpensive unmetered services that are designed to open up the mass market, whilst also offering premium end services that are faster and more reliable, with full technical support and other benefits.



The resellers' renaissance

The reseller should become stronger than ever in 2006, in both fixed and mobile markets. A mixture of both regulatory change and commercial logic will likely be the key drivers behind the resellers' strengthening hand. Infrastructure owners, who are collectively investing billions of dollars in new networks, will likely experience lively internal debate on the specific role that they should have in the medium-term.

In the mobile sector, mobile virtual network operators (MVNOs) should continue proliferating, with existing brands, from furniture retailers²⁵ to loyalty card owners aiming to leverage the size and loyalty of existing customer bases. A growing number of MVNOs focused on value, rather than price, may emerge. Some 3G mobile operators may look to horizontally and vertically specialized MVNOs to develop niche products and services based on 3G spectrum. Existing mobile operators may also create new sub-brands to reflect the different segments in their customer bases²⁶.

As for the fixed sector, a combination of market deregulation and local loop unbundling (LLU) should encourage activity among various categories of reseller. For incumbents, the most onerous reseller may be that undertaking LLU. This category may have the margin headroom and relatively low capital expenditure profile to erode an incumbent's market share²⁷.

Bottom Line

Infrastructure-based carriers should increasingly start to regard resellers, of all types, as an opportunity, not a threat. There are still plenty of niche segments which infrastructure-based carriers cannot afford, or do not have the specialized knowledge, to reach. Accordingly, incumbent operators should develop plans to incorporate resellers into their strategic plans. Resellers can, if well managed, and appropriately charged, drive revenues and margins.

Furthermore, the sheer effort of building next generation networks, both fixed and mobile, may prove a significant drain on management resources. Selling capacity on new networks may be more efficacious if this is an activity shared with resellers. The carrier's retail arm alone may be insufficient to maximize sales.

For regulators, the renaissance of the reseller has the potential to inject dynamism into markets that were previously oligopolistic²⁸. And for consumers, enhanced choice is always a good thing.

Difficulties with diversification

2006 will likely see increased diversification amongst telecommunications companies – partly as a way to leverage existing customers and infrastructure, and partly as a defense against declining core revenues.

Fixed operators will most likely expand into managed IT services and systems integration, as well as broadband-based television services. Mobile operators will probably flirt with content creation and aggregation, as well as enterprise solutions. And all may well try to work their way into the media and entertainment industry value chains.

Acquisition and alliance will likely be the most commonly used methods for diversification, with organic growth typically considered too slow. As a result, changes may often be rapid, with telecommunications companies finding themselves suddenly having to deal with everything from large-scale IT implementation projects to television scheduling.

In some cases, the increased diversity should work well, with risks being spread more evenly and new sources of income helping to deliver better overall performance. But diversification may also lead to value destruction, with companies spreading themselves too thinly across a portfolio of assets that presents too few opportunities for synergistic growth.

Bottom Line

Diversification in 2006 will most likely reflect defensive behavior more than offensive strategic management. Some telecommunications companies may make decisions that leave them with disparate interests and greatly increased levels of management complexity. Diversification is an important strategic tool, but in 2006 it should be used sparingly.

- Diversification makes sense only when it represents part of a company's long-term strategy. Spontaneous or reactive diversification may destroy value.
- Diversification has natural boundaries, and companies can easily diversify too far. Already, for example, several telecommunications operators that have moved into managed IT services have suffered greatly. Problems have ranged from lack of management expertise to inexperience with large-scale project planning, leading to extremely poor results.
- Diversification may require a substantial commitment of human resources, and runs the risk of distracting management from the original core business.

Diversification should, when well executed, succeed, but it is ideally regarded as just one of several tools that can grow the business.



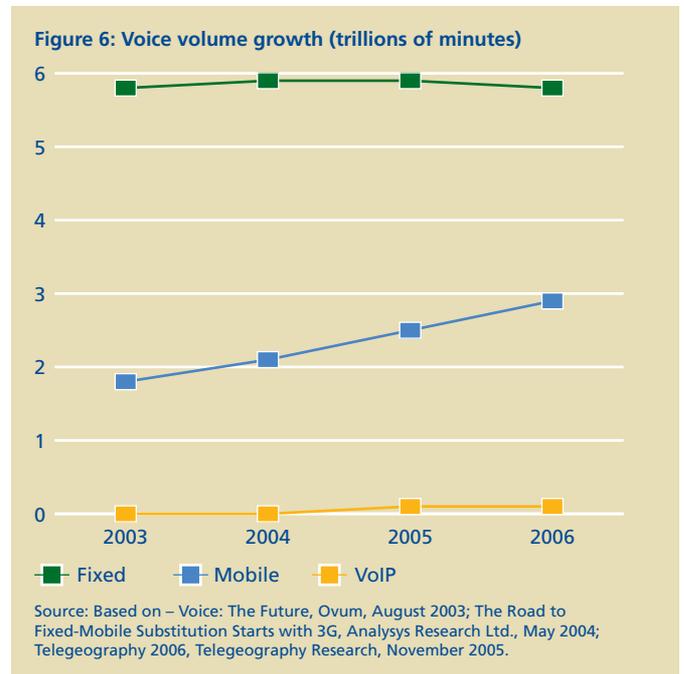
A tale of two VoIPs

2006 may see two different types of VoIP take shape, each following a markedly different path. Managed VoIP services, offered both by specialist VoIP service providers and mainstream telecommunications companies, should rapidly gain market share.

These should largely look and feel like regular PSTN telephony and may be positioned as affordable voice services, rather than Internet or IP-based telecommunications, whose precise meaning few consumers understand. Using wholly-owned and professionally managed infrastructure, managed VoIP services should be increasingly capable of offering service quality on a par with existing PSTN operations. Tariffs should be highly competitive, but should still allow operators to generate positive cash flow and even profits.

By contrast, ad-hoc VoIP, which uses the open Internet as the service platform, may struggle to gain a mass market, revenue-generating following. Though subscriber numbers should rise rapidly, usage and revenues may well remain low, largely due to extremely low tariffs and marginal service quality (and the type of customers attracted to such a low end offering).

More than ever before, the threat posed by VoIP may be over-estimated by many traditional telecommunications firms. Many may assume that VoIP will aggressively eat into their share of global voice minutes – and cause their margins to erode rapidly. In all probability, however, VoIP should do neither during 2006 – as it is likely to constitute less than one percent of total voice volumes and revenues²⁹ (see Figure 6). In fact, several market research firms are already scaling back their forecasts for the impact of VoIP³⁰.



Indeed, VoIP's primary perceived advantage – low cost – will likely continue to be threatened by falling prices from both fixed and mobile players, and by the need for dedicated hardware and a broadband connection. Consumers will likely increasingly recognize the true cost of VoIP, and may begin to challenge ad-hoc VoIP's claims of free service.

Managed VoIP is expected increasingly to become the technology of choice for internal office and campus networks, and in the medium-term is likely to earn a solid place in the corporate telecommunications repertoire. This should be good news for VoIP equipment vendors. It may also be beneficial to telecommunications operators who have traditionally occupied the corporate voice market – many of which have now folded VoIP into their service portfolios and are happy to see unprofitable intra-office legacy networks converted into marginally profitable VoIP networks.

Bottom Line

Although ad-hoc VoIP may never have a major impact on the global telecommunications industry, managed VoIP is here to stay. Over time, it should capture an ever growing portion of the total voice market. But its emergence as a truly potent force will likely not happen overnight. VoIP is a serious issue for all telecommunications companies, but none should over-react.

Providers of fixed line voice services arguably face the greatest short-term challenge. In 2006, they can expect to see their volumes and margins continue to fall, prompted not only by VoIP but also by the market's unassailable shift to mobile voice. That said, fixed operators should not give up on their core voice business. It remains, after all, the single largest element of the global voice market. Moreover, fixed voice continues to offer the most reliable and highest quality service on the planet. Where it suffers most, however, is in the area of devices. Fixed line phones are markedly less sophisticated than their mobile cousins, with limited phonebook functions that are extremely difficult to use. Strategies that capitalize on fixed line service's quality and reliability, whilst addressing the handset issue will likely result in a slowing of the decline.

Mobile operators should take a realistic view of VoIP: after all VoIP's ability to challenge mobile remains limited in the short and medium-term. Mobile consumers have already established that they are willing to pay a premium for the convenience and ubiquity of mobile – meaning they are less likely to be attracted by VoIP's low-cost positioning. Mobile VoIP is technically challenging on 3G, and may not be commercially compelling on 3.5G (HSDPA) networks that are better equipped to support it. Moreover, in the mobile world, data usage is more likely to be metered, making mobile VoIP prohibitively expensive.

VoIP service providers may benefit from more creative approaches to the market. For example, VoIP is generally positioned as a low cost service, but the fact that it requires a broadband connection – and usually a computer – means its users are in truth relatively wealthy. Thus far, few of the major VoIP players have looked seriously at the premium end of the market, which means they might be missing a golden opportunity. VoIP has the potential to become the premium voice service for offices and residences – offering high fidelity stereo sound piped into every room, conference and multi-party calling, voice-activation and control – and many other features that are simply too processor-intensive and power-hungry for PSTN and mobile to replicate.

Notes

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