

Industry Views

Communications Review*


A journal for telecom, cable, satellite, and Internet executives

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Striving for Efficiency



*connectedthinking

PRICEWATERHOUSECOOPERS 

Cover image: Italian honey bees
at hive, Brooklyn, New York

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Communications Review

A journal for telecom, cable, satellite, and Internet executives

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Contents

10 Message from the Editor

Features

12 Getting the Business Future Fit

A complex company operating model can be costly to manage and to maintain. It also creates a number of specific challenges, with impaired operational efficiency being not the least among them. To ensure sustainable competitive advantage from now on, operators should focus on getting fit for the future. For many, this means breathing new life into the organization by simplifying the operating model to strip out unnecessary complexity.

by David Russell, Andrew Matthews, Marla Baldwin, and Dan Stevens

20 X-raying the P&L

Confronted by a complex and rapidly evolving set of service, device, content, and technology requirements, companies in the communications sector have to be able to move fast and intuitively to capture market share. Provided that management has continual access to detailed P&L insights, it will be able to formulate strategies that make sense in this challenging environment—quickly identifying potential new revenue streams, quantifying the upside, and prioritizing the impact on value.

by Ioana Dobre and Jonathan Oxley

28 Access is Everything

Each year, PricewaterhouseCoopers' global team of entertainment and media practitioners generates in-depth forecasts for 12 industry segments. Extracts from the *Global Entertainment and Media Outlook, 2009–2013*, presented here, cover the global Internet access market, a key driver of entertainment and media spending in most segments.

by Marcel Fenez

Perspectives

38 Zeinal Bava, Portugal Telecom

Portugal Telecom's CEO has a bold mission: Grow the company by inventing the future. Here, Zeinal Bava discusses the immediate need for operators to invest in fiber, a move toward cloud computing and virtualization, and the role that Brazil and other international investments will play in underpinning the company's ambition of growing its customer base to 100 million in three years.

44 Franco Bernabè, Telecom Italia

Like most incumbent operators, Telecom Italia is in a position of both power and vulnerability. Here, CEO Franco Bernabè gives his view of the changes incumbents need to make to survive. He debates the race to install fiber as well as the challenges of reaching diverse demographic groups and why quality of service is more important to consumers than is technology.

50 Paul Reynolds, Telecom New Zealand

In a country comparable in size to the United Kingdom, with a population of only four million, growing any business in today's economic climate would seem to be a monumental challenge. But Paul Reynolds, Telecom New Zealand's chief executive officer, is used to such challenges. Here, he discusses how customers, competition, and regulation will influence Telecom's strategy to grow market share and revenues.

Sommaire

10 Éditorial

Articles

12 Préparation à l'avenir

La gestion et le maintien d'un modèle opérationnel complexe peuvent être coûteux. Celui-ci s'accompagne également d'un certain nombre d'enjeux spécifiques, la diminution de l'efficacité opérationnelle n'en étant pas le moindre. Les opérateurs doivent se concentrer sur la préparation de leur avenir pour s'assurer dès maintenant un avantage concurrentiel durable. Pour un grand nombre d'entre eux, cela consistera à donner un nouveau souffle à l'organisation par une simplification du modèle opérationnel qui mettra fin à une complexité inutile.

Par David Russell, Andrew Matthews, Marla Baldwin, et Dan Stevens

20 Décryptage du compte de résultat

Face à la complexité et à l'évolution rapide des exigences en matière de service, de matériel, de contenu et de technologie, les sociétés du secteur de la communication doivent pouvoir réagir rapidement et intuitivement pour conquérir des parts de marché. Si elle dispose en continu de clés d'analyse du compte de résultat, la direction pourra élaborer des stratégies pertinentes dans ce contexte difficile—en identifiant rapidement de nouvelles sources de revenu potentielles, en quantifiant les avantages, et en se recentrant sur l'impact sur la création de valeur.

Par Ioana Dobre et Jonathan Oxley

28 Accès indispensable

Chaque année, l'équipe mondiale de PricewaterhouseCoopers composée de spécialistes du divertissement et des médias établit des prévisions approfondies concernant 12 secteurs. Les extraits de *Global Entertainment and Media Outlook, 2009–2013* présentés ici portent sur le marché mondial de l'accès à Internet, un facteur déterminant des dépenses liées au divertissement et aux médias dans la plupart des secteurs.

Par Marcel Fenez

Perspectives

38 Zeinal Bava, Portugal Telecom

Le directeur général de Portugal Telecom a une mission ambitieuse : développer la société en inventant le futur. Zeinal Bava analyse ici le besoin immédiat d'investissement de la part des opérateurs dans la fibre, l'orientation vers l'informatique en nuages (*cloud computing*) et la virtualisation, ainsi que le rôle que les investissements au Brésil et dans d'autres pays joueront dans la réalisation de son objectif de croissance qui consiste à compter 100 millions de clients dans trois ans.

44 Franco Bernabè, Telecom Italia

Comme la plupart des opérateurs historiques, Telecom Italia allie puissance et vulnérabilité. Son directeur général, Franco Bernabè, donne son opinion sur les changements que les opérateurs historiques doivent effectuer pour survivre. Il décrit la course à l'installation de la fibre, ainsi que les difficultés rencontrées pour atteindre divers groupes démographiques et la raison pour laquelle aux yeux des clients la qualité de service prime sur la technologie.

50 Paul Reynolds, Telecom New Zealand

Dans la conjoncture actuelle, développer une activité dans un pays de taille équivalente à celle du Royaume-Uni comptant seulement quatre millions d'habitants fait figure de défi monumental. Néanmoins, Paul Reynolds, directeur général de Telecom New Zealand, est habitué à relever de tels défis. Il décrit ici l'influence qu'auront les clients, la concurrence et la réglementation sur la stratégie de croissance des parts de marché et des revenus de Telecom New Zealand.

Índice

10 Mensaje del editor

Artículos

12 Poner en forma el futuro de la empresa

Un modelo de operaciones complejo puede suponer para una compañía una gestión y mantenimiento costosos. Además, genera una serie de dificultades específicas, entre las que figuran, y no precisamente en último lugar, el deterioro de la eficiencia operativa. Para garantizar una ventaja competitiva sostenible para el futuro, los operadores deberán centrarse en ponerse en forma, lo que significa para la mayoría simplificar el modelo de operaciones y deshacerse de una complejidad innecesaria.

por David Russell, Andrew Matthews, Marla Baldwin y Dan Stevens

20 Una radiografía de la cuenta de resultados

Las compañías del sector de las comunicaciones deben ser capaces de avanzar rápidamente para capturar cuota de mercado, dada la compleja y rápida evolución de las exigencias en servicios, herramientas, contenidos y tecnologías. Siempre que la evolución goce de un acceso continuado a la información detallada de la cuenta de resultados, serán capaz de formular estrategias que tengan sentido en este entorno de dificultades. Así, podrán identificar rápidamente las nuevas corrientes potenciales de ingresos, cuantificar las ventajas y dar prioridad a la repercusión sobre el valor.

por Ioana Dobre y Jonathan Oxley

28 El acceso lo es todo

Cada año, el equipo global de profesionales de PricewaterhouseCoopers del sector de Medios y Entretenimiento elabora previsiones detalladas para 12 segmentos sectoriales. Los extractos del informe Global Entertainment and Media Outlook 2009-2013 son presentados en esta publicación y cubren el mercado global de acceso a Internet, un impulsor destacado en el gasto del sector en la mayoría de los segmentos.

por Marcel Fenez

Perspectivas

38 Zeinal Bava, Portugal Telecom

El consejero delegado de Portugal Telecom tiene la misión audaz de hacer crecer a la compañía inventando el futuro. En este artículo, Zeinal Bava comenta la necesidad inmediata para los operadores a invertir en fibra, el avance hacia la computación en nube (cloud computing) y la virtualización. Además, destaca el papel de Brasil y otras inversiones internacionales a la hora de apoyar a la compañía en su plan de aumentar su base de clientes a 100 millones en tres años.

44 Franco Bernabè, Telecom Italia

Al igual que la mayoría de operadores preexistentes, Telecom Italia se encuentra en una situación de poder y de vulnerabilidad. Su consejero delegado, Franco Bernabè, opina sobre los cambios que necesitan adoptar los operadores para sobrevivir y comenta la evolución hacia la instalación de fibra. Por otro lado, matiza las dificultades de alcanzar grupos demográficos variados y la calidad del servicio como factor más importante que la tecnología para los clientes.

50 Paul Reynolds, Telecom New Zealand

En un país de dimensiones comparables a las del Reino Unido, con solo cuatro millones de habitantes, lograr el crecimiento de cualquier empresa en el clima económico actual parecería un reto gigantesco. Sin embargo, Paul Reynolds, consejero delegado de Telecom New Zealand, está acostumbrado a ese tipo de dificultades. En su artículo, comenta cómo los clientes, la competencia y la regularización influirán en la estrategia de las compañías de telecomunicaciones para aumentar la cuota de mercado e ingresos.

Inhaltsverzeichnis

10 Vorwort des Herausgebers

Beiträge

12 Unternehmen zukunftssicher machen

Das Management und die Pflege der operativen Unternehmensprozesse können sich als sehr aufwendig erweisen. Besonders herausfordernd ist die Verhinderung eines Effizienzverlusts. Um sich einen nachhaltigen Wettbewerbsvorteil zu sichern, sollten Netzbetreiber ihr Unternehmen jetzt zukunftssicher machen. In vielen Fällen bedeutet das vor allem eins: Die Vereinfachung der operativen Prozesse und eine Reduktion bestehender Komplexitäten.

von David Russell, Andrew Matthews, Marla Baldwin, und Dan Stevens

20 Die Gewinn—und Verlustrechnung im Gesundheitscheck

Konfrontiert mit einem komplexen und stets größer werdenden Spektrum an Diensten, Endgeräten, Inhalten und technologischen Herausforderungen müssen Telekommunikationsunternehmen vor allem Flexibilität und Schnelligkeit an den Tag legen, um Marktanteile zu gewinnen. Das setzt voraus, dass das Management stets Zugriff auf detaillierten Analysen der Gewinn- und Verlustrechnung (GuV) hat. Denn nur dann können Unternehmensstrategien formuliert werden, die auch den aktuellen Rahmenbedingungen Rechnung tragen—so dass neu Umsatzquellen schnell identifiziert, deren Potenzial quantifiziert und entsprechende wertschaffenden Maßnahmen eingeleitet werden.

von Ioana Dobre und Jonathan Oxley

28 Internetzugang ist alles

Jedes Jahr veröffentlicht das internationale Entertainment&Media-Branchenteam von PricewaterhouseCoopers detaillierte Prognosen zu den zwölf wichtigsten Teilmärkten der Unterhaltungs- und Medienbranche. Viele der im *Global Entertainment and Media Outlook: 2009-2013* analysierten Segmente befassen sich auch mit dem weltweiten Internet-Zugangsmarkt. Schließlich ist dieser in den meisten Märkten ein wichtiger Treiber für die Medien- und Unterhaltungsausgaben.

von Marcel Fenez

Perspektiven

38 Zeinal Bava, Portugal Telecom

Der CEO von Portugal Telecom hat eine kühne Mission: Unternehmenswachstum durch Innovationen. Zeinal Bava schildert uns, warum Glasfaserinvestitionen für Netzbetreiber von entscheidender Bedeutung sind, beschreibt, wie sein Unternehmen sich auf Cloud-Computing und Virtualisierung einstellt, und erörtert, welche Rolle internationale Investitionen im Allgemeinen und in Brasilien im Besonderen in seiner Unternehmensstrategie spielen, um in drei Jahren 100 Millionen Abonnenten zu bedienen.

44 Franco Bernabè, Telecom Italia

Wie viele ehemalige Monopolisten ist Telecom Italia in einer Position der Stärke und Verletzlichkeit zugleich. CEO Franco Bernabè diskutiert seine Ansichten zu den Veränderungen, die ehemalige Monopolisten durchlaufen müssen, um sich erfolgreich im Wettbewerb zu behaupten. Er geht dabei sowohl auf den Wettlauf um Glasfaser als auch auf die Herausforderungen ein, die heterogenen Bevölkerungsgruppen zu erreichen. Schließlich setzt er sich mit der Frage auseinander, warum die Servicequalität wichtiger ist als die dahinterliegende Technologie.

50 Paul Reynolds, Telecom New Zealand

In einem Land, das bei vergleichbarer Fläche zu Großbritannien von nur vier Millionen Einwohnern bewohnt wird, ist es augenscheinlich eine imposante Herausforderung, im derzeitigen Wirtschaftsklima wachsen zu wollen. Aber Paul Reynolds, CEO von Telecom New Zealand, ist an solche Herausforderungen gewöhnt. An dieser Stelle erörtert er, wie Kunden, Wettbewerber und die Regulierung die Wachstumsstrategie seines Unternehmens hinsichtlich Umsatz und Marktanteil beeinflussen.



Message from the Editor

Today, the view increasingly reported in the media is that the worst of the economic downturn may be behind us. However, opinions on this issue remain sharply divided. The overall effect of the ongoing debate has been to replace the recent sense of despondency with deep uncertainty over the next movements in the global economy. Given communications operators' central role in economic activity, our exposure to an array of factors ranging from consumer confidence to corporate investment, and the fiercely competitive and fast-moving nature of our industry, means that this uncertainty is as acute in our sector as anywhere else.

It is time, therefore, for operators to propose a solid platform for recovery and to ensure that their business is equipped to withstand any further economic shocks. Those two objectives share one core imperative: making the business more efficient in every sense—operationally, financially, technologically, and culturally. With all that in mind, this edition of *Communications Review* examines how operators can rethink their business models and strategies to achieve the highest possible efficiency at the lowest risk, while facing the current economic and market issues alongside the perennial challenges of variations in customer demand and increasing competition.

In our first article, “Getting the Business Future Fit,” authors David Russell, Andrew Matthews, Marla Baldwin, and Dan Stevens take a close look at the challenges and costs that can arise in managing and maintaining a complex operating model. In the authors' view, the swathe of cost-containment and -reduction programs under way across the industry this year will enable operators only to keep pace with intensifying competition. Put simply, they are running hard just to stay still.

To build sustainable competitive advantage over the long term, operators also need to get their entire organization “fit for the future” by simplifying the operating model. This means restructuring the business and its underlying processes to make it more nimble and responsive throughout. The authors conclude by highlighting the scale of the prize that a successful fitness program offers—significant financial benefits combined with a cost-effective, risk-compliant, tax-efficient, and flexible organization.

In our second article, “X-raying the P&L,” authors Ioana Dobre and Jonathan Oxley drill down into the key role tight financial control plays in supporting efficiency and profitability. They examine how communications operators can be sure to get the optimal return from their discretionary marketing and network spending, despite the challenging operating environment. In recent years, trends

such as customers' rising demand for bundled services and the proliferation of revenue streams have made it all the more difficult for operators simultaneously to capture market share and maintain detailed visibility of returns on investment.

The answer lies in developing and refining existing analytical tools to deliver granular insight into profitability at multiple levels—product, bundle, channel, and customer segment. By applying such insights, our authors point out, operators can focus their resources and investments more accurately, pinpoint the effectiveness of their marketing and network activities, and track their revenue and cost performance.

In our third article, "Access is Everything," Marcel Fenez, leader of PwC's Global Entertainment & Media (E&M) practice, offers highlights from our recently published *Global Entertainment and Media Outlook 2009–2013*, the definitive annual forecast of industry trends and revenue patterns across 12 segments of the E&M industry worldwide. Mr. Fenez presents extracts from our forecasts covering the global Internet access market in the various regions of the world. These forecasts are of significance to all of us because the Internet access segment and its continued development will influence the communications sector pervasively: driving growth in many markets, enabling the development and launch of new communications services, and, hopefully, helping businesses and consumers to operate more efficiently.

Finally, in our Perspectives section we once again meet a number of significant decision makers behind the headlines in the communications market around the world. This time, we talk in-depth with the leaders of three incumbent operators. Our questions focus on what they plan to do to sustain their businesses through and beyond the downturn, and from where they expect their future growth to come. In order of appearance,

our three interviewees are Portugal Telecom CEO Zeinal Bava, Telecom Italia CEO Franco Bernabè, and Telecom New Zealand CEO Paul Reynolds. Their perspectives and insights are subtly different but consistently fascinating.

Reading through the articles and interviews in this issue, I was struck by the combination of resilience and excitement that continues to characterize the communications industry. I think this is the perfect blend of attributes to carry us successfully through the current tough conditions and into renewed growth in the upturn. Personally, I am grateful to have stepped into the role of Global Communications leader at such an energizing time, both for the industry and for *Communications Review*, and I look forward to receiving your suggestions and feedback on my first issue as editor. Please send any comments to me at colin.brereton@uk.pwc.com, or feel free to call me on [44] (0) 20 7213 3723.

Like my predecessor, Paul Rees, I am committed to ensuring that this publication continues to reflect the concerns, aspirations, and issues that currently are front-of-mind for you, the industry's leading decision makers. I would like to thank Paul for his leadership of this magazine and our Global Communications practice for the past four years. He has taken a new exciting opportunity, in the Middle East, where he will help build our Technology, Communications, and Entertainment and Media practice. I wish him much success in his new endeavor, and I look forward to the opportunities that lie ahead for all of us.



Colin Brereton
Partner
Global Communications Leader
PricewaterhouseCoopers LLP



*Bicycle on tree-lined road,
Provence, France*



Getting the Business Future Fit

Communications companies are undertaking a variety of cost containment and cost reduction programs to address immediate business challenges. Our experience suggests that, while essential, such programs will at best enable them to keep pace with escalating competition and market erosion through the end of 2009. To ensure sustainable competitive advantage from now on, companies should also focus on getting fit for the future. For many, that effort means breathing new life into the organization by simplifying the operating model to strip out unnecessary complexity. The benefits should include enhanced flexibility, greater tax efficiency, and long-term cost control—essential qualities, all, for high performance in a fast-changing marketplace.

As communications companies have grown and evolved over time, so has the underlying complexity of their business models. A combination of factors has contributed to this trend, including:

- Organic growth, mergers, acquisitions, divestments, and joint ventures.
- The increasing burden of regulation and compliance.
- Multiple sales and distribution channels for various complex products (e.g., bundling) and offerings (e.g., limited period discounts).
- Complex management structures to provide governance and oversight.
- Measures designed to address evolving tax and other legal risks and opportunities.

During the last decade, the relatively benign business environment masked the negative impact of this underlying complexity. However, with the onset of the global recession, the operating models of all companies were put to the test and, in many cases, were found wanting. Instead of being equipped to cope with the profound challenges that arose, many communications companies found that their operating models (and underlying systems) were too complex to enable the flexibility and efficiency needed to deliver business strategy in an uncompromising market.

Now, as communications companies look to the future, the focus is shifting from short-term cost reduction programs to wider structural and transformational change initiatives, often accompanied by major systems investments. In other words, with immediate survival now assured, the priority is to ensure that the organization is agile and future-fit. As companies in all industries are already finding, corporate simplification has a vital role to play in this process.

Evaluating the business

Moving toward future-fitness does not mean simply conducting a review of the company's business model and value proposition. Companies must be prepared to undertake a thorough evaluation of the whole business. Only then will they be equipped with the understanding they need to begin rationalizing their operating models.

Figure 1 presents the key elements of any business operating model, all of which companies must assess fully when they seek to identify opportunities for corporate simplification. For a communications company, moving beyond "what is our aim and go-to-market proposition?" requires effectively aligning the company structure and determining where the key decisions are made. Decisions must be made on such business interactions as global brand management and statutory reporting between local operating companies and the group. Effective resource management must support the decision-making process and ensure that the skills are appropriately deployed across the group structure.

The process of evaluation should take account of where the business is today (in terms of existing structure, costs, complexity, and opportunity) and where it needs to be tomorrow. Important questions to answer address customer/supplier trends, changes to business management structures, and tax optimization opportunities. Critically, companies must also consider just how big is the organization's appetite for change? Will radical change succeed, or does the prevailing culture favor incremental change programs?

The next stage is to identify, as precisely as possible, where value is being generated (and is likely to be generated) in the business. A whole range of areas must be considered, from managing and servicing customers to the process of developing profitable products

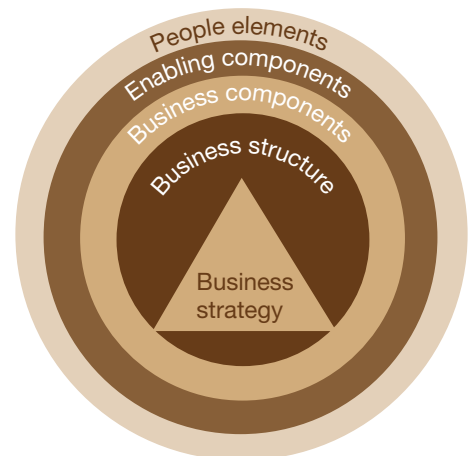
and services, ensuring billing accuracy and regulatory compliance, maximizing brand value, optimizing network asset management, and managing alliances and partnerships.

Having obtained insights into those areas of present and future value creation, management must ask what the insights mean for the business operating model. Key questions for consideration here include the appropriate level at which strategic and operational decisions should be made (i.e., what should be decided locally, regionally, or globally?); the nature and location of all tangible and intangible assets owned by the business; the extent of the operational activities that are being undertaken (are they being performed locally, and if so, are there any opportunities for simplification?); and the extent to which key support functions (e.g., information technology, finance, and procurement) can be shared across the organization.

Making the case for change

Once this evaluation process has been completed, management should have the insights it needs to describe and make a compelling case for operating model rationalization. As well as providing a real impetus for action, this thorough evaluation ensures that when any change

Figure 1: Operating Model Framework



initiatives are introduced, the impacts and benefits can be clearly articulated to all stakeholders.

This article suggests three specific ways in which communications companies can set about rationalizing their business operating models.

Each is already being used to good effect by companies to secure significant ongoing financial and operational benefits. And each can be structured tax efficiently, which will help to limit the cost of direct and indirect taxation while providing protection against exposure to tax and regulatory risks.

Crucially, because they also eliminate some of the deeper root causes of cost, these approaches all enable operators to focus on responding to changing market conditions and customer needs in a more agile way, while continuing to drive forward with their overall business strategy.

For some organizations, just one of the models may be relevant, while for others, a combination could be appropriate. The models, which are summarized below, are:

- **The centralized services company.** This model centralizes services (e.g., procurement activities) to enable savings from global and/or regional sourcing.
- **The limited-risk sales company.** This model provides a single point of contact for customers on a global or a regional basis.
- **The centralized content company.** This model centralizes content creation, acquisition, and distribution (e.g., premium TV channels or data content).

Moving toward successful business simplification

Before explaining the benefits of these three models in greater depth, it is important to establish the ground rules for successful change initiatives.

Unless they are implemented within the context of a shared, holistic vision of a business strategy for the future, projects that seek to transform the operating model risk failing, and they may even harm the business. Examples include the following:

- In responding to the current economic environment, many organizations have adapted their operating models to include a range of cost-cutting and change projects, often without understanding the interrelated impact such projects will have on the way the business is managed.
- Information technology (IT) projects, while generally designed well and engineered from a technical perspective, often have disappointed because they have not been implemented to take account of what the overall business should look like (e.g., the degree of process standardization required or the extent of managerial decision making).

When making any fundamental change to the business operating model, being aware of the complex nature of such an undertaking is vital. There are multiple dimensions of the business to consider, such as legal, contracts, regulations, IT, and finance, each of which typically will be further encumbered by legacy practices, processes, and systems. Consequently, a systematic and holistic approach to implementation is essential.

Effective communication is key. The benefits of change need to be clearly articulated to all those likely to be affected, with an emphasis on transparent, unambiguous language to help bridge differing perspectives and allay uncertainties. Significant resources should be invested in education to make sure that all those affected fully understand how the business will work using the new model.

And, change must be coordinated and comprehensive. Business functions, such as finance and IT, will need to work toward clear objectives, with milestones in place to ensure that the overall business infrastructure is ready to support the new model.

Model 1: The centralized services company

Current position. In most large operators, the traditional services model has procurement decisions being made at the local-operating-company level, with limited coordination by the group's central organization. While this model may offer greater local control over supplier relationships and contracting, clearly it leads to some significant disadvantages to the group overall. Because collaboration between procurement units is limited, enforcing global policies and standards can be difficult. Also, oversight of group-wide procurement activities may be limited.

There will be limited aggregation of spending, meaning that companies often fail to take full advantage of opportunities for bulk discounts. Disconnects between individual procurement functions often mean potentially unnecessary inventory holdings and inadequate management of demand. And the company may be prevented from capturing tax savings that would be available to a more centralized procurement function (because individual procurement functions are not measured on their tax efficiency, it is unlikely that they will be focused on tax optimization).

Opportunity. A trend that is emerging for centralizing procurement uses one of two models—centralized or center-led—both of which allow for savings and value from global or regional sourcing to be captured in a tax-efficient way. Centralized models consolidate all purchasing decisions with one team in one location,

potentially saving significantly on taxes, depending on the location of this central team. Center-led procurement models have a central team manage common supplier groups, with local teams executing framework agreements.

In the experience of PricewaterhouseCoopers, leaders in procurement across all industries tend to manage centrally and deliver locally, adopting a center-led rather than a fully centralized approach. The hybrid center-led model balances the advantages that centralized coordination offers with the need for local responsiveness. Furthermore, in complex, distributed enterprises, complete centralization is not always practical or even desirable.

As part of the process of evaluating opportunities for centralizing procurement, the following key points should be considered:

- Which aspects of procurement are best suited to a centralized and which to a center-led procurement approach—and should the model be structured to attract value to a low-tax location?
- Given the footprint of the countries involved, which countries offer the best opportunities for enhancing savings in a commercial environment (in the short, the medium, and the long terms)?
- What functions and which people should be included in any centralized or center-led function?
- What are the practical considerations involved (e.g., hiring people, language skills)?

Benefits. Both the centralized and the center-led models offer significant financial and nonfinancial benefits, provided that the operator is willing to commit the required organizational and system resources needed for successful delivery.

In our experience with communications companies, the financial benefits of successful centralization can include cost savings delivered through efficiently managing demand to reduce overall consumption and inventory holding as well as through economies of scale. Those economies are possible especially on large spending categories—networks, for example, and devices such as mobile handsets, routers, and set-top boxes.

Additional financial benefits flow from eliminating duplicate or conflicting procurement efforts. They result from optimizing the organizational structure from a tax perspective (taking account of tax planning, transfer pricing, and attribution of profit across the group). Revenue growth and differentiation, also, can be obtained through access to innovation from partnerships with strategic suppliers and from competitive advantage through speed to market.

Successful centralization has delivered valuable nonfinancial benefits to our clients as well. Among those benefits are the opportunity centralization provides to create a center of excellence for procurement vision and policies, with streamlined supplier collaboration, along with mitigating risk through improved contract relationships and contingency planning. Companies benefit from utilizing assets and managing cash flow better through improved visibility and demand forecasting; from harmonizing standards and increasing levels of internal control; and from improving decision making across the organization through centralized management information.

Model 2: The limited-risk sales company

Current position. A significant number of communications companies have businesses in multiple countries worldwide, and

most of them still undertake the majority of their sales on a local basis. This selling model was satisfactory when most customers were also decentralized or could be managed at a regional level. But to manage large global customers (an area in which most communications providers have experienced growth), operators must undertake a significant amount of administrative effort. They must make certain they not only maintain the agreed-upon levels of customer service and support, but also ensure that revenue and cost charges are allocated appropriately to each local operating company.

A localized sales model can increase the potential for sub-optimal commercial decisions, due to a lack of visibility over contract delivery costs and conflicting incentives. The multiple transactions that result are inefficient from both a cost and an indirect tax perspective.

Opportunity. Increasingly, customers are demanding a single point of contact from their global communications provider, along with standard products, services (e.g., billing), and terms and conditions. This demand—combined with intensive competition, downward pressure on margins, and high costs associated with the duplication of functions within local countries—has provided a catalyst for many multinational operators to evaluate their selling structure, again opting for a more centralized model.

We have helped a number of clients refocus local operations to concentrate on delivering services and maintaining local customer relationships, while the central group develops the overall sales strategy and product and service offerings. Centralizing the sales organization also enables companies to obtain superior insights into global customers' needs as well as the cost to serve them and into the impact this cost has on pricing strategies.

By selecting an appropriate location for the centralized sales organization, companies can achieve substantial tax savings.

Benefits. A centralized selling organization can generate significant benefits for communications providers that operate across multiple territories. These benefits include creating a simplified, flexible organization that can respond more rapidly to commercial and operational challenges; centralizing risk, core functions, P&L accounts, and key decision makers into a single entity, allowing local countries to focus on service delivery; and reducing the volatility of local operating company results by moving market risks to the center.

Additionally, because of significantly reducing inter-company transactions and cross-charges, there is a real opportunity to introduce both pricing consistency and a harmonized transfer pricing approach across countries, thereby simplifying

implementation and documentation requirements. As with Model 1, the limited-risk sales company model also creates opportunities for significant tax benefits by locating the central company, along with its key decision makers and the associated risk, in a tax-efficient jurisdiction.

Model 3: The centralized content company

Current position. Within many communications providers, the acquisition and delivery of content is left to local operating companies due to historical or legacy practices or the need for specific localized content. This approach means that, potentially, groups are missing opportunities to realize savings and efficiencies from a more coordinated, centralized approach.

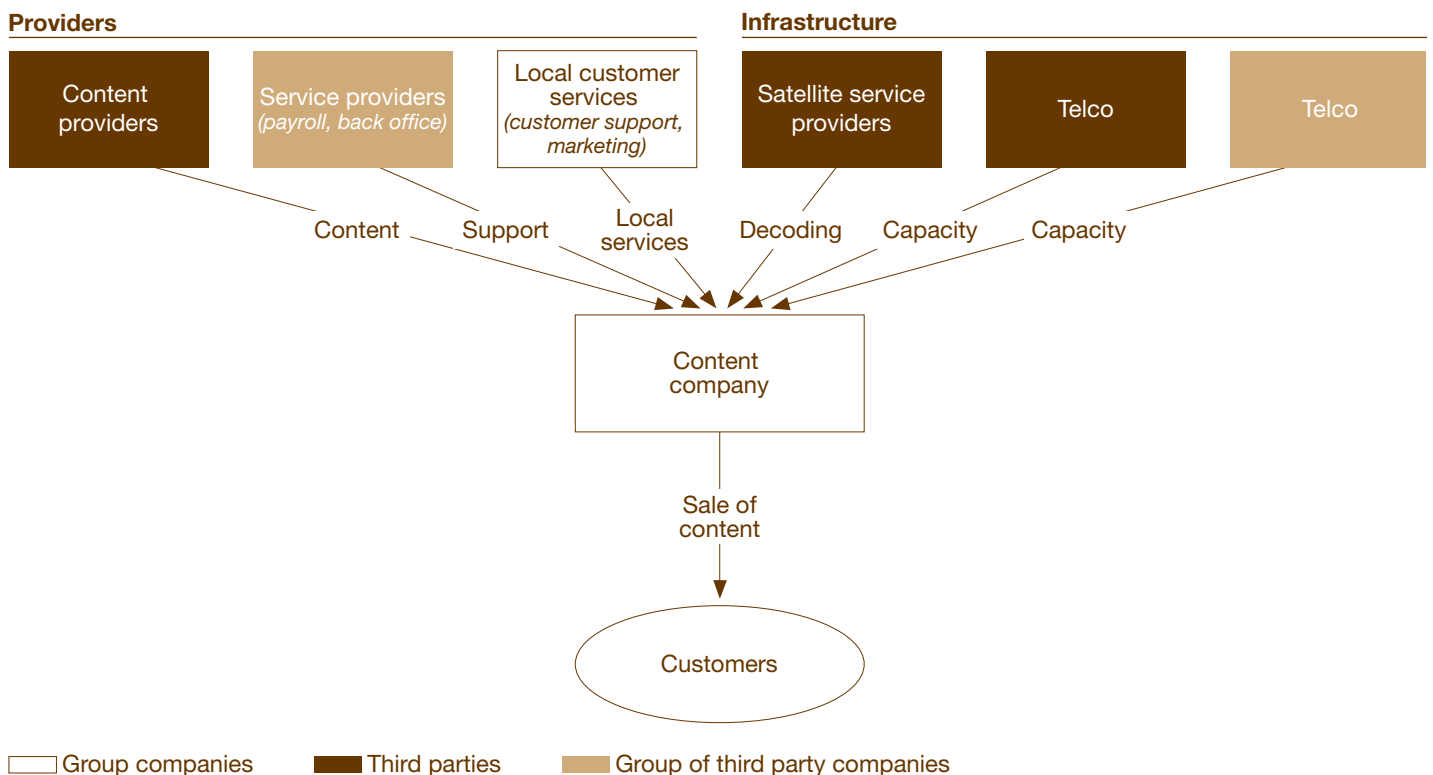
Opportunity. The centralized content company model creates an organization focused on acquiring and delivering content directly to customers. This company buys content from third-party providers

or commissions and funds in-house content development. The company packages and sells this content to customers, and it is responsible for buying or leasing the technical infrastructure required to deliver the content effectively.

This company can outsource support services, such as payroll services, back-office finance, and human resources, to third parties or to other parts of the organization. In-country operations can provide marketing and customer support. The content company of this business model (see Figure 2) is also able to take advantage of beneficial incentive programs that various countries offer for broadcasting and content-generation activities undertaken in their territories.

Benefits. As with the centralized services company model, the content company enables a range of financial and nonfinancial savings. In our experience, financial benefits have included volume savings achieved

Figure 2: Content Company



by consolidating content acquisition in one company; an improved negotiating position with content providers for promotional spending; and (by locating in a favorable jurisdiction) the realization of direct and indirect tax savings.

Nonfinancial benefits include streamlining and simplifying content acquisition processes and developing best practices. Because content can be acquired consistently, the business infrastructure is simplified and resource duplication can be avoided quickly. Technical benefits such as network capacity and quality can be obtained.

Looking ahead

Communications providers have undertaken a variety of cost reduction programs to help them deal with the recent challenging trading environment. The current situation, however, provides an ideal opportunity for them to comprehensively review and transform their operating models.

A complex corporate operating model can be costly to manage and to maintain. It can create a number of specific challenges as well, not the least of them concerning impaired operational efficiency. Change is never easy, and successfully implementing any (or all) of the three models outlined in this article represents a significant challenge.

For that reason, and to ensure that the potential savings are real and sustainable, companies should be aware, from the outset, of the principal issues that need to be addressed. Very much in brief, and grounded in our experience, priority areas for attention should include:

- **Aligning the business, tax, and legal models into one integrated operating model.** The temporary disruption to the organization must be compared to the potential ongoing benefits of the new business model.

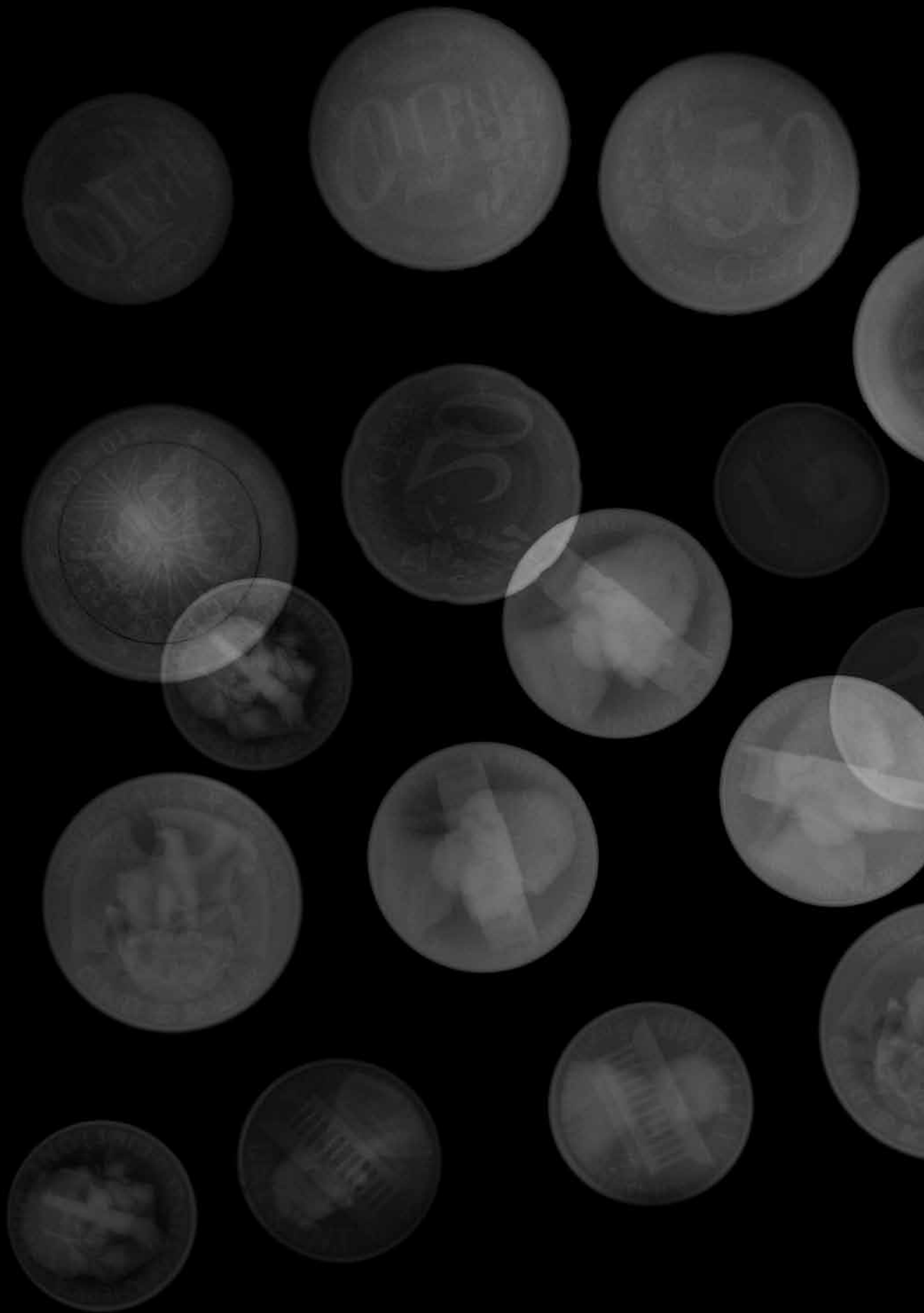
- **Choosing the jurisdiction for the central company.** The most suitable location will be based on a range of factors, such as the location of existing operations and infrastructure, the availability of attractive tax rates, efficient transport links, and access to talent.
- **Restructuring activities in order to implement the new business model.** Existing roles may need to be relocated or redefined (people issues often are the most difficult to resolve).
- **Changing relationships.** With suppliers, with customers, and within the wider organization, many relationships will need to be changed.
- **Restructuring data and systems needs.** The new organization must have access to appropriate management information, consistent with their decision-making responsibilities.
- **Complying with regulatory constraints.** Compliance must not be overlooked.

Provided that the points above remain front-of-mind throughout, the size of the prize at the end of a successful implementation can be significant—potentially enormous financial benefits, combined with a cost-effective, risk-compliant, tax-efficient, and flexible organization that is truly fit for the future, whatever it might hold. This is a reward that a growing number of communications companies around the globe have already judged to be well worth the effort.

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X-ray of coins close-up

A decorative graphic on the left side of the page consists of several overlapping, semi-transparent circles of varying shades of gray and white, set against a solid black background. The circles are arranged in a vertical column, with some overlapping others, creating a layered, abstract effect.

X-raying the P&L

For communications players, confronted with one of the most challenging operating landscapes in decades, the priority is to be sure they get the maximum “bang for their buck” for discretionary marketing and network spending. A key means of driving the effort is to expand traditional analysis tools to enable detailed insight into the profitability of individual commercial products, bundles, channels, and customer segments. Such insight will ensure that companies can evaluate the effectiveness of key marketing and network initiatives, as well as benchmark revenue and cost performance.

It is a fact of life for most telcos that their revenues are failing to keep pace with their costs. Slow but relentless industry convergence, driven by technology convergence on all IP networks, has intensified competitive pressures. The more recent turbulence in financial markets and the subsequent recessionary forces have depressed global demand for telecommunication services. At the same time, the days of cheap and plentiful capital have drawn to an abrupt close as credit markets have seized up.

No surprise, then, that a rigorous focus on operational efficiency is set to be a fact of life for the foreseeable future. Under these conditions, a key question for management is, what is the best way to leverage maximum benefits from existing as well as envisaged marketing and network programs?

The focus is currently on expanding profitability analysis across the organization to provide prompt, actionable insights into the performance of commercial products, bundles, channels, and customers. Most operators in developed or emerging markets have a regulatory cost model for determining the prices of regulated services. However, due to time lags in producing results and the lack of granularity and flexibility, such models have proven to be inadequate for commercial decision making. As a result, companies increasingly are seeking to drill much deeper into the profit and loss statement (P&L) to assess performance more accurately and more frequently.

Equipped with insights into performance at a much more granular level, management gains the information it needs to undertake a number of initiatives, including:

- Streamlining product portfolios and discontinuing uneconomical products.

- Investing in high-return product lines and high-return customer segments.
- Constructing tailored bundles with optimized pricing.
- Scrutinizing and prioritizing spending on marketing, particularly customer acquisition and retention expenses (e.g., handset and set-top-box subsidies) based on marginal value creation.
- Increasing target volumes to leverage scale where networks are underutilized.
- Refining targeted outsourcing.

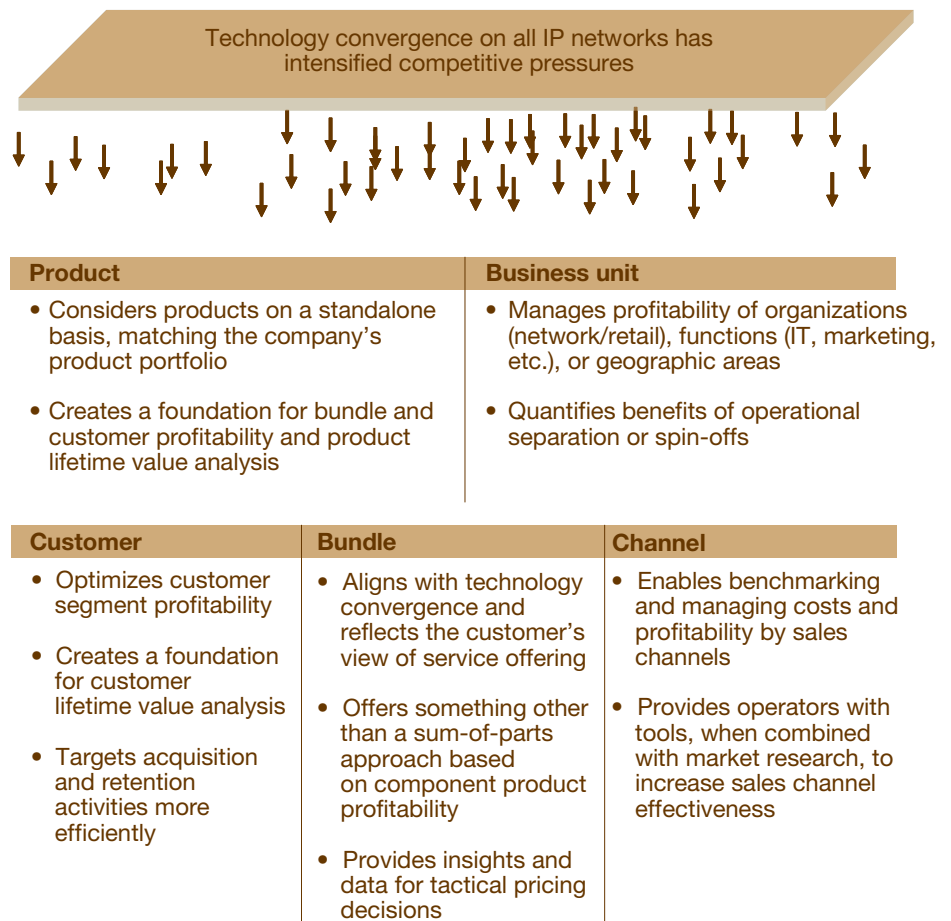
Confronted by a complex and rapidly evolving set of service, device, content, and technology requirements, companies in the communications sector have to be

able to move fast and intuitively to capture market share. At the same time, the fragmentation of customer segments calls for far greater flexibility in terms of pricing, bundling, and product targeting. Provided that management has continual access to detailed P&L insights, it will be able to formulate strategies that make sense in this challenging environment—quickly identifying potential new revenue streams (around data and TV, for instance), quantifying the upside for each one, and prioritizing them according to the anticipated impact on value.

Toward a new focus on profitability

Traditionally, communications companies have tended to focus on profitability at the product level.

Figure 1: Move from product and business unit to customer, bundle, and channel to gain prompt, actionable insights into the performance of commercial products



However, as convergence and recessionary forces have intensified competition, the emphasis has been far greater on exploiting bundling and channels to secure market share. Although those tactics have created exciting new revenue opportunities, they also have created problems in terms of profitability visibility. Thus, there is a need for systematic and regular reporting analysis of bundle, channel, and customer profitability.

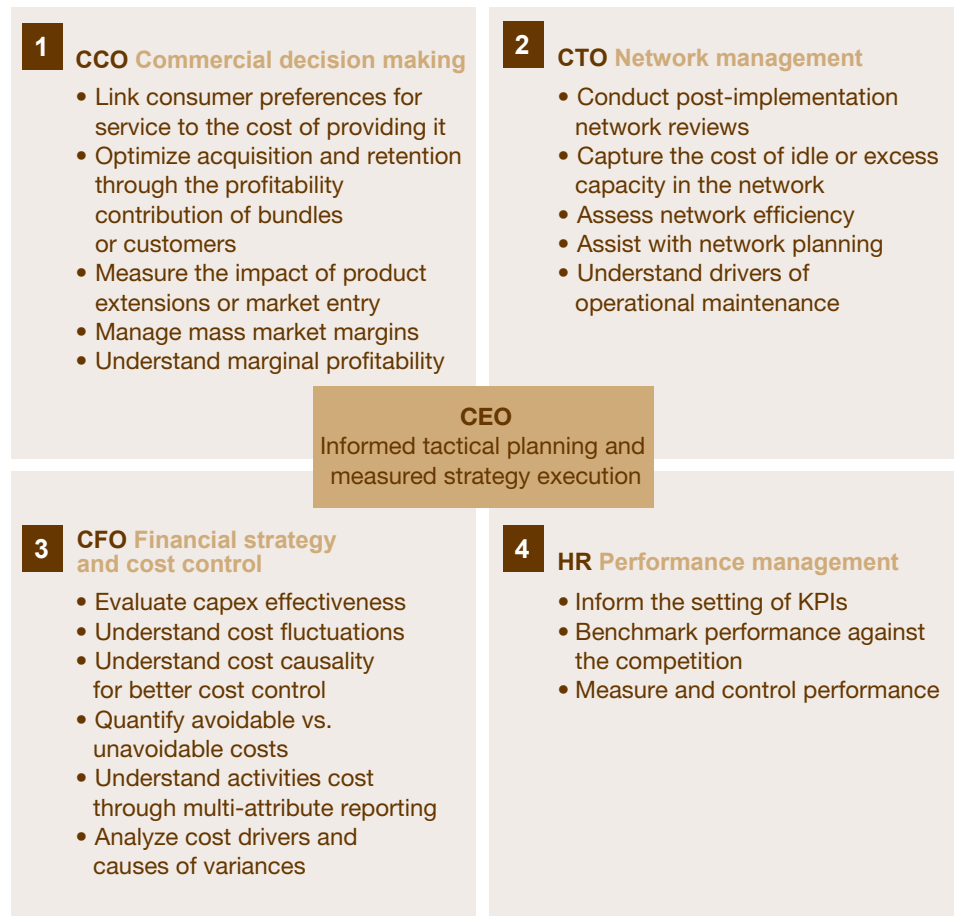
Figure 1 illustrates how the focus on profitability has shifted over time, as well as identifies the key insights that are delivered by each stage.

Channels, bundles, and customers are rich sources of strategic insight. Detailed information about channel profitability enables comparative analysis of channel performance. It also provides management with the data to benchmark the performance of its channels against others in the industry.

Bundles analysis is more challenging than it appears because of the discounts and economies of scope that come with selling bundles of TV, phone, and broadband. Nevertheless, the analysis provides valuable data for tactical pricing, a must-have capability in a competitive and volatile marketplace where margins are narrowing.

Of course, now more than ever, a detailed understanding of the profitability of each customer segment pays off by providing the foundation for customer lifetime value analyses. Combining that understanding with marketing insights and research also significantly improves product and service targeting, as well as ensures that, where possible, costs are limited to those for products and services that customers value (rather than wasted on activities that customers seldom use, or would be happy to do without).

Figure 2: Putting profitability insights to work throughout the organization



Putting the insights to work

Having established that enhanced P&L insights at the product, bundle, channel, and customer levels are essential in today’s environment, the next step is to decide where in the organization to use these insights for maximum effect. The reality is that the optimum mix of P&L insights will vary throughout the organization (see Figure 2).

The commercial team will be most interested in observing incremental profits because it can use that information to support tactical pricing decisions and to help prioritize the need for “push, pull or keep products or bundles” initiatives. The commercial team also will be able to leverage these insights in mass-market margin management, as

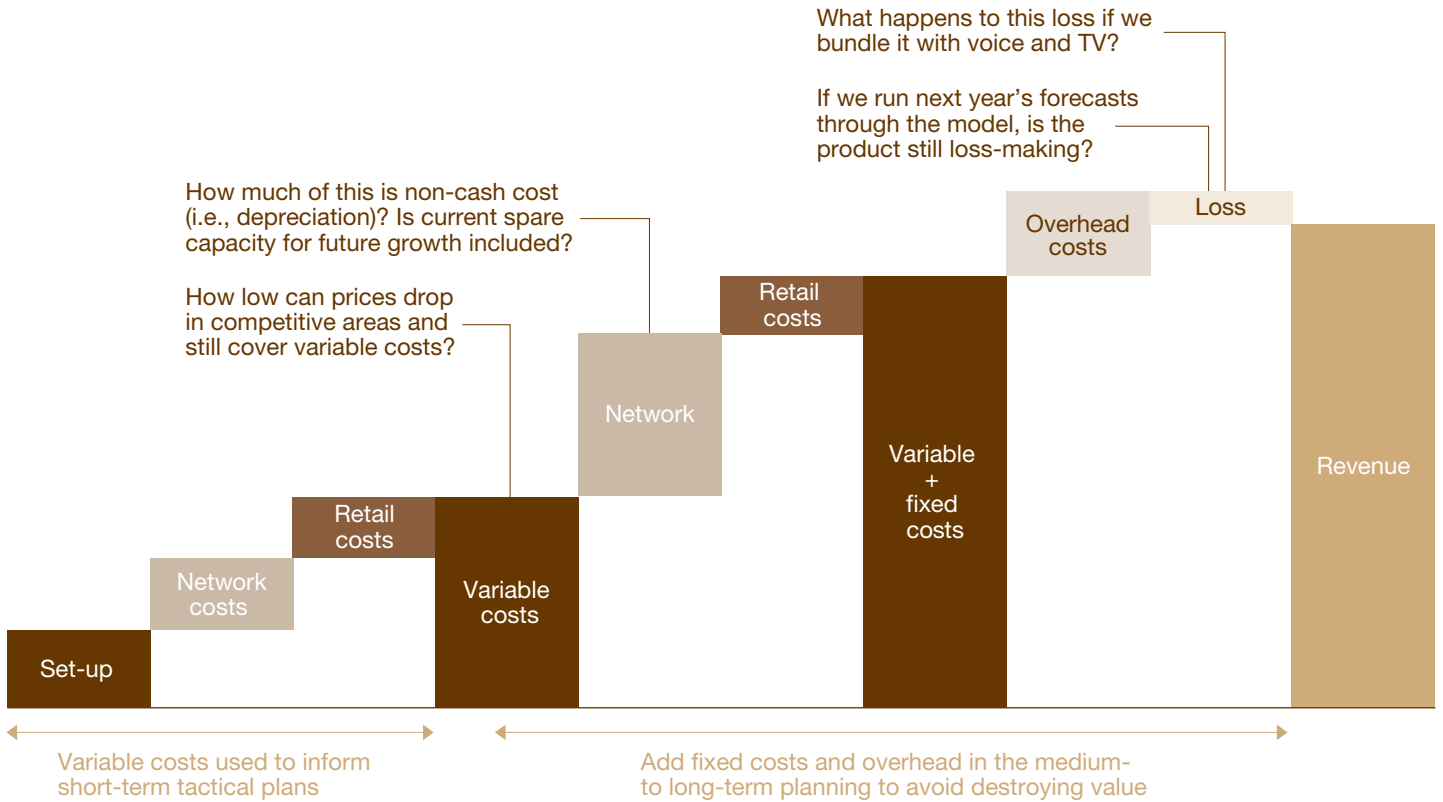
well as in identifying how individual products or bundles contribute to the organization’s overall profitability.

Meanwhile, the finance team will retain a focus on fully allocated costs when quantifying costs that are avoidable (e.g., sales acquisition and retention), those that are partially avoidable (e.g., advertising), and those that are unavoidable in the short term (e.g., facilities and information technology). Insights the team gains will equip them to monitor cost fluctuations and enhance cost control.

The human resources and network teams will derive their own benefits from P&L insights. As before, the information requirements of each will need to be closely considered and the P&L information tailored to match

Figure 3: Using variable and fixed costs to inform various commercial questions

Example: A mature broadband market



them. Human resources, for example, will be particularly interested in using data that can inform performance management benchmarking and setting key performance indicators (KPIs), while the network team will target data that facilitates network cost management (e.g., post-implementation network reviews).

Understanding the challenges of implementation and maintenance

The value that can flow from detailed P&L analysis is matched by the complex challenge of its implementation. Crucially, the requirement is not for a one-time solution but rather for a financial-systems-driven approach that enables a business-as-usual reporting capability. Because the information needs of organizations vary enormously, it is very important to design and operationalize a

model that will deliver the maximum ongoing benefit to core teams within the business. And it is essential to spend time deciding what information will be of most benefit to individual departments or teams before building the model that can deliver the level of insight required.

At the model-design stage, management first must decide what it wants to achieve (i.e., should the analysis cover products, bundles, channels, customers, business units—or all of them?), as well as whether an existing regulatory P&L model can be adapted or a new one needs to be developed from scratch. During the planning stage, it is important to avoid falling into the “accountant’s trap”—in other words, make sure that the appropriate cost standard is being used and tailored to the analysis that is being carried out. For example, new product introductions need to be evaluated

carefully as it is natural for such products to appear unprofitable while volumes are sub-scale.

As shown in Figure 3, variable and fixed costs each have a role to play in informing decision making in different parts of the organization. For instance, an operator that was facing intense competitive pressure in the broadband market was interested in finding out how low they could drop their prices in competitive segments and still cover their variable costs. They were also able to rapidly identify the effect of losing customers with low average revenue per user (ARPU) to other broadband providers.

Second, management must decide the calculation period and frequency of reporting requirements. One key question for consideration will be, what constitutes current? Another is, how must one-off costs and revenues be treated? At this stage, the expectations of stakeholders need to

be managed—that is, identify what they expect from the analysis and then let them know what actually will be delivered and how to use it most effectively.

Once a model that makes sense for the organization’s needs is agreed upon, data collection processes have to be put in place with the appropriate degree of granularity and reliability. Key steps at this stage include deciding how to match diverse (e.g., product) identifiers across systems to ensure that costs can be allocated appropriately. At the prototype stage, the processes for data collection often will be manual and resource-intensive. For this reason, in looking ahead to operationalizing the model, companies must consider how best to learn from mistakes and achieve overall automation.

Naturally, buy-in must be secured from the various data providers—no small task, especially when one considers the internal reporting duties that most of them will be handling already. Consequently, thought should be given to incentivising key individuals (in operations, commercial, and technical) by ensuring that commitment to the model is reflected in their yearly performance objectives, and perhaps through explaining the benefits to them as well as the visibility of performance they will achieve with this tool.

Finally, companies need to decide on the most effective means of refining allocation keys in light of ongoing data analysis. That can be achieved by continually seeking feedback from data providers and data users.

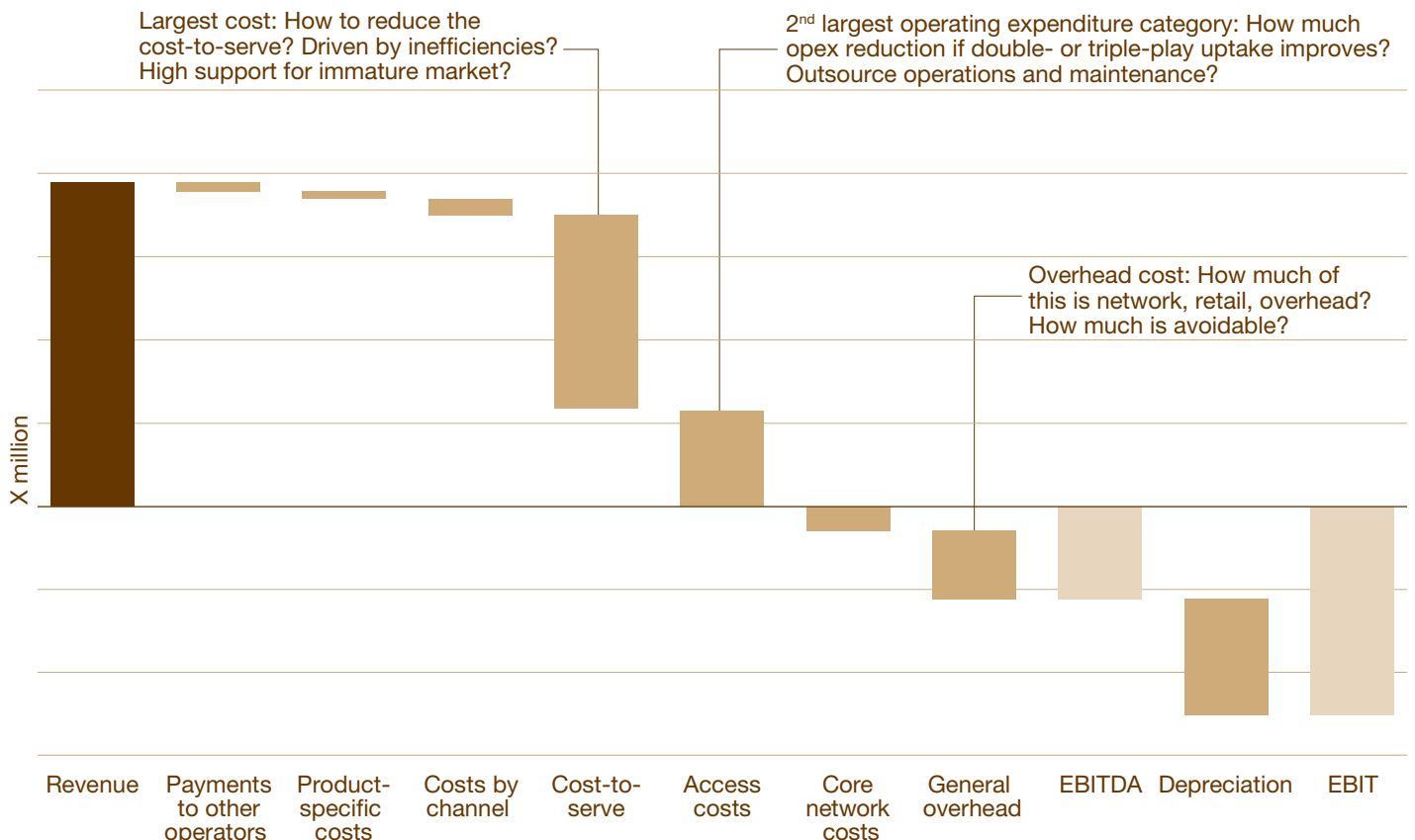
With the preparation and forward planning completed, the company will

be ready to build the model. Initial reviews should be conducted—before sharing the results—to fix any discrepancies that might appear in the data. The various users should be alerted to watch out for any particular trends that are likely to occur, for example, sense-checking data to see whether increases in network costs reflect recent developments. Because the data need to be available as rapidly as possible, the focus on materiality needs to be maintained.

Provided that the reporting templates that have been set up match user requirements, management will be ready to review and analyze the results generated by the model. Feedback can be sought from key stakeholders, all of whom should be encouraged to challenge the data before incorporating the findings into their strategic decision making. The

Figure 4: Profitability reporting highlights opportunities for cost efficiencies

Example: Bundle analysis



model can be refined and re-run as necessary, while being continually reconciled to the organization's budget and accounts.

It is important to share the right data mix with the right people within the organization. With professional guidance, management should be able to decide which insights will be most helpful for decision making across financial, human resources, network, and commercial functions, providing teams in each with valuable insight into core strategic questions (such as how product or bundled features drive costs). If this analysis is combined with conjoint research into the relative attractiveness to customers of such features—such as what is important to customers' buying behavior and what is not—management has a potentially powerful tool with which to maximize profit by refining the product or bundle proposition.

Benefits in practice

In the following examples, we show how detailed profitability analysis delivers real-world benefits to companies. In Figure 4, detailed bundle analysis was used to highlight key costs that could be benchmarked against competitors to help inform decisions about cost reductions. In this particular instance, the client used the insights provided by our model to analyze and ultimately to reduce the cost-to-serve for each of its bundled offerings. The data were used to assess whether or not operating expenditure could be significantly reduced by improving double- or triple-play uptake, as well as by quantifying just how much of the network, retail, and overhead costs could be avoided.

Companies can gain tremendous value from understanding customer segments better and formulating

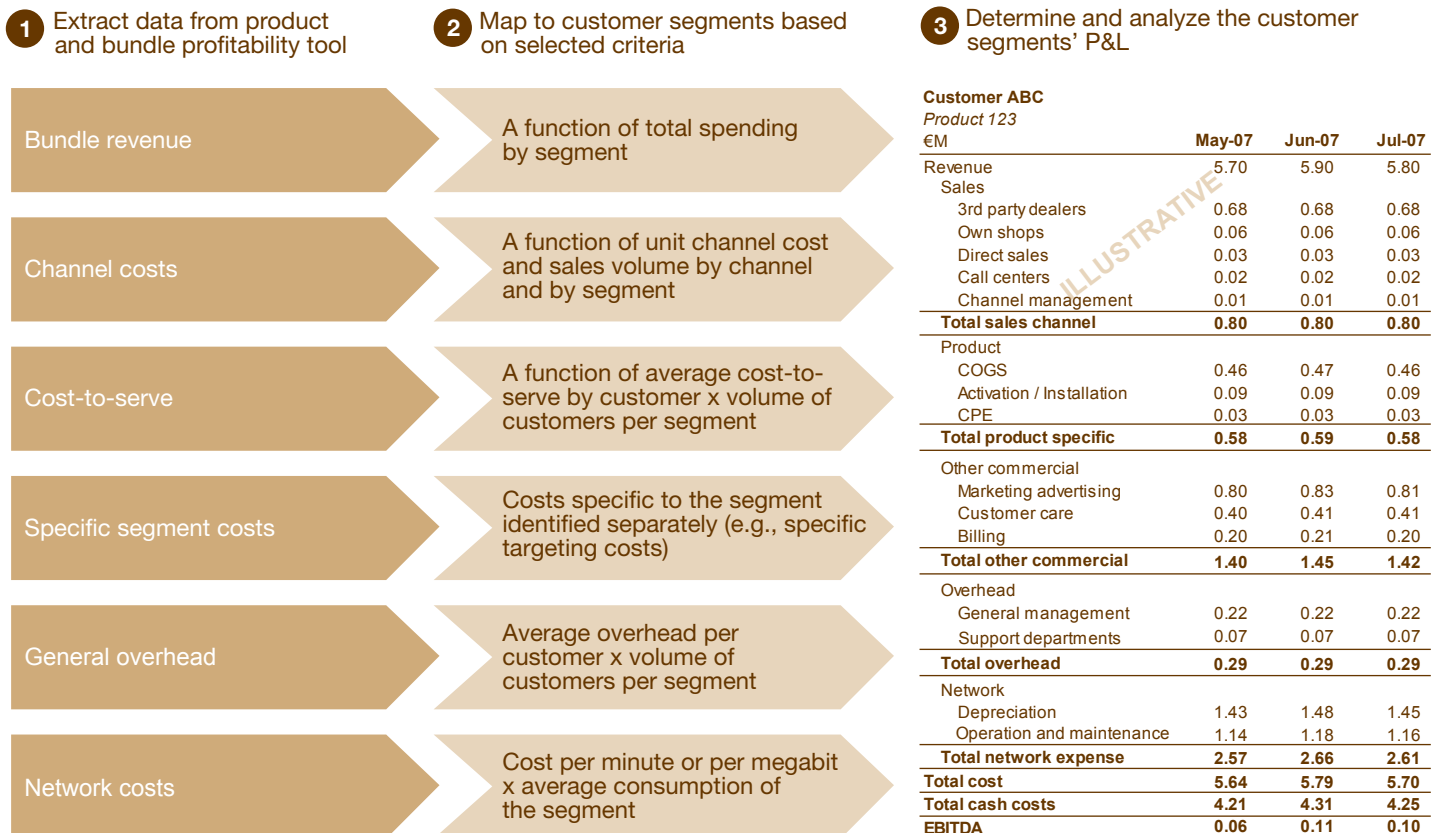
strategies appropriate for optimizing relationships with customers.

A tool used by many operators PricewaterhouseCoopers works with is customer profitability. In Figure 5, we show how to analyze customer profitability, starting with the cost and profitability data of products and bundles and mapping that to core customer segments based on selected criteria. The resulting Customer Segment Profitability P&L is an invaluable tool for assessing future spending decisions and for underpinning tailored retention and value optimization strategies.

Through our work with telecom operators, we have found that in order to make customer profitability actionable, the operator should take an iterative approach:

- Use market research and customer profitability analysis to identify potential levers of future value at

Figure 5: Building customer segment profitability bottom-up by using insights from product or bundle profitability tools



the level of each segment (for example, pricing, product design and mix, customer mix, sales channels, activities that increase stickiness, and superior customer service).

- Prioritize levers by assessing the value that customers place on them.
- Compare value with what it “costs” to realize change in these levers by using developed costing tools.
- Implement tailored initiatives to transform the relationship with customers.
- Re-measure the impact on the profitability of customer segments.

This iterative approach should equip management with strategies that increase ARPU, reduce the cost of churn, increase stickiness, and reduce the overall cost-to-serve.

Operationalizing the model for long-term benefit

Detailed profitability analysis can—and does—deliver real benefits. But if the processes have not been embedded into the organization such that they become business as usual, the longer-term payback will be impaired. Operationalizing the model requires management to commit to a number of actions:

- Incentivize people to provide accurate data on a regular basis, using KPIs, where appropriate, to build these actions into people’s objectives and ensure that accountability for data inputs is understood and maintained.
- Safeguard the ongoing accuracy of data through regular checks on data received, as well as regular Q&A sessions with internal audit functions.
- Ensure the timely reporting of data through integrating the process with the company’s wider reporting and management accounts processes, as well as by maximizing the automation of processes.

- Protect the ongoing appropriateness of data by applying the correct cost standard, as well as by communicating effectively concerning the appropriate measure (i.e., telling the data users what the meanings and limitations of each measure actually are).
- Prevent the maintenance of the process from becoming too resource-intensive by focusing on standardizing and automating the data-gathering and -cleansing actions that need to take place, as well as on materiality.
- Manage stakeholders, the last, but by no means least, step. This means that, from the outset, management must be clear about the benefits, as well as the limitations, of the profitability analysis. Set up feedback loops and monitor them constantly to ensure that problems are resolved promptly and confidence in outputs is strengthened.

PwC has already accumulated substantial experience in planning, building, and embedding these analytical processes into the organizational frameworks of communications businesses. For example, we recently completed a major assignment with one of the largest telecom companies in Europe to plan and build their profitability model. This provided management with consistent, regular, system-driven profitability reporting against the budget for all of their segment-based bundle propositions.

For a global mobile operator, we recently provided a tool to analyze the profitability of each of the global major accounts, drawing outputs from more than 100 geographic areas with separate accounting and customer relationship management systems. Based on this and other experience, we know that, from start to finish, companies should expect such assignments to take between four months and a year.

From that point—and provided that steps have been taken to operationalize the analysis throughout the organization—the benefits to strategic decision making are substantial and ongoing.

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The authors wish to thank Catherine Lunn for her contribution to this article.



*Man with laptop and headphones
looking at text message on mobile phone*



Access is Everything

Each year, PricewaterhouseCoopers' global team of entertainment and media practitioners generates in-depth forecasts for 12 industry segments, incorporating data from four principal regions comprising 48 countries and areas around the world. Following are extracts from the *Global Entertainment and Media Outlook, 2009–2013* that cover the global Internet access market, a key driver of entertainment and media spending in most segments.

The Internet access market—comprising wired and mobile access but not content purchases—rose by 12.7% in 2008, continuing its trend of double-digit annual increases. The global economic downturn during 2009–10 will reduce growth during these two years to mid-single-digit increases, following the double-digit annual gains of the past five years. The near-term slowdown will occur because of a slower migration rate from dial-up to broadband, a slower take-up rate for high-speed services in the near term, and increased competition that will lower average spending per subscriber.

Once economic conditions have improved, we will look for a return to double-digit annual gains during 2011–13. Over the longer run, penetration into rural areas and faster broadband speeds will accelerate the migration to broadband. Increased fiber deployments in the Internet backbone and fiber-to-the-home (FTTH) deployments will increase broadband speeds, making it more suitable for high-volume video applications. Wireless network upgrades; the further rollout of enhanced third-generation (3G)

cellular wireless services—notably, high-speed packet access (HSPA); and the increased penetration of smart phones with touch-screen capabilities will stimulate demand for mobile applications and drive even further demand for high-speed Internet access. Spending will rise from US\$215 billion in 2008 to \$334 billion in 2013, a 9.2% compound annual increase (see Figure 1).

North America

We project Internet wired and mobile access spending in North America to grow by 9.2% compounded annually, reaching \$68.3 billion in 2013. Wired broadband access will increase to \$53.2 billion, a 7.1% compound annual advance. Wired dial-up access spending will decline to \$2 billion from \$5.1 billion in 2008, a 17% drop compounded annually. Overall, wired Internet access spending will reach \$55.2 billion in 2013 from \$42.8 billion in 2008, growing by 5.2% compounded annually. Mobile access will total \$13.1 billion in 2013, increasing from \$1.2 billion in 2008, a 60.9% compound annual increase from a small base (see Figure 2).

In terms of overall spending growth, including mobile access, Canada will be the country with the faster growth during the next five years, with a projected 9.9% compound annual increase compared with 9.1% for the United States. In 2013, the US will expand to \$62.7 billion from \$40.6 billion in 2008, while Canada will rise to \$5.6 billion from \$3.5 billion.

Broadband. Telephone companies and cable operators have been in head-to-head competition in the broadband market for years. The nature of the competition has evolved from being price-centric—whereby cable and telephone companies offer steep discounts to lure broadband subscribers away from the competition—to speed-centric, with providers now featuring high-speed options.

The appeal of large bandwidth is the ability to access high-volume video applications. Uploads and downloads of video material, from such sites as YouTube, and the sharing of videos between users are leading to a surge in video traffic. Although only about 5% of broadband subscribers are high-volume video

Figure 1: Global Internet access market: wired and mobile (US\$ millions)

Segment	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2009–13 CAGR	
Internet access: wired and mobile	110,370	136,588	162,394	190,425	214,601	226,221	238,450	262,360	296,387	333,628		
% change		21.9	23.8	18.9	17.3	12.7	5.4	5.4	10.0	13.0	12.6	9.2

Figure 2: North America—Internet access market: wired and mobile by component† (US\$ millions)

North America	2004	2005	2006	2007	2008p	2009	2010	2011	2012	2013
Wired Internet access										
Dial-up	9,475	8,587	7,398	6,285	5,148	4,654	4,174	3,505	2,854	2,025
Broadband	17,144	21,402	26,735	33,942	37,689	38,372	39,320	42,964	48,433	53,196
Total wired Internet access	26,619	29,989	34,133	40,227	42,837	43,026	43,494	46,469	51,287	55,221
Mobile access	—	1	149	735	1,212	2,571	3,825	6,034	9,210	13,073
Total	26,619	29,990	34,282	40,962	44,049	45,597	47,319	52,503	60,497	68,294

†At average 2008 exchange rates.

Sources: PricewaterhouseCoopers LLP, Wilkofsky Gruen Associates

users, they account for half of all the bandwidth consumed. Video traffic now accounts for around 40% of all Internet traffic.

The major long-term impediment to expanded household penetration is the limited availability in rural areas where the population is sparse. With cable and DSL, households need to be within 18,000 wire-feet of the nearest node in order to receive broadband. Cable and DSL providers have held back from extending their infrastructure to rural areas because the return on the investment is low. This is an issue of significant concern in Canada, which has very large, sparsely populated geographic areas, though its major population concentrations are in well-served city and suburban areas. To a lesser extent, this is an issue in the US as well.

The 2009–10 Canadian budget contains a \$225 million allocation over three years to develop and implement a strategy on extending broadband coverage to unserved communities. This initiative will engage additional funding from other levels of government and the private sector to continue to expand Canada's broadband network.

In the US, the Department of Agriculture announced in late 2008 that it is awarding \$342 million in loans to companies that will help bring improved services to rural areas. The economic stimulus package announced by Pres. Barack Obama includes broadband as part of a national infrastructure investment. If funds are allocated to that program, broadband availability in rural areas would increase.

Over the long run, the appeal of faster speeds, even at higher prices, and increased penetration in rural areas will drive the broadband market. Nevertheless, growth will be limited by approaching saturation. In Canada, two-thirds of the households were already subscribed to broadband in 2008, and the US was just behind, at 63.5%.

During 2009 and 2010, the weak economy will likely reduce the inclination of consumers to trade up to faster speeds. We therefore expect price competition to be more prevalent in the near term. We expect average spending per month per subscriber in both the US and Canada to decline during the next two years and then increase during the subsequent three years as an improving economic environment facilitates increased spending for higher-speed options.

Mobile access. The mobile access market in North America was virtually nonexistent as recently as 2005 but totaled \$1.1 billion in the US and \$120 million in Canada in 2008. A major catalyst for that expansion was the introduction of smart phones with touch-screen capabilities that make it much easier to access the Internet from a mobile phone. Screens are larger than those of traditional phones, and navigation is faster and more user-friendly.

People are migrating to smart phones as hardware and software are becoming cheaper and as the networks run faster. Carriers are heavily promoting the smart phones because their users spend much more per month than do non-smart-phone users. We expect that nearly 30% of wireless telephone subscribers in North America will use their handsets to access the Internet in 2013, compared with only 3.4% in 2008.

United States

A key development in the US was Apple's June 2007 launch of the iPhone, the first touch-screen device with an iPod, a digital organizer, and wireless Internet access. Other carriers introduced various touch-screen phones to compete against the original iPhone and lowered the price of their phones when the new iPhone was introduced.

The fundamental driver of the greatly increased use of mobile access is faster wireless speeds. Most carriers are already providing enhanced 3G options such as HSPA. The

auction of wireless spectrum in the 700-megahertz (MHz) band in mid-2008, the spectrum to be vacated by television stations, will open up new opportunities for wireless carriers to offer broadband.

The Federal Communications Commission plans to auction spectrum in the advanced wireless services 3 band in 2009 with the stipulation that the winning bidder of a national license set aside a portion of the spectrum for a free broadband service.

Wireless access spending will total \$11.7 billion in the US in 2013, an increase from \$1.1 billion in 2008.

Canada

The evolution to next-generation networks is accelerating in Canada, and already broadband cellular networks are operational in the major population centers. The advanced wireless services (AWS) spectrum auction was completed in July 2008. It was an unusual auction, with three of the six AWS bands set aside for new entrants, thereby limiting the ability of Rogers, Telus, and Bell to dominate the auction. The auction was very competitive, with the final average price per MHz per person being around three times that of the same spectrum auctioned in the US.

While the big three did dominate in the three unrestricted bands, the auction resulted in five new entrants of significance in the AWS bands. The incumbent cable operators—Shaw, Videotron, and Bragg/Eastlink—picked up spectrum covering territory consistent with their respective cable operations to support a quad-play strategy. Two relative newcomers—Globalive and Data & Audio Visual Enterprises Wireless Inc.—picked up spectrum across the country. The enthusiasm of the auction has been somewhat muted by tough economic times, which have caused almost all of the new entrants to scale back and defer the launch of their offerings.

As in the US, upgraded wireless networks and the proliferation of smart phones will propel mobile Internet access in Canada. We project spending to rise to \$1.3 billion in 2013, from \$120 million in 2008.

Europe/Middle East/Africa

Internet wired and mobile access spending in Europe, the Middle East, and Africa (EMEA) will grow by 10.3% compounded annually, from \$80.3 billion in 2008 to \$131.4 billion in 2013. Wired Internet access spending will increase by 7.3% compounded annually, from \$69.3 billion in 2008 to \$98.5 billion in 2013. Wired broadband access spending will expand by 9.8% compounded annually, from \$59.3 billion in 2008 to \$94.6 billion in 2013. Wired dial-up access spending will decrease by 17.4% compounded annually, from \$10 billion in 2008 to \$3.9 billion in 2013 (see Figure 3).

Mobile access will advance at a 24.5% compound annual rate, from \$11 billion in 2008 to \$32.9 billion in 2013. Western Europe will be the slowest-growing area in EMEA, in large part because its broadband market is the most mature, with 55% of all the households already subscribing—as compared with 25% in Central and Eastern Europe and 12% in the Middle East and Africa.

Total access spending in Western Europe will increase at a 7% compound annual rate, from \$65.5 billion in 2008 to \$91.9 billion in 2013. Central and Eastern Europe will increase at a 17.5% compound annual rate, from \$8.3 billion in 2008 to \$18.6 billion in 2013, fueled principally by more than a doubling of its broadband household base. In the Middle East and Africa, we expect the broadband universe to nearly triple and overall spending to rise by 26.2% compounded annually, from \$6.5 billion in 2008 to \$20.8 billion in 2013.

Broadband. Broadband providers throughout EMEA are investing in their infrastructure in order to provide faster speeds. Governments also are actively supporting broadband. In Finland, the government is funding a project that will extend the fiber network to within two kilometers of virtually all households, enabling download speeds of up to 100 megabits per second (Mbps). In Switzerland, legislation that went into effect in 2008 makes broadband a Universal Service Obligation. Germany is spending €141 million (\$206 million) in public funds to extend broadband availability to rural areas.

Rural broadband will also be helped by satellite. Eutelsat and Astra have deals with local providers in several countries to offer broadband by satellite. In Germany, for example, Eutelsat in conjunction with TelDaFax will provide a satellite broadband service in areas where DSL service is

Figure 3: Europe/Middle East/Africa—Internet access market: wired and mobile by component† (US\$ millions)

EMEA	2004	2005	2006	2007	2008p	2009	2010	2011	2012	2013
Wired Internet access										
Dial-up	21,473	18,095	15,155	12,317	10,025	9,119	7,972	6,936	5,304	3,863
Broadband	21,215	30,912	41,277	50,959	59,313	61,671	65,216	72,734	83,537	94,617
Total wired Internet access	42,688	49,007	56,432	63,276	69,338	70,790	73,188	79,670	88,841	98,480
Mobile access	2,021	3,363	5,542	8,332	11,006	13,310	15,667	19,490	25,245	32,876
Total	44,709	52,370	61,974	71,608	80,344	84,100	88,855	99,160	114,086	131,356

Figure 4: Asia Pacific—Internet access market: wired and mobile by component† (US\$ millions)

Asia Pacific	2004	2005	2006	2007	2008p	2009	2010	2011	2012	2013
Wired Internet access										
Dial-up	9,830	10,236	9,284	11,293	13,549	12,955	12,058	11,163	10,349	9,506
Broadband	14,735	18,126	21,418	24,784	28,477	31,299	34,230	37,418	40,923	44,815
Total wired Internet access	24,565	28,362	30,702	36,077	42,026	44,254	46,288	48,581	51,272	54,321
Mobile access	11,079	21,394	29,517	34,147	39,265	42,686	45,549	49,915	55,892	62,277
Total	35,644	49,756	60,219	70,224	81,291	86,940	91,837	98,496	107,164	116,598

†At average 2008 exchange rates.

Sources: PricewaterhouseCoopers LLP, Wilkofsky Gruen Associates

poor or nonexistent. In Italy, the digital divide was reduced through the launch of WiMAX in early 2009. The new technology covers rural communities throughout Italy and is managed by two licensed operators. Moreover, Vodafone has declared that it will also cover digitally divided areas with High-Speed-Downlink Packet Access (HSDPA) technology.

We project the number of broadband households in EMEA—by 2013—to increase to 223.8 million, an 11.2% compound annual increase from 2008. In Western Europe, the broadband household universe will expand to 154.8 million from 100.5 million, a 9% compound annual increase. In Central and Eastern Europe, the number will increase to 53.6 million, a 15.8% compound annual increase from 25.7 million in 2008.

In the Middle East and Africa, broadband will grow to 15.5 million households from 5.4 million in 2008. Excluding Israel, which has a 77% broadband household penetration and a projected growth of only 4% compounded annually, the Middle East and Africa will increase at a 23.2% compound annual rate.

By 2013, 68.7% of all the households in EMEA will be online. In Western Europe, penetration will increase to 79.5%. In Central and Eastern Europe, Internet penetration will rise to 56.8%, and in the Middle East and Africa, 48.8% of households will be online in 2013.

Mobile access. Wireless network upgrades are facilitating growth in mobile Internet access because more wireless telephone subscribers can use their handsets to access the Internet.

In Germany, T-Mobile and Vodafone offer HSDPA with speeds of up to 1.8 Mbps. HSDPA is also available in Austria, Italy, Portugal, Spain, Switzerland, Hungary, and Poland. In Hungary, Magyar Telecom has a long-term loan from the European Investment Bank for around \$300

million to invest in mobile broadband. In Russia, each of the main wireless operators launched 3G services in the past 18 months.

Because mobile Internet access involves interactive communications, which are more complicated than the downloading of songs or ringtones, speed is important. We expect rollouts of high-speed services to spur mobile access penetration. In addition to network upgrades, the introduction of smart phones such as the iPhone can spur the market. Smart phones with touch-screen capabilities make it much easier to navigate the Internet.

Mobile access spending exceeded \$1 billion in each of France, Germany, Italy, the United Kingdom, and Saudi Arabia/Pan Arab in 2008, and we expect Spain to reach that threshold in 2009, Russia in 2011, Turkey in 2012, and Poland in 2013. Mobile access is relatively high in Saudi Arabia/Pan Arab because of the limited availability of wired broadband.

Currently, only a fraction of wireless telephone subscribers are mobile Internet subscribers. On average, 8.2% of the wireless telephone subscribers were mobile Internet subscribers in 2008. Slow speeds and the limited penetration of smart phones or handsets with full keyboard capabilities limit penetration.

Cost is also an issue, and we expect a slower take-up rate during the next two years as consumers look to conserve funds. In 2008, mobile access penetration increased by 1.9 percentage points. We expect a 1.4 percentage-point gain in 2009, to 9.6% followed by a 1.7 point increase in 2010. Thereafter, the combination of an improved underlying economy, more-Internet-appropriate handsets, and faster network speeds will propel penetration. From 2010 to 2013, we expect mobile access penetration to jump by 12.6 percentage points to

23.9%. Spending on mobile access will nearly triple during the next five years, from \$11 billion in 2008 to \$32.9 billion in 2013, a 24.5% compound annual gain.

Western Europe will increase to \$16.5 billion in 2013 from \$8.2 billion in 2008, a 15% compound annual gain. Central and Eastern Europe will expand to \$6.6 billion in 2013 from \$1.3 billion in 2008, at 38.6% compounded annually. The Middle East and Africa will be the area growing the fastest from a small base, rising to \$9.7 billion in 2013 from \$1.5 billion in 2008, a 45.3% increase on a compound annual basis.

Asia Pacific

Internet wired and mobile access will increase during the next five years to \$116.6 billion in 2013 from \$81.3 billion in 2008, averaging 7.5% compounded annually. Wired Internet access spending will rise to \$54.3 billion in 2013 from \$42 billion in 2008, a 5.3% increase compounded annually. Wired dial-up access spending will total \$9.5 billion in 2013, a 6.8% compound annual decline. Wired broadband access spending will grow to \$44.8 billion in 2013 from \$28.5 billion in 2008, a 9.5% compound annual rate (see Figure 4).

Mobile access spending will increase from \$39.3 billion in 2008 to \$62.3 billion in 2013, a 9.7% compound annual increase. Mobile access spending will overtake wired access spending in 2011. Japan, at \$37.8 billion in 2008, has the largest market in Asia Pacific, with 74% of that total coming from mobile access. Japan is the only country in the world where the majority of Internet access spending is generated from mobile phones.

The People's Republic of China (PRC), at \$20.1 billion, was the second largest market in Asia Pacific in 2008. The PRC had the largest wired Internet household base in the world, at 161 million in 2008, and the second largest mobile access subscriber base, behind Japan, at around 45 million.

The PRC passed the US in 2008 to become the largest wired broadband market in the world, with 76 million households.

Broadband. Countries throughout the region are enhancing their broadband capacity to provide faster speeds and greater throughput. In Australia, the government is expected to award a tender in 2009 for a national broadband network at an estimated cost of \$5 billion. The Japanese government is actively promoting broadband through its Next Generation Broadband Strategy 2010 initiative. That strategy targeted FTTH as a central tenet. The FTTH market rose from 2.9 million in 2005 to more than 13 million in 2008, the largest of any country in the world, and in 2008 fiber became the largest broadband access technology in Japan.

In the PRC, the restructuring of the telecommunications market will lead to more broadband competition. There are now three competitive companies in the market—China Mobile, China Telecom, and China Unicom—each of which can offer mobile and fixed line service in a package, and each of which will operate a wireless network by using a single wireless broadband technology.

Fixed wireless using WiMAX technology also is being introduced or expanded in other countries. In

Pakistan, Motorola has a contract with Wateen Telecom for around 200,000 devices that will be used for wireless DSL. In Taiwan, six companies were issued WiMAX licenses in July 2007, and they are looking to jointly purchase WiMAX equipment to save on capital costs and accelerate the process of introducing service. WiMAX licenses are expected to be issued in Thailand in 2009, and in Vietnam four companies were issued licenses to test WiMAX service for one year.

To assist in extending broadband to rural areas, O3b Networks entered the market in 2008 with a satellite service. A series of medium-Earth-orbit satellites is expected to be launched in late 2010. The satellites will provide broadband connectivity to areas across the region not reached by DSL or cable modem service.

The ability to accommodate rising levels of Internet traffic will be a critical factor in the facilitating of broadband expansion. The construction of undersea fiber-optic cables that link Asia with the rest of the world will allow for faster broadband speeds. In October 2008, the first phase of the Trans-Pacific Express that links China and Taiwan with the US was completed, the first such direct link. The eight companies participating in the project—China Telecom, China Netcom, China

Unicom, Chunghwa Telecom (Taiwan), Korea Telecom, NTT Communications Corp., AT&T, and Verizon—are spending around \$500 million.

There is a wide disparity in broadband penetration in Asia Pacific. Broadband is well developed in Australia, Hong Kong, Japan, New Zealand, Singapore, South Korea, and Taiwan, each of which had penetration rates in excess of 50% in 2008. Broadband penetration in Malaysia was 24.6%, and in the PRC, 19.2%. The remaining countries have penetration rates below 10%.

In countries that have high broadband penetration rates, we project low- to mid-single-digit gains during the next five years, while we look for double-digit average growth in each country where broadband penetration was less than 50% in 2008.

Mobile access. Asia Pacific has by far the largest mobile access market in the world, at \$39.3 billion in 2008, constituting 76% of the global total.

Restructuring in the PRC will make the wireless market more competitive, and the introduction of 3G services in 2009 will expand the reach of mobile access. Carriers during the next two years are expected to spend around \$40 billion in the development of 3G networks. We expect the PRC to overtake South Korea in 2011 and rise to \$15 billion by 2013, a 31.8% compound annual increase. Although

Figure 5: Latin America—Internet access market: wired and mobile by component† (US\$ millions)

Latin America	2004	2005	2006	2007	2008p	2009	2010	2011	2012	2013
Wired Internet access										
Dial-up	2,142	2,193	2,332	2,194	1,820	1,635	1,452	1,227	1,027	851
Broadband	1,256	2,279	3,461	5,145	6,579	7,276	8,071	9,525	11,392	13,321
Total wired Internet access	3,398	4,472	5,793	7,339	8,399	8,911	9,523	10,752	12,419	14,172
Mobile access	—	—	126	292	518	673	916	1,449	2,221	3,208
Total	3,398	4,472	5,919	7,631	8,917	9,584	10,439	12,201	14,640	17,380

†At average 2008 exchange rates.

Sources: PricewaterhouseCoopers LLP, Wilkofsky Gruen Associates

the mobile access subscriber base is large in absolute terms, only about 7% of wireless telephone subscribers in the PRC were mobile access subscribers in 2008, leaving substantial room for growth.

There are also a number of developments in other countries that are enhancing the wireless market. In Australia, Optus is expanding its 3G network to reach 98% of the population by the end of 2009 at an estimated cost of \$800 million. In Thailand, CAT Telecom is expanding its 3G network, and during the past three years, wireless carriers in Thailand spent \$1.8 billion on their wireless networks.

Despite high penetration rates in Japan and South Korea, less than 13% of wireless telephone subscribers in all of Asia Pacific were mobile access subscribers in 2008. We expect relatively modest penetration growth during the next two years, followed by accelerated growth during 2011–13, reflecting the economic cycle and the build out of advanced wireless networks. By 2013, an estimated 20.4% of the potential market will be mobile access subscribers. We project mobile access spending will increase to \$62.3 billion in 2013, a 9.7% compound annual increase.

Latin America

We expect Internet wired and mobile access spending in Latin America to grow at a 14.3% compound annual rate, from \$8.9 billion in 2008 to \$17.4 billion in 2013. Wired Internet access spending will increase at a compound annual rate of 11%, from \$8.4 billion in 2008 to \$14.2 billion in 2013. Wired dial-up access spending will decrease at a compound annual rate of 14.1%, from \$1.8 billion in 2008 to \$851 million in 2013. Wired broadband access spending will be up 15.2% on a compound annual basis, increasing from \$6.6 billion in 2008 to a total of \$13.3 billion in 2013 (see Figure 5).

Mobile access will expand from \$518 million in 2008 to \$3.2 billion in 2013, a 44% compound annual increase from a small base rate during the past five years, fueled by a rapidly growing broadband market. We expect a dip to single-digit gains during the next two years as the economic environment weakens, and then a return to double-digit annual growth during 2011–13 as the economy recovers. Brazil was the largest market in the region, at \$4 billion, in 2008. Mexico, at \$1.8 billion, was next, followed by Argentina at \$1.6 billion. Each country will average double-digit compound annual increases during the next five years.

Broadband. Each country is initiating programs to expand its broadband market. In Brazil, the government is undertaking a program to provide broadband for schools and municipal councils. Satellite technology will be used to provide access points.

In Mexico, WiMAX is being used to extend broadband to areas not currently reached, because it is around 80% less expensive to deploy than wired technologies. The launch of triple-play services by cable operators is driving broadband in areas reached by cable modems. Fueled by new, triple-play options, we expect broadband in Mexico to rise to 11 million subscribers in 2013, growing by 15.9% compounded annually from 5.25 million in 2008.

In Argentina, Multicanal and CableVisión are investing more than \$300 million in a fiber infrastructure to offer triple-play packages. CABASE is also planning to deploy a fiber network to provide broadband in competition with Telefónica de Argentina and Telecom Argentina outside of Buenos Aires. We expect Argentina's broadband market to nearly double, from 2.65 million in 2008 to 5.1 million in 2013, a 14% compound annual increase.

Broadband access spending will increase from \$6.6 billion in 2008 to \$13.3 billion in 2013, growing at a 15.2% compound annual rate.

Mobile access. Latin America is beginning to develop a wireless infrastructure capable of supporting mobile Internet access. Brazil is by far the largest market in Latin America, at \$432 million. Mexico is a distant second at only \$31 million. We expect investments across the region to expand high-speed wireless in Latin America. As high-speed services become available, they will attract people who want to access the Internet from their wireless phones. In 2008, only 1.5% of wireless telephone subscribers were mobile access subscribers in Latin America, nearly 80% of whom were in Brazil.

We expect only modest penetration growth during the next two years as the weak economy and limited infrastructure restrain growth. We then look for penetration to accelerate as wireless networks get upgraded and as economic conditions improve. By 2013, we expect that around 9% of wireless telephone subscribers will use their handsets to access the Internet. Mobile access spending will increase from \$518 million in 2008 to \$3.2 billion in 2013, up 44% on a compound annual basis.

Marcel Fenez is the leader of PricewaterhouseCoopers' Global Entertainment & Media (E&M) practice. The *Global Entertainment and Media Outlook 2009-2013* is the result of contributions by professionals from PricewaterhouseCoopers' Global E&M practice and Wilkofsky Gruen Associates Inc., a provider of global media research and analysis.

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California Plaza, Los Angeles, California



Perspectives

Incumbent telecom operators, by definition as the incumbent, have always held a key position in their markets. Toward the end of the last century, however, as countries privatized their communications sectors, that position changed and incumbents began to face numerous challenges on many fronts: competition, regulation, technology, and customers.

Over the past 20 years, none of those obstacles has gone away; they simply have changed form. And today, the economic climate is causing incumbents to adapt to changes in the market once again.

Here, we talk with the CEOs of three major operators about their strategies for sustaining their businesses and driving growth. Their opinions differ in interesting ways, but they all seem to agree that incumbents need to focus on managing investments, improving quality of services, and finding innovative ways to develop demand to stay ahead of the competition.



An interview with: Zeinal Bava Portugal Telecom

Portugal Telecom has operations in Africa, Asia, Europe, and South America. And its CEO, Zeinal Bava, has a bold mission for the company: Grow the company by inventing the future. After two hectic years that included defeating a hostile takeover and selling off a valued cable business, the company has revitalized itself. Here, Mr. Bava discusses the immediate need for operators to invest in fiber, a move toward cloud computing and virtualization, and the role that Brazil and other international investments will play in underpinning the company's ambition of growing its customer base to 100 million in three years.

Communications Review: The current economic environment is putting more pressure on all companies to rethink their business models and offerings to sustain and to grow their businesses. What is Portugal Telecom doing to weather this crisis and plan for growth?

Bava: Two years ago, we went through a near-death experience: a hostile takeover bid. It was a wake-up call that made us realize that perhaps we were not doing things that we ought to be doing to enhance our competitive position and create shareholder value. Maybe we ought to have been more aggressive, more ambitious, and more diligent in terms of cutting costs and of investing and redeploying our capital. Clearly, someone else saw more value in our assets than we were able to communicate to the market and extract from our business. The very good news was that our entire company responded well to the challenges and we put up a strong defense, which resulted in broad support from our board and the majority of our shareholders.

During the takeover period, we made many significant changes, but, most important, we reinforced our discipline—financially, operationally, and in regard to cost and strategy. In the process, we innovated the way we managed our company, which today is more flexible, agile, and engaged in execution, and thus is better prepared to respond to market changes and create shareholder value.

We have delivered on all the promises we made at the time of the takeover. We had to leverage our balance sheet more to fund the buyback program

and also had to spin off the cable division, which immediately created a viable competitor in the market.

In parallel, we approved a strategic plan at the board level and focused the organization on execution and delivery of results. We engaged all our employees around five key objectives: 1) grow our customer base from 70 million to 100 million; 2) grow international revenues to 66% of total Portugal Telecom revenues, up from 50%; 3) maintain leadership in all segments and services in Portugal; 4) achieve top-quartile operational and financial performance among European peers; and 5) become a hallmark of sustainability in all geographic areas where we have a presence.

Evidence of the success of our execution relates to our TV strategy, as we have become the most successful incumbent pay-TV operator in Europe in less than 14 months, with more than 50% of our ADSL customers being TV customers as well. The top line in our fixed line division has been growing: it was up 2% in the fourth quarter of 2008 and 3% in the first quarter of 2009. Line loss is at a record low. We are gaining market share in broadband. And, we have clearly established and reaffirmed our leadership in mobile, not just in voice but also in data.

Communications Review: What are you doing in the area of cost cutting?

Bava: An objective for us for 2009–2010 is to grow the top line, notwithstanding clear focus on cost reduction, to ensure that we have among the best margins in the sector.

The operational leverage from top-line growth is substantial. Currently in the market are many opportunities to grow revenues, especially as we are going through a discontinuity as a result of the challenging economic conditions.

With regard to costs, our addressable cost base has shrunk significantly, considering that we have reduced staffing levels by 10,000 over the last few years and currently operate with about 750 lines per direct employee. By that measure, we have one of the best efficiency ratios in the sector. Also, we have integrated our fixed and mobile businesses and have reorganized ourselves around the customers along five segments: residential, consumer, SMEs, corporate, and wholesale.

As a result of the profound reengineering of processes undertaken in the last few years, we are now looking at insourcing a number of activities to redeploy the efficiency gains at our company. We have decided to redeploy our workers to new projects and have frozen the redundancy program. We believe that in the current economic environment, this gives a strong signal that, for our customers, we are a socially responsible company and that, for our employees, we need to implement the insourcing projects quickly to improve the quality of service and reduce cash outflow.

In our international businesses, the focus is also on revenue growth and cost reduction to post the better margins compared to peer group companies. Across all our international businesses, our

operational and financial performance remains very strong and is clearly in the upper quartile of the peer group. We believe that this performance will allow us to increase the contribution of our international businesses to more than 66% over the next few years, which, as I mentioned, is one of our five strategic objectives.

With regard to opportunities to grow revenues, we have decided to invest in fiber to the home [FTTH] and wireless data in Portugal. Internationally, and especially in Brazil, we are also investing in the network to ensure that Vivo is better positioned to take advantage of the growth opportunities in voice and also wireless data. As a result, our capex [capital expenditure] has been increasing, but it is being directed to new technologies aimed at transforming our network architecture.

Notwithstanding these investments, we have also committed to a dividend policy, equivalent to paying our shareholders about €1.5 billion over three years, which we think is achievable.

Although we are taking on difficult challenges, I am confident that we will deliver results as we have done in the past. We are growing the top line and reducing costs to post strong EBITDA margins, which are above 40% in our domestic market and above 30% in Brazil. Quarter after quarter, we have been delivering results, and it is rewarding for all of us to see that to date—in terms of total shareholder returns—we are the best-performing telecom share in the market.

Communications Review: How are you financing your fiber rollout? Many companies are worried about whether they'll make a return and therefore are taking a very conservative approach.

Bava: My view is that the fiber investment is not an “if” but a “when” issue for the sector. I have no doubt that to satisfy the

increasing bandwidth requirements of our customers, we need fiber. Moreover, FTTH is also the answer for companies that believe that network is not a commodity and that network architecture can represent a structural competitive advantage in the market.

We have no doubt that the speeds currently offered will increase substantially over the next few years or that this transformation will take much less time than we have witnessed in the past. In 2001–2002, customers were being offered download speeds of 512 kilobits per second [Kbps], compared with dial-up at 64 Kbps. Nowadays, the standard offer is at least eight megabits per second [Mbps], a 16-fold increase in seven years. We have launched our FTTH offering starting at 100 Mbps, and we are sure that it's not going to take us another seven years to be at one gigabit per second. It's going to be much, much sooner. The pressure on the fixed line and cable operators will be from customers as well as from mobile operators, which, with LTE [Long Term Evolution], will be able to offer 150 Mbps in less than three to five years.

The challenge we have is to improve the value proposition to customers by providing more and better services as well as a unique experience with this unlimited bandwidth. For example, both for enterprises and for residential customers, cloud computing and virtualization will improve their experience while reducing our capex per client as well as the overall CO₂ emissions.

For enterprises, the advent of cloud computing and virtualization will reduce their costs and capex as well as increase their efficiency and the security of their network and processes.

For residential customers, what will fiber and 100 Mbps do? Downloading a high-definition movie on an 8 Mbps connection takes about eight hours. With one gigabit per second,

the download will take about four minutes! Also, 3D TV will become more popular as and when there is more content, and for 3D TV every household will require even more bandwidth. But, the possibilities are not only about download speeds. As social networking becomes an integral part of our day-to-day lives and as, increasingly, all Internet users develop their own content, upload speeds are key to the value proposition of any operator. In the future, only FTTH will allow for offers of 50+ Mbps.

In the short term, the business case for fiber is a hard sell, as it is underpinned by gain in market share and ARPU [average revenue per user] increases as well as by lower churn and lower operating costs. It is an even harder sell for those companies that do not have a robust triple-play strategy. We have been successful with television and triple play. The FTTH rollout will allow us to leverage its technology to position ourselves to become leaders also in pay-TV in Portugal and to enhance our competitive position in the enterprises market.

Communications Review: What about regulation and access conditions for the fiber? How much of an issue are they for you?

Bava: Contrary to a lot of other markets, the cable market in Portugal was already liberalized when the licenses granted were not for franchised areas, so overbuilding was allowed. Portugal Telecom was the only company that invested in cable. As a result, we had two networks, a coax and a copper, and no legal requirement to sell either one.

During the takeover period, we had to consider selling either the cable business or our assets in Brazil to honor the commitment we had made to shareholders. We took the view that Brazil was key to our long-term strategy, as it granted scale to our company and the wireless market there still had substantial scope for

growth. Our subsidiary Vivo also was going through a restructuring process, and, as such, the financial performance of the company did not reflect its full potential.

As a result, we decided to spin off our cable business, and it now competes aggressively against us. We decided voluntarily to increase substantially the competition in our home market.

Second, we have had a regulated offer for access to our ducts since 2004. We have 25,000 kilometers in ducts across the country, of which 11,000 kilometers (46%) are occupied by our competitors. There are thus no horizontal barriers in our market.

As we are rolling out fiber, we are finding that there are vertical barriers because building pipes, in a lot of cases, have been occupied by the cable operators. Where we find these, we are building pipes for us and have indicated availability to provide access to third parties as well, subject to sharing the cost of investment.

With this background, the Portuguese Telecoms Regulator (Anacom) published a report in February 2009 indicating clearly that the segmented regulation for broadband will also apply to fiber in competitive areas. So in competitive areas, actually corresponding to 60% of broadband lines, the main regulatory driver will be our offer of access to ducts. This is the understanding that supported our board decision and the investments that we are making in FTTH.

I would like to say that in addition to horizontal and vertical barriers, regulation needs to focus on the terms and condition of access to content. There are barriers to accessing content in the Portuguese market that regulation needs to tackle, because a cable TV operator that has a dominant position in the pay-TV market is also dominant in content.

Communications Review:
What will drive your growth to 100 million customers?

Bava: A lot of it will be Brazil, which is core to our strategy as I mentioned earlier. Vivo is the market leader and has the best quality of service and network coverage. The potential to grow voice is still attractive, and the wireless data growth could be massive in the next few years.

For the voice opportunity, the wealth distribution under President Lula's mandates has taken more than 40 million people out of poverty and has made them consumers. Internal consumption will underpin the growth of the Brazilian economy in the long term, and I would not be surprised if in the future SIM cards exceed far more than 200 million, which is more than the current population.

For data, the growth opportunity is also extremely attractive because data revenues account for only slightly more than 10% of total revenues (compared to the 22% we have, for example, in Portugal), and the digital literacy of Brazilians in general is well above average.

It would be extremely helpful to democratize access to the Internet, which in Brazil could be done with quality and with coverage using only wireless, if the taxes applied to 3G were lowered. On average, telecom taxes account for 44% of service revenues. If these taxes were to be lowered, then the operators could pass the benefits to the end consumer and accelerate Internet penetration, thus making Brazil a reference worldwide also in terms of Internet penetration.

We also think there are growth opportunities in Africa, which already has a population in excess of one billion. We are focused on the Portuguese-speaking African countries and sub-Saharan Africa, where we believe we have cultural advantages. Scale is important in our sector, but, first and foremost, our

investments have to make business sense and create shareholder value. We don't just invest for the sake of investing.

Communications Review: You have mentioned cloud computing. In five years' time, how do you see that impacting revenue and linking to the opportunities you perceive in the market?

Bava: Putting an actual number on the effect is difficult, but I can say that there are trends that will accelerate cloud computing. Sustainability is a serious concern for all companies. It is becoming increasingly clear that customers will prefer greener products/companies and that there will be penalties, as companies will have to buy carbon credits. Cloud computing is a way to address energy efficiency. Based on virtualization, it allows for the sharing of resources, thus leading to optimizing the usage of resources, namely energy. It will also allow customers to use data centers conceived with energy efficiency as their main concern.

We are also doing a lot of outsourcing with banks, working with some partners. To those customers we want to offer a mix of a public cloud solution, for some more critical applications, and data center services, through which we can implement their private cloud. We're trying to bring some new services for the corporate market into the consumer market. We are big fans of telepresence, which we believe has potential for rapid growth in the future.

As a general comment, I would add that besides investing and promoting innovation, one of the biggest challenges we have in delivering our vision is to provide our employees with the right tools and training to increase their domain knowledge and their ability to integrate services to create win/win solutions for our customers. I subscribe to the view that if companies want to survive in the long term, they have to invent their future.

Zeinal Bava is CEO of Portugal Telecom (PT). During his 10-year career with the company, he has contributed decisively to the development of PT's national and international business activities and strategic partnerships. Mr. Bava started at PT as CFO and has also managed all of the main subsidiaries of the Group.

Prior to joining PT, Mr. Bava served as managing director of the Merrill Lynch, Deutsche Morgan Grenfell, and Warburg Dillon Read banks. He holds a degree in electrical and electronic engineering from University College of London.

For more information, visit the company's Web site at www.telecom.pt.





An interview with: Franco Bernabè Telecom Italia

Like most incumbent operators, Telecom Italia is in a position of both power and vulnerability. Years of market leadership are being challenged by new operators, demanding consumers, and old habits. In response, the company has reorganized to a customer-centric structure, has made major cuts to its cost base, and is focused on innovation. Here, CEO Franco Bernabè gives his view of the changes incumbents need to make to survive; and he debates the race to install fiber, the challenges of reaching diverse demographic groups, and why quality of service is more important to consumers than is technology.

Communications Review: Given the changes in the industry and the economy in recent years, what is your perspective on where the communications sector is headed and what does that mean for operators like Telecom Italia?

Bernabè: I don't think that incumbent operators have fully realized the enormous implications that digitalization has had on our industry. First, there is the impact on costs and prices. If, by some miracle, we could bring the industry up to the latest technology and business models, then costs and prices would be a fraction of what they are now. What keeps that from happening is simply the inertia in legacy systems, people's behavior, and the costs of reorganizing. But future technologies and business models will drive down costs substantially.

There is a period when operators have very high costs and at the same time very high margins, but that does not last forever. The competition is challenging this situation; there are new entrants from completely different worlds with different business models. Unlike in other industries where working on costs can achieve incremental improvements, in telecoms we have to aim for really dramatic changes in the cost structure and there is no limit to how deeply we can cut costs. Technology, business processes, marketing and sales—everything—could be managed in a way to achieve a substantial reduction in costs.

What Telecom Italia did in the last year and a half was to concentrate on costs, and we have achieved very good results. Although we could be satisfied with the results, I see an enormous opportunity for more improvements. Telecom Italia is a fairly efficient company in terms of manning; it does not have the problems of many of our cousins around the world. Yet not only have we been able to reduce costs quite dramatically in the last year or so, but, given the right framework in social terms, institutional terms, and so on, we could do much more. There is a long way to go before we are anywhere near the horizon of an efficient cost structure. Getting there has to be the foremost objective of our management activity.

The second impact of digitalization is the separation of the service layer from the transportation layer of the network, layers that were intimately linked as networks were built over the last century. For more than a century, we've had a combination of infrastructure and services, and the two could not live apart. Digitalization and the standardization of Internet protocols have made a dramatic cut across these two worlds, separating them and allowing new players from other industries to enter the service layer and to compete in the traditional areas of telecommunications.

This point is more complicated. The position of an incumbent is unchallenged in terms of infrastructure, but it was not on the

infrastructure that incumbents were making money—it was on services. I think that the network infrastructure in a broad sense will remain the core business of incumbent operators' strategies, but what will happen to services is a big question mark. We have seen that threats are coming from everywhere, from hardware producers like Apple and software companies like Google. You name it and they are out there. They have a cost structure that is completely different from our cost structure, and they can provide services at a fraction of the cost at which we are providing them.

I think that the response by operators has been, "Yes, of course, there is a big change, but we will be able to cope because we are big, we are strong, we have the cash flow," and so on and so forth. But those strengths are not going to last. At some point the industry will be confronted with the dramatic impact of these changes. Speed is the essence of the game in order to deal with the reshaping of the industry.

So, what does an incumbent have to do to maintain a leadership position in services? In the long term, I think it is wise for an incumbent to create an ecosystem of companies working in the service sector, because that helps build momentum for the transformation of the economy from analog to digital. But, of course, creating an ecosystem means outsourcing activities, costs and revenues.

Incumbents have something—actually, two things—that the new challengers don't have. The first is brand and what is attached to brand: a reputation for reliability, technology, and stability. The brand means the incumbent was there, has been there, will be there, and is recognized as a technological leader. Brand is very important.

The second is massive distribution and technical systems networks that are deeply rooted in national and regional economies. Such networks mean incumbents can provide services and support that nobody else can. Most of the challengers, having a much lighter cost structure, are operating over the top of the network and therefore do not have that kind of infrastructure. So, basically, instead of competing with others that are nimble and are completely different in terms of costs and in terms of ingenuity, incumbents have to leverage their distinctive competitive strengths and create a service sector that is deeply connected with their costs. And they have to rebuild a personal relationship with their customers. While the “over the top” players give customers a technology that is undifferentiated and impersonal, incumbents have to add a personal touch to the technology based on the deeper knowledge they have of the customer.

Communications Review: In 2008, Telecom Italia defined strategic guidelines for a domestic transformation program. How is that progressing?

Bernabè: Previously, the vision of our organization was driven by technology: fixed, ADSL, mobile, Internet. But, really, customers are indifferent to the type of technology they use for communication. They want to access their Facebook account whether at home, on the mobile, or wherever. The issue is not what type of technology we give

customers but how we address their needs. What we have done at Telecom Italia is to completely change the organization to address specific categories of customers and differentiate them by their needs. Many telcos are doing that; but I think that successful execution is a very complex exercise because we need to cut into mind-sets and habits that are deeply rooted in the company.

Now, not only are we organizing the company by consumer, small business, and top clients, but also within the specific organizations we are focusing on verticals. We need to be specific for the shops, for the professionals, etc. In a sense, this looks more to the old system integrator's model, which is more complicated than the traditional telco business. Today, we need to focus on segments, communities, the long tail of our customer base, building many specific and customized offerings, and that is what we are doing. Of course, changing to such a focus takes time and is not a simple process, but I think it is an irreversible trend.

Communications Review: What new proposition do you think the consumer segment will want, and what are you doing to move in that direction? Assuming that the customers don't care about technology and just want to be connected, how do you envision delivering that?

Bernabè: In Italy, given our demographic structure, we have a lower computer literacy than many other countries have. This, I believe, is quite a dramatic problem because our population is the oldest population among the OECD [Organization for Economic Cooperation and Development] countries. That fact, combined with Italy's restrictive immigration policies, means that the Italian population is older and the immigrant population is young but not fully integrated.

This diversity poses a challenge to us because in order to expand the usage of technologies we have to reach both groups. We will have to come up with something that is not only the computer in order to expand the demand for digital services. We are working on developing services for the TV, the I-frame, and new devices that are not computers to expand the digital reach, in a sense. So, meeting our first challenge—to address people who are not computer literate and to reach the older people who are not technology oriented—will help us expand fixed, broadband, and mobile services.

On the other hand, within the computer-literate population, Italy has among the highest usage in the world because those who are literate use the services and the digital world very intensely. For this customer base, what matters is quality of service, and we are dedicating a big effort to improving the quality of our service.

The effort is essential, and I think there are two components: price and quality. Of course, we have to be competitive in terms of prices, but I think the real competitive advantage for us is to fulfill the promise in terms of quality, because customers expect high quality from a company like ours. We have a way to go on this because quality is a function of how lean and nimble we are. The more complicated the organization, the more layers an organization has, the worse the performance in terms of quality. Making the company lean also means providing a higher quality of service to customers.

Communications Review: Does the price of PCs factor into the computer-literacy problem?

Bernabè: Price is not an issue, because we are selling notebooks at a cost lower than the cost of a medium- to high-end handset and advertising is very effective in stimulating demand. The shrinking

of the size of the notebooks and the increasing popularity of notebooks is helping to bridge the gap in the use of computers compared to other countries.

Communications Review: In terms of the technology-literate population, apart from quality of service, are you developing new services to keep the customers with you and avoid giving revenue to Apple or Google?

Bernabè: I think that for the consumer market this is fairly difficult. What is interesting is that social networks pick up virally, and services—e-learning and e-government—are much slower. Everybody is connected to Facebook, but e-learning is not picking up as fast as everybody expected.

Most of our growth will come from the business market, from the small- and medium-sized companies. On the consumer side, the problem is to defend the market share, reduce churn, and satisfy customers. I think that expanding consumer services means creating a seamless experience among various devices, and that is what we are doing—linking the TV, computer, mobile handsets, and so on. We need to create services that lock in customers by giving them what they want, which means always-on connectivity and indifference concerning the kind of device they are using at a specific moment.

In the technology-literate consumer market, that is one of the opportunities for a powerful incumbent: to control everything, bundle everything, provide integrated-home solutions that work seamlessly and without the consumer having to bother about technology. If somebody has to come home and then find the right remote controls, then we have lost; consumers don't want to have 10 remote controls. When the consumer arrives home, they need to find everything

synchronized and worry only about turning the power on and off. That is the goal.

Communications Review: You have mentioned the power of distribution. Is that where you are moving your field force, so that they can go to a home and try to integrate the services?

Bernabè: Yes, and doing so creates a big challenge. First of all, previously the distribution channels were used to do simple things, like sell handsets with a price proposition. It was plain vanilla. When we talk about technology to the sales force, then everything becomes more complicated. Most incumbents don't have a pre-sales force like in a professional services organization. We have to create the pre-sales type of competence that is needed in this completely new environment, and that means training the work force and re-motivating the sales force.

Communications Review: You mentioned e-government earlier. Some of those issues, related to the non-computer-literate society, are neither Telecom Italia issues nor just communications issues but, rather, issues for the economy. How are central and local governments involved?

Bernabè: A plan for e-government in Italy was approved recently by the Minister for Public Services, who is very motivated and has a lot of support. We are working with him on the plan. He is committed to e-government and is trying to create a coordinated effort on the plan, so I'm fairly positive that we will improve the situation compared to where we are now.

Communications Review: Some markets are under pressure at the government and the operator levels to roll out fiber in the near term. What is the view of the government, and what is Telecom Italia's view, on expanding broadband usage?

Bernabè: The government is strongly motivated to accelerate broadband services. From our point of view, the main driver for investments in next generation networks is cost savings. This makes the equation a bit complicated because demand is not the driver. There is no competition from cable, and I do not think there is a market that attaches a significant price premium to fiber. Are people willing to pay €30 more than for an ADSL 20 Mbps connection?

What we are doing is investing heavily in fiber backhauling. We have made quite a dramatic improvement in our structure there. We think that the kinds of services our network provides are fairly good, and we keep adding fiber to the backhaul network and to the wireless network to improve the bandwidth of the mobile network. But the fiber-access network commands a premium for which it is difficult to determine the market: Who will pay, and what are they willing to pay for?

There is a lot of hype around this topic. People say e-government needs fiber, but it needs less than 20 Mbps. A really good 4 Mbps connection will be more than enough for every conceivable kind of service that e-government can provide, so what would anyone need 100 Mbps for? Sure, virtual presence would require that much bandwidth, but unfortunately the biggest flop in the last 10 years has been video telephony, both fixed and mobile. People are not interested. People are saying video telephony did not pick up in fixed or mobile because there were problems with the user experience. But people don't give up traveling for a virtual connection. Some exciting things are in the works, like 3-D video, for instance, but is that the killer application? I am not sure.

TV is declining in terms of market share. Some say that the multiroom TV is one of the drivers behind the

demand for fiber, but I am not sure. Young people don't watch TV on a regular TV set. They watch videos on their laptop. They have a personal relationship with their TV or video, but not with the traditional channels. They watch video streaming on Facebook and YouTube. It is amazing what you see there.

From that perspective, the iPhone really has changed the user experience and has forced content providers to organize the system in a way that exploits all the potential screens. So what we see now is increasing mash-ups of text and video streaming. On the iPhone, users can go to the Web site of whatever newspaper they normally read and find streaming video content from YouTube, and that personalizes their experience dramatically; people don't need anything else. And the devices will change again. Sheet screens will be available in a reasonably short period of time, so people won't even have to carry their iPhone. By simply unfolding their sheet, they will have a big screen in front of them that does not consume too much energy and is connected to the network. They will carry their TV with them.

That is the fiber scenario in the consumer market. More opportunities can be found in the business market. Optical-fiber access means speed, higher availability compared to copper access, and very low latency for transactions. Such opportunities mean that—on the basis of the new fiber access—companies, not only the largest ones, can innovate their communication and IT [information technology] infrastructure in multiple ways.

First, storage, computing power, and even software applications, thanks to ultrabroadband-convergent-access infrastructures and IT virtual technologies, can become services

provided on demand rather than continue to be platforms where companies invest heavily for in-house development and maintenance. Second, unified and multimedia communication (including high-definition videoconferencing) will transform marketing, sales, and development processes by offering companies opportunities to optimize costs (reducing power consumption, office rental costs, and travel costs) and to multiply contact with their customers thanks to multichannel techniques (video and online enabled).

Given these facts, on the demand side of the fiber access economics, there is still a question mark. On the cost side, there are no question marks at all. If we are able to accelerate the cost-cutting process while introducing new architectures and technology and if we can shut off our traditional networks, that is perfect. But that takes five or six years. I think we have to be focused on the long process of access network transformation because of efficiencies first and market evolution later on, but I think that now the critical aspect of the network is the backhauling. At the moment, many mobile operators, for example, are having real problems with wireless data because of the backhaul.

However, we started the deployment of fiber in the access network in Milan and Rome, and we will add 10 other new cities in 2010. As we proceed, we will take into account the moves of European and domestic regulators—very important in this field due to the amount of investments required—and will push for recognition of the very important principle that a next generation network should not be regulated by following the old principles valid for traditional networks developed under state control.

Communications Review: The Australian government is proposing to have a separate fiber network built by a separate company.

Bernabè: This was discussed in Italy last year but is no longer an issue, given what Telecom Italia has undertaken concerning the access network. Telecom Italia is very cost conscious and very motivated by return on investment. Thus, I am careful about speeding up development if there is no compelling reason to do so.

What is happening in Italy is that local governments are putting fiber everywhere. Every day, a municipality decides to create its own fiber network. The funds are not government subsidies; these municipalities are putting in their own money and using mostly municipality distribution, like the gas company, the water company, the electricity company, and the power transmission companies. I don't know what they will do with their networks, but I expect we will be asked to pick up the pieces at some point.

Franco Bernabè was appointed chief executive officer of Telecom Italia (TI) in 2007, a position he had in 1998 but had resigned from in 1999 following TI's takeover by Olivetti.

From 2004 to 2007, he was vice chairman of Rothschild Europe, which acquired FB&C, an advisory company Mr. Bernabè founded in 1999. In 1983, he joined Eni as an assistant to the chairman, subsequently becoming the head of corporate planning, financial control, and corporate development as well as the CEO from 1992 to 1998.

Mr. Bernabè has served on the advisory board of the Council on Foreign Relations. Currently, he serves on the board of the Peres Center for Peace, on the advisory board of the Observatoire Méditerranéen de l'Énergie, and on the board of PetroChina. He has also served on the boards of several listed companies including Fiat and TNT.

Mr. Bernabè holds a degree in economics and political science from the University of Turin, and an honorary degree in environmental science from the University of Parma and he was a postgraduate fellow at the Einaudi Foundation.

For more information, visit the company's Web site at www.telecomitalia.com.



An interview with: Paul Reynolds Telecom New Zealand

In 1990, Telecom New Zealand was one of the first telcos to become fully privatized. Since then, the company has expanded its portfolio aggressively, from providing simple dial tone to offering complex business solutions; has become a major investor in Southern Cross Cables; has extended its geographical reach into Australia; and, most recently, underwent an operational separation that has created three distinct businesses. In a country comparable in size to the United Kingdom, with a population of only four million, growing any business in today's economic climate would seem to be a monumental challenge. But Paul Reynolds, Telecom's chief executive officer, is used to such challenges. Here, he discusses how customers, competition, and regulation will influence Telecom's strategy to grow market share and revenues.

Communications Review: Cutting costs is, obviously, one way to improve profitability. What things in particular have you been doing to generate savings because of the downturn?

Reynolds: Cost control is a strong area of focus for us. In January 2009, we announced a pay freeze, and we have taken out about 35% of our large contractor head count. We had an online retail business that was going nowhere, so we shut it down. We've taken a huge chunk of costs out of our Australian business, AAPT.

We also do a little network sharing; we're building fiber networks with some smaller players—they build the networks and we'll use them. We're trying to do things in the most cost-effective way. Our radio towers are open for other operators as well. A third mobile operator, 2degrees, has now entered the market and is using some of our mobile towers.

We also have outsourcing relationships with some big vendors—closer relationships than you would see in most telcos. Alcatel-Lucent builds and operates significant parts of our network, and EDS manages an equally significant part of our IT estate. The way we think about outsourcing is that we are a relatively small-scale telco, so we need to piggyback on the scale that some global entities have, and we leverage those relationships. We have an outsourced field engineering workforce, which delivers real cost benefits.

Communications Review: What's the head count at Telecom these days?

Reynolds: By telco standards, our head count is low, around 8,000. But there are at least as many again through our EDS, Alcatel-Lucent, Transfield, Downers, and Visionstream contracting relationships. We were one of the first companies to go into these big outsourcing deals. This is absolutely the right model for Telecom. The only issue is to make sure the relationship is moving forward and is constantly improving to reflect change in the operating environments. So, we've been working very hard with our partners to strengthen and improve the relationships and get better results.

Communications Review: What are the key areas of growth for you in New Zealand?

Reynolds: The market is somewhere between flat and a small amount of growth, as is the case with many markets globally. Growth is somewhat less than GDP [gross domestic product].

As I've said, profit growth for us is partly about cost reduction, but also about identifying, growing, and developing new business areas. We have made an enormous investment in mobile. We launched our new 3G XT Mobile Network in May 2009, and our goal is to be the number one mobile provider in New Zealand. We think there's a real opportunity to take market share from our key competitor, Vodafone, and we've

been delighted with the number of customers who have chosen to switch to XT in the months since its launch, especially high-ARPU [average revenue per user] corporate customers.

Growing mobile ARPU is another key focus area, particularly through increasing our customers' use of mobile data. XT currently delivers HSPA [high-speed packet access] broadband to around 97% of the places our customers work and live, which enables us to offer our customers a range of new products and services.

The second new business opportunity for us is in ICT [information communications and technology] services. Our Gen-i business is the leader in the New Zealand marketplace. We have about 13% market share. Over the next few years, we will aim to take that up to about a 20% share of the market in New Zealand, and we hope to double our share of the ICT market in Australia.

Communications Review: Do you think there is consumer demand for broadband in today's softer economic environment?

Reynolds: Absolutely. The New Zealand economy is in recession and, actually, was in a mild recession before the world economic downturn. But it has not fallen to the extent that we've seen in Europe and the United States. So, while the economic situation is weak, it's not worsening, and we see real demand for broadband services. In fact, our fixed

line broadband business is about the second fastest-growing among the 30 countries in the OECD [Organization for Economic Cooperation and Development] at the moment. That's largely because of low penetration—fixed line broadband is only 58% penetrated—and because of the dramatic improvement in the quality of the broadband service due to our current infrastructure investment programs.

Communications Review: Do you have an integrated broadband proposition for customers to take fixed or mobile, based on whichever is best in their area?

Reynolds: Currently, we don't. How we bundle fixed and mobile broadband is one of the ideas that we are developing for the future. Not just in terms of download capacity but also in terms of our content strategy. We are also exploring IPTV options, and we launched mobile TV over our XT Mobile Network in September. We'll see further product and service offerings in both fixed and mobile broadband in the coming months.

Communications Review: Is there cable or satellite competition in video?

Reynolds: Yes, Sky TV has about 65% of New Zealand households, and cable competition comes from Telstra in Wellington and Christchurch. Serious competition has come late to New Zealand, but it has come from top-line players. Vodafone is very strong in New Zealand, as is Telstra.

When I got here, one of my first moves, actually, was to close down our video initiatives because we were looking at using the broadband network to broadcast streaming video, which is just a crazy cost situation.

There's no point in using a broadband network at a high cost to compete with the same thing done at a low cost over satellite or terrestrial. So

we concentrated instead on getting a world-class broadband network built. Now, we're looking at what form of partnership we might have in order to bring on-demand content over that network. I can't say more yet because we haven't announced anything, but we are active in the field.

Communications Review: Can you describe your fiber strategy?

Reynolds: Telecom is the largest investor in broadband in New Zealand. We're running fiber to the cabinets to towns and villages with more than 500 lines. This FTTN [fiber-to-the-node] program is already well advanced, shortening the copper "loops" that traditionally have connected households and businesses to the network and adding more fiber into the network.

We have made a commitment to the government to deliver this fast broadband—at speeds of at least 10 Mbps to 20 Mbps—to 84% of New Zealand lines. That makes it the deepest reaching fiber-to-the-node network in the world. We are already delivering an actual speed of 13 Mbps for lines connected to the cabinets we've installed.

In the UK, a lot of the money spent under BT's operational separation model was to reengineer the PSTN for resale, where there is equivalence of input. That's an awful lot of money spent reengineering the past.

In our agreement with the government we limited the reengineering of the PSTN and focused instead on IP voice. Most important, we took money we would have spent on the PSTN and put it into further fiber-to-the-cabinet rollout. Clearly, running fiber to the node in 500-line villages is not economical in itself. But, redirecting capital that otherwise would be wasted in reengineering the PSTN is an excellent outcome from a difficult situation—for the country, for customers, and for Telecom.

Communications Review: What's the regime in terms of allowing other competitors to have access to this new fiber network?

Reynolds: We have a very tight set of regulations around local loop unbundling, and, of course, that's underway in our main exchanges in key cities. Sub-loop unbundling is also regulated as a completely equivalent service, and the Commerce Commission has just announced the prices.

I will say, however, that the economics of unbundling at the cabinet are very difficult, as they are elsewhere in the world. You need to be confident of getting a high-percentage share of the customers in order to justify the investment at the cabinet level. My guess is that demand will be there, but it will be bigger for bitstream services from the cabinet rather than for unbundling.

Communications Review: Are there other regulatory challenges ahead that will affect your plans for the future?

Reynolds: Yes, the government broadband initiative. As I have mentioned already, the government in New Zealand has a vision: to deliver high-speed broadband to three-quarters of New Zealand households over a nationwide fiber network in the next 10 years. The government has committed an investment of NZ\$1.5 billion to put a public/private partnership in place, and we've submitted two proposals to work with the government in achieving this vision.

That commitment of the government's presents an opportunity for us but also presents an opportunity for other fiber players in the market. Telstra has quite an extensive fiber network in New Zealand, and there are a number of metro fiber operators. As a result, the initial consultation from the government suggests that it would

like to partner with up to 27 local or regional fiber companies in order to achieve its goal.

At Telecom, we took the view that this approach was too fragmented, that much more synergy and efficiency are to be gained from a national solution: common standards, common approach. We've responded to the government with some key principles.

First, Telecom will not seek to profit from the taxpayers' investment, which I think is a very important point, so that all of the investment can go toward the widest distribution and the lowest prices possible. Second, we would like to partner with the government to build an open-access fiber infrastructure. The government's fiber contribution, then, would be essentially open-access fiber. We already have a very strong equivalence of input model in our Chorus business, so we have the operating model to build and operate an equivalence of input open-access fiber network.

We've submitted two really creative options. They're not mimicked anywhere else in the world. Doing it this way avoids duplicating any infrastructure, and provides completely open access so that the incumbent gets no more advantage than anyone else to sell over it. And, crucially, the synergies are huge. We think that in New Zealand, if the government puts up \$1.5 billion, our existing plans would see us spend \$1.5 billion over that 10-year time frame as well. So that's \$3 billion. Nothing comes close in terms of being able to articulate a clear footprint and clear advantages for the country.

The first option would build out from our existing fiber footprint and would connect every school and hospital in New Zealand. We can complete it in two and a half years. The schools are really interesting because many are in very remote communities. We see this opportunity as providing local communities with a fiber-to-the-home

broadband hub from which we can then build farther into rural New Zealand. There's a huge farming economy in New Zealand, so a lot of the economic activity in the country is in rural areas. Getting a fiber hub into little primary schools begins to break the back of the geographic and economic challenges of fast broadband to farming communities.

The second proposal is also interesting. We propose to build a duct network out from the existing fiber networks in New Zealand, in which any service provider could blow in its own fiber and run its own operations. I think many would understand the attractiveness of that. This proposal, though, has attracted somewhat less interest in the market.

A big debate is going on in Australia as well, of course, but we're ahead in New Zealand as we've been building fiber to the node for over a year now. We're a bit ahead of the UK, too, actually, in terms of speed and quality, and this plan could take us even farther.

Communications Review: It will be interesting to see which way the government moves because 30 or 40 other countries are looking at this question—how to do it and what the roles of the various players in the marketplace are in making it happen.

Reynolds: An awful lot of the debates in other countries center on, "Can we trust the incumbent? They clearly have all the resources, but can we trust the situation?" Actually, New Zealand has the strictest operational separation regime in the world. So, an existing strict operational separation regime—where all the Chinese walls and the separation of the lines of business exist—combined with government investment can achieve a hell of a lot, quickly. The challenge for New Zealand is, can we summon the political courage to go first with what I think is a world-class proposal?

Telecom has brought in people who have tackled big change programs in

other parts of the world, many of them world-class Kiwis returning home. The guy running our marketing was the global head of marketing at Heineken. Our new human resources director ran half of IBM's global HR consultancy practice. Our chief technology officer was the CTO at Cable and Wireless and at T-Mobile. So, we have a combination of skills that has helped in this unique environment. This is not a "me too" story in New Zealand. There's nothing like it anywhere in the world.

Communications Review: Bearing in mind that the company has already gone through a series of very significant changes in the last year, what do you think will happen in the next three to five years? What's going to be different in the company?

Reynolds: Transformation takes a while. I've been here just over a year and a half. I think you can build some very strong foundations in a year and a half, and you can begin to build some serious momentum. But looking forward two or three years, it's critical that we capitalize on the momentum.

We knew that the company's profitability was going to fall as a result of the massive regulatory changes, increased competition, regulated price cuts, share shifts, the economic environment, and so on. We began our new financial year on July 1, 2009, and this is the year we level out and return to growth. So, the changes in the next couple of years will build on the momentum; increase the level of innovation on some strong infrastructure platforms that we've built; bring forward new products and services; and, frankly, sell, sell, sell.

We aim to get a share shift in mobile. We aim to get the ARPU shift in mobile broadband and in global roaming. We need to continue to carve out revenue in new ICT services. We need to bring the value-added services to the game in our retail business. And, like every telco, we need to continue to reduce the churn in our legacy business.

We've already cut the rate of churn in the legacy business by 50% over the last three quarters by relentlessly focusing on our existing customers and on selling bundles. So we're following that theme: reduce the churn, gain share in mobile, increase mobile broadband ARPU, grow fixed broadband, and grow ICT.

You know, 18 months ago, the company was in a pretty demoralized state and essentially at war with the country. Yet, our staff's motivation is now the highest it's been in 10 years. The whole organization has picked itself up and has moved forward, rather than looking back at the past. We're rebuilding our pride and confidence, and we've been getting some amazing things done.

There are some very, very talented people here who have just got on with it. We've built fiber, built a mobile network, and sold IT services. The whole company is more "up for it" than we've ever been. The confidence is what I'm most pleased about because it's given us a hell of a lot of momentum.

Paul Reynolds joined Telecom New Zealand as chief executive in October 2007. Previously, he was CEO of BT Wholesale, a key business unit of British Telecommunications PLC. Mr. Reynolds joined BT in 1983 after completing a doctorate in geology at the University of London.

Mr. Reynolds served on BT's board of directors from 2001 until 2007. Since 2004, he has been a nonexecutive director of E-Access, a major Japanese broadband company, and since 2008, of X-Connect, a London-based leader in IP interconnection. In 2006, the Telecommunications Industry Association of America awarded Mr. Reynolds its Global Icon award for his leadership and innovation.

For more information, visit the company's Web site at www.telecom.co.nz.



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The screenshot shows the homepage of CommunicationsDirect. At the top, the logo "CommunicationsDirect" is displayed in a large, bold font, with the tagline "A free news and information service sponsored by PricewaterhouseCoopers for global communications professionals." below it. A search bar is located in the top right corner, with the text "Search CommunicationsDirect Only" and a "Go" button.

The main navigation menu is located below the search bar and includes the following items: Channels, Newsletter, Industry Links, Site Map, About Us, PwC Global, and a RSS icon. The "Channels" menu is expanded, showing a list of categories: Mobile, Wireline, Internet & Data, Business & Management, Policy & Regulations, Networks & Operation, Hardware, Software & Technology, Free Personalized Newsletter Subscription, and Edit Your Profile.

The central content area is titled "Today's stories" and is dated "October 27, 2009". It features a list of news items, each with a small square icon and a link to the full article. The items include: "EU Calls on Slovenian Regulator to Review Fibre-Optic LLU Pricing Model", "The Future Is Fiber", "Speakeasy Brings Business Hosted VoIP to iPhone", "LG Telecom to Expand Base Stations in Preparation for 4G", "Telecom Italia Denies Interest in Telekom Austria Buyout", "Google Expands Availability of Its Free Voice Mail", "Smartphones Key to Verizon Wireless Recovery", "Nokia Jucu Factory in Romania Chosen As One of The World's Leading Green Buildings", "Hitachi Takes Nortel's LTE Packet Core", and "Hand Eye Brings Interactive Real-Time Videos to Smartphones".

On the right side of the page, there is a "Weekly Poll" section. The poll question is "Do you use your iPhone for business?". The poll options are "Yes" and "No", each with a radio button. A "Vote!" button is located below the options. Below the poll, there is a "Last Week's Results" section. The results show that 56% of respondents answered "Yes" and 44% answered "No".

At the bottom left of the page, there is a "2009 Telecom insights: Analysis and opinions on global M&A activities" section with a right-pointing arrow. Below this section is a video player with the title "Accounting for handsets and subscriber acquisition costs" and a play button icon.

The following publications, authored by partners at PricewaterhouseCoopers, provide thought-provoking and informative discussions of interest to various segments of the industry. To obtain PDF files or hard copies of the publications, please see Web sites listed below.

Global Entertainment & Media Outlook 2009-2013

Now in its tenth edition, PricewaterhouseCoopers' *Global Entertainment & Media Outlook* is a consistent, comprehensive source of global analysis for consumer/end-user and advertising spending. With like-for-like, 5-year historical and forecast data across 12 industry segments in 48 countries, *Outlook* makes it easy to compare and contrast regional growth rates and consumer and advertising spend. For more information visit www.pwc.com/outlook.

Making Sense in a Complex World: IFRIC 13: Customer Loyalty Programmes

The issuance by the International Financial Reporting Interpretations Committee (IFRIC) of IFRIC 13, Customer Loyalty Programmes, has implications for telecom operators. Part of a series of discussion papers addressing topical accounting and financial reporting issues in the telecom sector, this paper considers the accounting and the practical implications that arise from the guidance in IFRIC 13. To download the PDF, visit www.pwc.com/infocomm and click on Publications.

Making Sense in a Complex World: IFRS Operating Segments

Reporting on the performance of operating segments continues to be a critical area of focus for investors and regulators. As telecommunications companies adopt the new International Financial Reporting Standard, IFRS 8 Operating Segments, they may face challenges in defining and reporting segmental information. Part of a series of discussion papers addressing topical accounting and financial reporting issues in the telecom sector, this paper is intended to provoke thought and identify some of the issues that companies may encounter as they apply the provisions of the standard. To download the PDF, visit www.pwc.com/infocomm and click on Publications.

Technology Forecast, Summer 2009

This issue explores the impact of cloud computing trends on IT infrastructure and its role in creating a foundation for business agility. It shows how today's IT environments are dominated by a collection of built-to-order legacy solutions that were designed to deliver functionality in a silo, but not designed for agility and change. That's because these legacy solutions are tightly coupled stacks of logically distinct layers of IT infrastructure (compute, storage, network) and applications. The provisioning and daily management of this infrastructure is also largely non-standard and manual. To read or download the PDF file visit www.pwc.com/techforecast.

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