“It becomes necessary for ad agencies to re-examine their business model”

—Olivier Fleurot, Executive Chairman of Publicis

volume 5: summer.08

insights

Capgemini’s telecom, media & entertainment journal

Making of Strategy

Open Mobile Ecosystem

Online Advertising

Internet TV

Private Equity

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editorial

Welcome to the Summer edition of *Insights*.

The Internet is emerging as the platform of choice for content delivery. Traditional media players are making aggressive online forays, seeking a share of shifting consumer attention and advertising spend. Devices are playing a pivotal role in driving convergence, with the rapid development of consumer electronics and the emergence of handset vendors as service providers. These developments are disruptive to many industry players and success will depend on the creation of innovative business models centered on collaboration rather than competition.

We start our *Industry Insights* section with an assessment of the potentially **disruptive development of open mobile ecosystems** that could significantly impact the control that mobile operators have over the consumer experience. Our second article details **developments in Internet TV**, and investigates whether it could be utilized by content players to reach consumers directly, disrupting existing broadcasting business models. Advertisers' spend is increasingly shifting online, and telcos are looking at this space as a potential area for diversification, which led us to evaluate the **opportunities for telecom companies in the online advertising** business. Finally, we investigate initiatives to drive the uptake of **mobile Internet services** in Western Europe and USA.

In an industry faced with dramatic change, players will need to develop radical strategies to effect sweeping changes in their business models. In our *Management Insights*, we first propose a **framework for strategy development**, leveraging our ongoing work in collaboration with business school INSEAD. A number of macroeconomic developments are posing key challenges to the private equity industry, and our next paper identifies some **strategies for private equity players to sustain growth** in a time of uncertainty and slowdown. For Telcos in developed countries, emerging markets in Asia and Africa which are at the cusp of rapid growth in mobile services, continue to remain attractive expansion areas. Therefore, the next paper highlights the key challenges ahead in these affordability-constrained markets and details **strategies for profitably delivering mobile services in Africa**. We close the journal with an article on how industry players could decide on a **model for global sourcing**.

I hope you find this edition of *Insights* thought-provoking and appealing. If you would like to discuss any of the issues raised, please feel free to get in touch.

Didier Bonnet
Managing Director, Consulting
Telecom, Media & Entertainment

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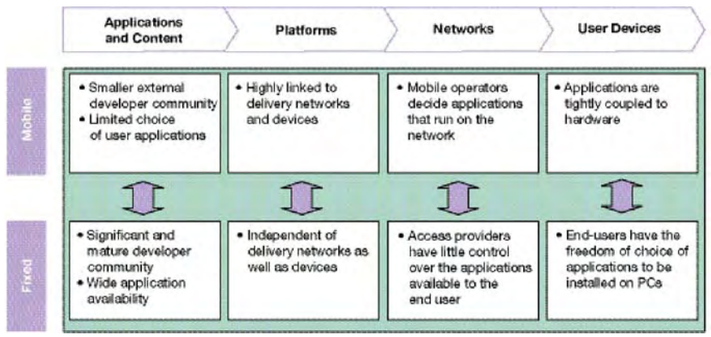
Mobile 2.0:
Strategies for Operators in an Open Mobile Ecosystem

Jerome Buvat, Tushar Rao and Varun Saxena

Abstract: The mobile ecosystem has historically been a closed system with little choice for end-users when it comes to applications and services on handsets. However, recent initiatives by various players in the mobile value chain seem to suggest that these closed ecosystems are soon going to be a thing of the past. Online players such as Google are coming up with open platforms that seek to create a level playing field for all players by ensuring that preferential and discriminatory treatment of applications and services is done away with. Moreover, the emergence of device players as "service providers" is making a wide range of applications available to end-users with little intervention by telcos. These developments are directly impacting operators' ownership of the consumer and their service delivery experience. Capgemini has identified three broad strategic options for operators in the evolving open mobile landscape. It is our recommendation that operators position themselves as platforms for delivering a wide range of third-party and self-developed applications, and adopt a "compete-in-some, collaborate-in-some" model with third parties. Operators should open up network APIs, build common content platforms in collaboration with online players, and also partner with device vendors for mutual benefit. Operators who adopt this platform strategy are likely to see maximum revenue uplift, without ceding a significant amount of control over the customer.

The mobile industry has remained a closed ecosystem where operators control almost all aspects of the consumer experience. This is in direct contrast to the fixed PC and Internet world where access providers have had little control over the applications that are consumed by the end-user. Fixed Internet thrives in its open nature, spawning an entire ecosystem of application developers and service providers. On the contrary, in the mobile space service innovation has historically been limited to initiatives led by the operator, and third party application providers have little direct access to end-users. Moreover, the development process and the application itself are closely tied to the hardware specifications of the device and technical features of the operators' network, thereby restricting reuse of applications and/or platforms across device categories and operators (see Figure 1).

Figure 1: Key Differences between Fixed and Mobile Ecosystems



Source: Capgemini TME Strategy Lab Analysis

Recent industry announcements, however, promise to change the mobile ecosystem by mitigating some of the controls at each stage of the value chain.

Companies such as Nokia and Google have launched multiple "over-the-top" services that directly interact with the end-user. Online players are strengthening their capabilities to target mobile users directly by launching application platforms. For instance, Google has introduced *Android*, an open source mobile platform that marks a significant shift from the proprietary platforms and operating systems that dominate the industry. Consumer demand and initiatives from challenger operators seem to also have had an impact on mobile operator strategies. In Europe, operators are adopting open access in contrast to their erstwhile "walled garden" strategies, and providing users access to a set of external applications. Similarly, in the US, Verizon Wireless has announced that it will open its network to external applications and devices[1]—a significant shift from its policy so far—to restrict applications and devices that run on its network. These developments appear to point towards an open mobile ecosystem at each stage of the value chain (see Figure 2).

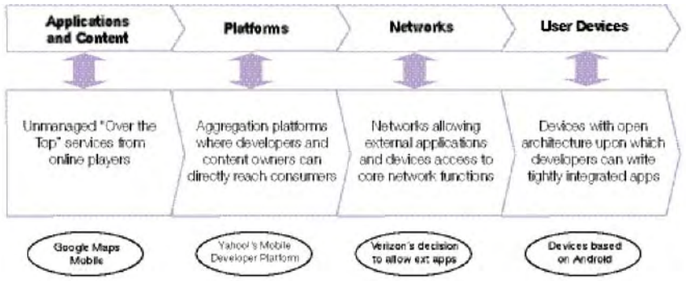
In this paper, Capgemini analyzes the factors that are leading to an open mobile ecosystem, and evaluates key strategies for telcos to benefit from it.

Evolution to an Open Mobile Ecosystem

The mobile ecosystem is slowly, but definitely, changing in the way it has traditionally operated. Initiatives that have been taken by various players seem to suggest that the ecosystem is likely to undergo a transformation that it has not been seen in years (see Figure 3). The pace of these changes has been steadily increasing as more players embrace the philosophy of opening up networks and access.

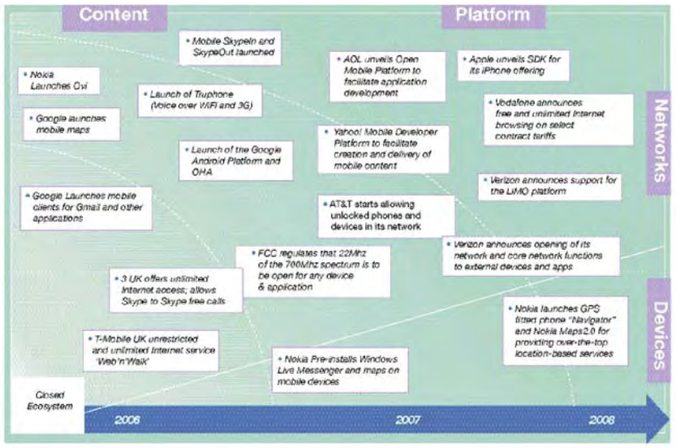
Figure 2: Definition of an Open Mobile Ecosystem

An Open Mobile Ecosystem allows a consumer to access any application and content on a device of their choice without binding them to any single network



Source: Capgemini TME Strategy Lab Analysis

Figure 3: Recent Initiatives Leading to an Open Mobile Ecosystem



Source: Capgemini TME Strategy Lab Analysis. Company Websites and News Releases

1 AOL News, "Verizon Will Open Network to All", November 2007.

In this section, we analyze trends towards openness across the value chain (see Figure 4).

Increasing Availability of Unmanaged Applications
Online players are looking at replicating their successful ad-supported business model in the mobile space, which has hitherto seen subscription-based models. These players are looking to tap into a portion of the global mobile advertising market, which is estimated to be $10bn[2]-$19bn[3] by 2011. Currently, unmanaged services from online players include Google Maps, Yahoo! Go, and Gmail. VoIP players such as Skype have also entered this market with Java-based clients that can be used for making calls at low rates.[4] New players such as Nimbuzz have launched integrated instant messaging services that combine mobile VoIP with IM and file-sharing.[5] Over the years, such applications are expected to become more comprehensive in their offerings and include mature VoIP/SMS services, video calling and mobile shopping platforms.

Advent of Multiple Device/Network Agnostic Platforms
While mobile advertising offers significant growth potential, online players will need to surpass formidable barriers. They need to work around the issue of hardware diversity in the mobile devices space, which makes customizing applications a challenging task. For instance, today, there exist over twenty major handset manufacturers developing hundreds of models on over six different platforms that include Symbian, Windows, Apple, and many other proprietary platforms. Similarly, adapting applications to different classes of browsers with different capabilities, and collaborating with multiple stakeholders also leads to significant delays and cost in making a service available to a wide mobile audience. It is estimated that the cost of porting an application to each handset platform often amounts to as much as 60-80% of the actual development cost.[6]

To overcome limitations that arise due to platform and device diversity, online players are looking at setting up open platforms that are built ground-up with the specific objective of enabling wider availability of online services.

Online players' standardized platforms seem to be the early steps towards an open ecosystem. As an example, Yahoo! has launched its Mobile Developer platform, consisting of middleware, device client and a Software Development Kit (SDK). The initiative is aimed at enabling developers and publishers to take their services quickly across multiple device models without incremental costs of development. The SDK can be used to write code "once" and efficiently publish applications and content across hundreds of devices[7] (see Figure 5).

While Yahoo!'s initiative aims at creating an OS and device agnostic aggregation platform, Google has announced the launch of a full-fledged software stack including an operating system, middleware platform, development toolkit and key applications. The Android initiative was announced in November 2007[8] and consequently an update of its SDK was released in February 2008.[9] Google has also facilitated the creation of the Open Handset Alliance (OHA), drawing in a number of handset manufacturers, operators and application developers to create an ecosystem that promotes wider availability of applications to end-users. The Android OS is expected to be available for free[10], and consequently device manufacturers stand to gain an immediate advantage as software costs typically make up between 10-20% of the total handset manufacturing cost.

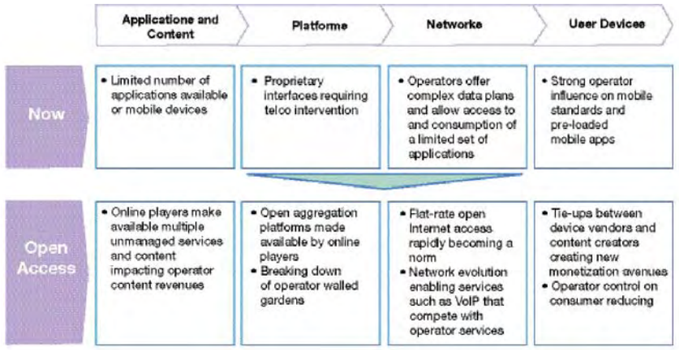
Moreover, by ensuring that Android can run on low-end processors[11] (at speeds of 200 MHz), and yet deliver rich applications, Google is looking to tap the growing mid-range handset segment (see Figure 6), thereby reaching a wider audience.

In addition to these initiatives, AOL has announced an open mobile development platform, while other initiatives that were started earlier such as the LiMo foundation are gaining more traction with recent announcements. For instance, LiMo received a boost in its efforts with Verizon Wireless' recent announcement of its decision to support it.[12] The current industry fragmentation surrounding such common platforms is likely to give way to a scenario where there are few dominant platforms. These platforms will ensure that the much needed standardization becomes a pervasive reality.

Operator Response to Consumer and Competitive Pressures
Historically, third-party application and service providers were limited in their reach of consumers due to inherent limitations of the networks. However, mobile network technology has evolved significantly in the past few years and is expected to continue evolving to offer higher speeds and lower data carrying costs. Network evolution to High-Speed Downlink Packet Access (HSDPA), which offers up to 1 Mbps throughput, is eliminating some of the earlier technical constraints faced by unmanaged services such as VoIP. Evolution of network technology to High-Speed Uplink Packet Access (HSUPA), which offers average uplink speeds of 600 kbps and beyond is likely to ensure that technical hindrances to deployment of unmanaged services are removed. These advances in network technology are likely to encourage consumers in increasing their usage of mobile Internet.

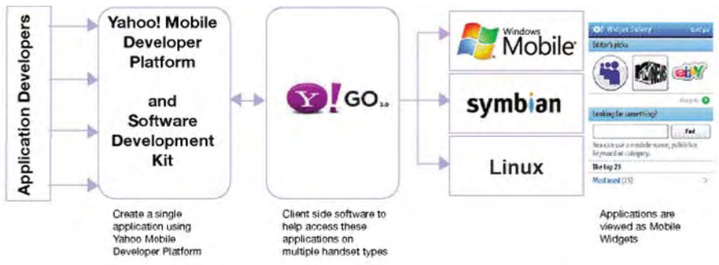
Increasing Consumer Interest Towards Near-PC Experience on Mobile
Consumers increasingly want seamless access to their favorite online services that they have been accessing via the PC, on their mobile phones as well. For instance, the top three websites accessed on Vodafone mobile Internet in the UK are Facebook, Google and BBC.[13] Similarly, NTT DoCoMo's data traffic trends clearly show that operator "walled gardens" no longer find favor with consumers. Over 70% of NTT DoCoMo's *i-mode* traffic is generated by consumers accessing non-official sites.[14] Going forward, it is likely that consumers will want to treat the mobile Internet as an extension of its fixed counterpart and browse their favorite sites, disregarding operator owned portals. Such developing consumer browsing patterns are likely to impact operator choice of ecosystem.

Figure 4: Changes Happening Across the Value Chain



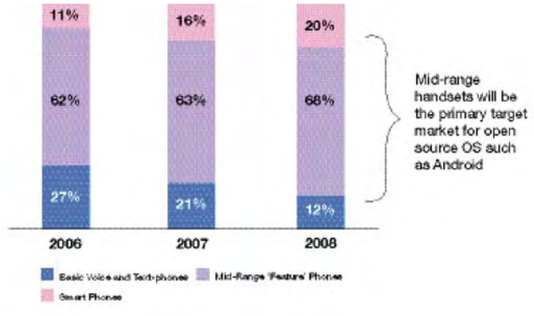
Source: Capgemini TME Strategy Lab analysis

Figure 5: Architecture of Yahoo! 'Mobile Developer Platform'



Source: Capgemini TME Strategy Lab Analysis. Company Website

Figure 6: Mobile Handset Shipment Market Share Based on Type of Handset, Global, 2006-2008



Source: Haywood Securities Inc, "Intrinsyc Software - The Right OS at the Right Price", November 2007

> "Online players are launching open application platforms **THAT STRENGTHEN THEIR CAPABILITIES IN TARGETING MOBILE USERS DIRECTLY**"

> "**BY ENSURING THAT ANDROID CAN RUN ON LOW-END PROCESSORS,** Google is looking to tap the mid-range handset segment"

2 Stanford Group Company, "Google Inc", November 2006.
3 ABI Research, "Mobile Marketing and Advertising to be Worth $3 Billion by 1Q 2008", April 2007.
4 Skype, "Skype Tests Software for Mass-Market Mobile Phones", April 2008.
5 Washington Post, "Nimbuzz - VOIP/IM aimed at mobile and social networks", May 2008.
6 AOL, "Open Source Technologies: Powering the Mobile Experience – the AOL Perspective", March 2008.
7 Information Week, "Yahoo CEO Jerry Yang: The Mobile Web Needs Openness", January 2008.
8 CNET News, "Google launches its cell phone ambitions", November 2007.
9 TG Daily, "Google pumps out updated Android SDK", February 2008.

10 The Android OS kernel is expected to be distributed under an open-source licensing model.
11 PC Mag, "Hands-On Android Demo", February 2008.
12 Business Week, "Verizon Snubs Google's Platform", May 2008.
13 Vodafone, "Unlimited Internet Access on Vodafone's New Monthly Price Plans", May 2008.
14 Telecoms Magazine, "Walled gardens come tumbling down", August 2007.

Operators are Introducing Open Internet Plans

Operators are responding to the growing data needs of consumers by coming up with flat-rate plans. For instance, in the UK Vodafone and 3 have announced that they will be offering flat-rate data plans providing unlimited usage to the consumer within fixed monthly data limits (see Figure 7).

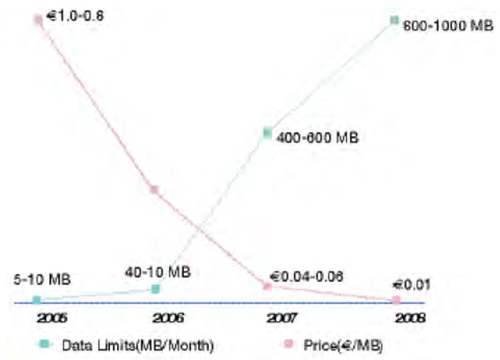
Operator flat-rate plans also come with restrictions in place. For instance, Vodafone in UK does not allow VoIP, IM, P2P[15] file sharing, and using the phone as a modem in its flat-rate plans.[16] However, going forward, it is likely that true flat-rate pricing with minimal restrictions on network usage will be in place. Flat-rate pricing has also led to a steep fall in the absolute cost of data. For instance, in Italy, the cost per MB of mobile data has fallen from €0.04 in 2006 to €0.01 by 2007. Similarly, in Germany, price per MB has come down from €0.33 to virtually zero, due to the enhanced data traffic limits.

Operators are Opening Networks to External Devices and Application

While most operators are coming up with flat-rate data plans to encourage active uptake of mobile data services, a few are realizing the customer demand for greater access to their favorite applications and online content, and responding to the same. For instance, in the US, operators such as Verizon Wireless and AT&T have announced that they will be opening their networks to external devices and applications (see Figure 8). While this may imply erosion in control of the consumer experience, operators are leaning towards opening their networks in search of a first-mover advantage. By opening their networks, operators are addressing competitive and regulatory pressure as well as customer concerns.

In the coming years, consumer demand towards a seamless Internet experience is only likely to grow stronger. It is also likely that more operators will actively consider a shift to open platforms, driven by a combination of consumer, competitive and regulatory pressures.

Figure 7: Evolution of Price per MB of Mobile Data Traffic, UK, 2005-2008



Source: Capgemini TME Strategy Lab Analysis. Operator Websites

Open Ecosystems Facilitated by Device Development

Device development has advanced significantly in recent years to catch up with the proliferation of advanced mobile services. Device capabilities in the three core areas of processing power, storage capacity and battery life have been increasing rapidly. A case in point is the Apple iPhone available with storage of 16GB, a healthy battery life and a powerful 400 MHz processor that runs an advanced operating system (OS-X) on the phone.[17] Device manufacturers are recognizing the shift to open ecosystems and participating actively in it. Nokia has released an application development tool for its Series 60 based phones that run on specific chipsets from Texas Instruments. Similarly, Apple has released a software development kit that enables external developers to write applications for the iPhone. Such toolkits help in simplifying the process of simulation, testing and porting applications for the developer community.

Going forward, advances in devices, enabled by open architectures and public software development kits, are likely to ensure a significantly integrated user experience. Alongside, declining costs of electronic hardware and entry of open platforms such as *Android* will ensure that even entry-level mobile devices have a rich set of base features.

Figure 8: Key Features of Open Access Initiatives of Verizon and AT&T

	verizon Nov (2007)	at&t Dec (2007)
Applications and Content	Users can access any application; however is likely to have fair usage limits with data plans	Users can download most applications; however certain applications such as Skype will continue to be blocked
Open Devices	Any device will be allowed: whether portable game console, credit card terminals or music players	Any GSM device will be allowed on the network; but certain functions on subsidized handsets will be disabled
Access to Network Functions	Developers will have access to network functions, such as GPS, MMS, SMS and VCast portal content	Developers have access to security functions and messaging gateways
Quality Control	Operator will test and certify the device for use on its network to avoid handsets that can potentially pose threat to security	Developers need to submit their applications to AT&T for testing before it decides to include them in its network

Source: Capgemini TME Strategy Lab Analysis. Company Websites

15 Peer 2 Peer, a system of direct connectivity between two consumer devices.
16 Forrester, "Mobile Internet Pricing Strategies Mature", July 2007.
17 Tech Radar, "Apple iPhone-Our Review", November 2007.

These developments will have a significant impact across the value chain as it gradually opens up, operators will start experiencing tangible loss of control over the customer service delivery experience.

The Road Ahead for Mobile Operators

The emergence of an open mobile ecosystem is posing new challenges for operators in terms of their strategic positioning in the value chain. Operators may need to forego their control over the value chain, and adopt an "open" strategy allowing a wide range of external applications and devices over their networks. One of the foremost issues facing most operators is whether they should allow external applications and devices on their networks, and provide them access to core network functions; and if so, how to mitigate the risks associated with adopting an open strategy. Operators need to understand this new context that they are operating in and redefine their role. Capgemini has identified three possible positioning choices for mobile operators (see Figure 9).

Possible Options for Mobile Operators

With these positioning choices, operators have three associated options (see Figure 10).

Open Network Access

The "Open Access" option is the most straight-forward of the three options, and is analogous to the role of an Internet service provider in the fixed space where operators offer application-agnostic network access that supports all kinds of applications and end-user devices. The operator extends its access network to all third-party "over-the-top" services and plays no role in provisioning or billing of external applications. The operator also stays away from participating in content and application development or creating aggregation platforms for external content. Operators opting for this strategy will allow most external devices on the network with minimal subsidies.

Figure 9: Possible Strategic Positioning Choices for Mobile Operators

	Applications and Content	Platforms	Networks	User Devices
Open Network Access	• All external applications allowed; no operator role in provisioning and billing	• Third party aggregation platforms with no operator control	• Operator offers best effort and application agnostic access	• All external devices are allowed
Differentiated Network Access	• Operator involvement in provisioning of certain applications to the end-user	• Third party aggregation platforms; operator may participate to co-develop the platform	• Operator offers prioritized access to certain applications	• Handset subsidies provided to subscribers of premium service pipes
Telco Platform	• 3rd party applications are allowed along with telco content and applications	• Operator offers service enablers' platform with open APIs, a development toolkit and hosting and billing functions	• Operator will prioritize services across its networks based on subscription and service type	• Only certified handsets are allowed

Extent of Operator Control (High to Low)

Source: Capgemini TME Strategy Lab Analysis

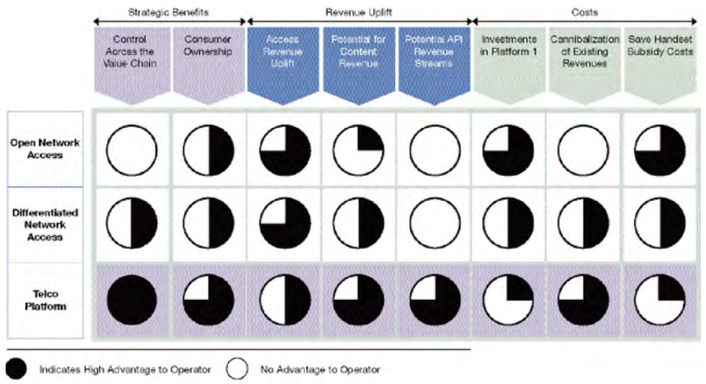
This is a strategy that enables operators to have revenue upside from the increased usage of data services, by ceding significant amount of control across the value chain to online players and third party developers. The strategy does not entail any costs to acquire or develop content, or to create and manage the aggregation platform. However, this strategy also leaves holes in its monetization potential by neglecting areas such as content revenues. Open access can also pose a threat of cannibalization of existing revenue streams of operators, especially in voice and messaging by third-party "over-the-top" communication services.

Differentiated Network Access

With the "Differentiated Access" strategy, operators go a step further from playing the role of an application-agnostic access provider, by creating distinct service pipes priced at different levels for the end-user. Operators can offer multi-tier access plans, which users could choose from depending on the applications they wish to consume. For example, subscribers who wish to use mobile Internet only for browsing and other basic Web applications can choose a low-priced basic data plan which blocks VoIP and bandwidth-intensive applications such as video streaming; while users who wish to access a wide range of advanced services such as VoIP, over-the-top video and file sharing could buy a premium data subscription.

> "THE ADVENT OF OPEN ECOSYSTEMS *will result in a definite erosion of operator control over the customer experience*"

Figure 10: Comparison of Operator Benefits from the Various Strategic Options



Source: Capgemini TME Strategy Lab Analysis

At the same time, the operator also partners with specific online players in introducing services that come with a guaranteed level of Quality of Service (QoS), and are much more integrated with operator offerings. Operators then take a proactive role in managing such services by taking care of issues such as handset integration, billing and customer service, and sharing any consequent revenue uplifts with the online player.

This strategy offers significantly more options for revenue uplift than what "Open Access" offers. By tying up with online players in building advanced services, operators ensure that the extent of control over the customer experience that they cede is matched by a corresponding rise in access and content revenues. Moreover, operators also reduce the risk of possible cannibalization that some services could have on their core revenues.

Telco as a Platform

The "Telco Platform" strategy presents a significant shift in the way current networks operate. Operators adopt a "compete-in-some, collaborate-in-some" model with regards to applications and content. Operators partner with third-party application developers and content players, whilst also offering their own portals to consumers. Third party applications are granted full access to network features, while being kept under the ambit of a fair usage policy. Operators offer APIs to help third party developers build services around core network features such as voice, messaging, user authentication, location and presence. Operators can also provide billing and hosting platforms for third-party applications and content. In doing so, operators not only mitigate the risks of their "on-deck only" strategy, but also open themselves up to gaining richer customer insights. Operators also have the option of working with handset manufacturers in customizing their devices to ensure easier access to content and applications from the operator as well as its partners.

This strategy not only offers scope for significant revenue uplift, but also retains operator control over a significant part of the consumer service delivery experience. By working in close association with content and application providers in identifying and monetizing newer revenue streams, operators stay at the forefront of innovation in the mobile ecosystem. However, operators will need to invest significant resources in building capabilities around platforms and developer communities.

Benefits of Adopting the Platform Strategy

Of the three strategic positioning choices that operators have before them, the platform strategy offers maximum revenue uplift, without ceding significant strategic control over the value chain. While there are investments involved in embracing this platform fully, these costs are imperative to position operators strongly in the value chain as "service enablers" for the mobile platform, in contrast to reducing them to simple utility providers.

Our estimates indicate that an operator in the UK with a market share of 20% could look at a net revenue uplift of 12% by 2011, by carefully adopting the platform strategy after considering any possible erosion of core revenues by over-the-top services (see Figure 11). A significant portion of these revenues could come from data traffic uplift driven by a rich suite of third-party applications available on the operator's open platform. In addition to access fees, operators can accrue a 5% revenue uplift from billing of third-party applications and by providing open APIs for authentication and location information for end-users.

However, these revenue streams are only indicators of the possible value operators could unlock, as they can also leverage the vast authentication and location information to tap the high-growth mobile advertising opportunity, both through direct advertising as well as third-party partnerships.

Recommendations for Telcos

We believe that leading mobile telcos in Europe should open their networks to third-party applications and content, and allow a wide range of external devices on their networks.

> *"Operators should position themselves as platforms* **THAT ENABLE DELIVERY OF APPLICATIONS AND CONTENT WITHOUT DISCRIMINATION"**

Operators should create platforms around their unique assets, and add value to the user experience by enabling and delivering external content and applications.

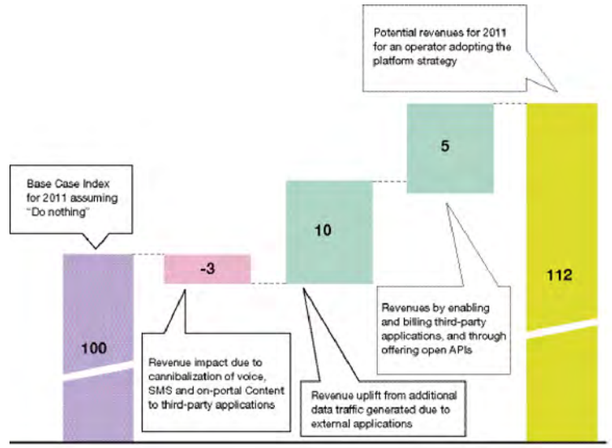
For most telcos, this will require consolidation of their core data assets related to subscribers such as demographics, authentication, credit information, usage patterns and social networks. Such information is often spread across disparate systems acquired over time, and is often available in non-standard or proprietary formats that cannot be directly used by applications. Operators will need to make open APIs available to the external developer community for location, presence, authentication and other data repositories (see Figure 12).

> *"Operators need to clearly understand* **THE RISKS AND REWARDS OF OPEN ECOSYSTEMS AND ADAPT ACCORDINGLY"**

Towards this, operators should plan a clear roadmap for deployment of technologies such as IP Multimedia Subsystem (IMS), which abstracts the application layer from networks, and creates open interfaces that allow core information to be made available to applications in a standardized manner. Operators will also need to take steps to promote their platforms amongst the external developer community. Some operators such as Orange have already launched initiatives such as the Orange Partner Program to attract third-party developers.

In conclusion, the mobile industry is bound to see a major disruption with the unshackling of operator controls over the development and delivery of applications. These changes threaten to bypass those that choose to ignore them and reward those that welcome them. Operators and other stakeholders alike would do well to adapt themselves to these changes in order to ensure that they stay relevant in the new mobile world order. Operators are best positioned to play the role of enablers, by unlocking their network and data assets to third-parties, and in the process, creating value in terms of additional revenues. Operators will need to plan a clear roadmap in transforming themselves from delivery players to platform providers.

Figure 11: Potential Revenues in 2011 for an Operator Adopting the Platform Strategy (Assuming an Index of 100 basis points)



Source: Capgemini TME Strategy Lab Analysis

Figure 12: Key Initiatives towards Developing a Telco Platform

Source: Capgemini TME Strategy Lab Analysis

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Evaluating the Disruptive Potential of Internet TV in Western Europe

by Jerome Buvat, Tushar Rao and Alex Kitson

Abstract: Internet TV offerings are becoming increasingly comprehensive. Initial uptake suggests consumer receptivity to these services is growing. While some players are striving to understand how best to tap into opportunities afforded by Internet TV, others are grappling with how to mitigate the perceived threat to their own services. Capgemini's TME Strategy Lab believes that content producers—through a collaborative offering—can offer a compelling Internet TV service directly on consumers' TV sets. We believe that there is a business case for providing Internet TV services, if key service delivery issues surrounding access bandwidth limitations, delivery architectures and limited availability of devices can be overcome in the medium-term. Indeed, we estimated that an Internet TV offering launched jointly by content producers in the UK, for example, could garner a customer base of around one and a half million households, commanding annual revenues of over €200 million and delivering a profit margin of up to 17% by its fifth year of operation. Content producers, established Pay TV operators and IPTV players must work quickly to map out clear strategies to accrue maximum benefits from Internet TV. We recommend that content producers work together to ultimately offer set-top-box based Internet TV services. Established Pay TV operators should use Internet TV to both capture a share of Free TV markets and complement their own services, while telcos should work to develop wholesale propositions around managed video delivery services and leverage Internet TV to extend their IPTV reach.

The Internet is fast-emerging as a new platform for consuming TV content. In addition to the plethora of user-generated content already available, recent initiatives by content producers and online players have enabled consumers to view full-length, professionally produced TV content delivered over the open Internet to their PCs via their web browser or through dedicated applications such as the BBC's iPlayer. In addition, players such as Apple are enabling customers to view Internet-delivered TV on their TV sets through set-top boxes and devices which stream and download TV content.

While uptake of Internet TV to date has been predominately limited to early adopters, content producers commanding reach and offering valued premium content have the potential to disrupt the established Pay TV market by collaborating together to jointly offer Internet TV services direct to consumers' TV sets.

In this paper, Capgemini's TME Strategy Lab assesses the likely impact of Internet TV on the Pay TV and IPTV market. We first discuss the key barriers impeding consumer uptake of Internet TV services, and assess when they are likely to be overcome. Next, we question the validity of the business case for content producers offering Internet TV services, and finish by outlining a set of pragmatic recommendations for content producers, established Pay TV operators and telcos.

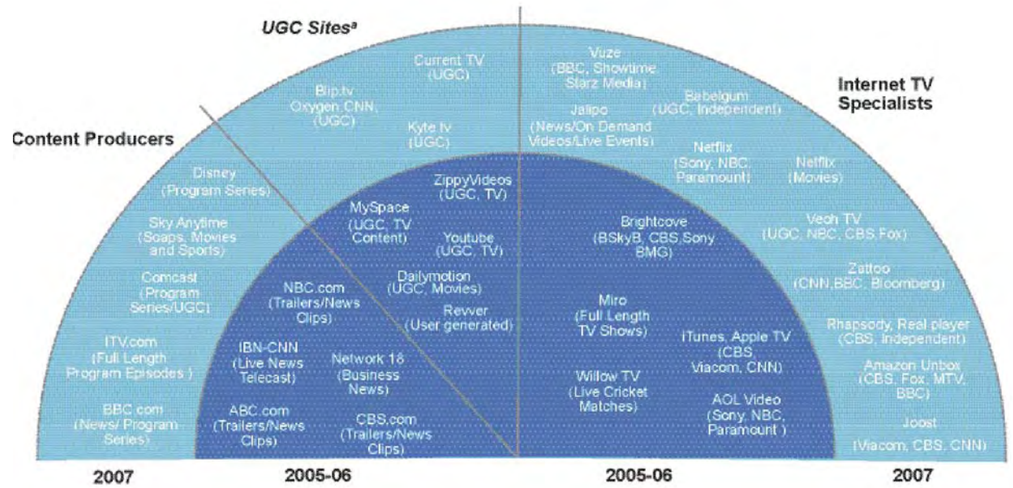
Players are Launching Increasingly Comprehensive Internet TV Services

Internet TV has seen significant activity from both online players as well as content producers. In recent years, a host of "Internet TV specialists" such as Babelgum, Joost and Vuze have launched platforms offering niche and mainstream TV content on the Internet. In addition, content producers such as Disney, Comcast and Sky who own premium valued content have also started offering Internet TV services (see Figure 1).

Not only are an increasing number of Internet TV services being launched, the content now available online is also of greater appeal to viewers. Most Internet TV specialists began by only offering niche content; however, they are increasingly offering mainstream content on their online TV platforms. AOL Video, for example, struck content distribution deals with Disney and ABC to stream full-length premium shows the day after their telecast on broadcast TV. Content producers who initially offered only short video clips have also begun offering full-length premium content. In 2007, for example, CBS began offering full-length episodes from premium shows such as Desperate Housewives and the Apprentice on its Internet TV service.

> "Internet TV Players **ARE INCREASINGLY OFFERING MAINSTREAM CONTENT**"

Figure 1: Select Launches of Internet TV Services, Worldwide, 2005-2007



Note: IPTV is the delivery of video content using closed network infrastructure while Internet TV is the delivery of video content over an open Internet
Source: TME Strategy Lab Analysis; Company Websites.
Note: (a) Due to the fundamentally different nature of the content involved, User-Generated Content (UGC) has not been addressed in this study

A number of content producers have also begun collaborating to launch shared online platforms to expand the reach of their premium TV content. Hulu, for example, is an online portal jointly developed by NBC Universal and NewsCorp, offering consumers free premium ad-supported content from content producers such as National Geographic, Sony Pictures and MGM.

Recent developments in set-top devices are also enabling the consumption of Internet video on TV sets rather than PC screens. The Apple TV device, for example, links the PC and TV, allowing users to watch downloaded content on their TV sets, while the Babel TV set-top-box and selected Sony Bravia TVs enable direct streaming of content from the Internet to TV sets.

Initial Consumer Uptake of Internet TV Services has been Encouraging

The increasing array of Internet TV services along with the growing range of premium content is driving both significant uptake and usage of Internet TV. In the UK, between 2006 and 2007, the number of Internet users watching TV online increased by over 50% to nearly 3 million users (see Figure 2). During the same period, the number of online TV streams[1] watched grew even more strongly by 75%, suggesting viewers are also becoming heavy users. Similarly, in the US, 43% of viewers reported to have watched TV online in 2007, up from 25% in 2006[2].

Some players in particular have seen strong uptake of their Internet TV

1 Note: An online TV stream is a continuous flow of multimedia content delivered in real-time to the end user. It is not permanently stored on the PC.
2 Source: FierceIPTV, "US Internet TV usage surges", Feb 2008.

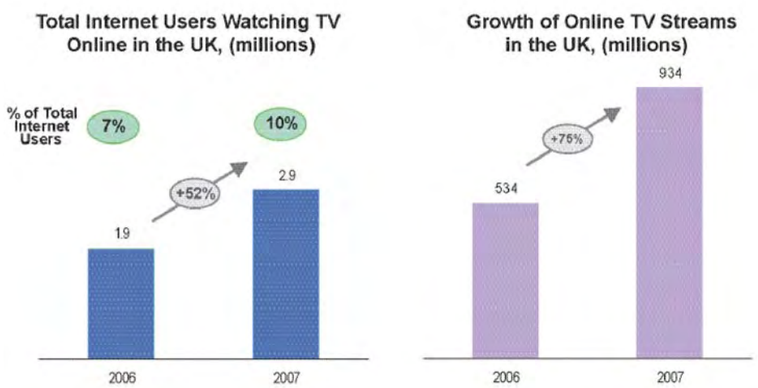
services. Online players such as AOL Video, for example, which launched in mid-2006 and offers content from NBC, Fox and ABC receives around 19 million visitors per month. Similarly, Vuze which launched in early 2007 and has content partnerships with the likes of National Geographic and the BBC has an installed base of over 10 million users[3] for its software application. Certain content producers have also seen notable successes. Disney registered 200 million streams in August 2007 from its video service which was re-launched in early 2007 with enhanced content.

The Disruptive Potential of Internet TV

While there have been a number of promising recent developments in the Internet TV services space as well as encouraging initial uptake from early-adopters, Internet TV services will only become mainstream once companies are able to deliver high quality services to viewers' TV sets as opposed to the predominately PC-based services available today. In a survey in the US, respondents overwhelmingly favored TV sets for watching Internet TV. Over 80% of respondents aged above 35 years prefer to watch Internet TV on a TV set, while 60% aged between 18-24 years prefer a TV set for watching Internet TV[4].

However, Internet TV providers face several challenges in the delivery of TV services to the living room. These include access bandwidth constraints, challenges around the suitability of delivery architectures, as well as issues around the basic feature set of Internet TV devices. In addition to these service delivery challenges, content producers wishing to offer Internet TV services also need to examine the business economics to ensure there is a compelling case for offering Internet TV directly to consumers' TV sets.

Figure 2: Uptake and Adoption of Internet TV Services, UK, 2006-2007



Source: Capgemini TME Strategy Lab Analysis. Continental Research "Internet & Convergence Report", Autumn 2007; Screen Digest, "Online TV: prospects for the UK market", October 2007

Only once players have addressed these key questions will Internet TV be capable of increasing its penetration and impact video on demand revenues of the established Pay TV and IPTV market. In the rest of this section, we assess when these key service delivery issues are likely to be overcome, and as an illustration, quantify the potential uptake and revenue evolution of an Internet TV offering launched jointly by content producers in the UK over a five year period.

Service Delivery Challenges are Expected to be Resolved in Medium Term

Sufficient Access Bandwidth is Expected to Become Available

After taking contention ratios[5] into account, access speeds currently available in Western Europe are barely sufficient to deliver standard broadcast-quality TV content on a TV set, let alone HDTV. In Italy, for example, average actual broadband speeds fall significantly short of the 3 Mbps requirement for Internet TV delivered on a TV set (see Figure 3). Moreover, contention ratios in some geographies such as the UK are as high as 50:1, resulting in a wide gap between actual available broadband access speeds and the maximum possible speeds. Over 60% of broadband users, for example, have experienced speeds less than half those advertised[6].

Moreover, telcos and ISPs are becoming increasingly concerned about capacity requirements of high-bandwidth applications such as Internet TV. Companies such as Comcast in the US are already implementing "traffic-shaping" measures to prioritize other traffic over peer-to-peer video, while numerous other companies are imposing fair usage limits on customers, thereby discouraging large video downloads. As a result, Internet TV companies may find it difficult to ensure access bandwidth for broadcast-quality TV services.

3 Source: Business Wire, "Vuze Passes an Installed Base Milestone of 10 Million Viewers and Opens Its Internet Publishing Platform to Networks, Studios, and Content Creators ", October 2007.
4 Source: eMarketer, "Online Video: Making content pay", August 2007.
5 Note: Contention ratio describes the maximum number of users sharing the bandwidth of a broadband connection between the local exchange and broadband provider. With a 50:1 contention ratio, one dedicated access line could be shared by up to 50 users.
6 Source: Zdnet, "Watchdog condemns broadband-speed claims", August 2007; BBC, "World Broadband Speeds", December 2007; BBC, "Government cracks broadband whip", December 2007.

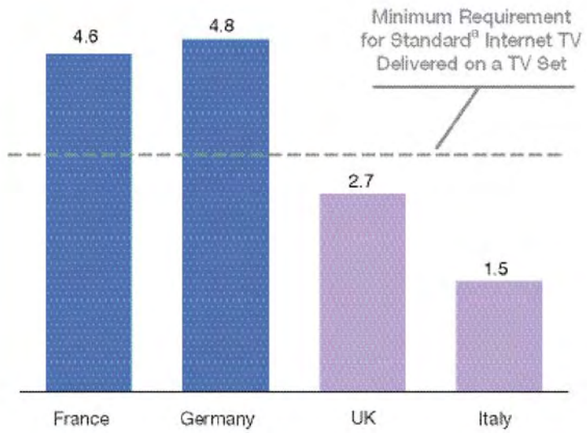
We expect bandwidth-related constraints to be resolved as speeds available to the end-user evolve and advanced compression standards reduce bandwidth requirements. Operators in Europe are upgrading access networks to provide speeds upwards of 24 Mbps to a large percentage of households. Operators in France and Belgium are rolling out fiber to the node (FTTN), while in the UK, BT has commenced deployment of fiber to the home (FTTH) in select geographies.[7] As a result of such initiatives, the average maximum DSL download speed in Western Europe is expected to grow to 15 Mbps by 2010, and 30 Mbps by 2012[8].

In mature broadband markets such as the UK, for example, initial telco resistance to Internet TV is likely to be resolved in the medium-term. In addition to growing access speeds, it is likely that government regulation will prevent telcos and ISPs from blocking video traffic. Further, content producers will be able to exert considerable pressure against throttling of their Internet TV services, given that telcos must depend on them for content for their IPTV offerings.

Content Delivery Network (CDN) is Emerging as the Architecture of Choice for Delivering Video Content

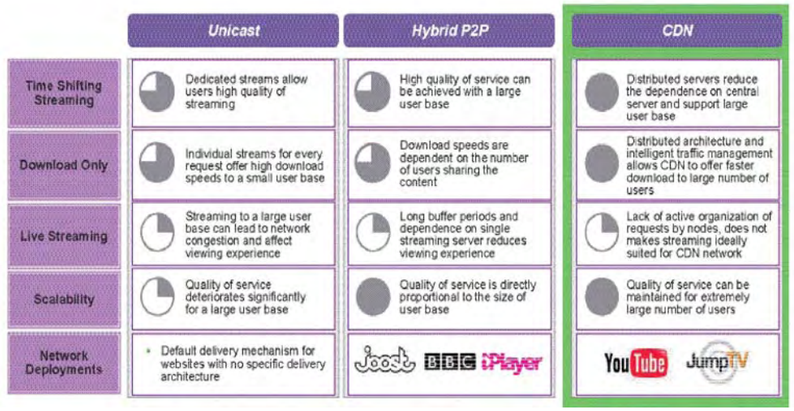
Internet TV providers will have to choose an optimal distribution architecture for delivering video over the open Internet. Hybrid P2P offers players with a low cost architecture for streaming content; however, it can maintain high quality of services only for an extremely high user base and popular content. Content Delivery Network[9], on the other hand, is emerging as the most suitable choice, as it provides the desired quality of service for both streaming video and on-demand services (see Figure 4). Internet TV players such as Jump TV and YouTube have built CDN architectures; however, despite its benefits, even CDN falls short of offering linear TV services over the Internet.

Figure 3: Broadband Average Actual Bandwidth Speeds (Mbps), Western Europe, 2007



Source: Capgemini TME Strategy Lab analysis; Zdnet, "Watchdog condemns broadband-speed claims", August 2007; BBC, "World Broadband Speeds", December 2007; BBC, "Government cracks broadband whip", December 2007.
Note (a): Standard definition resolution video delivered over Internet and viewed on a TV set

Figure 4: Comparison of Delivery Architectures for Various Content Types



Source: Capgemini TME Strategy Lab analysis. iDATE, "IP Video Distribution", June 2007

7 The Guardian, "BT bets its future on broadband 20 times faster than now", January 2008.
8 Deutsche Bank," The Digital Content Wave", January 2007.
9 Note: Content Delivery Network (CDN) is a video distribution technology which localises content caching with servers deployed at locations closer to the user. Users receive streams from the closest caching server and route optimization techniques are used to ensure quality of service.

> *Content Delivery Network is emerging as the preferred delivery technology,* **AS IT PROVIDES THE DESIRED QUALITY OF SERVICE FOR STREAMING VIDEO AND ON-DEMAND SERVICES**

Internet TV Devices are Expected to Become Mainstream in the Medium Term

Compared with other Pay TV devices, Internet TV set-top boxes are at an early stage of development and offer only basic features. For example, set-top boxes from Internet TV players such as Vudu do not have features such as surround sound or remote recording which are standard on other Pay TV services such as Sky or Verizon Fios. Moreover, most devices for Internet TV do not have a mechanism to consume broadcast TV and cannot be used as an Internet or WiFi Customer Premise Equipment (CPE).

Also, many Internet TV user interfaces offer a poor navigation and search user experience as present Electronic Program Guides (EPGs) are not capable of organizing large volumes of content in a user-friendly format. For example, while EPGs on cable and satellite platforms are designed for fewer than 150 channels, Joost and other Internet TV players typically offer over 300 channels categorized by genre. Large Video on Demand (VoD) content libraries also require advanced navigation and search methods. In the US, Comcast's VoD library comprises over 5,000 programs, rendering traditional navigation and search tools ineffectual.

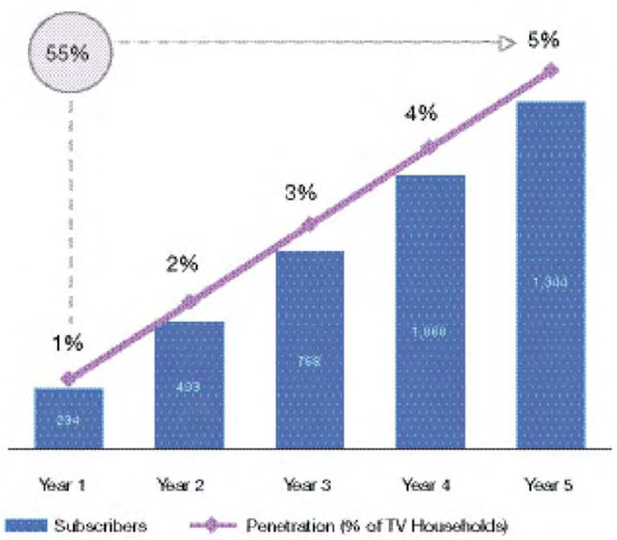
However, advances are being made in set-top box (STB) and EPG functionality. With an increasing number of Internet-enabled devices becoming available, we expect feature-rich set-top boxes to become mainstream by 2011. For example, in 2008 itself, LG is expected to jointly launch Internet-enabled TV sets with Netflix; Babel TV plans to launch a hybrid set-top box combining digital terrestrial TV, PVR functionality, and Internet TV; and British Telecom will begin streaming live content including football matches to Microsoft Xbox console users over broadband.

Similarly, advances are now being made in content search technologies suitable for Internet TV. For example, recently introduced "Auto Hot Key" EPGs automatically classify content by genre allowing easier search and content selection. Also, search algorithms based on analyzing video tags or "metadata" are being developed, which are more suited to searching through large volumes of content.

Content Producers have a Business Case to Offer Internet TV Profitably

In order to evaluate the disruptive potential of content producers jointly offering an Internet TV service to TV sets, Capgemini's TME Strategy Lab has quantified the likely business case

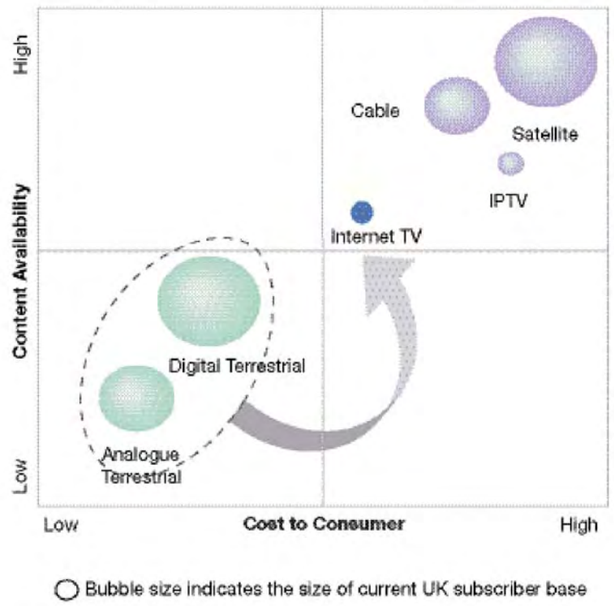
Figure 5: Forecasted Penetration and Subscriber Base of STB-Based Joint Content Producer Internet TV Offering, UK



Source: Capgemini TME Strategy Lab analysis

> **AS INTERNET TV SET-TOP BOXES ARE RELATIVELY EXPENSIVE,** *a rental model will lower the entry barriers for consumers who do not wish to pay upfront*

Figure 6: Positioning of Internet TV



Source: Capgemini TME Strategy Lab analysis

for such an initiative in the UK market, forecasting consumer uptake, revenues and costs over a five year period.

The most likely scenario would be that the content producer consortium would launch a service utilizing a hybrid set-top box in order to offer customers a bundle of linear broadcast "free TV" channels through a Digital Terrestrial TV tuner in addition to Internet TV and PVR capabilities. Offering free-to-air channels through DTT will allow content providers to deliver linear TV as part of the overall Internet TV package, while partnership with external content producers will ensure availability of a wide range of content on the platform. The Internet TV offering can encapsulate free streamed catch-up content in addition to pay-per-view on-demand content such as movies and premium TV show episodes, which are downloaded onto the hard drive of the set-top box. Since Internet TV STBs are relatively expensive, a rental model will lower entry barriers for consumers who are not willing to invest around €150 to €200 upfront in procuring the STB. The smooth functioning of Internet TV will of course depend on the mitigation of a number of the key service delivery challenges already discussed[10].

Consumer Uptake is Likely to Grow Strongly Although Penetration will Remain Low

Content producers launching such an offering in the UK are likely to increase Internet TV penetration from a low base of 1% of all TV households in Year 1 to 5% in Year 5, representing over 1.3 million households (see Figure 5). As delivery issues gradually become resolved and on-demand premium content becomes available at lower costs, we expect uptake to increase rapidly, with annual subscriber growth rates of up to 55% between Year 1 and Year 5.

Existing free-TV households will form the primary target segment for Internet TV services, as it will allow free TV subscribers to upgrade to on-demand content offerings at a minimal incremental cost (see Figure 6). Free TV households will be able to watch premium content at a fraction of Pay TV subscription fees, since ad revenues will subsidize the cost of offering. A small proportion of Pay TV households can take up the service as well, but mainly for the purpose of upgrading secondary TV sets rather than replacing their existing Pay TV subscriptions which have wider premium content offerings at a proportionately higher monthly fee.

10 For the purpose of our business case analysis we have assumed that media players offer the service over the open Internet and that access bandwidths are sufficient for delivering high-quality video content to TV sets. We have assumed the media players uses a CDN-based network architecture which delivers streaming and on-demand video download services, and that the media players will make use of a managed CDN service to eliminate upfront investments in delivery infrastructure.

Internet TV Players can Maintain a Profit Margin of about 17%
We expect the Internet TV service launched jointly by content producers to generate monthly average revenues per household of around €14 on TV in Year 1, comprising an STB rental charge of €5, and €5 consumer spend on VoD services in addition to €4 from advertising revenues.

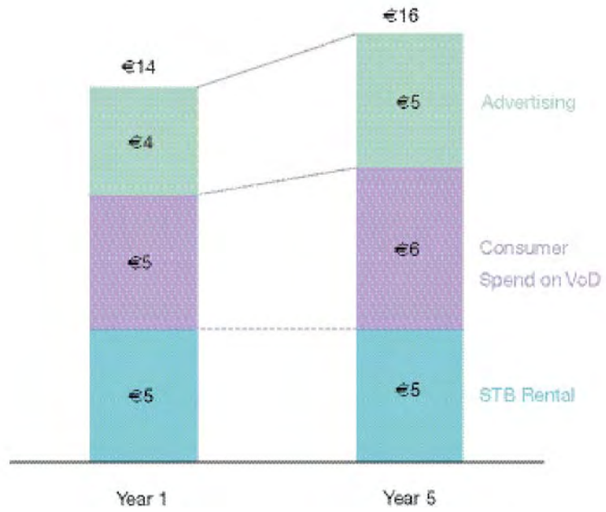
As video advertising matures, content companies can generate advertising revenues by inserting two 30 second advertisements, for example, one in the beginning and another in the middle of the video. An average household consuming about 20 TV episodes or 30-minute videos per month can generate up to €4 per month per household in advertising revenues at current CPM levels. Although usage will grow rapidly, this figure might grow only by €1 as CPMs are expected to fall rapidly with increases in ad-inventories.

Content companies can also look at garnering a share of the current average household spend of around €11 per month per household on videos, whether DVD purchase, rental or pay-per-view video. As the content company adds an extensive catalogue of on-demand content to the Internet TV platform, it can expect to make up to €6 per household through paid on-demand content (see Figure 7).

Finally, it will be important for content companies to offer the STB on a rental model to lower the entry cost of the service for consumers who may find upfront cost of €150 to €200 for STBs prohibitive. We have modeled our case considering the price point at the lower end that a player could possibly charge for the set-top-box, at around €5 per month for a 24 month contract. Given that a significant quantum of CAPEX is incurred on STB-subsidies, upfront sale of the STB to a section of users can only improve the business case in favour of the content company.

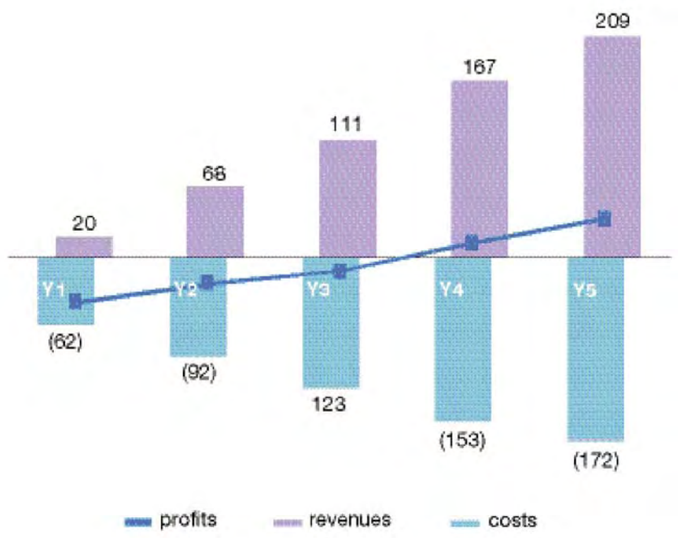
We believe Internet TV is a viable proposition for content producers. Our analysis shows that the service

Figure 7: Monthly ARPU Evolution (€/month) for STB-Based Joint Content Producer Internet TV Offering, UK 2008 - 2012



Source: Capgemini TME Strategy Lab analysis

Figure 8: Break-Even Analysis for STB-Based Joint Content Producer Internet TV Offering, UK, in € millions



Source: Capgemini TME Strategy Lab analysis

could break-even in the fourth year, delivering a profit margin of 15-18%, and generating revenues of over €200m by year 5 (see Figure 8).

While set-top box costs are likely to account for nearly three quarters of all costs in the first year due to high current prices of Internet-enabled STBs, it is likely these costs will recede by as much as half over the next three to four years. As the service would leverage an outsourced video delivery service from a CDN provider, CAPEX investments other than STBs are also likely to be minimal.

OPEX on the other hand is likely to grow substantially over time as user uptake grows. In order to encourage greater usage and uptake, content producers will have to offer an increasingly wide variety of content to consumers. We expect companies will need to add more and more content from external sources, until almost half of all content consumed is non-proprietary by Year 5, driving up content acquisition costs from around a quarter to nearly half of all OPEX. Despite these growing content acquisition costs, steadily falling CDN prices, due to growing competition,are likely to help mitigate the impact and achieve earlier profitability.

Internet TV is Likely to Disrupt Pay TV and IPTV On-Demand Revenues
In the medium-term, we believe Internet TV will heavily impact Pay TV and IPTV on-demand revenues. In the case of established Pay TV operators, consumers are likely to be attracted by the relatively cheaper, ad-subsidized on-demand offerings available through Internet TV services. IPTV players' prospects are also likely to be under threat, especially given that many telcos in Europe are positioning VoD as the key selling point of their IPTV services and relying on it to make IPTV offerings profitable.

To a lesser degree, we also believe that as video ad targeting capabilities mature, Internet TV is likely to accelerate the ongoing migration of ad-spend from traditional TV to online channels. However, while on-demand and advertising revenues will be impacted, we do not believe that the core Pay TV subscription revenues will be impacted to any significant degree. Internet TV offers a fundamentally different proposition to Pay TV, and in the medium-term, is unlikely to displace consumers who are willing to pay a premium subscription fee in order to avail a wide range of linear and on-demand content.

In summary, at the current pace of development, key Internet TV service delivery challenges will be largely overcome in the next three years. The reduction of these service delivery issues will enable the growth of Internet TV services, and although we do not expect the service to rival mainstream Pay TV platforms, we do expect strong subscriber and revenue growth over the next five years. As a result, in three to four years, Internet TV is likely to have a strong effect on existing on-demand revenues, and also content producer and broadcaster advertising revenues to a lesser degree.

Recommendations

Amidst rapidly developing services and encouraging initial consumer uptake, many players are considering how best to tap into the opportunities afforded by Internet TV, while others are grappling with how to mitigate the perceived threat to their services. In the rest of this section, we outline some key recommendations for content producers, established Pay TV operators, and also telcos.

"Free TV households will form the primary target segment for Internet TV services
AS IT WILL ALLOW UPGRADE TO ON-DEMAND CONTENT OFFERINGS AT A MINIMAL INCREMENTAL COST"

Content Producers Should Collaborate to Offer Compelling Internet TV Services
We recommend content producers should consider collaborating with each other to provide joint Internet TV services, offering customers a rich variety of popular content across genres.

Leading content producers should pioneer the creation of an Internet TV platform, provide valued content and drive STB development in collaboration with partners. Smaller players should leverage the platform created by leading media players and add value by providing popular content. The consortium should partner with a Free TV player to provide the DTT or free satellite platform for delivering linear TV services (see Figure 9).

Offering Internet TV services will enable content producers to foster new revenue streams in the form of advertising, on-demand and subscription revenues. No longer solely dependent upon broadcasters to telecast their shows, content producers will be able to use on-demand services to monetize their catalog further by serving niche markets more comprehensively and extending the shelf-life of content; as an example, programs outside the top fifty account for over 50% of all downloads on the BBC iPlayer.[11] Direct reach to consumer homes through the Internet TV platform will allow content producers to assert greater control over the value chain as well as explore the viewing behaviors of consumers, potentially channeling this insight into the creation of new content.

We believe content producers should chart a clear roadmap to offer STB-based Internet TV services, beginning with online video services in the immediate-term where users can stream videos through their website, in order to tap the online advertising opportunity. In the short- to medium-term, players could then offer Internet TV to the living room through a STB. Initially, because of low customer awareness and familiarity for this service, players will have to themselves provision STBs dedicated for the Internet TV services. As customer acceptance for the service increases, in the longer-term, players can envisage a fully open Internet TV offering where users are free to choose their own CPE, whether a STB, Internet-enabled TV set or gaming console.

Crucial to their success will be content producers' abilities to also forge successful alliances with other value chain players to gain capabilities where they lack experience. In particular, content producers will need to partner to gain advertising expertise in embedding ads in video content and selling ad spots. In order to broaden the appeal of Internet TV, content producers will also need to partner with STB manufacturers and leverage their expertise to create feature-rich and low cost devices.

Pay TV Operators Should Use Internet TV to Complement Their Services and Extend Reach
We recommend cable and satellite players to consider leveraging Internet TV to complement their existing services and address market segments not covered by their existing offerings (see Figure 10). Offering web-based TV and subsequently integrating Internet TV capabilities into their STBs, will allow satellite operators to offer premium on-demand services, catch-up TV and video downloads.

Cable and satellite players can leverage Internet TV to expand their reach in geographies with low Pay TV penetration. Countries with high Free TV penetration, such as Italy, where nearly three quarters of households take Free TV services, and Spain, France and Austria, where free-TV penetration is over 60%[12], offer large addressable markets for Internet TV offerings. By offering low-cost/high-value Internet TV propositions, Pay TV operators can target expansive customer groups who have an appetite for premium content and yet do not want a significant monthly spend.

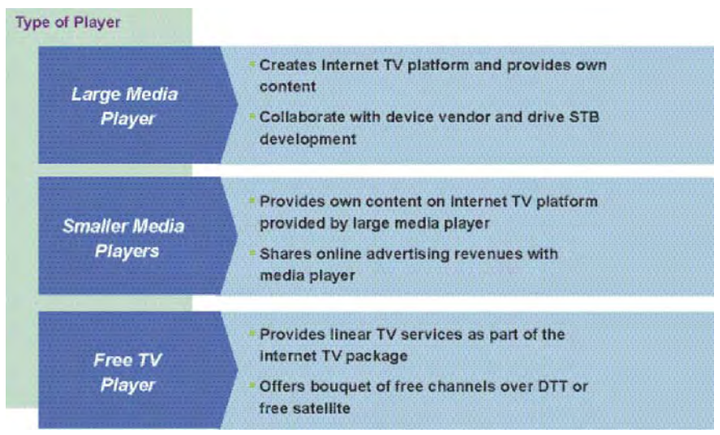
Telcos Should Develop Wholesale and Retail Propositions Around Internet TV
Telcos should view Internet TV as an opportunity to develop propositions around managed video delivery services. AT&T, for example, is developing a managed CDN offering for delivery of multimedia content to consumers over the Internet. Telcos should also consider propositions around broadband access. Qwest in the US plans to sell higher capacity broadband with speeds of up to 38 Mbps at a premium to consumers wanting to access Internet-based TV and HDTV services.

Moreover, with IPTV likely to have limited uptake in most geographies, telcos could view Internet TV as a means to reach an extended consumer base. Telcos should consider partnering with free-view channels to offer free content and position Internet TV services as a basic/entry level service to target consumers who are not ready to pay a premium for fully-fledged IPTV offerings. By offering IPTV as a premium service, whilst exploiting targeted advertising and interactive capability of the internet, telcos can build new revenue streams and maximize overall revenues. By analyzing the genre interest of viewers, telcos can display ads relevant to users' interest area and realize higher CPMs.

In conclusion, Internet TV offerings are developing rapidly and seeing encouraging uptake. As service delivery issues gradually become resolved, we expect Internet TV on the TV set to become widely available in the next two to three years. Content producers, Pay TV operators and telcos should work to rapidly chalk out clear Internet TV strategies to complement their existing offerings and generate additional revenue streams. Content producers should collaborate to launch compelling Internet TV services, affording opportunities to reach the customer directly and tap into the online advertising market. While Pay TV operator on-demand revenues are likely to be disrupted by Internet TV, their subscription revenues are likely to remain unaffected in the short-term. Internet TV will also afford Pay TV operators the opportunity to widen their reach by tapping markets previously left unaddressed. The impact of Internet TV is likely to be most prominent on telcos as their precious on-demand revenue streams become affected, especially as many are positioning on-demand as the main selling point of their IPTV services; however, we believe that telcos can turn Internet TV to their advantage by not being defensive and taking advantage of emerging opportunities.

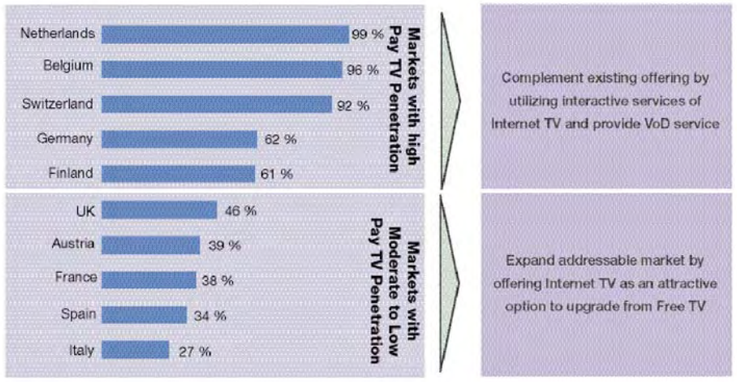
> *"Cable and satellite players can leverage Internet TV to expand their reach,* **ESPECIALLY IN GEOGRAPHIES WITH LOW PAY TV PENETRATION**"

Figure 9: Potential Roles in a Content Producer Internet TV Consortium



Source: Capgemini TME Strategy Lab analysis

Figure 10: Recommended Strategy for Pay TV Operators



Source: Capgemini TME Strategy Lab analysis

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11 Guardian, "BBC iPlayer bursts through user target", January 2008.
12 Source: Ofcom, "International Communications Market 2007", December 2007.

Identifying Opportunities for Telcos in Online Advertising
A Value Chain Analysis

by Tushar Rao, Kaushal Vaidya and Manik Seth

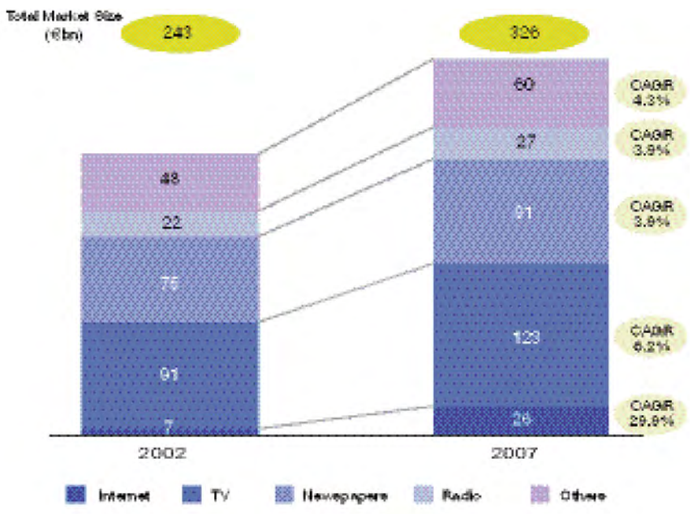
Abstract: Increasing Internet penetration and time spent online offer advertisers a growing audience for marketing messages. As a result, online advertising spend has grown rapidly across the world. This has attracted the interest of a variety of players, including telcos. Although still fringe players in the online advertising space, we believe telcos can enhance their presence by exploring a number of opportunities. Capgemini recommends that telcos decide their strategy based on their current breadth of services and online ad revenues. Telcos with limited presence in online advertising, i.e. the "slow starters," should consider leveraging their capabilities in procuring local content to offer portal services and utilize their existing directory assets to launch online directory services. Other areas of online advertising can be explored subsequently. Certain telcos generate significant online ad revenues from a limited range of services such as online directory services and content portals. For such "specialist" players, it is important to diversify into other areas. For instance, they can offer social networking services to their existing residential and business clients. They can also utilize the intelligence available to them about consumer behavior, demographics and location, to offer targeted ad network and ad agency services. Telcos with a wide range of online ad offerings but low corresponding revenues, i.e. the "strivers," should focus on improving monetization of their existing operations. This can be achieved through better differentiation of their online ad offerings by effectively leveraging their brands, existing subscriber bases and consumer intelligence. Finally, telcos who have emerged as online advertising leaders should strive to remove dependencies on partners to command a higher share of advertiser spend.

The online advertising market has been growing rapidly across the world. Between 2002 and 2007, worldwide online advertising revenues grew by a CAGR of 30% to €26 billion, compared to only 6% for overall advertising revenues[1] (see Figure 1).

Growth in online advertising has attracted the interest of a variety of players. News Corporation, for instance, has recently acquired a majority share in Utarget, a European advertising network specializing in rich formats[2], while Google made a similar move to expand into display advertising by acquiring DoubleClick[3].

Online advertising also represents a significant opportunity for telcos looking to mitigate the threat of decline in their core revenues by diversifying into new areas. In the UK, online advertising currently represents a market as large as broadband and is growing rapidly (see Figure 2). Although telcos currently do not dominate the online ad market, the dynamic nature of the industry allows new players with the right offerings to gain market share quickly. New entrants, such as MySpace, have often toppled online leaders to become one of the world's most visited websites.

Figure 1: Worldwide Advertising Spend by Media, € billions, 2002-2007



Source: Capgemini TME Strategy Lab analysis. Zenith Optimedia, "Global Advertising Figures", December 2007. Zenith Optimedia, "Zenith Optimedia upgrades global ad forecasts again", October 2004

1 Zenith Optimedia, "Global Advertising Figures", December 2007. Zenith Optimedia, "Zenith Optimedia upgrades global ad forecasts again", October 2004.
2 Company websites and press releases.
3 Company websites and press releases.

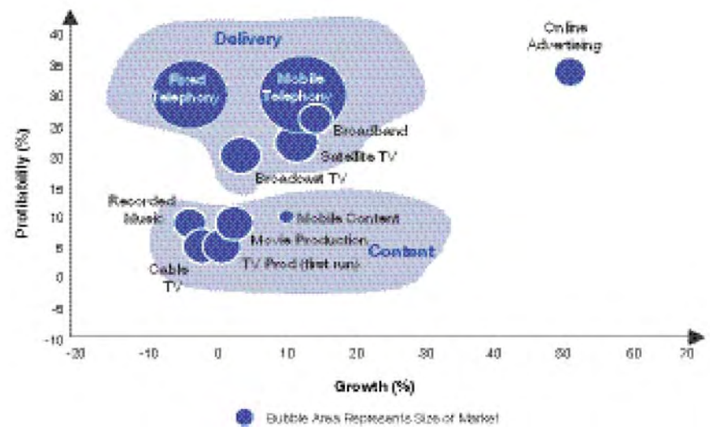
> "*In the UK,* **ONLINE ADVERTISING CURRENTLY REPRESENTS A MARKET AS LARGE AS BROADBAND AND GROWING RAPIDLY**"

In this study, Capgemini's TME Strategy Lab outlines telcos' current status in online advertising and evaluates key opportunities to improve their market presence. Subsequently, this paper offers recommendations for telcos to maximize revenues from online advertising services.

Telcos' Current Status in Online Advertising

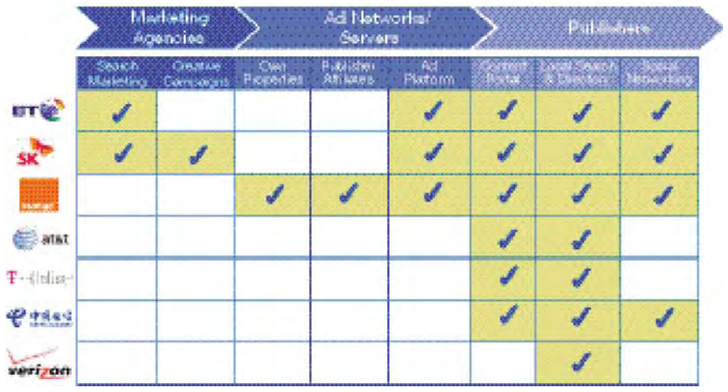
A number of telcos now offer online advertising services. In this section, we provide a brief overview of current telco activity in the online advertising space and also classify them into four different categories based on their breadth of services and revenues from online ads.

Figure 2: Size, Profitability and Growth of Selected Industries, %, UK, 2007



Source: Capgemini TME Strategy Lab analysis

Figure 3: Extent of Presence in the Online Advertising Value Chain, Selected Telcos, March 2008[a]



Source: Capgemini TME Strategy Lab analysis. Company websites
Note: (a) 1. Search Marketing entails helping advertisers with keywords auctions. 2. Creative campaigns involve planning advertising campaigns for advertisers. 3. "Own properties" refers to telcos who handle their own ad inventory on their sites. 4. "Publisher affiliates" refers to telcos who handle their partners' ad inventory as well. 5. Ad platform refers to telcos who have their own ad network platforms or have a partnership for the same. 6. Content portal refers to telcos who have a content portal. 7. Local search & directory entail telcos having online local search and directory services. 8. Telcos who have social networking websites.

Telcos' Presence along the Online Advertising Value Chain
Telcos' presence in the online advertising value chain ranges from monetizing publishing assets to acting as marketing agencies and online advertising networks (see Figure 3).

South Korea's SK Telecom, for example, recently ventured into advertising by increasing its shareholding in online marketing company AirCross to 100%[4]. Orange, in addition to its local content portals in France and the UK, launched its own ad network in 2007, offering premium online ad inventory across third-party sites as well as its own[5].

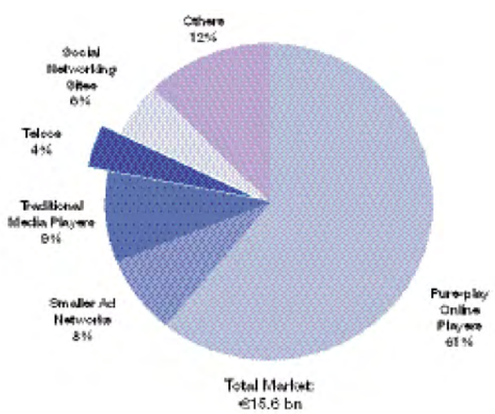
BT recently launched BT WebClicks as an online search marketing agency targeted at SMEs, while its partnership with ad network Phorm will help it enter the ad networking space.

Additionally, BT has launched portals such as BT Tradespace, a business networking site, and BTPodshow, a user generated content portal, to enhance its publishing assets[6].

Telco Revenues from Online Ads
Some telcos have been successful in generating online advertising revenues. AT&T, for example, was able to generate €438 million in online advertising revenues in 2007 through its local search engine YellowPages.com, and by offering content on its portals[7]. Verizon's affiliate company, Idearc grew its online classifieds and local search revenues by a CAGR of 20% between 2005 and 2007 to reach €208 million[8]. France Telecom also generated €150 million in 2007, primarily through portal ads[9].

Despite these initiatives, telcos' share of the online advertising market remains small. In the US, for instance, telcos are estimated to have only 4% of the €15.6 billion market[10] in 2007 (see Figure 4).

Figure 4: US Online Advertising Market Shares, %, 2007



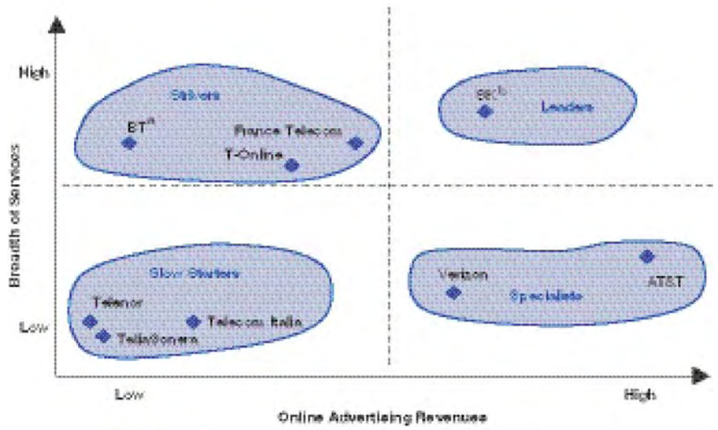
Source: Capgemini TME Strategy Lab analysis. Company websites. eMarketer, "US advertising spending", November 2007. Advertising Age, "Digital Marketing and Media Fact Pack", April 2007. eMarketer, "Portal Marketing: The Big Four", March 2007

4 Company websites and press releases.
5 Company websites and press releases.
6 Company websites and press releases.
7 AT&T 2007 analyst conference "Advertising and Search".
8 Company 2007 annual report.
19 Societe Generale "Online advertising: a growth market but need for telecoms operator to prove its mettle", January 2008.
10 eMarketer "US advertising spending", November 2007.

> **"TELCOS HAD ONLY AROUND 4% MARKET SHARE** *in the US online advertising market in 2007"*

Categories of Telcos in the Online Advertising Market
Based on their breadth of services and online advertising revenues, telcos can be categorized into leaders, specialists, strivers or slow starters (see Figure 5). Leaders, such as SK Telecom, offer a wide range of online advertising services and generate significant online ad revenues, while specialists such as Verizon and AT&T focus on a few key offerings to generate high online ad revenues; for instance, 85% of AT&T's online ad revenues come solely from directory service offerings[11]. Strivers such as France Telecom and BT. offer a wide breadth of ad services but have not been able to monetize them optimally.

Figure 5: Breadth of Services and Online Advertising Revenues for Select Telcos, 2007



Source: Capgemini TME Strategy Lab analysis. Company websites
Note: (a) BT revenues are estimated to be low due to its recent market entry. (b) SK Telecom revenues include those from its ad agency Aircross (approximately €16.7 million) and social network Cyworld (estimated at around 10% of total Cyworld revenues of approximately €146 million)

11 AT&T, "Analyst Conference - Advertising and Search", 2007.

> *Many telcos have unique assets such as extensive consumer behavior, demographic and location information,* **WHICH CAN BE LEVERAGED TO SERVE TARGETED ADS**

Opportunities for Telcos in the Online Advertising Market
Telcos possess several key strengths that they can utilize to play a more significant role in the online advertising market (see Figure 6). For example, telcos like AT&T and BT have unique assets such as extensive behavioral, demographic and location information about their consumers, which can be leveraged to serve effectively targeted ads. Each opportunity can be evaluated based on market size, existing competition, relevant strengths and success stories, where available.

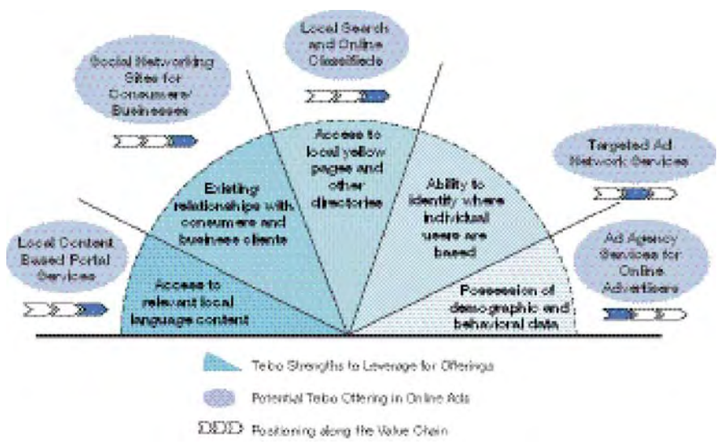
Local Content-Based Portal Services
The market for display advertising on portals is large and growing. Between 2006 and 2007, US spending on portal display ads grew by 16% to €4.2 billion, while in Western Europe it increased by 18% to €1.5 billion[12].

Although this market is sizable, it is dominated by pure online players. In the US, pure online players dominate 53% of the display advertising market, while media companies control 18%, and other websites including smaller search engines, gaming, gambling and niche sites form the remaining 29%[13].

Telcos can utilize their knowledge of local markets to procure relevant local content to tap into the display advertising market. Orange and T-Online for instance, were able to reach the top 10 websites in France and Germany, offering local content portals to drive traffic[14]. Telcos with strong brand names also have the advantage of lending credibility to ads on their portals, thereby enticing advertisers.

Additionally, Telcos have large customer bases that represent potential portal traffic. AT&T's portal generates significant traffic from its 11.5 million broadband and 67.5 million fixed-line subscribers[15]: the portal received 27.9 million unique visitors in the month of December 2007[16]. AT&T's 2007 revenue from advertising on its portals, excluding its online directory, reached € 65.7 million[17]. T-Online and Orange were also able to create their own local content portals, attracting 13.2[18] and 14.8 million[19] unique visitors per month respectively.

Figure 6: Telco Strengths and Potential Offerings in the Online Advertising Space



Source: Capgemini TME Strategy Lab Analysis

12 Forrester "European Online Display Advertising Spend Will Double By 2012", August 2007. Advertising age "Digital marketing and Media Fact Pack", April 2007
13 Capgemini TME Strategy Lab analysis. Advertising Age, "Digital marketing and Media Fact Pack", April 2007.
14 comScore, December 2007.
15 Company website.
16 comScore, December 2007.
17 AT&T, "Analyst Conference - Advertising and Search", 2007.
18 ComScore, December 2007.
19 ComScore, December 2007.

Social Networking Sites for Consumers and/or Businesses
Online social networking is a rapidly growing opportunity. Between 2006 and 2007, worldwide online social networking ad spend grew by a staggering 155% to € 876 million[20].

Telcos wishing to enter the social networking market will need to compete with existing consumer and business networks. While MySpace and Facebook dominate the landscape, there is still scope for telcos to address the niche and portal-based market, which in 2007 was estimated to represent a significant 36% of US online social networking revenues[21].

Many telcos have existing relationships with businesses as well as consumers. These can be leveraged to successfully offer targeted social networking services. Although consumer social networks might be more difficult to monetize, as consumers tend to be loyal to their existing social networks, telcos can target their SME clients as customers for business networks that help advertise them within their own community. Large telcos also benefit from their strong brands, which lend them credibility as social networking hosts and ad publishers.

Some telcos have successfully launched social networking sites and attracted significant number of subscribers. BT Tradespace, a business networking site, has witnessed rapid uptake with around 10,000 subscribers in three months from its launch in April 2007 and 39,000 subscribers by end of 2007.

Online Classifieds and Local Search
The local online advertising market is also rapidly growing; for example, in the US, it is estimated to have grown by 26% to reach €6 billion in 2007[22]. Online directory and local search services generated €2.1 billion in the US, while the European market for the same was €2.04 billion in 2007[23].

The market for online directory and local search is keenly contested, with offerings from global search players such as Google, regional search players such as Baidu and Suchen.de, and independent print directories. In the US, for example, Telcos such as AT&T and Verizon have just around 14% of the market.

Still, telecom operators can enter the market as many of them already have existing directory assets that can be leveraged upon. Additionally, they can generate revenues by convincing existing corporate clients to advertise on their online directories.

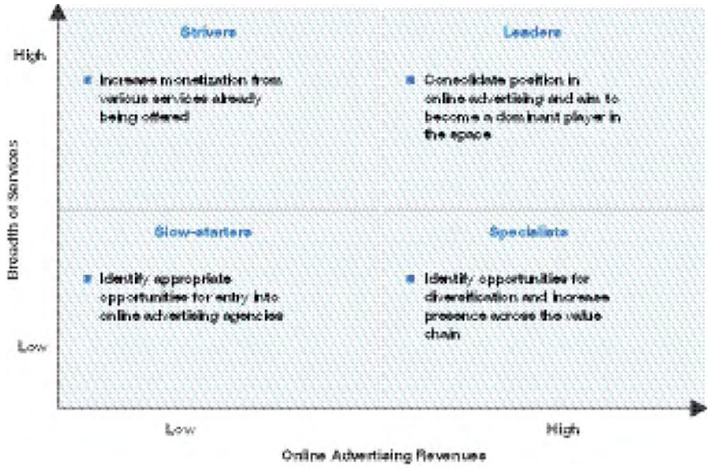
Many telcos have already started attracting significant traffic to their directory and local search sites. Currently, around a quarter of bt.com's traffic is generated through BT Phonebook. Through Yellowpages.com, AT&T generated revenues of €372.3 million in 2007[24], with 18.3 million unique visitors accessing its site per month[25]. Similarly, Verizon offers directory services through affiliate Idearc Inc., and has 12.5 million unique visitors per month[26].

Targeted Ad Network Services
Online advertising networks store ads in databases and dynamically select the ads to be placed on various websites depending on the relevance of content published on the site pages. This market has been growing steadily over the past few years; between 2004 and 2007, global ad network revenues grew by a CAGR of 21% to €5.8 billion[27].

Google, Yahoo, MSN and AOL currently hold about 33% of the ad network market[28]. However, Telcos have the necessary attributes to tap into the online ad network market, particularly the significant share currently held by smaller networks. Firstly, telcos can utilize intelligence about consumer behavior, demographics and location to offer targeted advertising. Additionally, telcos with high-traffic portals and strong relationships with online advertisers and publishers have direct access to a pool of web inventory and

20 eMarketer, "Social Network Marketing: Ad Spending and Usage", December 2007.
21 eMarketer, "Social Network Marketing: Ad Spending and Usage", December 2007.
22 Note: 2007 figures as estimated by Veronis Suhler Stevenson.
23 The Kelsey Group "The Kelsey Report Annual Forecast", February 2008.
24 AT&T, "Analyst Conference - Advertising and Search", 2007.
25 Compete.com
26 Compete.com
27 CIBC, "Outlook for Online Ad Networks", August 2007.
28 Capgemini TME Strategy Lab analysis. CIBC, "Outlook for Online Ad Networks", August 2007.

Figure 7: Way Forward in Online Advertising for Different Telco Categories



Source: Capgemini TME Strategy Lab analysis

potential clientele for ad network services.

Some telcos have already forayed into the ad network arena, but with limited success. Orange, for example, started offering online ad network services in February 2007[29], selling inventory on its own portals as well as third-party sites, and giving advertisers exclusive access to select sites for targeted advertising[30].

Ad Agency Services for Online Advertisers

With advertisers trying to increase their Internet exposure, the need to design ad campaigns and manage complex keyword bidding processes has been increasing. This had led to the rapid growth of the online advertising agency market; between 2005 and 2006, US Internet ad agency revenues grew by 25% to €2.1bn[31].

Currently, subsidiaries of large holding companies such as Publicis, WPP and Omnicom dominate the interactive agency market with 60% market share. However, the market remains fragmented, as no single company controls more than 10% share[32]. Telcos can enter this market by using consumer intelligence to help advertisers define target segments for marketing campaigns. Due to their local or national presence, telcos are better-placed than global players to attract local advertisers. Finally, telcos can capitalize on their established relationships with businesses to tap into a sizable pool of potential clientele.

Some telcos have already started operating marketing agencies. In September 2007, BT launched its BT WebClicks service targeted at SMEs. The service helps SMEs in designing and placing sponsored links on local and major search engines[33]. SK Telecom increased its shareholding in ad marketing company AirCross to 100% in 2007. In 2006, AirCross had revenues of €16.9mn.

> *"Online ad publishing services such as portals and directories* **ARE ATTRACTIVE PROSPECTS FOR TELCOS TO ENTER THE SPACE**"

Evaluation of Opportunities for Telcos

Considering the size of the opportunity and ease of entry based on existing telco strengths, online ad publishing services such as portals and directories are an attractive prospect for telcos to enter the space. Offerings such as targeted ad networks and ad agency services are the next area for diversification, due to relatively smaller size of the market and higher entry barriers.

Recommendations

The way forward for various telcos in the online advertising space depends on their current breadth of services and online advertising revenues (see Figure 7).

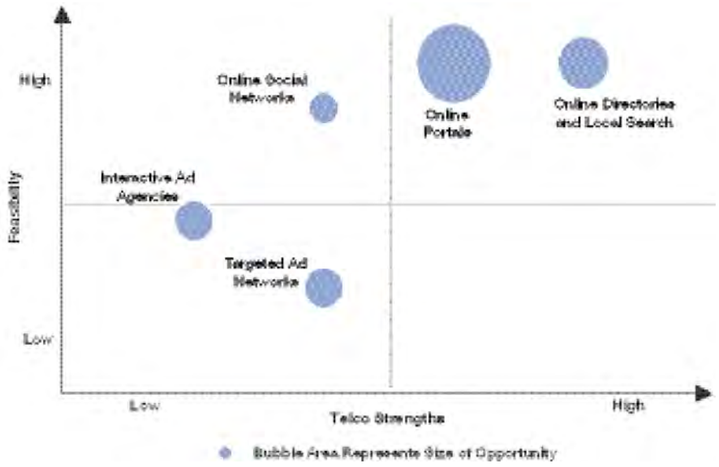
Slow starters

The challenge for slow starter telcos is to identify appropriate opportunities for entry into the online advertising market. Generally, telcos with little or no online advertising presence should start by consolidating their position in publishing, as these opportunities couple low entry barriers with telco strengths (see Figure 8).

Slow starters need to develop the necessary capabilities required for offering these services. For instance, for portals, telcos need to perform in-depth and ongoing consumer research to identify the relevant content types necessary for driving traffic. Telcos may also need to forge partnerships for content procurement and ad inventory management. Developing these capabilities can help telcos successfully monetize their services; for example, in 2007, France Telecom was able to generate €150 million in online ad revenues from its own portal, mainly through extensive content partnerships and a wide range of innovative services.

Similarly, for offering online directories and local search, telcos

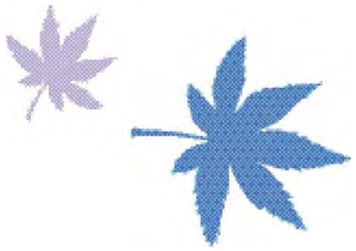
Figure 8: Evaluation of Each Online Offering Based on Feasibility, Opportunity Size and Telcos' Strengths



Source: Capgemini TME Strategy Lab analysis

29 Company Website.
30 Company Websites.

31 Piper Jaffray Investment Research, "The User Revolution", February 2007.
32 Piper Jaffray Investment Research, "The User Revolution", February 2007.
33 Company Websites.



> **LEADERS AMONG TELCOS** *should strive to reduce dependencies on online majors*

need to develop capabilities in online database development and maintenance as well as search technology. Verizon, for example, was able to generate €208 million in online advertising revenues in 2007 through its affiliate Idearc's local search portal SuperPages.com.

Acquisitions can also help telcos to enter the market quickly. Smaller content portals and local search engine players represent attractive acquisition targets, as they can equip telcos with essential capabilities without excessive investment. For instance, local search engines such as 192.com are likely to have modest valuations as they typically generate less than €50 million in revenues per year[34]. Telcos can subsequently scale up operations and drive traffic by coupling the acquired capabilities with their strengths, which include strong brand names, existing relationships, consumer intelligence and publishing assets.

Specialists
Specialists, who generate high online ad revenues from a few services, can look to expand their portfolio by diversifying into other areas of online advertising. These telcos can leverage their strengths to offer online social networks, interactive ad agencies or targeted ad networks.

In order to explore these new offerings, specialist telcos will need to develop additional online advertising capabilities. Online social networks, for example, require extensive research to find out the right demography to target. Additional capabilities are required for management of content and ad inventory. Online ad networks function as mediators between publishers and advertisers, and require investments in developing databases and systems for storing, serving and monitoring ads. Similarly, the key capabilities required for telcos to offer interactive ad services include the ability to use consumer intelligence to develop creative as well as relevant ads and coordinate with ad networks for placement of ads.

Acquiring small-sized companies in these areas can help telcos in offering relevant services quickly and also obtaining the necessary capabilities for subsequent scaling-up. Acquisition targets may include smaller social networks such as Friendster, ad networks/servers such as AdBrite and independent online marketing agencies like AKQA with revenues of €5-40 million[35] per year.

Strivers
Strivers offer a breadth of online advertising services, but are unable to monetize them optimally. Therefore, their primary focus should be to improve the uptake and monetization of these services before diversifying into new areas.

In order to increase monetization from offered services, strivers need to focus on improving revenue shares and increasing popularity of services. Better revenue shares can be negotiated by leveraging their existing customer base and strong local brand name. For instance, AT&T recently renegotiated its Yahoo! partnership to shift to a revenue sharing model from a fixed fees structure because of the traffic it provides to Yahoo! through its subscriber base[36]. Strivers can also reduce dependency on partners for serving ads to retain all of their online ad revenue. For example, France Telecom handles its own publisher inventory, eliminating the online ad network's share.

34 Capgemini TME Strategy Lab analysis based on Advertising age "Digital marketing and Media Fact Pack", April 2007.
35 Piper Jaffray Investment Research, "The User Revolution", February 2007.
36 Company websites.

Moreover, these telcos can leverage core strengths to enrich their services, which will help popularize their offerings. For instance, differentiating on the basis of consumer intelligence can help telcos achieve better click-through rates for ad network services, thereby attracting publisher affiliates as well as advertisers. After stabilizing a few core offerings, strivers can subsequently explore further diversification.

Leaders
Leaders amongst telcos combine a wide breadth of online advertising services with high revenues. The next step for these telcos is to aim to become dominant players in the online advertising space. Leaders should therefore strive to reduce dependencies on online majors and increase their share of revenue from services. This can be done by selectively developing or acquiring expertise to deliver display and search ads, and manage publisher and advertiser relationships. For example, a telco partnering with an online player for search ads can achieve sizeable savings by acquiring or building capabilities to serve contextual search ads themselves, which usually takes up 35% of revenues. Developing in-house capabilities reduces external dependence on critical areas of the offering, which frees telcos from having to share their data assets with online players.

Leaders should also regularly monitor market dynamics and make periodic investments to keep their offerings relevant and competitive. For instance, telcos offering interactive ad agency services need to make regular investments in IT systems for analyzing consumer data, as well as incur the cost of building and sustaining creative marketing teams to design online ad campaigns.

In conclusion, online advertising is a rapidly growing market and represents an attractive opportunity for telcos seeking additional revenue streams. Telcos have a number of core strengths that position them well to enter the online advertising space. Those looking at a successful foray into online advertising will need to perform a thorough assessment of their existing portfolio of online services, and determine where they stand on the services versus online advertising revenues matrix. Telcos will also need to map their core strengths against existing offerings and identify areas for diversification based on best fit with their specific portfolios. Additionally, Telcos will need to develop capabilities such as content procurement, database and ad inventory management, and ongoing consumer research skills that they currently lack. Telcos could choose to build, acquire or partner to equip themselves with the necessary competencies. Collaboration can help telcos jumpstart their online ad offerings; however, they will also require telcos to negotiate partnerships carefully to protect their interests and command a sizeable share of advertiser spend.

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Mobile Internet Services in Europe and USA: Initiatives to Drive Adoption and Usage

by Tushar Rao, Ignacio Blanco and Sushant Kumar

Abstract: Less than 15% of European and US mobile consumers use mobile Internet services regularly, significantly lower than leaders such as Japan which has a corresponding penetration rate of almost 90%. Moreover, growth in mobile Internet penetration in the two geographies has been slow recently. We believe that operators in Europe and USA can enhance their mobile Internet offerings and stimulate adoption by pursuing certain key initiatives. Allowing access to the open Internet and making popular Internet content available on mobile devices would encourage consumers to complement their fixed Internet browsing with regular mobile access. Operators should also encourage the adoption of smart phones and other feature-rich devices that allow user-friendly access to mobile Internet, as such consumers are more likely to use these services extensively compared to regular handset users. Additionally, tariff packages in Europe and USA need to evolve from pay per usage plans to flat-rates. Evidence from Japan also suggests that certainty of billing is one of the key drivers for enhanced uptake of mobile Internet. Lastly, active collaboration with content producers, device manufacturers and online majors can help mobile operators in Europe and USA deliver enhanced consumer value on each of the three key parameters and stimulate the adoption as well as usage of mobile Internet.

Although operators in Europe and USA have tried to stimulate the uptake of mobile Internet in their respective geographies, they have been unable to drive adoption in the mass market so far. Mobile Internet penetration rates[1] in Europe and USA were only around 14% and 12% respectively in 2007, compared with a staggering 90% penetration rate in Japan, the world leader in mobile Internet services (see Figure 1). Further, adoption rates have been almost stagnant or have witnessed only a marginal increase over the recent past in the two geographies.

With highly saturated markets and competitive pressures adversely impacting revenue and margin growth in the voice business, mobile operators need to encourage the usage of mobile Internet services aggressively to drive data revenues and protect margins.

In this report, Capgemini's TME Strategy Lab suggests operator strategies that would help in stimulating the uptake of mobile Internet services in the respective markets. The study also identifies areas where operators need to collaborate with various stakeholders such as device vendors and major online players to enhance their offerings in order to boost adoption as well as usage of mobile Internet.

> *"Mobile Internet penetration rates in Europe and USA were only around 14% and 12% respectively in 2007,* **COMPARED WITH A STAGGERING 90% PENETRATION RATE IN JAPAN**"

> **"AROUND 40% OF EUROPEAN MOBILE CONSUMERS DID NOT SEE VALUE IN USING MOBILE INTERNET SERVICES** *due to unattractive pricing and the perceived lack of compelling applications"*

Key Initiatives to Drive the Uptake of Mobile Internet

In 2007, around 40% of European mobile consumers did not see value in using mobile Internet services due to unattractive pricing and the perceived lack of compelling applications[2] . The key initiatives that operators need to pursue to enhance consumer value of mobile Internet and drive its penetration include offering a wide variety of content accessible from the mobile device, enhancing user experience by offering feature-rich handsets, and providing services at cost-effective flat rates to stimulate adoption as well as usage.

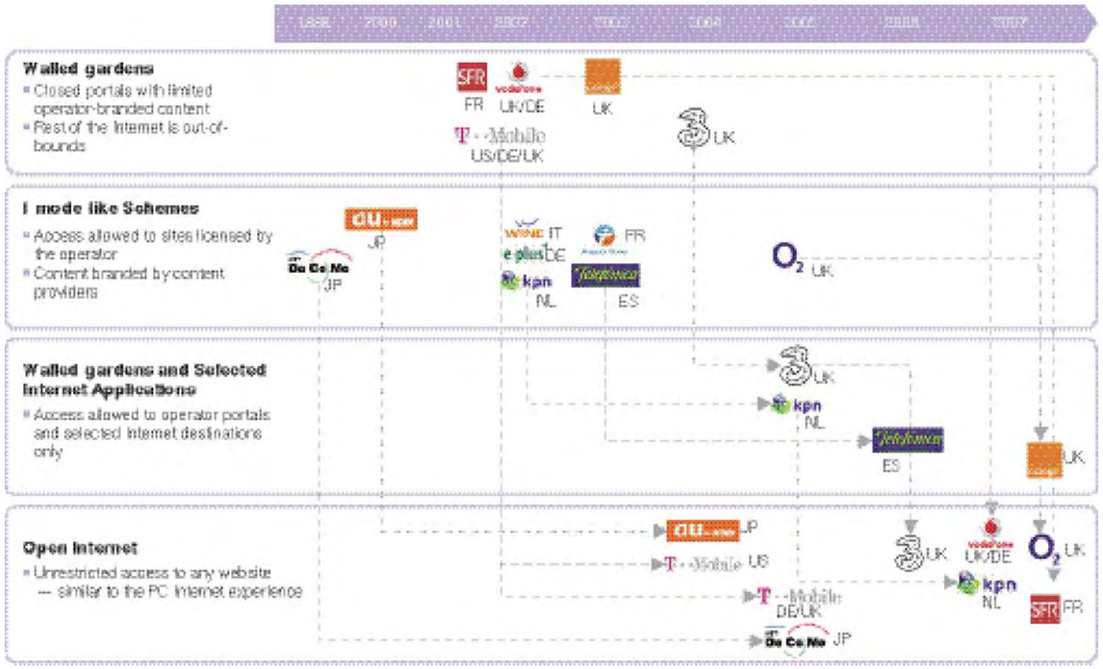
Figure 1: Mobile Internet Penetration (% of Mobile Subscribers) in Europe, USA and Japan, 2007

Source: Capgemini TME Strategy Lab analysis. Forrester, "European Mobile Forecast: 2008 To 2013", March 2008. eMarketer, "Mobile Search - Clash of the Titans", 2007. Ministry of Internal Affairs and Communications (MIC) - Japan, "Subscribers and Contracts to Information and Communications Services," March 19, 2008

1 Refers to consumers using mobile Internet services regularly (at least once a month).

2 Forrester, "Mobile Internet Pricing Strategies Mature", July 2007.

Figure 2: Evolution of Operator Mobile Internet Offerings, 1999-2007



Source: Capgemini TME Strategy Lab analysis. Company websites

Offering a wide variety of content over mobile Internet
Operators typically offer one of the following four types of mobile Internet access—walled-gardens, i-mode like schemes, walled-gardens coupled with access to popular Internet applications, and open, unbridled Internet. Mobile content offerings have gradually evolved from walled-gardens towards partnerships with Internet players and subsequently full access to open Internet (see Figure 2).

Almost 50% of the data plans offered by Japanese operators allow open Internet access. The rest of their plans are usually i-mode type schemes, which have extensive content availability[3]. In stark contrast, in 2007, almost half of US operator offerings allowed access only to the operators' walled-gardens, while only around a quarter of offerings allowed access to the open Internet[4]. In fact, players such as Telefonica in Spain did not allow access to the open Internet and Verizon in the USA restricted consumers from accessing content such as streaming audio and video services from non-portal sites in 2007[5].

Capgemini believes that European and US operators should endeavor to provide extensive mobile content to consumers by offering open Internet services and/or by partnering with online majors to ensure easy accessibility of popular content through mobile Internet.

In fact, many European operators increasingly allow access to the open Internet and have also re-launched their portals with additional content. The new content is primarily sourced through partnerships with online majors such as Google and Yahoo! (see Figure 3), and users are typically offered easy access to popular web applications through operator portals. This shift away from closed content strategies, such as walled-gardens and i-mode schemes, was driven by the limited success of i-mode schemes launched by operators such as KPN and Telefonica.

Partnerships with key Internet players can be a win-win scenario for both mobile operators as well as the online majors. For instance, in June 2007, around 4.8 million consumers accessed social networking sites such as Myspace, Facebook and Bebo on their mobiles in Western Europe, with Italy and UK being the leading countries[6].

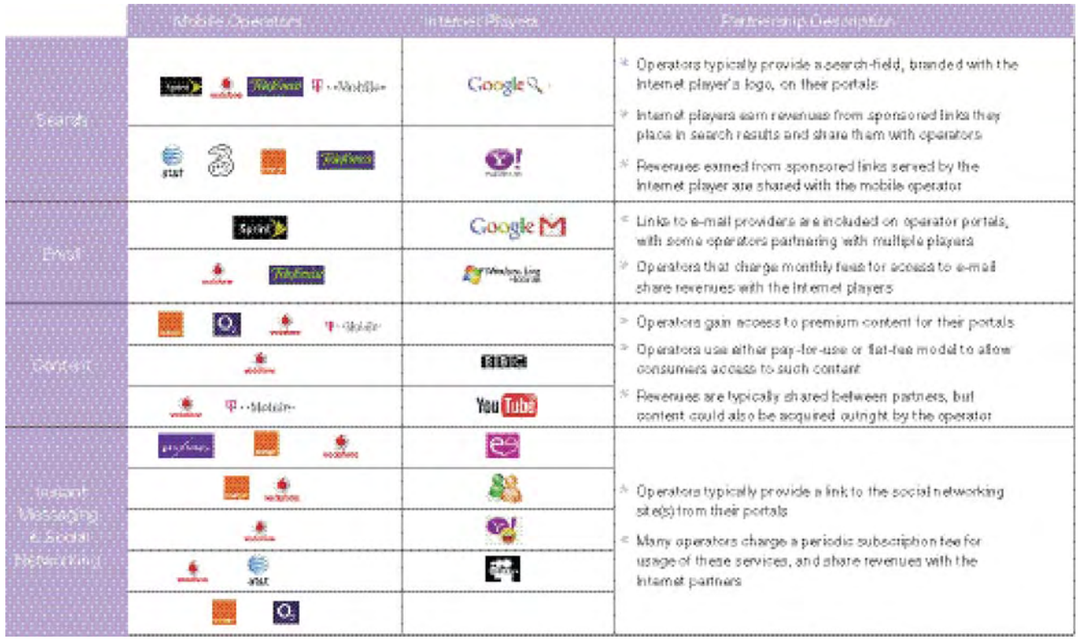
3 Capgemini TME Strategy Lab analysis based on the study of mobile Internet offerings of NTTDoCoMo, au/KDDI and Softbank.
4 Capgemini TME Strategy Lab analysis.
5 Capgemini TME Strategy Lab analysis. Company websites and press releases.
6 M:Metrics, "Mobile Social Networking has 12.3 Million Friends in the USA and Western Europe", August 2007.

"PARTNERSHIPS WITH KEY INTERNET PLAYERS CAN BE A WIN-WIN SCENARIO *for both mobile operators as well as the online majors*"

Operators should also aim to integrate consumers' fixed and mobile web experiences, thereby encouraging them to use popular Internet applications over the mobile device. For instance, around 75% of mobile Internet users in Europe used search services in 2007[7]. This can be attributed to the extensive tie-ups made by operators to allow easy access to mobile search services from players such as Google and Yahoo!. Similarly, Research-In-Motion (RIM) recently announced that almost 1 million users of its Blackberry service had downloaded the Facebook application in only five months since launch[8].

Enhancing user experience through feature-rich handsets
A fast and hassle-free user experience while surfing the Internet on mobile phones is one of the key drivers of adoption and usage growth. The minimum standard required for open mobile Internet access is 2.5G; else users can be turned off by the slow

Figure 3: Operator Partnerships with Internet Players, 2007



Source: Capgemini TME Strategy Lab analysis. Company websites

7 Capgemini TME Strategy Lab analysis. eMarketer, "Mobile Search: Clash of the Titans", July 2007.
8 Market Wire, "Downloads of Facebook for Blackberry Smartphones Top 1,000,000", 1st April 2008.

speed of the Internet connection. Access technology such as 3G, which offers significantly higher speeds and rapid browsing, can provide a boost to mobile Internet by enhancing customer experience. Operators should therefore strive to increase penetration of 3G handsets, which currently lags the penetration of 2.5G handsets by a significant amount (see Figure 4).

Operators should also encourage the adoption of smart phones[9] and other feature-rich devices that enhance the mobile Internet user experience and therefore drive its adoption. The recent launches of devices such as Apple's iPhone have demonstrated that smart phones indeed drive adoption of mobile Internet. For instance, almost 85% of iPhone users and around 58% of smart phone users accessed news or information through mobile browsers in January 2008, compared with the market average of only around 13%[10].

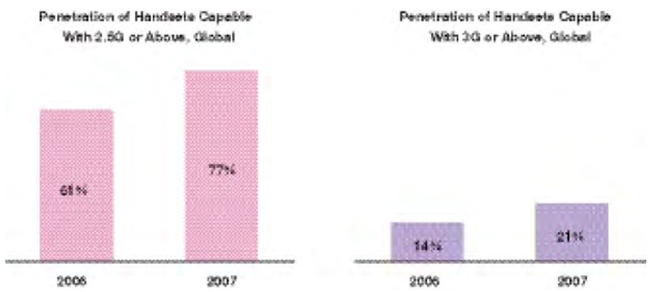
Moreover, operators and device manufacturers should also pre-load more mid-range handsets with Internet browsers, which are necessary to access various services over mobile Internet. The worldwide penetration of handsets with pre-installed browsers was only around 20% in 2007[11]. Operators should take a cue from players such as T-Mobile, which recently partnered with Opera, an Internet player specializing in web access applications, to pre-install browsers in an extensive range of mid-range handsets. This partnership, initiated in 2006, now enables T-mobile to provide open Internet access on almost 80% of the devices it offers with its plans[12].

Additionally, operators should partner with device manufacturers and Internet players to customize handsets and incorporate features in the mobile device to make web content more easily accessible from the handset. For instance, NTT DoCoMo (Japan), Vodafone (Portugal) and TMN (Portugal) offer one-click-functionality that allows easy access to content, without the need to know or remember the URL[13]. Clickable news "tickers" with scrolling news headlines on the mobile screen that can take the user directly to the relevant news item is another example of simplifying content access for users. Japanese operators and Swisscom also allow camera phones to capture "quick-response" codes printed on newspapers or banners/posters at public places, and take users directly to associated websites.

Simplifying tariffs and offering flat-rate plans to encourage usage

We also believe that offering mobile Internet browsing at flat rates, instead of charging consumers based on usage is critical to increasing widespread adoption and usage.

Figure 4: Global Penetration of 2.5G and 3G Handsets, % of Mobile Subscribers



Source: Capgemini TME Strategy Lab analysis. Company websites. eMarketer, "3G Mobile Shipments Worldwide", October 2007

> "Almost 85% of iPhone users accessed news through mobile browsers in 2008, **COMPARED WITH THE MARKET AVERAGE OF ONLY AROUND 13%**"

9 Smart phones include mobile handsets loaded with operating systems from vendors such as Windows, Symbian, RIM and Apple.
10 eMarketer, "Mobile Content Consumption: iPhone, Smartphone and Total Market: January 2008", March 2008.
11 Capgemini TME Strategy Lab analysis. m:Metrics. The Mobile World. eMarketer. Online Publishers Association, "Going Mobile", March 2007. Screen Digest.
12 Opera Software, "T-Mobile and Opera Mini-powered Web'n'Walk hits one million", February 2008.
13 Uniform Resource Locator that specifies the address of the website on Internet.

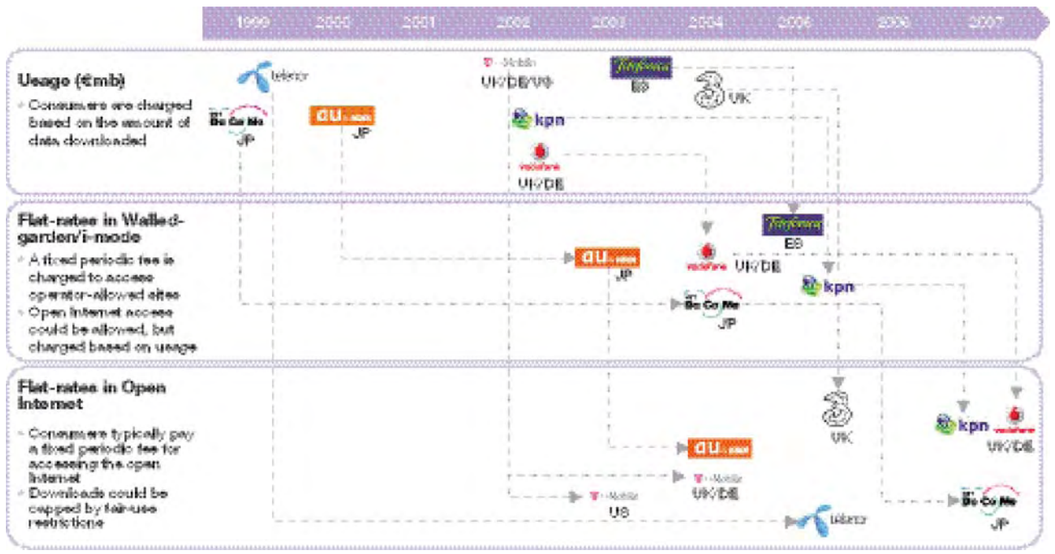
> "Empirical evidence from Japan and South Korea suggests **THAT THE INTRODUCTION OF FLAT-RATE DATA PACKAGES REDUCES BILLING UNCERTAINTY AND ENCOURAGES SERVICE ADOPTION**"

Evidence from Japan and South Korea suggests that the introduction of flat-rate data packages in place of usage driven tariffs reduces billing uncertainty and encourages service adoption[14]. The trend of offering such plans was started by Japanese operator au/KDDI in 2003, when it launched an unlimited flat-rate tariff targeted at high usage 3G consumers for accessing its proprietary EZweb content platform. A variant of the plan, aimed at low usage consumers, was launched subsequently. These packages stimulated adoption and by 2005, 81% of KDDI's 3G users had subscribed to flat-rate data plans[15].

Accordingly, tariff plans for mobile Internet across the developed world have been evolving from "pay per use" to flat-rate plans allowing almost unlimited usage, albeit capped by fair-use restrictions (see Figure 5).

Although operators in Europe have started following the example of Japanese operators and started shifting towards flat-rate pricing for open Internet access, such plans comprised only around one-third of the overall pricing plans offered in 2007 and targeted primarily high-usage

Figure 5: Evolution of Mobile Internet Pricing Plans of Selected Operators



Source: Capgemini TME Strategy Lab analysis. Company websites and press releases

14 Capgemini Telecom and Media Insights, "Mobile and Broadband Services in Japan and South Korea: What can Western Operators Learn from their Eastern Peers", December 2007.
15 Analysys, "Japanese and South Korean Mobile Markets", 2006. Company websites.
16 Capgemini TME Strategy Lab analysis based on study of mobile Internet tariff plans of Vodafone, Orange, Telefonica/O2, T-Mobile, Boygues Telecom, E-plus Germany and 3 Hutchinson UK.

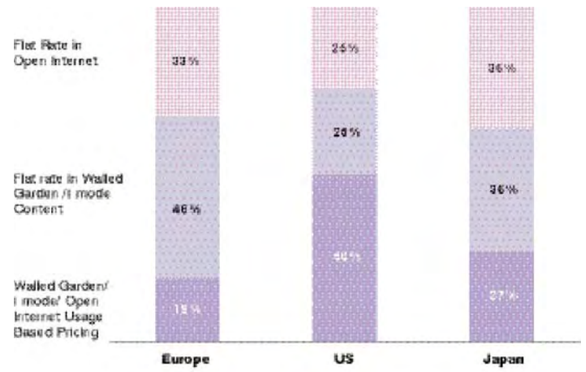
subscribers[16]. Almost two-thirds of operator pricing plans across Europe offered either flat-rate in walled-garden or i-mode schemes or usage-based pricing for open Internet access. Similarly, only around a quarter of operator pricing plans in the US allowed open Internet access at flat rates in 2007 (see Figure 6).

We believe that operator pricing must evolve towards flat-rate access to the open Internet in order to have a significant impact on user uptake. For instance, T-Mobile was the first European operator to introduce open Internet flat-rate plans including both data and time-based pricing structures. Its Web 'n' Walk offerings enjoy high uptake rates with around 3.2 million mobile Internet subscribers across Europe in 2007[17].

Operators need to ensure that they address each of the three critical success factors—content, handsets as well as user experience and pricing—adequately and do not offer what consumers could consider to be sub-par value on any of the factors. Figure 7 demonstrates that consumers are unlikely to subscribe to a service that does not serve their needs on all three parameters. For instance, i-mode offerings in Europe did not work as well as in Japan due to non-availability of user-friendly handsets, operator restrictions regarding content availability over the open Internet and unfavorable revenue sharing schemes that discouraged third-party content development. For example, while there were around 12,000 official i-mode sites in Japan in 2006, there were just 100 in the USA. Similarly, 3 UK had initial traction issues, regarding non-availability of best-selling or mid-range handsets, which resulted in a sub-optimal consumer response. 3 Italy, however, built on the UK launch experience and was able to deliver high consumer value on all the three critical success factors leading to high subscriber uptakes.

In conclusion, mobile operators need to drive the uptake of mobile Internet services by actively collaborating with content producers, device manufacturers as well as online majors to deliver high consumer value on the three key parameters of content, handsets as well as user experience and pricing. Continued operator initiatives to make the offerings more compelling will be crucial in stimulating further adoption and usage of mobile Internet services. However, as mobile Internet users and mobile content revenues grow over the next few years, content and device players are likely to make increasingly disruptive moves across the value chain in order to capture a greater share of the market. Operators will need to continue offering the right mix of content, user experience and pricing to subscribers in order to avoid becoming reduced to undifferentiated data pipes.

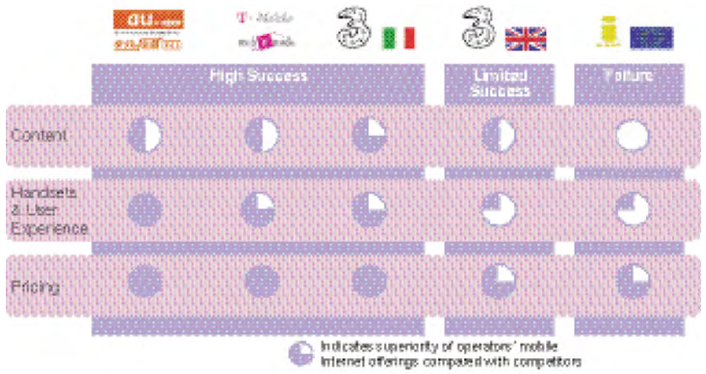
Figure 6: Distribution of Mobile Internet Pricing Structures, Selected Regions, 2007



Source: Capgemini TME Strategy Lab analysis. Company web-sites and press releases
Note: Percentages represent the proportion of operator pricing plans in each category, not proportion of customers using each

17 Thomson StreetEvents, "DT – Q4 2007 Deutsche Telekom Earnings Conference Call", February 2008

Figure 7: Comparison of Mobile Internet Offerings of Selected Operators



Source: Capgemini TME Strategy Lab analysis. Company websites and press releases

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"OPERATORS NEED TO ENSURE THAT THEY ADDRESS EACH OF THE THREE CRITICAL SUCCESS FACTORS—*content, handsets as well as user experience and pricing—adequately*"

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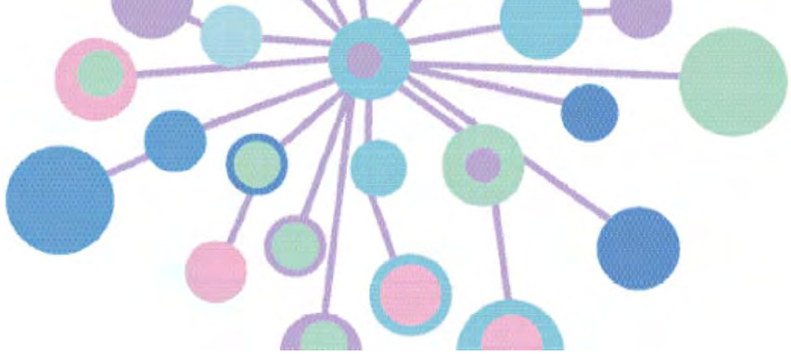


The Making of Strategy: Formulating Strategies in a Structured Manner

by Dr. Didier Bonnet, Andre-Benoit de Jaegere and Professor Gabriel Szulanski

Abstract: In today's world, where market conditions and industry boundaries change rapidly, strategy formulation has become more challenging and important than ever before. Our research indicates that there is a high degree of correlation between the process of making strategy and its eventual success. However, many companies still place more emphasis on execution rather on the strategy formulation process, which is typically more reactive than structured. We believe that organizations can approach the making of strategy in a systematic manner by following the TFAS (Trigger, Framing, Alternatives and Selection) framework. The framework helps identify triggers or key changes in the macro-economic environment that necessitate strategic course correction, frames the key questions to be addressed from the point-of-view of the organization, identifies strategic alternatives and subsequently selects the optimal path to align the firm's strategy with changes in the broader environment. By developing strategy in such a structured manner, organizations can identify a strategic path with greaterr probability of success.

Until recently, it has been common wisdom that the main determinant of a company's success was its ability to execute and implement its strategy. Usually, companies were clear about their strategic direction, and the main priorities for implementation. However, in today's world, where we continuously witness fast-pace changes in market conditions, increasing blurring of industry boundaries and the proliferation of new technology products as well as applications, it has become more difficult for enterprises to define clear objectives and direction.

Therefore, the key challenge for top management is to determine the strategic direction–deciding what should be implemented before setting the course for accomplishing it. In fact, our research suggests a high degree of correlation between the process of forming a strategy and its eventual success. The research also indicates that the strategy formulation process of a firm is a source of differentiation by itself. Therefore, organizations would be well served if they pay heed to the process of forming strategies. In addition to being extremely important, strategy formulation is also becoming increasingly challenging as the fast-changing macro-economic environments demand a correspondingly fast-paced response.

Although strategy formulation in today's environment is both challenging and important, many companies do not follow a structured approach towards the making of strategy. In most cases, strategy evolves as an afterthought as the organization takes reactive steps to keep abreast of competitor moves and changes in the industry as well as the wider environment, rather taking a more proactive and systematic approach to major industry and macro-economic changing stimuli being adopted.

> **"COMPANIES USED TO HAVE STRATEGY MEETINGS TWICE A YEAR. NOW WE HAVE THEM TWICE A WEEK.** *The fact is that the metabolism of enterprises is changing dramatically"*
>
> *Meg Whitman – CEO eBay*

> *"In the past, strategic reflection was focused 95% on execution and 5% on strategic choices;* **HOWEVER WE BELIEVE THAT TODAY, THE RIGHT BALANCE IS AROUND 50/50"**

The fast-changing environment of today demands organizations spend enough time and resources on making the right strategic choices. In the past, strategic focus was around 95% on execution and 5% on strategic choices. However, we believe that today, the right balance is around 50/50, with more effort being spent on the process of making strategic choices.

Moreover, many companies still consider the making of strategy as a "closed room" exercise wherein very few selected people are involved. However, both the complexity of organizations and their environment make it almost impossible for a few people to take into account all the internal as well as external dimensions necessary to craft a relevant strategy. Therefore, organizations need to develop a process of "inclusion", which opens up the process of strategy formulation to a wider group within the firm and the firm's ecosystem partners.

We believe that organizations need to follow a structured process for the making of strategy in order to proactively identify problems, continue to be in sync with the changing environment and stay ahead of their competitors.

In this paper, we present an "inclusive" framework for strategy formulation that brings out the implicit elements of the strategy making process and engages managers across the hierarchy. The framework helps business executives respond to changes in the macro-environment in a structured way and by making the process more explicit, allows for better control of the strategy formulation exercise.

Figure 1: The TFAS (Trigger, Framing, Alternatives and Selection) Framework for Understanding the Making of Strategy

Trigger	• Trigger identifies internal and external changes—problems, opportunities and discontinuities, which cause the organization to revise its path • Examples of triggers include industry consolidation, major regulatory changes, significant technological advances, changing customer behaviours and a shift in the fundamental business model
Framing	• Framing explores how the organization frames its own problem in light of the triggers and forms a direct and succinct statement of the problem that needs to be addressed • This also refers to deciding the big questions, challenge or issue confronting the organization—for instance, how will the organization use technology to drive profitability or how can it grow the top-line by 15% as promised to shareholders?
Alternatives	• This step directs attention to the ways in which the company generates alternatives by having members participate in a creative process that drives real and unbiased choices for answering the questions framed
Selection	• The final steps focuses on the selection process to ensure the organization prioritizes, validates and selects the best option

Source: Capgemini/INSEAD Research

The TFAS Framework

The framework developed by Professor Szulanski at INSEAD, dubbed TFAS (Trigger, Framing, Alternatives and Selection) decomposes the strategy decision making process into four components and helps organizations respond in a systematic manner to various events that demand a change of strategy in fast-changing environments (see Figure 1). Furthermore, this approach is "inclusive" encouraging the participation of managers from across the organization hierarchy – from line managers to senior management.

The front-end of the process is the critical part. There is always a "trigger", a signal that reveals that something is not going right. The key first step is to recognize that there is a problem and that the part of the problem that is visible – for instance, a reduction in net margin – can be a strategic inflection point. This indicates that the problem could be due to a strategic dissonance where the current strategic insight, competitive position and performance model have started to get out of sync with the evolution of customers, competitors or economic trends within a sector.

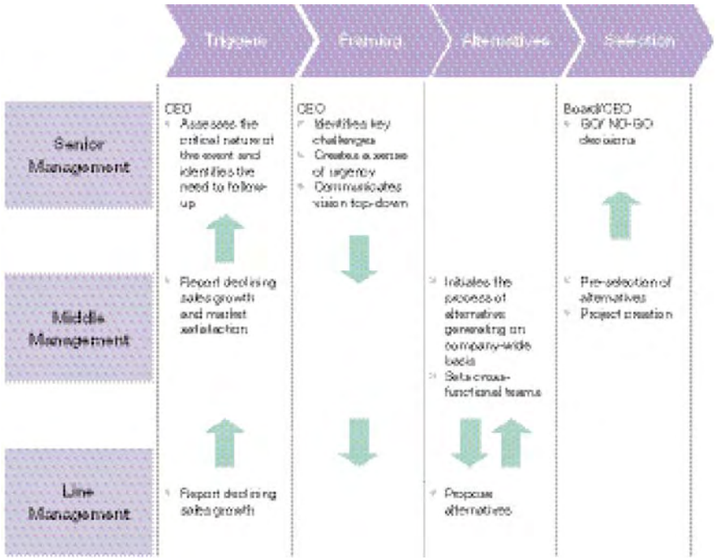
In practice, this is a very difficult exercise as we can easily see the consequences - the lag effect - but

find it difficult to identify the root cause. We have observed that many organizations tend to dismiss early signals hoping that the situation would get better. This can lead to the organizations missing important strategic changes in their industry– for instance, the early move to a new business model. In addition, in complex and fast moving environments, corporations tend to adapt from the bottom-up, inventing the journey as they progress, leading to potentially sub-optimal results.

Once the existence of a problem has been recognized, it needs to be framed and the question that needs addressing should be clearly formulated. The difficulty is in finding the right "frame" or the key question, challenge or issue confronting the organization. If one frames the problem too narrowly, one will reduce the organization's room for manoeuvre. On the contrary, if the problem is framed too widely, the organization will find it impossible to find where to start.

Having framed the question the next step is to envisage the possible answers. It is very rare that only one answer will exist and yet many corporations we have studied only push a single answer through their strategic process (e.g. we need to acquire this company or the answer is to boost our sales force in the US). Ideally for every question, executives need to form a series of options (say 3-4), but at the same time avoid the traditional problem that we encounter in many organizations of throwing several options on the table without proper research, knowing that they will be rejected but they exist to "make the numbers". Each option needs to be carefully documented and should represent a realistic alternative. This part of the process is the most creative and therefore requires some time and rigour. The final decision is a very delicate balancing act – first, because there is a risk that good ideas might be disposed of and second, because it is easy to make the choice by default due to a fear of failure or for political reasons.

Figure 2: Strategy Formulation Process Mapped on the TFAS Framework



Source: Capgemini/INSEAD Research

The final challenge is the selection process. The challenges of selection in fast moving environments are those of managing uncertainty. How do we avoid killing promising projects early? – "throwing out the baby with the bathwater". How do we spot losers early in the process? – "why are bad projects so hard to kill?" If the process has been properly implemented to this stage, the organization should face having to make tough choices only between good options. This is of course the essence of strategy as most organizations will have far more good options than they have resources to carry them through.

The TFAS framework thus helps managers to identify the important events in the macro-environment that demand a strategic course correction, and then takes a structured approach towards identifying alternatives and subsequently selecting the optimal path. Figure 2 illustrates the making of strategy using the TFAS framework. It also highlights the involvement of managers across the hierarchy, reinforcing the inclusive nature of the framework.

In conclusion, in today's era, where strategy making is frequently neglected or limited to yearly offsite discussions that are often out of rhythm with the fast-changing environment, organizations need to ensure that they have a consistent strategy making process with sufficient time and resources dedicated to it. The TFAS framework allows business executives to identify key events in the macroeconomic environment as relevant triggers that demand a strategic course correction, and systematically explore alternatives that can ensure retention of competitive advantages for the organization. This inclusive and structured process to strategy formulation can help generate strategies that have a greater probability of being successfully implemented.

Dr. Didier Bonnet *is a Vice President and Managing Director of Capgemini's global Telecom, Media & Entertainment consulting practice. He was for many years a Vice President with Gemini Consulting and prior to this with several large and small strategy consulting firms. He is based in London.*

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Professor Gabriel Szulanski *is Professor of Strategy at INSEAD, which is where he earned his Ph.D in Strategy in 1995. He joined the faculty of INSEAD in 2002 after serving on the faculty of the Wharton School at the University of Pennsylvania. Gabriel's research interests focus on strategic management, with a specific emphasis the management of knowledge assets and the making of strategy.*

Since 2006, Capgemini Consulting has been partnering with INSEAD on a joint research and case building program focussed on deriving a better understanding of the strategy-making process. As part of this partnership, Capgemini Consulting works with Professor Gabriel Szulanski's innovative MBA course called "The Making of Strategy". A case-based research program has been designed and has already generated in excess of 130 cases built around the TFAS framework to advance the understanding of strategic decision making.

"THE TFAS FRAMEWORK HELPS MANAGERS *identify events that demand a strategic course correction, find alternatives and select the optimal path in a structured manner"*

Private Equity Players: Strategies for Weathering the Storm

by Stanislas Pilot, Thomas Bouton and Subrahmanyam KVJ

Abstract: The Private Equity (PE) industry is currently going through a phase of slow growth. In the period up to the first half of 2007, the PE industry had seen strong activity, both in number of deals and in total value. However, the credit crunch of 2007—a fallout of the subprime crisis—has resulted in an increased cost of debt. The slowing global economy is also threatening to have a significant impact on the growth of the PE industry; however, PE continues to attract new investors and is likely to stay. Recent fund closures have provided ample evidence that investors continue to view PE as a strong alternative asset class. Limited availability of debt financing has dented the ability of PE firms to continue seeking large leveraged buy-outs, as a result of which players are now looking for growth through newer types of transactions such as minority and no-debt investments. Firms will have to consider newer emerging markets across the world for identifying growth prospects. PE companies will need to concentrate on creating value through a combination of strategies such as consolidation of asset portfolio, cost transformation and strategic course correction in order to ensure that their growth story remains intact.

Until recently, the Private Equity (PE) industry experienced strong growth, setting a new record each year in fund-raising as well as the number and size of deals. For instance, in Europe, 2006 saw over 1,290 "Leveraged Buy-Out" (LBO) deals valued at more than €250bn[1]. The availability of large amounts of capital combined with exceptional liquidity in the debt markets enabled PE funds to make large acquisitions, gaining majority control in companies through LBOs. However, since summer 2007, PE activity has substantially slowed down as the credit markets have dried up and the global economic environment is deteriorating. In Q4 2007, deals worth only €45bn were completed, compared with over €86bn in Q4 2006[2].

In this paper, we discuss the effects of the current credit crunch on the PE industry and analyze the various strategic options PE players have to weather these turbulent times.

A new context for the PE industry

2004 – H1 2007: An Exceptional Period

PE funds have had a strong period of growth from 2004 up until the first half of 2007. Leading firms were aggressively deploying available capital and acquiring large companies. Limited partners[3] around the world were eager to invest in this fast developing asset class which promised superior returns.

> **"THE PACE OF GROWTH OF THE PE INDUSTRY WAS SUCH THAT IN EARLY 2007, A PE PLAYER, BLACKSTONE GROUP** *raised over $4bn in a record IPO that ranked amongst the top 10 of all IPOs in the US"*

1 Mergermarket-Browne, "European Private Equity in Review", February 2008.
2 Mergermarket-Browne, "European Private Equity in Review", February 2008.
3 Limited Partners contribute capital and do not play any role in management of companies acquired by PE firms; they however have first rights in case of liquidation.

A Favorable Environment for Fund-Raising

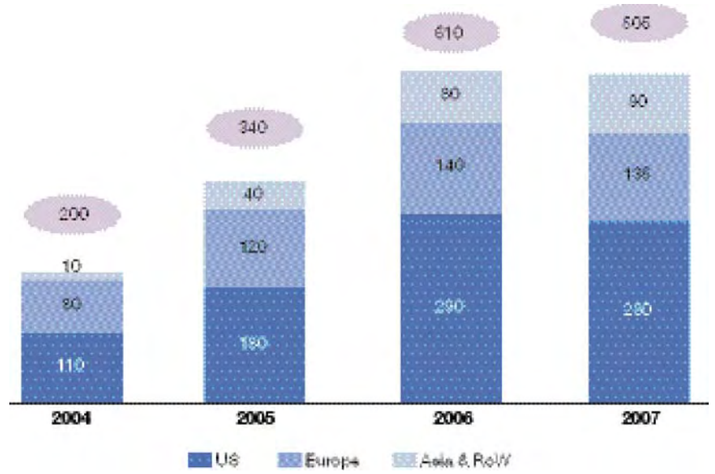
A low interest rate environment drove large institutional investors such as pension funds as well as high-net-worth individuals away from lower yield bond investments towards better performing PE investments (see Figure 1). For instance, in the UK, 10-year returns on PE investments were around 16% as of 2005, compared with 8–9% for UK bonds and public equity.

The Number of LBO Transactions has Increased During the Growth Phase of PE Activity

During the growth phase of the PE industry, most investments had focused on buy-outs. LBOs accounted for over 77% of all PE investments in Europe in 2007, as is evident from Figure 2. Mega buy-outs accounted for almost 18% of all deals in Europe in 2007.

Deal sizes have been steadily increasing across Europe. Some of the largest deals in Europe in recent years include the LBO of Boots by KKR for £10bn[5], the buy-out of Danish telecom company TDC[6] for €10bn, and the LBO of music label EMI for €3.2bn[7].

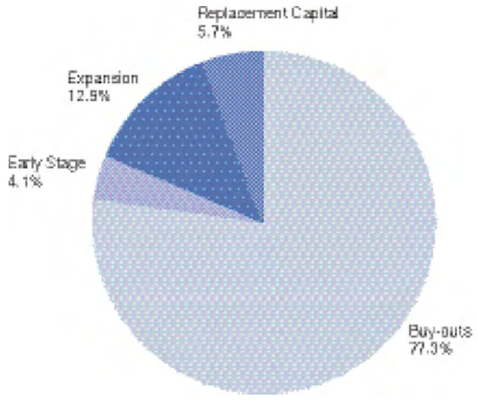
Figure 1: Global Fundraising by Private Equity Players, 2004-2007 ($bn)



Source: Preqin through RREEF Research, "The Outlook for Private Equity: First Quarter 2008", April 2008

The growth story continued into the first half of 2007, and it was led in large part by the US. The industry had grown over 60% in terms of funds raised in 2006, reaching an all time high of $290bn[8]. This growth continued into the first half of 2007, proof of which lies in the biggest PE deal of 2007—TXU Corporation was acquired by an investment group led by leading PE firms Kohlberg Kravis Robert & Company (KKR) and Texas Pacific Group (TPG) for $44bn. The pace of growth of the PE industry was such that in early 2007, a PE player, Blackstone Group, raised over $4bn in a record IPO that ranked amongst USA's top 10 IPOs of all time[9].

Figure 2: PE Investments by Stage of Financing, Europe, 2007 (%)[4]



Source: EVCA, 2007 Preliminary European Activity Figures, March 2008

H2 2007: Slowdown due to the Credit Crisis

Mortgage Crisis Effects of the US

However, whilst there was strong growth in the PE industry up until the first half of 2007, the 2007 subprime mortgage financial crisis led to an unpredicted credit crunch. With liquidity in global financial markets significantly reduced, PE players that were heavily dependant on syndicated and high-yield debt, suddenly found themselves cash-strapped as banks started going back on their positions. Most major banks in the US and Europe have had to write-down multi-billion dollar losses due to their exposure in the subprime vehicles. Many banks are today sitting on

4 Early Stage — Investing in a company in its early stages of development.
Buy-out — Outright purchase of a company or of a controlling stake in a corporation's shares. Buy-outs comprise small, mid-market, large and mega buy-outs based on size of deal
Replacement Capital — The acquisition of existing shares in a company from another private equity investor or from other shareholders, or financing made available to a company as an alternative to a bank loan.
Expansion — Financing for the expansion plans of a company that might be at various stages of its growth.
5 Guardian, "High court sanctions £11bn takeover of Boots", June 2007.
6 Datamonitor Computerwire, "TDC Finally Agrees to Buy-out Deal", December 2005.
7 BBC News, "Music giant EMI agrees takeover", May 2007.
8 Preqin through RREEF Research, "The Outlook for Private Equity: First Quarter 2008", April 2008.
9 BusinessWeek, "IPOs: Top 10 U.S. Mega-Deals", March 2008.

> **TIMES OF CRISES** *need not necessarily be detrimental to the growth of the PE industry*

billions of debt commitments which they have not been able to syndicate. For instance, at the end of Q1 2008, it is estimated that American banks had an exposure of over $197bn in leveraged loans still on their balance sheets[10]. As a result, these banks drastically tightened their credit allowance conditions leading to the current credit crunch, thereby contributing to a rising cost of debt.

Lower Deal Flow from H2 2007

The credit crunch in the world economies, led by the US, has affected PE players, preventing many LBO funds from making new investments or recapitalizing existing ones. Even some mega deals initiated in 2007 such as Harman International, Sallie Mae, and Home Depot Supply had to be renegotiated before closing, or were simply cancelled.

As a result, the PE industry experienced a slowdown in the size and number of transactions from H2 2007 to Q1 2008. This slowdown has been pronounced both across North America and Europe. Figure 3 shows the growth in PE buy-outs from 2003 to H1 2007 and the subsequent fall in deal value as well as the number of deals during H2 2007.

Reduction of Leverage Multiple from H2 2007

PE firms typically value companies as a multiple of their cash flows. Since PE companies finance a large part of LBO deals with debt, the typical valuation ratio used is the leverage multiple, which shows the ratio of net debt to EBITDA[11]. These multiples for LBO transactions which rose from 4.0 in 2002 up to a historic high of 6.2 in 2007, have now declined as banks become more conservative (see Figure 4). Consequently, PE firms now have to structure deals in a way so they have a higher equity component. However, this is likely to depress the returns when they divest the investment. This also has the risk that PE firms will not be as attractive an option compared to other industry buyers.

Recommendations for PE players

Faced with this situation, PE players need to adapt their strategies to continue to deliver high returns to investors.

Keep the Long Term Perspective

PE firms typically manage funds over a 5 to 10 year horizon. As such, they have a long term perspective and can afford not to invest for 12 to 24 months if short term market conditions are not favorable. Moreover, the current crisis is not the first one and comes after a long list of economic and financial uncertainties such as the recessions of early 1980s and 1990s, the stock market crash of 1987 and the depression in the technology sector in March 2000. Indeed, times of crises need not be necessarily detrimental to the growth of the PE industry. In fact, there is strong evidence to the contrary that during times of economic and financial slowdown, a lot of PE firms have generated very good returns. Figure 5 shows the returns from PE investments in the three most recent global meltdowns. The first of the crises was the debt crisis of 1980-1982, which was largely triggered by "Petrodollar Recycling" and the increasing inability of developing economies to repay their foreign debt[12]. The recession of the 1990s was the next major period of turmoil, while the bursting of the dot-com bubble and meltdown in communication companies was largely responsible for the third major crisis. During all these periods, it is interesting to note that the IRRs[13] of PE investments, across Europe, have actually been quite strong.

Value opportunities that arise during periods of economic slowdown have shown to have significantly better returns on investment. PE firms need to act decisively in identifying and taking advantage of such opportunities.

Grasp new deal opportunities

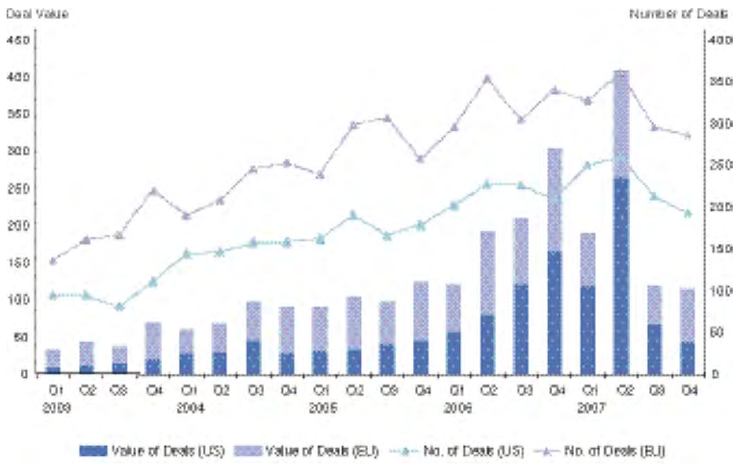
The new context in the PE industry also brings new opportunities for funds to venture out of their traditional model and look for innovative ways to gain returns.

Shift focus towards Small/Mid-cap and Minority Transactions

Small and mid-market transactions—with lower enterprise value and requiring minimal debt funding compared to large buy-out deals—are still active. Due to the current softness in the global capital markets, listed small- and mid-cap companies that have been impacted by the bearish market offer opportunities for Public to Private (P-to-P) transactions.

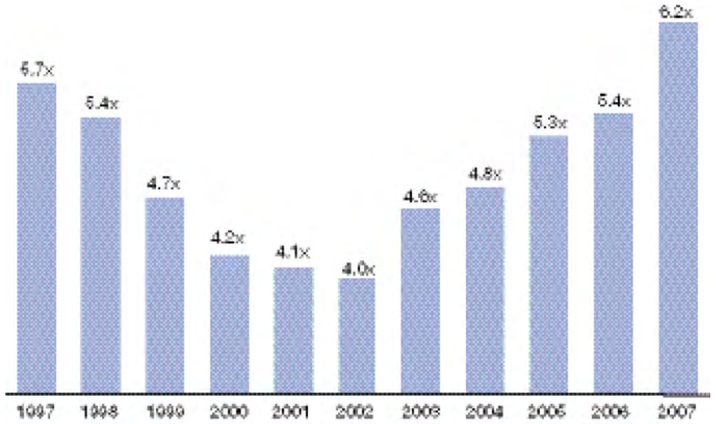
At the same time, PE funds need to realize that newer opportunities lie in acquiring non-control investments. Such transactions, whilst not giving complete control to the PE firm, can help the firm acquire a footing in certain sectors or specific geographies. Figure 6 shows the rise in minority non-control investments in 2007 from the first half to the second half.

Figure 3: PE LBO, 2003-2007, North America & Europe ($bn)



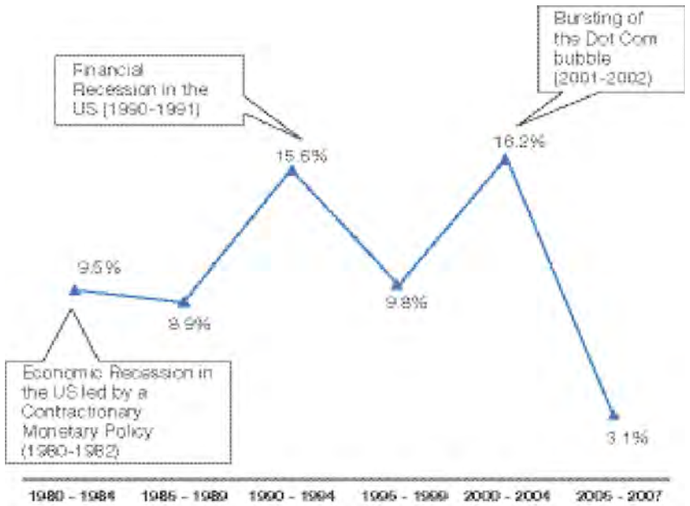
Source: Mergermarket-Browne, "North American Private Equity in Review", Feb 2008; Mergermarket-Browne, "European Private Equity in Review", Feb 2008

Figure 4: Average large LBO Leverage Multiples (Debt / EBITDA), 1997-2007



Source: Carlyle Group Presentation from S&P Leveraged Buy-out Review, February 2008

Figure 5: Net IRRs to Investors Grouped By Vintage Years from Inception to 31-Dec-2007, 1980-2007, Europe (%)



Source: EVCA, "Performance Benchmarks 2007 European Private Equity", March 2008

10 Oppenheimer & Co, through Wall Street Journal, "Leveraged Loans: The Hangover Wasn't Worth the Buzz", February 2008.
11 Leverage Multiple: It is the ratio of net debt to Earnings Before Income, Tax, Depreciation, and Amortization (EBITDA).

12 The University of Iowa Center for International Finance and Development, "The 1980s: The Debt Crisis & The Lost Decade".
13 IRR — Internal Rate of Return: It the annualized effective compounded return rate which can be earned on the invested capital.

“PE FUNDS NEED TO REALIZE *that fresh opportunities lie in acquiring non-control investments*”

Some private equity firms have already started to recognize the inherent growth of firms that are not available for acquisition. For instance, in the case of PE investments in companies like Bharti Infratel (a telecom infrastructure company in India) and Moneygram International, the respective PE firms have decided to go in for minor stakes. In the year to April 9th, PE firms have made over 245 minority investments worth over $12.1bn. This compares with 204 such deals worth over $10.9bn in the same period in 2007[14]. By doing so, PE firms stand to be a partner in high-growth companies, as well as gaining understanding in the space for future investment opportunities.

Investment with No Debt: VC & Expansion funds

The current low market values also offer opportunities for Venture Capital and Expansion Capital funds that perform transactions on fast growing companies which do not involve a debt component. A recent case in point can be found when, in April 2008, the venture capital firm 3i invested €125mn in Unión Radio, a conglomerate of radio stations in Spain and Latin America, out of total commitments of €225mn[15].

In Q1 2008, venture capitalists invested over $7.1bn in 922 deals[16] with clean technology garnering some of the greatest interest from venture capitalists. Range Fuels Inc., an ethanol production firm, raised over $130mn in Q1 2008, while Suniva Inc., a maker of solar-cell technology, raised over $50mn[17].

Even large LBO funds have recently undertaken investments with no debt. US-based leveraged buy-out firm TPG has bought 50% stake of SIA International Ltd., the largest pharmaceutical distributor in Russia, for $800mn in cash[18]. Leading PE firm Kohlberg Kravis Roberts & Co. (KKR) acquired Northgate Information Solution at a price of 95 pence in cash for each Northgate share. This valued Northgate at approximately £593mn in issued share capital to KKR[19]. Such debtless transactions are likely to yield maximum results when they are focused on high growth companies.

Investment in Growing Economies and Select Developed Markets

While macroeconomic conditions are expected to weaken in many parts of Western Europe, the environment appears to be good in Nordic countries like Sweden in 2008. Banks provide relevant debt financing, even with lower debt multiples, assisting deal flows.

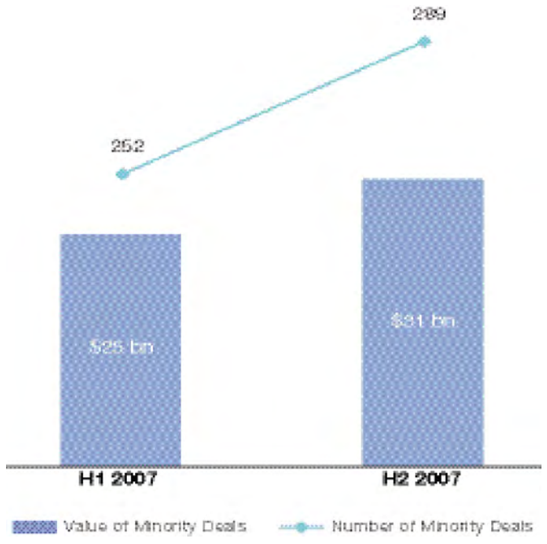
The investment environment also looks promising in Eastern Europe, where economic growth is forecasted to be in the 4% to 9% range. The region has not been affected by the subprime mortgage crisis and the banks have taken a proactive role in maintaining a favorable debt market. Figure 7 shows funds raised in emerging markets between 2003 and 2007 with the specific purpose of investing in these geographies.

In a recent survey, Asia Pacific buy-outs and venture capital ranked first and third respectively as the preferred areas for investment over the next one year. Proof of this is the fact that mid-market deals in developing countries are on the rise with 31% of all investments in 2007 in the $10-25mn category[20].

A recent trend of large buy-out firms like KKR and Blackstone is to actively invest in developing countries like India and China. For instance, KKR acquired a minority stake in China's Tianrui Group Cement Co. for $115mn—its first investment in mainland China[21].

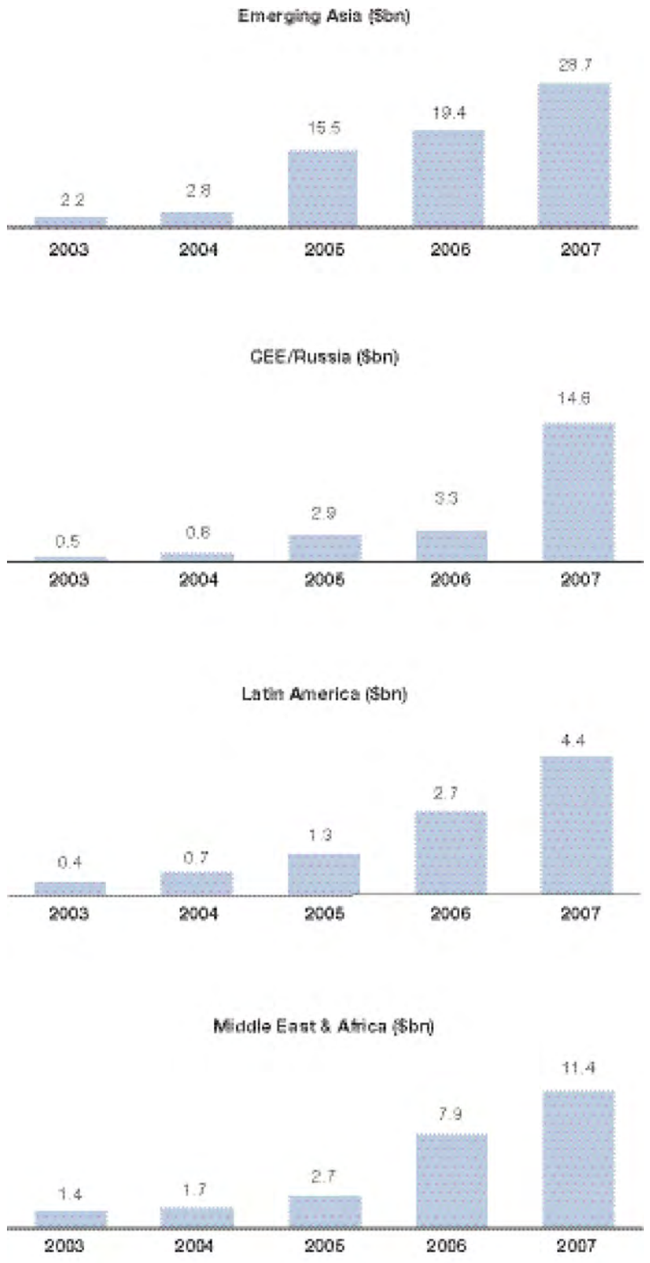
Meanwhile in India, Blackstone has invested $150mn and $165mn in

Figure 6: Minority investments by PE firms, 2007, ($bn)



Source: Dealogic, through Carlyle Group Presentation, “Ten Key Questions Facing the Private Equity World”, February 2008

Figure 7: Fundraising Focussed on Emerging Markets, 2003-2007 ($bn)



Source: EMPEA, “Emerging Markets Private Equity Funds Raise US$59 billion in 2007”, February 2008

14 Financial Week, “Leverage gone, PE vultures must settle for smaller bites. Beats sitting on all that cash”, April 2008.
15 The Deal, “3i invests $356M in Union Radio”, April 2008.
16 Financial Times, “VCs pull back from funding start-ups”, April 2008.
17 Domain-B, “VC investments slow down in 2008”, April 2008.
18 AltAssets, “TPG to invest $800m in Russian pharmaceutical company SIA International”, April 2008.
19 Reuters, “KKR to buy Northgate Info for $1.2 billion”.

20 Coller Capital Private Equity Barometer through RREEF Research, “The Outlook for Private Equity: First Quarter 2008”, April 2008.
21 AltAssets, “KKR leads $450mn financing for Chinese cement producer Tianrui Cement”, September 2007.

Nagarjuna Construction Company Limited[22], a leading Indian construction company, and Gokaldas Exports Limited[23], India's largest garment manufacturer and exporter. Blackstone has also agreed to invest $61.1mn in Mumbai-based Allcargo Global Logistics Limited[24].

Focus on Value Creation
Many PE firms have constructed massive portfolios during favorable market conditions. Given the current economic environment and the lack of mega deals, PE players need to intensify their work on generating appropriate returns from their existing portfolio. Since low cost debt is not available, it is all the more pertinent that PE firms focus on value creation through a variety of means.

Build Cost Efficiency
After a buy-out, PE players need to focus on extracting significant value through operational improvements around cost savings, outsourcing and the divestment of select assets.

Some PE firms have very successfully achieved cost efficiencies in acquired firms. A case in point is the €10.3bn buy-out of Denmark's incumbent operator TDC in February 2006 by a consortium of PE players including Apax Partners, Blackstone Group, KKR, Permira and Providence Equity. After the buy-out, in order to reduce costs, TDC announced annual 5-7% job cuts. It also outsourced the full range of IT infrastructure services using a seven-year contract and transferred around 150 employees to a third-party services provider. Furthermore, a decision was made to focus only on the Nordic region, with TDC's non-Nordic assets considered non-strategic resulting in a sale at a good price.

While immediate gains can be made through cost efficiencies and the divestiture of assets, investors also need to look at medium and long term prospects for value creation.

Consolidation
For certain sectors, the best strategy of adding value and thereby creating potential for enhanced return on investment is by focusing on consolidation; this strategy is based on increasing the scale of operations through mergers and acquisitions. This entails more risk than extraction of simple cost efficiencies, as it involves further infusion of capital and expert operational management to create value. It also requires the PE players to undertake comprehensive market monitoring—especially in complex sectors requiring strong industry knowledge such as Telecom, Media, Energy or Life sciences. It is essential to understand the business and competitive scenario thoroughly, and take a long term view of investments. Therefore, this strategy is not as common as the employment of cost efficiency measures; however, several PE firms have used it very successfully. In 2007, 12.9% of PE investment volume representing 35.6% of the total number of investments in Europe accounted for financing long term growth and expansion of portfolio companies[25].

For instance, leading PE firm Apax Partners and OMERS Capital Partners provided equity funding of $125mn to its portfolio company Cengage Learning to acquire Houghton Mifflin College Assets for $750mn[26]. Previously, Apax Partners and OMERS Capital Partners had acquired Thomson learning for $7.75bn during H1 2007 under favorable market conditions[27].

By consolidating companies, investors, therefore, can potentially their returns by selling the new, larger entity at higher multiples than originally purchased, thereby benefiting from synergies.

Strategic Course Correction
At times, to turn around the fortunes of the acquired company, a PE player will need to correct the course of its strategic direction. This needs extensive industry expertise and foresight on the evolving dynamics of consumer behavior, industry competition and regulatory changes; but, if implemented correctly, the benefits can be extremely high.

> *"Limited availability of low-cost debt* **MAKES IT ALL THE MORE IMPORTANT FOR PE FIRMS TO FOCUS ON VALUE CREATION"**

22 Business Standard, "Blackstone to invest $150mn in Nagarjuna Const", August 2007.
23 LiveMint, "Blackstone buys 50% in Gokaldas", August 2007.
24 LiveMint, "Blackstone picks up 10% in Allcargo Global", February 2008.
25 EVCA Barometer, March 2008.
26 Reuters, "Cengage to buy Houghton college unit for $750 mln", December 2007.
27 Forbes, "Thomson to sell Learning Assets to Apax and OMERS funds for 7.75 bln usd", May 2007.

Consider the case of Netherlands-based mobile operator Telfort. In 2003, Telfort was making losses and was sold to Greenfield Capital Partners, a PE firm, for €25mn[28]. The PE firm changed Telfort's strategy and started offering low-cost wholesale services in addition to its retail mobile services, through two distinct business units. The increased focus on wholesale services made Telfort very successful in attracting MVNOs to its network. Telfort's total subscriber base increased and it became profitable within a couple of years. On the other hand, incumbent KPN felt pressure from MVNOs who launched price-competition backed by Telfort's low wholesale prices. Faced with falling ARPUs and increased customer churn, KPN decided to buy Telfort for nearly €1bn in June 2005, thereby generating significant returns for its PE owners[29].

In conclusion, the PE industry is subject to growth cycles, in ways similar to the global economy itself. The current slowdown is due to a credit crisis, not to an equity crisis. Thus, transactions with no or minimal debt leverage are still occurring and the LBO activity will restart as the credit situation improves. During this phase, the PE industry will need to re-focus on its core activity, which is creating value for firms that are already part of their portfolio by improving their operational efficiencies. Besides, emerging markets and some selected high performing small/mid-caps will still offer good opportunities to PE funds. Some players will also take advantage of the current credit crunch and the economic slowdown by acquiring firms with low enterprise value or even purchase LBO loans that banks are selling at deep discounts to clear their balance sheets.

Interestingly enough, in March 2008, Bain Capital closed a €3.5bn fund, which was well over its €2.5bn target and more than triple the size of Bain's last €1bn fund. In the same month, Warburg Pincus announced the closure of its $15bn fund, which garnered over $3bn in excess of its initial goal. The manner in which PE firms have successfully closed new funds since last summer are sure signs that investors are strongly confident that the PE industry will keep bringing strong returns on their investments in the future.

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28 Telecom Paper, "Greenfield Capital buys O2 Netherlands for EUR 25 mln", April 2003.
29 Red Herring, "KPN Snaps Up Telfort", Jun 2005.

Telecoms in Africa: Reaching Consumers in Constrained Markets

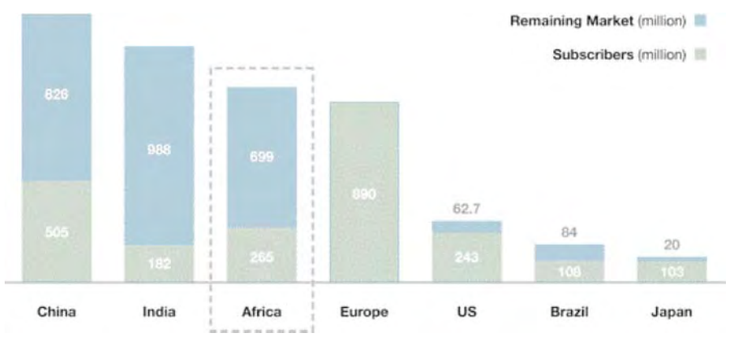
Jawad Shaikh, Ashish Sidhra and James Henderson

Abstract: With approximately 700 million non-mobile users[1] and low fixed line penetration, Africa is attracting widespread attention from Western, Middle Eastern and Asian operators looking for new subscriber growth. Whilst growth in some markets has been strong, Capgemini has identified a large segment of African markets, spread across twenty countries, where growth has been *constrained* by usage barriers that operators can address. The key barriers to mobile usage remain poor market regulation leading to high tariff prices, unaffordable handsets, lack of network coverage and product distribution constraints. The risk for established operators who fail to address these constraints rapidly is considerable, as operators with expertise in low ARPU markets, such as Bharti or Reliance, continue to be attracted to large unaddressed populations.

Saturation of mobile markets in the US and Europe coupled with declining revenue growth in these regions has brought emerging economies to the forefront of operator attention. Among emerging markets, the African continent is generating particular interest, as shown by recent speculation surrounding the acquisition of MTN by key Indian players, Bharti and Reliance. Operators are attracted by a continent which boasts over 900 million people experiencing a subscriber CAGR of 47% over the last five years, which has now driven penetration from approximately 2% to 27% since the turn of the century.[1]

Given the rapid development of these markets, operators have a shortening window of opportunity. In this article, we segment the African countries, identifying those markets which are positioned for growth, and discuss strategies for operators to remove present growth barriers and unlock the latent market potential.

Figure 1: Population and Mobile Penetration Across Selected Markets, June 2007



Source: Capgemini TME Strategy Lab analysis. Telecom Regulatory Authority of India (TRAI). GSM World Web-site. Merrill Lynch, "Global Wireless Matrix Q2-2007", October 2007

African Market Segmentation

With mobile services universally predominant over fixed line, African subscriber growth has been dramatic, reaching 265 million mobile phone subscribers in 2007. Despite this growth, 700 million Africans remain without a mobile phone in 2007, presenting many investment opportunities (see Figure 1).[1]

> "23% of the world's non-mobile users are in Africa"

1 ITU World Telecommunication ICT Indicators 2007, Capgemini analysis.

Representing 23% of the world's remaining non-mobile phone users, Africa should be considered alongside China and India as an engine of future growth for mobile services.[2]

The opportunity presented by Africa at a continental level is considerable, but Africa is a highly heterogeneous continent in terms of socio-economic development, with corresponding differences in mobile market maturity.

At a high level, we can characterize African markets into three segments; leading, undeveloped and constrained markets. These are outlined in Figures 2 and 3.

Leading Markets

The leading markets of Africa have shown rapid development with average mobile penetration of 55%.[1] These markets are concentrated in Northern and Southern Africa, and generally constitute the wealthier African nations; their average GDP of $7,500 per capita contrasts with a continental average of $2,822.[4] Investors entered these markets early, as Northern Africa attracted Middle Eastern and European operators, while the Southern African markets benefited from proximity to comparatively developed areas of South Africa—home to industry leaders MTN and Vodacom. Due to their high state of development and maturity, it is our understanding that the window of opportunity is ending for operators to achieve further super-nominal subscriber growth in these markets.

> "~440 MILLION AFRICANS live in markets demonstrating constrained growth"

Undeveloped Markets

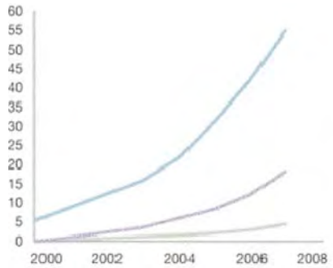
These markets include nations like Zimbabwe, Somalia and Rwanda—countries with a history of political instability leading to low international investment and little development in the domestic private sector. These difficulties are reflected in the national GDP, with an average of only $986 per capita[4] and mobile penetration rates which are less than 10%[3]. The constraints on mobile uptake are intrinsic in nature, with wider development needed before operators can develop the communications market.

Constrained Markets

These nations generally have high populations, with widespread poverty. The GDP per capita of $1,605[4] is much lower than that of leading markets, as a result of which foreign investments were slower to reach these nations. Mobile penetration is growing but remains between 10 and 30%.[3] Our experience is that mobile growth in these markets is constrained by significant usage barriers, such as handset cost and service availability.

In this paper, we focus on the opportunity presented by these

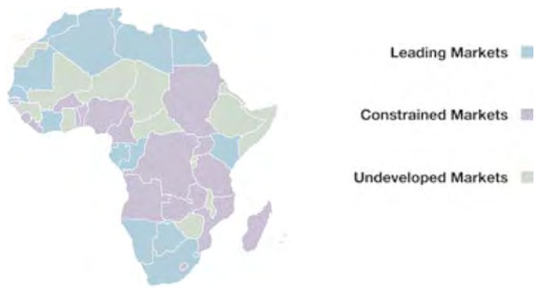
Figure 2: Mobile Phone Penetration, Africa, 2000-2007, %



	Leading Markets	Constrained Markets	Undeveloped Markets
Example countries	Algeria, South Africa, Egypt	Tanzania, Nigeria, Angola	Chad, Zimbabwe, Eritrea
Average GDP/ Capita $, PPP 2008 (IMF)	7,500	1,605	986
2007 Mobile Penetration (Average)	55%	19%	5%
Total Population	~300 Million	~440 Million	~175 Million

Source: ITU World Telecommunication ICT Indicators 2007, World Bank 2006, Capgemini Analysis

Figure 3: Geographic Distribution of African Market Segments, 2007

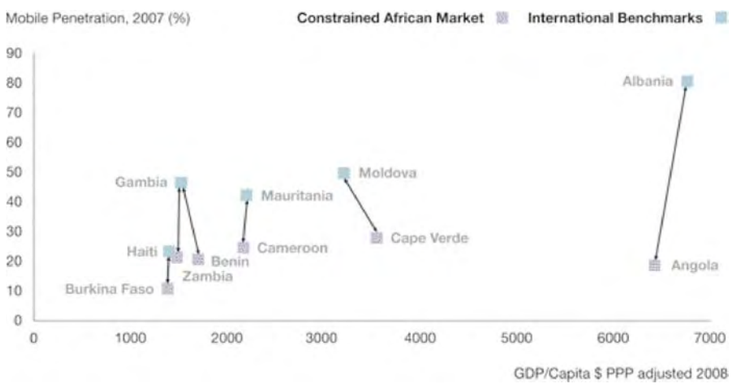


Source: ITU World Telecommunication ICT Indicators 2007, Capgemini Analysis

2 ITU World Telecommunication ICT Indicators 2007, Capgemini analysis.
3 ITU World Telecommunication ICT Indicators 2007, Capgemini analysis.
4 World Bank GDP/Capita data 2008; www.worldbank.org.
5 World bank 2006 Population estimates, Capgemini analysis.

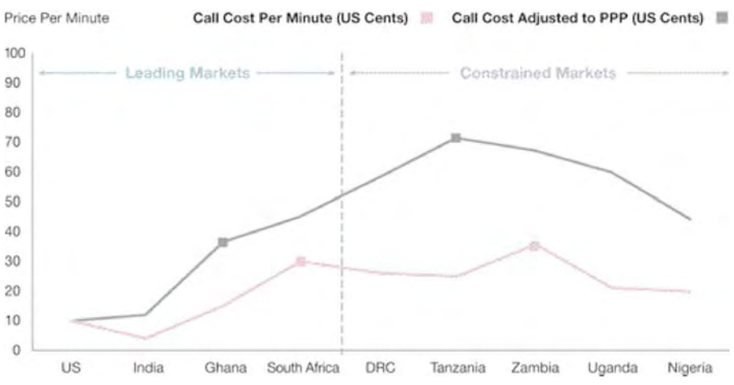
> **DESPITE WIDESPREAD POVERTY,** *African mobile costs are amongst the world's highest*

Figure 4: Mobile Penetration and GDP/capita, % and USD$ (PPP)[6]



Source: IMF 2008; ITU 2007

Figure 5: Mobile Call Costs in Select Countries, February 2008, US cents and PPP US cents



Source: Company Reports; ITU 2007, Capgemini Analysis

"*constrained markets*" as we believe that operators can remove some of these usage barriers and accelerate subscriber growth. This is in contrast to "undeveloped markets," where socio-political problems are too severe to be addressed profitably, and "leading markets" where established players are already driving market maturation.

The constrained market size is huge, with 440 million potential subscribers, constituting approximately 50% of Africa's total population.[5]

Unlocking Value in Constrained Markets

Whilst poverty is doubtless the most significant barrier to market development, it does not in itself explain the low mobile penetration of *constrained markets*. Figure 4 demonstrates that whilst countries such as Angola and Cape Verde have similar levels of wealth to Albania and Moldova, they have much lower penetration.

We believe there are four common usage barriers that explain the discrepancy of low service penetration: service affordability, device costs, service availability and technological literacy. By addressing these usage constraints we believe operators can unlock value and grow the size of the addressed markets.

Effective regulation can facilitate price declines

Across the *constrained markets*, prices charged for basic voice and SMS services remain at a premium compared to other regions; for example, whilst 41% of the population in Sub-Saharan Africa live on less than 50 US cents per day, average calling rates vary between 15 to 30 US cents per minute.[7]

Figure 5 demonstrates the poor affordability of mobile calls in Africa. In our view, African markets are like any other nascent mobile market in that they exhibit high usage elasticity; i.e. a decline in price will result in increases to both average minutes of use and subscriber numbers.

An example of stimulated growth is Algeria, where the second entrant, Orascom, secured a market share of 70% after only one year of operations. This strategy was based on aggressive price cutting, causing a staggering effect on mobile penetration—from 2000 to 2002, market penetration was below 2%; however, following Orascom's launch, penetration reached 4.5% in the first year, climbing to 63% in 2007.[8]

6 Leading Markets (20 Countries): Algeria, Botswana, Congo, Cote d'Ivoire, Egypt, Equatorial Guinea, Gabon, Gambia, Ghana, Kenya, Libya, Mauritania, Mauritius, Morocco, Namibia, Senegal, Seychelles, South Africa, Swaziland, Tunisia. Constrained market (21 Countries): Angola, Benin, Burkina Faso, Cameroon, Cape Verde, Democratic Republic of Congo, Guinea-Bissau, Lesotho, Liberia, Madagascar, Mali, Mayotte, Mozambique, Nigeria, Sao Tome & Principe, Sierra Leone, Sudan, Tanzania, Togo, Uganda, Zambia. Undeveloped Markets (13 Countries): Burundi, Central African Republic, Chad, Comorros, Djibouti, Eritrea, Ethiopia, Guinea, Malawi, Niger, Rwanda, Somalia, Zimbabwe.
7 Department for International Development, UK, Report on Africa, April 2008; Capgemini Analysis (Figure 5).
8 Orascom Annual reports, ITU 2007, Capgemini Analysis.

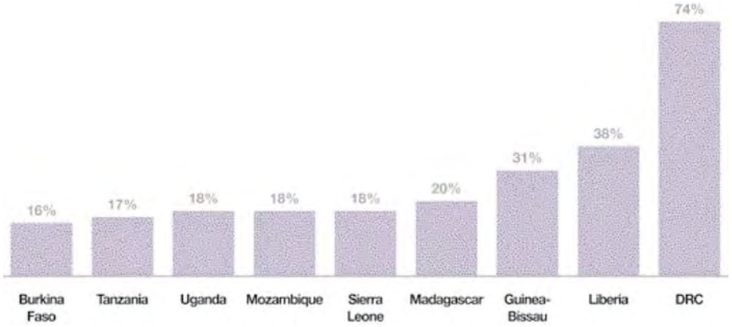
In *constrained markets*, lack of regulation is limiting the ability of players to replicate the Algerian experience and pursue disruptive price strategies. Interconnection agreements are often negotiated directly between participants in markets like DRC, Zambia and Uganda [9], leading to very high interconnect floors; in India, the interconnect rate is mandated at $0.0075 [10], whilst in the Democratic Republic of Congo it sits between $0.15 and $0.20 [11], leading to prices that are 550% greater.

Established players with large customer bases lobby regulators heavily to maintain the status quo and protect themselves from the damage of a price war. Whilst interconnection agreements between operators must be ratified by the regulator, the lack of a clear mandate to drive down interconnect rates leaves the negotiating power of incumbent operators unchecked.

An example of an African market where regulation has been successful is Tanzania, where the interconnect rate is relatively low at approximately $0.078; tariff price declines have driven an ARPU decline of approximately 70% from 2003 to 2007, with subscriber penetration growing from 5% to 20%. In this context, the decline in ARPU demonstrates the addition of many low income consumers. [12]

The failure of many African operators to reach poorer consumers is confirmed by the relatively high ARPUs seen in constrained markets such as Nigeria ($15), Zambia ($11) and DRC ($12) compared to Asian countries like India ($9) or Russia ($9.1) [13].

Figure 6: $50 Handset cost as a percentage of average annual consumption per individual in constrained markets, 2005, %



Source: World Bank 2005 Household spend survey, Capgemini Analysis

Improving Handset Affordability

Whilst we anticipate that call prices will decline as markets mature and competition intensifies, handset affordability constraints will continue to be the single greatest limitation on usage growth.

The difficulty for operators is that in these low ARPU environments, handset subsidization cannot be widely justified due to the risk of subscriber churn and widely unavailable credit structures.

Operators are increasingly supported by the efforts of handset vendors who have recognized the need for new ultra low cost handsets, which will continue to be introduced into the market at lower price points. However, in our view, operators should still play an active role in addressing this barrier. For example, African consumers have a high acceptance of second-hand handsets, which implies that operators who invest in importing refurbished handsets can often reach new consumers rather than waiting for the prices of new handsets to reach favorable lows.

Given the importance of low cost handsets, it is our view that there are opportunities for some operators to collaborate in handset procurement. For example, if second-tier players collaborate to combine their spend and supply chain expertise, they would benefit from economies of scale and access to shared assets, allowing them to threaten the hegemony of leading players.

> **HANDSET COSTS** *are the single greatest barrier to mobile uptake*

9 Capgemini experience, regulatory statements; www.caz.gov.zm/, www.ucc.co.ug/.
10 Indian Telecommunications Regulator; http://www.trai.gov.in/.
11 Operator Interconnection Agreements, DRC Regulator; Capgemini research.
12 Capgemini analysis, various sources; Operator annual reports, regulatory documentation.
13 Company Reports; Telecom Regulatory Authority of India (TRAI). Merrill Lynch, "Global Wireless Matrix Q2-2007", October 2007.

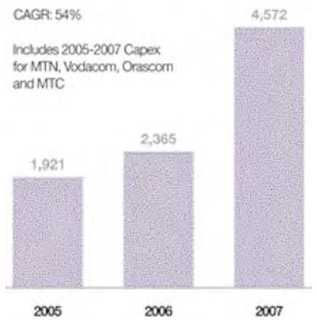
Expanding Network Coverage
Many African countries have very low population densities outside of the major urban conurbations. While the costs of providing universal coverage are too high in many countries, we believe that network sharing will become an increasing necessity to reach rural areas. For example, in India all major operators participate in network sharing on a one-for-one basis which has led to 30-40% of sites now being shared.[14] African regulators have an important role to play in facilitating these agreements as without faith in regulatory support, these agreements are commercially risky.

With the sharing of infrastructure proving to be a complex arrangement, national roaming agreements are a more common alternative. New entrants in particular can benefit from these agreements as they are able to reach commercial launch much quicker. In 2005, Zantel signed an agreement with Vodacom to extend their coverage from Zanzibar into mainland Tanzania; this allowed Zantel to confidently acquire subscribers without having to worry about poor service quality during the early stages of network roll out.

Extending Distribution channels
Limited infrastructure and poor rail and road connectivity make establishing robust product distribution networks a huge challenge. In countries like Liberia, the operators' role in product distribution does not extend beyond the capital city—i.e. further distribution is the responsibility of franchise owners and resellers.

Whilst major urban areas are often saturated with product outlets, operators can still differentiate in rural areas where credit recharge availability is low. In order to improve product availability, operators should fully leverage the country's informal market structures—i.e. ensuring products reach street sellers and rural market stalls. To drive this, operators can become more generous in the commission fees paid for SIM card and recharge voucher sales, which causes sale channel proliferation as distributors are easily motivated to push a higher margin product.

Figure 7: Capex Investments of the four leading Pan-African mobile operators, excluding South Africa, US dollars (millions), 2005-07



Includes 2005-2007 Capex for MTN, Vodacom, Orascom and MTC.
Source: Annual reports 2005, 2006, 2007, Company websites, Integrated Business Report 2005; Capgemini analysis

Recommendations
A *constrained market* operator can accelerate market growth by addressing the barriers discussed previously. However, to establish or maintain a market presence in these dynamic markets, other strategic elements must be considered.

Established Players
Anticipating Disruption
Global giants already have a heavy presence in Africa, with MTN, Vodacom, Orascom, MTC, Vodafone and Orange accounting for more than 60% of subscribers through 57 operating companies.[15] A second tier of pan-African multinationals has also formed including Etisalat, Millicom and Portuguese Telecom. The strategies of these players vary, but appetites for geographic expansion are generally strong.

The entrance of Warid and Bharti are widely anticipated further increasing competition. These players are global experts at operating in low ARPU environments and driving mobile phone usage.

To protect market share and prevent further market fragmentation, operators must close the window of opportunity for new entrants by rapidly acquiring subscribers—an objective that can be achieved by addressing the usage barriers previously discussed. The result is a reduction in the non-addressed market, which is inviting disruption but players need to carefully model the risk of cannibalization to existing business before adopting these strategies.

Lean Operations
As operators adopt strategies aimed at subscriber growth, the decline in ARPU can place operating margins under pressure. To maintain profitability, lean operations and operational excellence become essential.

Global companies such as Vodacom, MTN and Etisalat have a wide presence in the region and are hence able to centralize functions across countries. Areas such as IT, procurement and network management can be centralized to achieve synergy savings as local functions are downsized. In product distribution, flagship stores are generally cost effective for urban centers, but operators should look to reduce OPEX and expand their footprint in rural areas by relying on small 3rd party distributors instead.

14 GSM World, Infrastructure Sharing Report 2007.
15 WCIS (World Cellular Information Service), 2006.

New Entrants
Entry Options
With around 50 single country players in Africa accounting for approximately 55 Million subscribers, acquisition opportunities for inorganic growth remain widespread.[16] However, deal sizes to acquire operations at a pan-African level have become high on a cost per subscriber basis. In 2005, MTC beat rival bidders to acquire Celtel at a cost of US$680 per subscriber, while in 2006 MTN went on to pay over $1000 per subscriber to acquire Investcom.[17] Premiums are being paid as operators become increasingly aware of the potential of the "Greenfield" market and face increasing competition for acquisition targets as players look to consolidate. The success of players exiting African markets at substantial profit only serves to encourage investments from other operators.

Market entrance options can be limited by the viability of acquisition targets and availability of spectrum licenses. Where both options are open, Capgemini recommends that companies be pragmatic in considering both the level of competition already present in the market and the impact that can be achieved within the company's financial constraints. Profitability is strongly correlated to scale and there are numerous examples of African market entrants attempting network roll outs despite being underfinanced and struggling to achieve profitability beyond the anticipated investment window.

Greenfield vs. Brownfield Market
As *constrained markets* have such low penetration, operators are presented with a choice of strategic focus—i.e. either competing for existing subscribers or targeting new consumers. Existing subscribers are often concentrated in major urban conurbations, whilst "Greenfield" consumers are generally located in more rural regions.

Given the low population densities in rural areas and the high cost of backhaul to connect them to the core network, "Greenfield" consumers are difficult to address profitably. Operators should first establish a presence in the profitable urban areas, before switching investment focus to the latent opportunity of the rural market.

The importance of rural coverage is emphasized by the high internal migration to cities, which is typical of Africa, resulting in strong demand for calls home to rural friends and family. Hence, an operator providing coverage to a rural area is likely to attract both significant interconnect revenue and net subscriber churn as urban users move "on-net" with their rural contacts.

Technology Choices
New entrants must carefully consider the network technology they employ. Differentiation through costly, high speed networks can be risky; operators must not lose focus on the fact that these are predominately *need-based* markets, and whilst a consumer *demand* for high speed connections may exist, the value remains in offering standard mobile voice and SMS services.

WiMax is especially hyped as a disruptive threat to mobile markets. However, with the availability of cheap handsets key to mass market penetration, operators pursuing technology leadership strategies will lack the economies of scale offered by established GSM technologies, and thus will often be limited to the richer segments of society. In addition, African consumers would be particularly sensitive to the technical issues expected from immature technologies like mobile WiMax, such as poor battery life. For these reasons, *constrained markets* have a degree of protection from the threat of mobile WiMax.

In conclusion, despite the high number of operators already active in many countries, the window of opportunity for new entrants to build an African presence remains considerable as mobile penetration is low. In response, operators established in *constrained markets* must adapt their strategies to drive market maturity not only as a path to increase profitability, but also to reduce the risk of competitive disruption. If this is not addressed, new entrants will continue to lead in the reduction of adoption barriers as they recognize the need to be aggressive in disturbing the status quo to gain market share.

We anticipate the next 2-3 years will be key in determining which companies become dominant in pan-African mobile communications, as growth in currently *constrained markets* is accelerated.

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16 WCIS (World Cellular Information Service), 2006.
17 http://www.arabianbusiness.com/12348-lost-in-valuation?ln=en.

Better Global Sourcing of Services: Frameworks for TME players

by George Yip and Kaushal Vaidya

Abstract: Making decisions on global sourcing is challenging due to the large number of alternatives available. Key decisions in global sourcing concern ownership (in-house or outsourced), location (onshore or offshore) and the level of hands-on management to ensure delivery performance. These choices can be made by analyzing five characteristics: the nature of the service under consideration, customer demand issues, the sourcing organization's experience and capabilities in sourcing as well as collaborating with other organizations, competitors' best practices as well as threats, and the depth of the supply market of potential providers. The analysis of the above characteristics as well as the selection of the appropriate sourcing mode can be carried out in a qualitative manner by responding to the various questions in the Global Sourcing Framework. Corresponding to each response is a suggested approach regarding choice of ownership, location or management style. Once all the questions have been addressed, the suggested alternatives can be combined to identify the optimal sourcing options. Through use of a business case variant of the Global Sourcing Framework, it can also be applied in a quantitative manner. Qualitative or quantitative application of the framework—accompanied by an in-depth investigation and analysis of the issues involved—can help TME players identify the right sourcing modes for various services and thereby optimize their overall operating models.

The wave of global sourcing that started in the 1980s with the outsourced and offshored manufacturing of physical products now also includes services sourced from around the world. TME players have also joined their counterparts from other industries to leverage the benefits of improved costs and higher efficiencies that typically accrue from global sourcing of services.

However, global sourcing of "services" is far more complex than that of "products," as the delivered services happen in real time, are harder to define accurately, need constant monitoring, and are affected by frequent service quality variations. Consequently, the sourcing of services presents a number of special challenges, which result from the need to intercept requirements from a broader range of stakeholders, manage knowledge effectively, and define as well as continuously manage performance against service level criteria. Therefore, carefully evaluating the feasibility of a particular service for global sourcing becomes necessary before initiating the process of vendor and/or geography selection.

In this study[1], the Capgemini TME Strategy Lab describes an approach and supporting model that can help TME players make sourcing decisions more effectively. The paper offers a systematic approach towards identifying the right mode in which a particular service can be sourced. This will help decision makers identify the right options for their unique circumstances.

1 This study has been adapted from the paper "Better Global Sourcing of Services" written by George Yip, Yacine Chibane and Melanie Knight in 2007 for Capgemini Consulting.

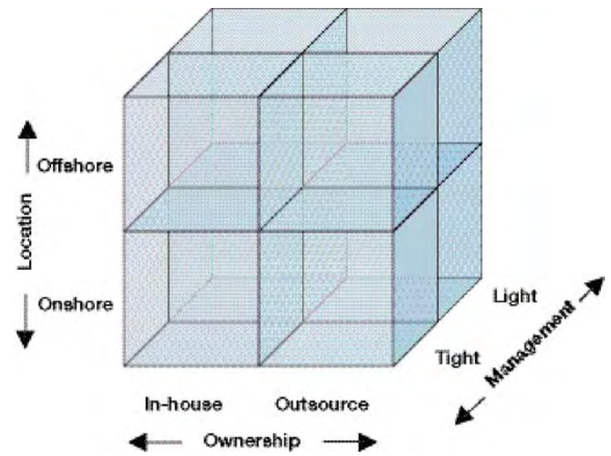
> *"Three key decisions in global sourcing concern* OWNERSHIP, LOCATION AND THE LEVEL OF HANDS-ON MANAGEMENT REQUIRED TO ENSURE SERVICE DELIVERY*"*

Global Sourcing Options for TME Players

Three key decisions in global sourcing concern ownership (in-house or outsourced), location (onshore or offshore) and the level of hands-on management required to ensure that the service delivers as per the business' needs. The first two parameters are fairly well-known, but our research indicates that the third parameter also needs to be examined carefully, particularly for services. The "level of management" parameter assesses whether the service providers would require ongoing day-to-day, hands-on supervision, or whether they can be held at arm's length after service transition without excessive hands-on supervision, and driven primarily by Service Level Agreements (SLAs). The former case is referred to as tight management and the latter as light management.

For each service sourced by TME players, the three parameters can be plotted along a "global sourcing cube" (see Figure 1).

Figure 1: The Global Sourcing Cube



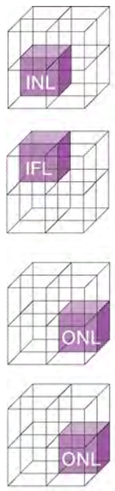
Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

The Global Sourcing Cube has two choices on each of the three dimensions, although there are intermediate points on each. For ownership, there is a spectrum from 0% to 100%, including partial ownership or joint venture. For location, there are nearshore locations (e.g. Poland), and some offshore locations (e.g. India) which are further than others in terms of both geography and dissimilarity—such as in culture. It does not necessarily imply that the nearer the location, the better the fit. By way of illustration, consider a UK-based business—a service offshored to Australia will be culturally closer than one outsourced to Poland. Similarly, some French companies offshore to Mauritius, thousands of kilometers away, but closer in language than other geographically closer locations. For management, the tightness of supervision is determined by the extent to which the players seek to retain control over the services delivered.

The use of two choices for the three parameters helps to arrive at eight simplified choices, represented by eight smaller cubes (see Figure 2). Each of the eight modes have been assigned a label to help increase understanding in an intuitive fashion (see Figure 2).

Each of the choices imply a trade-off in the levels of cost, innovation and risk. Moving from the sourcing mode at the front-lower-left of the cube to modes at the back-upper-right side generally reflect movement to less controlled modes but potentially to higher levels of cost reduction. The right place on the cube for a particular service depends on the characteristics of the environment that the sourcing organization finds itself in. The subsequent sections are aimed at aiding TME players in identifying the right box on the Global Sourcing Cube for the services under consideration for global sourcing.

Figure 2: Eight Global Sourcing Modes

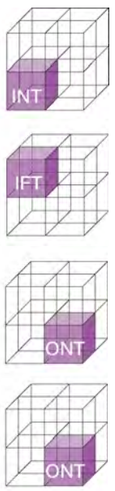


"Back of House"
- Close but not at the forefront of attention; light management of an in-house, onshore process

"Hand Over the Car Keys"
- It stays in the family but the "car" is driven away; light management of an in-house, offshore process

"Someone Else's Problem"
- The process cannot be completely ignored but an outsourced, onshore mode can minimize the amount of attention paid

"Move and Forget"
- Keeping the least control; light management of an outsourced, offshore process



"Under My Nose"
- Keeping the most control; tight management of an in-house, onshore process

"Trust but Verify"
- Tight management of an in-house, offshore process

"Cohabitation"
- Tight management of an outsourced, onshore process results in the two independent organizations collaborating closely

"Gold Frequent Flyer"
- Lots of travel for tight management of the outsourced, offshore process

I = In-house
N = Onshore
L = Light Management

O = Outsourced
F = Offshore
T = Tight Management

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

Figure 3: Effects of Service Characteristics On Choice of Sourcing Mode

	Comments	If "highly agree", then favors
Service Characteristics	1. Can the service be standardized and procedures easily documented?	**Outsourced, Offshore** Low cost to standardize and document the process before sending outside
	2. Can the requirements for performing this process be easily specified and effectively monitored?	**Light Management** Easy to monitor with minimal oversight
	3. Will mistakes in this process have a significant business impact from a legal, regulatory or financial point of view?	**In-house, Onshore, Tight Management** If send out, then need to restructure and reengineer process, and train outside staff carefully.
	4. Does the process involve direct contact with the organization's clients (e.g., external clients, suppliers)?	**In-house, Onshore, Tight Management** If sent out, runs risk of poor process performance causing loss of reputation and customer satisfaction, which in turn leads to loss of business
	5. Can the service be delivered remotely without internal staff or customers' involvement?	**Outsourced, Offshore** Easy to send out
	6. Can decisions within the process be based on standard specified criteria?	**Light Management** Once the process is documented, little monitoring needed
	7. Can responsibility for performance of this process be clearly defined?	**Light Management** Easy to monitor performance

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

> "THE APPROPRIATE SOURCING MODE CAN BE SELECTED BY EVALUATING *nature of the service, customer demand, organization capabilities, competition and supply market*"

Characteristics Affecting the Choice of Global Sourcing Modes

The selection of the appropriate sourcing mode for various services is a significant challenge for TME managers. Our research suggests that the decision can be made by evaluating five key characteristics, which include the nature of service under consideration, customer demand in relation to that service, the sourcing organization's experience and capabilities in sourcing, competitors' best practices as well as threats, and the supply market of potential providers.

Managers can analyze each of the five characteristics in detail as well as assess the appropriate sourcing mode by responding to a set of questions for each characteristic (refer to Figures 3-7). For each service under consideration for global sourcing, managers' response to these questions can vary from "highly agree" to "highly disagree". Associated with each question is the suggested sourcing approach in case the response is "highly agree". The responses to the 30 questions, taken together, can help managers in identifying the most suitable mode for sourcing of a particular service.

The nature of the service

The nature of the service addresses the extent to which the service can be standardized and easily sent outside the organization and home country. The related questions (see Figure 3) can help TME players distinguish between easy to outsource and offshore services such as internal IT maintenance, and difficult ones closer to core operations such as new product development and R&D activities.

Customer demand

Customer demand characteristics of a service include issues such as the needs of the internal customer to reduce the costs, and external customer impact in terms of the service enhancing brand image or differentiation of the firm in its competitive landscape. The related questions (see Figure 4) also address the need to keep services onshore or nearshore to ensure language and cultural compatibility of the sourced services. For instance, in November 2007, O2 UK set up a customer service department in the UK itself to offer technical and operational advice to customers for the new Apple iPhone[2]. Similarly, SunRocket, a former pure play VoIP operator and now a part of Packet8, had to bring back its outsourced and off-shored customer service activities due to the increased need for brand enhancement and differentiation through customer service[3].

Organizational experience and capabilities

The questions on organizational characteristics (see Figure 5) cover the ability of the sourcing organization to perform the process itself and also its

Figure 4: Effects of Customer Demand Characteristics on Choice of Sourcing Mode

	Comments	If "highly agree", then favors
Customer Demand Characteristics	8. Are internal customers convinced that outsourcing will be beneficial?	**Outsourced** Satisfies internal customers
	9. Are internal customers more concerned about the cost of the service rather than service excellence?	**Outsourced, Offshore, Light Management** Go for the modes with the maximum savings
	10. Does the process in scope have significant brand impact?	**In-house, Onshore, Tight Management** Play safe, or if do send out, then need to train outside staff carefully and manage relationship tightly
	11. Does the process in scope differentiate the organization in its competitive landscape	**In-house** Keep in-house if the organization has distinctive competence, but outsource if the provider can provide a superior process that also protects the organization's differentiation.
	12. Is process success' independent of local cultural influences?	**Offshore** Can go to countries that are quite dissimilar in culture and language

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

2 The Herald, "iPhone boost for 02's Scottish workforce", 29. February 2008. UK Business Park (ukbusinesspark.co.uk), "UK Activity Report - Computers and Electronics", November 2007.
3 Company websites.

experience and ability in managing vendors. These questions directly address the choice of ownership, location, and management mode.

SFR, a leading mobile operator in France and an affiliated operating company of Vodafone Group, decided to adopt the "Vodafone live!" content portal as the backbone to its mobile, data and content services. In order to optimize time-to-market and costs, SFR decided to outsource activities related to the integration of its content services with those of its partner[4].

Competitor characteristics

Competitor characteristics (see Figure 6) cover the extent to which competitors have set precedents or pose threats in global sourcing. In many cases, companies need to utilize global sourcing in order to match a competitor's level of costs or service.

For instance, three of the four largest players in Netherlands—Orange, Vodafone and Deutsche Telecom—outsourced their network operations in 2006. The associated cost savings gave them a competitive advantage compared to the incumbent, KPN. As a result, KPN was also encouraged to follow its competitors in order to stay competitive and protect its position as the market leader.

A similar story unfolded in the Indian mobile market, one of the largest in the world. In 2004, its leading operator Bharti Airtel decided to outsource its network, IT and customer contact center operations to global majors such as Ericsson, Nokia-Siemens Networks, IBM and IBM-Daksh (this decision has been analyzed in detail using the sourcing framework in the subsequent sections). Once Bharti Airtel outsourced its operations and started achieving significant cost benefits, other operators, such as Vodafone Essar (then Hutchison Essar) and Idea Cellular were encouraged to follow Bharti Airtel to match its cost-levels[5].

Figure 5: Effects of Organization Characteristics on Choice of Sourcing Mode

	Comments	If "highly agree", then favors
Organization Characteristics	13. In this specific process, are most "generalist" employees capable of performing other employees' jobs?	**Outsourced** Little specialisation involved, so makes it easy to find outsourced providers
	14. Are the current in-house processes best in class?	**In-house** Or invest to bring outside provider up to best in class.
	15. Is there potential for industrial unrest if jobs are lost?	**In-house, Onshore** Hard to send jobs out of organization or offshore.
	16. Is the organization evolving and are requirements changing quickly?	**In-house, Onshore** If sent out, will incur regular extra costs to reengineer processes
	17. Are contracts with service providers or vendors reviewed frequently and actively managed?	**Tight Management** Will need regular management involvement
	18. Does the organization have the capability to deliver the process or service in-house?	**In-house** Provides a real choice, depending on effectiveness and cost of outsourced alternatives
	19. Does the organization have experience of cross-border activity?	**Offshore** Makes offshoring less risky

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

Figure 6: Effects of Competitor Characteristics on Choice of Sourcing Mode

	Comments	If "highly agree", then favors
Competitor Characteristics	20. Are competitors offshoring this service successfully?	**Offshore** Competitors have shown that offshoring works for this service in this industry
	21. Do competitors have long-term relationships with their service providers or vendors and is re-tendering, therefore, infrequent?	**Light Management** Can have similar long term relationship that requires only light management
	22. Do competitors have distant relationships with their service providers?	**Outsource, Light Management** Costs are not expected to increase hugely as competitor behavior suggests that processes have settled down
	23. How unacceptable is it if competitors were to gain access to detailed knowledge about the process in scope (e.g., via a service provider or vendor)?	**In-house** Any sourcing decision is constrained by the threat of a loss of competitive advantage

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

Supply market characteristics

Supply market characteristics (see Figure 7) address the availability, maturity and cost-saving potential of vendors. A well-developed, mature collection of vendors with necessary skills typically encourages outsourcing coupled with light management.

For instance, it is relatively easy to decide about outsourcing an IT or customer contact process because of the extensive supply market that has developed in India, and increasingly in other countries such as China. Similarly, more than 90% of all network outsourcing deals are awarded to equipment suppliers such as Alcatel-Lucent, Ericsson and Nokia-Siemens Networks, as this collection of vendors possess the necessary skill-sets[6].

The 30 questions discussed above (refer to Figures 3-7) are both generic (not specific to a particular service) and detailed enough (about particular aspects of the sourcing situation) to address a sourcing decision about any service. Typically, by responding to the set of 30 questions under the five characteristics, managers can get a good idea of the appropriate sourcing mode to select. TME managers are encouraged to use these questions as a checklist to stimulate their own thinking, support their own detailed analyses and cross-validate their decisions. The following section describes in detail the qualitative and quantitative approaches towards use of the 30 question framework.

Figure 7: Effects of Supply Market Characteristics on Choice of Sourcing Mode

	Comments	If "highly agree", then favors
Supply Market Characteristics	24. Is the supply market of service providers (vendors) mature?	**Outsourced** Start-up investment is minimal
	25. Can this organization leverage vendors' economies of scale for this process?	**Outsourced** Can enjoy cheaper provision
	26. Does an external vendor or service provider have the potential to become a competitor within the next five years?	**In-house, Tight Management** Keep in-house or avoid high threat providers. If outsourced, then manage tightly to avoid leakage of proprietary know-how
	27. Are the key skills required in this process all available in the vendor supply base?	**Outsourced, Light Management** Providers will not have to acquire skills at additional cost, and need less management
	28. Is the capacity of skills required all available in the vendor supply base?	**Outsourced** Wide choice of effective suppliers
	29. Is the labor attrition rate low offshore?	**Offshore** Reduces potential costs of recruitment, induction and retention.
	30. Is the supply market able to provide this process at maintained service levels and at lower cost?	**Offshore** Savings are highly likely

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

Qualitative and Quantitative Approaches to Sourcing Mode Selection

The 30-question global sourcing framework can be used to aid decision-making regarding the sourcing of services. For a particular service, qualitative or quantitative application of the framework can indicate the feasible global sourcing modes, which can be investigated further by a thorough discussion and investigation of the issues involved. The qualitative and quantitative approaches are discussed in detail in the subsequent paragraphs.

Identifying the appropriate mode by using qualitative responses to pertinent questions

The following examples show how the Global Sourcing of Services Framework and its associated questions can lead to the appropriate sourcing decision. Although the decisions described here were made without application of the framework, the associated discussions demonstrate how the framework can be used to arrive at the actual decisions made. The illustrative example used here is the sourcing of network infrastructure services. We have analyzed the relevant decisions (see Figure 8) made by KPN (Netherlands) and Bharti Airtel (India), two leading operators in their respective geographies, using the framework discussed earlier.

The examples of KPN and Bharti Airtel indicate that the decision to outsource network services is driven primarily by favorable service, customer demand, competition and supply market characteristics. In this case, the choice of outsourcing as an appropriate ownership mode is driven by the maturity of supplier markets and the importance of cost-saving. The choice of location is driven by the need to provide services from onshore. Further, service characteristics influence light management mode as the process delivery requirements can be easily specified and monitored. This combination of outsourced, onshore and light management mode is referred to as "Someone Else's Problem[7]" and is now used increasingly by telcos in sourcing of network services.

4 Company websites.
5 Capgemini TME Strategy Lab analysis. Company websites.

6 Capgemini TME Strategy Lab, "Network Outsourcing", 2007.
7 Someone Else's Problem" refers to a process that cannot be completely ignored but an outsourced, onshore mode can minimize the amount of attention paid. For more details and other sourcing modes, please see Figure 2.

Figure 8: Application of the Global Sourcing Model to Identify the Optimal Mode for Sourcing Network Infrastructure Services

Operators (Service)	Global Sourcing Mode	Rationale		
		Highly Relevant Questions from the Framework	Response	Indicated Approach [a]
bharti kpn (Network Outsourcing)	Ownership: Outsourced Location: Onshore Management Mode: Light	**Service Characteristics:** Q-2: "Can the requirements for performing this process be easily specified and effectively monitored?"	Highly Agree	Light Management
		Organization Characteristics: Q-19: "Does the organization have experience of cross-border activity?"	Disagree	Onshore
		Competitor Characteristics: Q-20: "Do competitors have distant relationships with their service providers?"[b]	Agree	Outsource, Light Management
		Supply Market Characteristics: Q-24: "Is the supply market of service providers mature?"	Highly Agree	Outsourced
		Q-25: "Can this organization leverage vendors' economies of scale for this process?"	Highly Agree	Outsourced

Note: a. Indicated approach is the same as that suggested by the framework (see figures 3-7) if the response is "agree" or "highly agree", and opposite to that suggested by the framework in case the response is "disagree" or "highly disagree"
b. This question (Q-20) is more relevant for the KPN example, as Bharti lead the way in outsourcing in India.

Source: Capgemini TME Strategy Lab analysis. Company websites and press releases

Quantitative business case modeling using the 30 question framework

The set of 30 questions, discussed in section 4, can also be used to drive a decision support model that helps in identifying the appropriate global sourcing mode. The model focuses on three critical factors—benefit from global sourcing in terms of potential cost savings, costs of sourcing as well as implementation, and factors such as collaboration that can mitigate the potential cost. The key elements of the business case model are described in Figure 9.

The above elements come together in the following equation, which calculates the expected savings (as % of original costs) for a specific combination of ownership, location and management mode:

$$EV = PV - (Pr * CI / CM) - CC$$

For each of the eight possible global sourcing modes, the model calculates the Expected Value (EV) based on the responses to each of the 30 questions in the framework discussed previously. The model then calculates the average EV for each global sourcing mode and eventually ranks the eight sourcing modes based on the average values. These ranks (from 1st to 8th) are the model's recommendation for the priority in which to consider the possible global sourcing modes.

In conclusion, the Global Sourcing Framework is a decision support tool that can help optimize an organization's operating model by identifying the appropriate sourcing modes for various services. Qualitative or quantitative application of the 30-question global sourcing framework can help TME players in making appropriate decisions on ownership, location and management mode for sourcing of various services. The interactive nature of the model can also help TME managers in assessing the impact of changing assumptions, running alternative scenarios and comparing the model's output with internal views on strategy. Thus, systematic application of the model along with in-depth investigation of issues can help TME players optimize their sourcing model for existing as well as new services.

Figure 9: Key Elements of the Global Sourcing Business Case Model

Elements of the Business Model	Description	Usage in the Business Case
Expected Value (EV)	• EV is the bottom-line value of the business case (as % of current total costs for the activity)	
Potential Value (PV)	• PV is the possible gross savings from using a particular global sourcing mode (as % of current total costs for the activity)	**Gross Savings (% of Costs of an Onshore, In-house Process)** • Offshoring and Outsourcing: 35% • Offshoring and In-house: 30% • Onshoring and Outsourcing: 20%
Cost Impact (CI)	• CI is the maximum cost to create the capability for a particular service or process (as % of current total costs for the activity)	• **One-Time Costs** - Search and Contract: 4%, Restructuring: 5%, Process Changes: 10%, Transitioning Work: 3% • **Ongoing Costs** – Lost Productivity/Cultural Issues: 10%, Governance – 10%
Probability (Pr)	• Pr represents the likelihood of incurring the costs discussed above in Cost Impact (CI) • It is determined by responses to the 30 questions: ▪ For instance, if the supply market is quite mature, the probability of incurring various costs is very low	• Pr ranges from 0% to 100%
Collaboration Mode (CM)	• A CM of Tight Management reduces the Cost Impact (CI) by making more effective coordination between the customer and the provider	• Tight collaboration mode halves the Cost Impact (CI) relative to a Light collaboration mode
Cost of Collaboration (CC)	• CC occurs when tight management is used for better coordination with vendors • In-house, onshore, light management incurs no extra costs, but other sourcing modes increase CC	• CC increases by 10% for outsourced, offshore, tight management vis-à-vis in-house, onshore, light management

Source: Capgemini TME Strategy Lab analysis. George Yip, Yacine Chibane, and Melanie Knight, "Better Global Sourcing of Services", 2007

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> *"The Global Sourcing Framework can help optimize an organization's operating model* **BY IDENTIFYING THE APPROPRIATE SOURCING MODES**"

lite BYTES

Paying for Mobile Data

A Vodafone user in the UK received a £27,000 bill for exceeding fair-usage limits, after he inadvertently used his mobile phone as a modem to download full television episodes. In another similar incident, a Bell Canada subscriber received an $85,000 bill after he used his mobile phone as a modem.

Source: PC Pro, "£27,000 phone bill for Vodafone customer", Jan 2008; BBC, "Shock at $85k mobile phone bill", December 2007

An iPhone user from Pittsburgh (US) received a 300-page bill from AT&T, delivered in a box, detailing every text message and Internet use over a period of one month. The user put up a video of the massive bill on YouTube, which received over 3 million views in the first ten days.

Source: NY Times, "AT&T's Overstuffed iPhone Bills Annoy Customers", Aug 2007

Research conducted by the University of Leicester indicates that the cost of sending a megabyte of SMS works out to £374.49, assuming the average size of a text message to be 140 bytes. In comparison, NASA provided a figure of £8.85 per megabyte for the transmission of data from the Hubble Space Telescope to Earth. This means that SMS usage costs more than sending messages from space through the Hubble!

Source: University of Leicester

Going Online

YouTube is estimated to consume 1,000 gigabytes of traffic every second or nearly 300 billion gigabytes each month. In 2007, YouTube alone consumed as much capacity as the entire Internet took up in 2000.

YouTube spends approximately $1 million a day on bandwidth costs, and YouTube downloads are estimated to consume 3% of Google's $11.5 billion in operating costs for 2007.

Source: CNN Money, "YouTube looks for the money clip", March 2008; Telegraph UK, "Web could collapse as video demand soars", April 2008

Somalia has the fastest growing Internet user base in the world, growing from 200 in December 2000 to 90,000 in 2007, an increase of 44,000%. Iceland has the highest Internet reach with over 86% of residents using the Internet.

Source: Internet World Stats, 2007 and PC World

All About Devices

The most common tone played when an SMS (text message) is received on many Nokia handsets is actually the Morse code for "SMS".

Source: http://www.textually.org/ringtonia/archives/2006/08/013361.htm

A Singaporean student has set a world record for texting speed. She typed the official sentence for world record attempts, "The razor-toothed piranhas of the genera Serrasalmus and Pygocentrus are the most ferocious freshwater fish in the world. In reality they seldom attack a human" in 41.52 seconds.

Source: http://www.theregister.co.uk/2006/11/13/worlds_fastest_sms/

Some companies have introduced ringtones that are audible only to the youth. While they were introduced to help store owners drive away loitering youth, many youngsters have innovatively used the same in their classrooms, since these ringtones are inaudible to older people, namely their professors.

Source: http://www.nytimes.com/2006/06/12/technology/12ring.html

We value your comments and ideas. Please contact us at tme.consulting.uk@capgemini.com

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