

The Rebirth of Mobile Internet: What It Will Take for Operators to Win

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Mobile Internet services are poised to take off, and a phalanx of players in the communications, media, and technology ecosystem are maneuvering to capture this opportunity. To successfully monetize the mobile Internet opportunity, mobile operators must decide now which technical and commercial assets will best help them get into the game—and how they're going to leverage those assets.

Smart partnering—both as a retail player offering services and applications to end-users and also as a wholesale player enabling third-party services—will be critical to operator success. By understanding what customers want, forging collaborations to meet those demands, and managing that portfolio of partnerships adroitly, operators in saturated markets can spur much-needed growth.

Mobile operators in saturated markets have long sought ways to turn around declining average revenues per user (ARPU) and flattening market growth. In conjunction with 3G launches from 2001, many executives saw the mobile Internet as a promising avenue for providing new services that would spur more revenues from existing customers. At that time, however, mobile Internet failed to deliver the promised advantages. Key elements of the service such as appropriate handsets, speed of access, and relevant content weren't ready, and pricing models were largely prohibitive. For example, the wireless application protocol—hyped at the time of introduction—became widely disparaged as “wait and pay,” mainly because of its lack of openness, slow transmission speed, and limited user interface capabilities.

Today, these and other aspects of the mobile Internet experience have improved substantially. Mobile Internet is poised to take off, thanks not only to technological improvements like greater bandwidth and access speed, but also to factors such as increasingly affordable data pricing, easier-to-use handsets, and availability of content that users are familiar with from the fixed Internet (Exhibit 1).

Indeed, the recent surge in take-up rates is impressive. Vodafone noted that data traffic increased more than tenfold in the 12 months ending March 2008; T-Mobile reported a tenfold year-on-year increase in WCDMA/HSPA traffic in 2007; and operators reporting at least a fourfold increase in data traffic in 2007 include AT&T and Telecom Italia Mobile. Interest in mobile data services has exploded in some areas. For example, the percentage of German consumers surveyed by TNS Infratest who expressed interest in such services jumped from 9% in 2007 to 26% in 2008.

CIBC estimates that the number of mobile broadband subscribers will have reached 1.2 billion by 2011, one-third of the total mobile subscriber base. (This does not include 2.5G technologies that bridge the gap in some, mostly developing, countries.) The number of 3G-data-only devices like 3G cards, sticks, or embedded capabilities is predicted to grow at an impressive 34% CAGR. Exhibit 2 shows the rapid rise expected for various mobile Internet technologies.

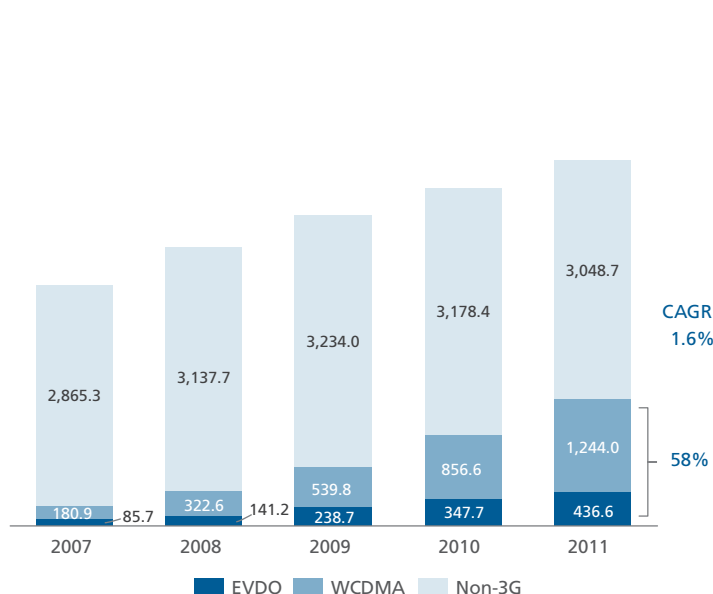
Exhibit 1 **The drivers of mobile Internet growth**

1	Technical prerequisites
<ul style="list-style-type: none"> • Bandwidth and access speed • Indoor and outdoor coverage • 2.5G+ handsets 	
2	Usability and handsets
<ul style="list-style-type: none"> • Handset usability and graphic user interface • Browser and operating system • Screen and keyboard 	
3	Data pricing
<ul style="list-style-type: none"> • Affordable • Flexible and transparent • Bundles and flat rates 	
4	Freedom of use
<ul style="list-style-type: none"> • Access to all content of the fixed Internet • Network- and handset-agnostic • Content and applications 	

Clearly, mobile Internet has arrived at a tipping point, which presents a pivotal opportunity for operators. Yet operators are struggling to monetize the opportunity, and other players are also eager to capitalize on the situation. Internet giants like Google, Amazon, eBay, and Yahoo are moving to launch new services or even operating systems to make more of their offerings accessible on mobile handsets. Creators of content ranging from music and movies to books and magazines are hurrying to establish revenue sources in mobile Internet. Makers of devices and operating systems such as Apple, Nokia, Samsung, and Microsoft are seeking to tap into their indirect customer base by establishing mobile Internet applications and diversifying into services. Nokia's Ovi, a one-stop Web site enabling users to do everything from buying music to exchanging photos with friends, is an apt example. Finally, online communities like Facebook, YouTube, Flickr, and Xing are enabling their members to connect with one another and socialize data and content while on the move.

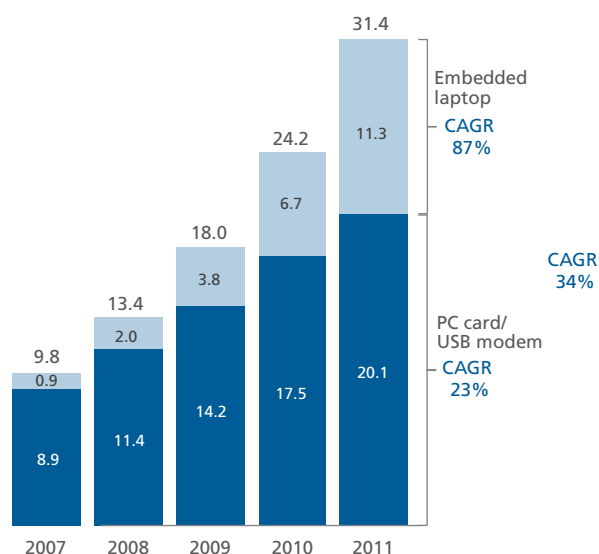
Exhibit 2 Mobile data is rising

Projected worldwide subscribers, in millions, WCDMA and EVDO versus non-3G



Source: CIBC World Markets, Oliver Wyman analysis.

Projected global data / USB card and embedded modem shipments, millions of units



Source: CIBC World Markets, Global Mobile.

How can mobile operators make sure they're not muscled aside by these other players? Operators possess numerous assets, including user identity information, location information, data security services, installed customer bases, established distribution channels, and strong brands, which can help them monetize the mobile Internet opportunity. Nevertheless, as technologies advance, platforms become more open, and access to information increases, many of these assets won't remain unique to operators for long. For example, operator-provided location information will soon be substituted by GPS in handsets, and Internet service provider brands may soon prove significantly stronger than operator brands.

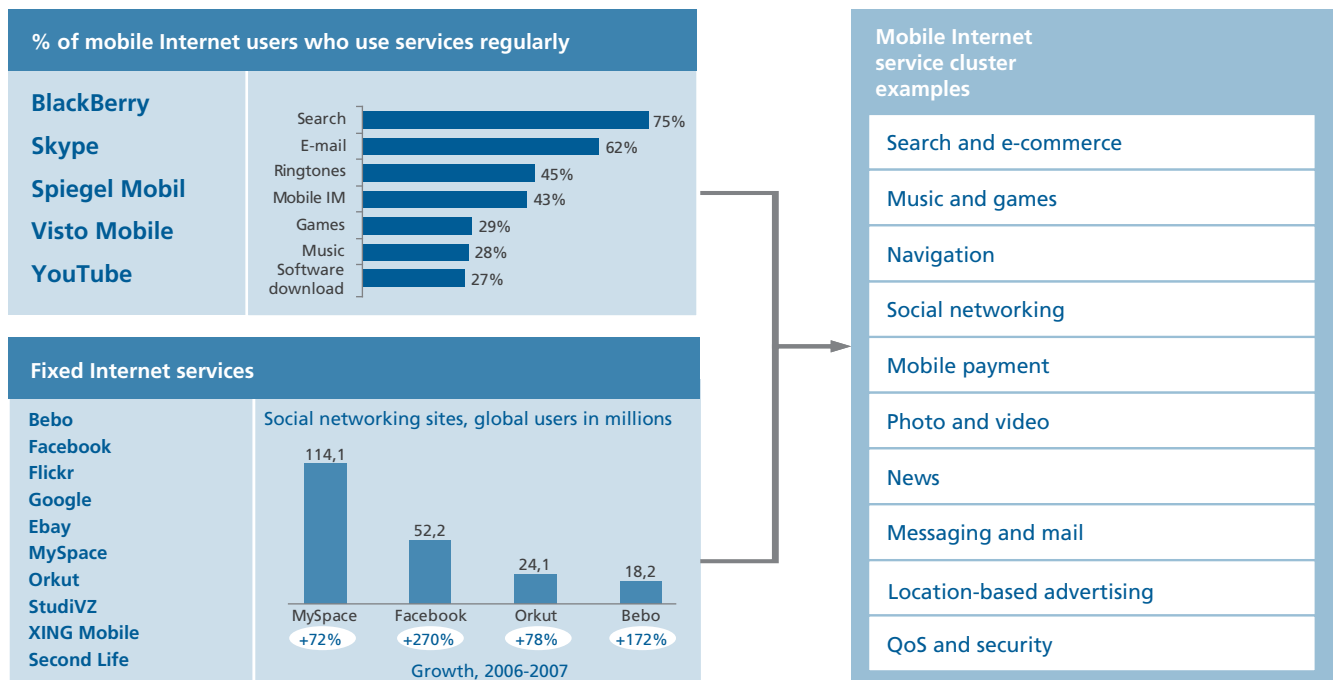
As a consequence, operators should step up their efforts to develop a sound mobile Internet strategy that enables them to satisfy customers better and more quickly than the other players can. Our experience with clients in developed economies around the world suggests that operators can craft and quickly execute an effective strategy by taking four steps:

1. Understand the customer and market. Broaden an understanding of what types of mobile

Internet-related services consumers expect and how and from whom they want to buy these services.

- 2. Assess operator assets.** Understand which assets are required to compete, which assets operators control, the best ways to monetize them, and which part of the service is better provided by other players.
- 3. Augment retail with wholesale.** Discover which roles in mobile Internet—as a retail player with end-services to the customer, or as a wholesaler with enabling services—will best position operators to derive value from their assets.
- 4. Forge and manage partnerships.** Determine how best to forge and manage partnerships with other players in the mobile Internet ecosystem, in order to ensure faster delivery of value to consumers and to rapidly establish a strong position. Develop flexible commercial models to allow for a broad range of roles and partnerships that can be established (and dissolved) quickly.

Exhibit 3 Mobile data is rising



Source: Nielsen Online, Icrossing, ComScore, Oliver Wyman analysis.

Let's look at each step in detail.

1. Understand the customer and market.

As established fixed Internet services are augmented by mobility- and location-based features, consumers interested in mobile Internet will have a wealth of services to choose from, including search, email, instant messaging, games, music, and navigation (Exhibit 3).

Services already used on the move today (search, email, ringtones, mobile instant messaging) will be enhanced by mobility- and location-based features that meet users' specific needs such as mobile navigation and location-based recommendations for points of interest like restaurants or stores. Meanwhile, rapidly growing fixed Internet services such as online social communities will find their way to mobile handsets and other devices, enabling members to communicate and exchange content anytime, anywhere.

Going forward, mobile Internet services will work with a broader set of devices than today. For example, customers will use 3G data card devices to connect their laptops to the Internet while traveling. New mini-notebooks or "netbooks" are

making their first forays into the mobile Internet market, with affordable access to services that are cumbersome to use on a classic handset.

To develop the right mobile Internet service portfolio, operators will need to sharpen their understanding of consumers along several dimensions. Specifically, they should:

- Evaluate emerging mobile Internet services to understand how market dynamics (including service usage patterns) are changing and in particular, determine which fixed Internet services people want to use on the mobile platform.
- Move away from the current mobile voice-centric customer segmentation. Include mobile and fixed Internet services usage and preferences in customer segmentation considerations, in order to better target mobile Internet demand.
- Analyze user preferences by using lessons from the fixed Internet. Understand who is providing what in the fixed Internet realm, in order to determine which players should fulfill which roles.
- Understand mobile Internet's potential impact on

Exhibit 4 Operators' assets

Technical assets	Commercial assets
<ul style="list-style-type: none">■ User identification. The user identification through the SIM card helps to secure transactions and can be made accessible to service providers to enable their mobile Internet offerings.	<ul style="list-style-type: none">■ Installed customer base. Operators can make validated, subscription-based user information available to service providers, and can use customer information to create tailored marketing initiatives.
<ul style="list-style-type: none">■ Location information. Operators can provide location and movement data on all active handsets for their own services or as a service to external parties (without providing personal user information). For users who opt in, even personal and location information can be made available to third parties such as social networking platform providers.	<ul style="list-style-type: none">■ Billing and payment infrastructure. Operators possess established processes and technology for service provisioning and billing. These assets offer convenience to their own customers and at the same time can be leveraged to provide third parties with a fully functioning platform for their services.
<ul style="list-style-type: none">■ Presence information. Operators can determine when consumers are actively using devices and services.	<ul style="list-style-type: none">■ Established sales and distribution channels. Operators' stores (in addition to direct and indirect distribution channels) give them the option to distribute third-party products and to extend their own service portfolio.
<ul style="list-style-type: none">■ Security and digital rights management (DRM). Operators can ensure security on their networks (within limits) or provide security-related services, such as virus protection, to users. They can also support DRM functionality for Internet services if required by service or content providers.	<ul style="list-style-type: none">■ Brand. Strong operator brands can enable operators to cross-sell to user communities and target communities with specific offers.
<ul style="list-style-type: none">■ Quality of service (QoS). QoS includes availability (uptime), bandwidth (throughput), latency (delay), and data-transmission error rate. To provide QoS, operators prioritize network traffic (traffic shaping). Operators' ability to support certain types of QoS or to enhance the QoS of selected applications or users could generate additional revenue streams.	<ul style="list-style-type: none">■ Community. Operators can extend "friends and family" deals long established for voice services to the mobile Internet world. Fast-growing social networking sites present a big opportunity for operators to win new subscribers for special mobile-enhanced services.
<ul style="list-style-type: none">■ Device integration. Operators have strong experience in ensuring usability of content and applications on many different devices, including end-to-end testing and quality assurance.	

retention within each current mobile-customer segment and for each mobile Internet service cluster, such as e-commerce, music and games, and navigation. This analysis will help operators view mobile Internet not only as an additional service to be provided, but also as a required building block for a consumer bundle.

By conducting analysis along each dimension, operators can begin reexamining and, if necessary, reshaping their mobile Internet service portfolios. To illustrate, Vodafone Live!—the operator's multimedia portal—is currently extended as part of the Mobile Plus strategy. The extension focuses on the integration of mobile, PC, and the Internet at the application level to offer seamless interoperability of services.

2. Assess operator assets.

Operators possess a number of unique technical and commercial assets that they can use to generate revenues through new mobile Internet services (Exhibit 4).

By assessing the strength of their technical and commercial assets, operators can decide how they'll leverage their different assets to succeed on the retail and wholesale fronts in the realm of mobile Internet. Operators need to consider how sustainable their assets will be in the future, as some of them, such as location information, may be quickly substituted and lose their value, while others, like user information or quality of service (QoS) control, are likely to retain a unique value.

3. Augment retail with wholesale.

To exploit their best assets as quickly and effectively as possible, operators must ask themselves where in the mobile Internet value chain they're going to play.

Retail. Selling fully owned services directly to consumer has been the traditional approach so far, because it provides operators with the tightest control over their business. To extend this approach in the mobile Internet, operators could take advantage of their assets to play a more

prominent role as application or service providers. For instance, they could offer their own selected mobile applications such as music and video downloads.

Vodafone, for example, now offers more than one million tracks through its “Mobile Music Download” offering. The “Music Station” allows subscribers to download as many tracks as they want. For U.K. users, that amounts to just £1.99 per week.

Verizon’s new “VZ Navigator” turns the mobile phone into a GPS navigation device using a white-label navigation platform. It uses both GPS and cellular antennas through Assisted GPS and provides alerts for concerts, movies, musicals, and other activities near the user’s location. It supports turn-by-turn directions as well as local area searches for businesses, gas stations, and so forth.

Beyond retail. While being most familiar to operators, the retail approach has limited ability to be scaled up quickly, because it requires managing all activities in the value chain. For these reasons, operators should also consider the wholesale approach—using their technical and commercial assets to provide more than a “smart pipe.” With the ability to deploy their assets more widely through a broad network of business partners and to bring together complementary strengths, operators can generate value for all players in the relationship. Among the potential roles are these:

- **Enablement.** Enhancing mobile Internet offerings by bringing operator assets to a third-party application. Superior enablement has been a rich source of opportunity in the fixed Internet that operators have not fully exploited. Examples include providing user location information to enhance social network platforms or traffic prioritization to generate higher QoS for selected application partners. Either way, superior enablement should provide the operator new opportunities to generate additional wholesale revenues from application partners.

T-Mobile, Alltel, US Cellular, and Cricket Wireless in the United States give JuiceCaster, a social broadcasting utility, access to their mobile subscribers’ location information. Using JuiceCaster, subscribers can easily send pictures and videos

from their camera-phone to more than 20 online social networking and blogging sites, including MySpace, Facebook, and Twitter. Users can also share pictures and videos from their camera-phone with selected friends and family, who can view them on their phones, online, or on their desktop.

- **Smart partnering.** Vodafone and TomTom, maker of GPS navigation tools, created a new product, High-Definition Traffic, that generates fresh revenue streams for both parties. The data is collected through Vodafone’s mobile network. This arrangement builds on TomTom’s strong brand in navigation technology, with Vodafone’s exclusive user data to enhance traffic information.

HD Traffic service uses anonymously collected mobile phone location and movement data to generate better and more up-to-date information on congestion. The data is collected through Vodafone’s GSM network and added to third-party information provided by traffic authorities. Drivers use real-time data online to avoid traffic jams. Customers trust TomTom in this market, so the purchase of the navigation service is through TomTom rather than an operator. Meanwhile, Vodafone leverages its own unique strengths in providing the transport, communication, location, and movement data essential to the service.

- **Enhanced transport.** Providing data transport combined with customer reach on a wholesale basis will be an important and attractive part of a mobile Internet service for third parties (thereby providing an enhanced MVNO offer).

Dutch Rabo Mobiel enhances the traditional MVNO offer by combining banking capabilities (for consumer trust) and operator assets (for network and customer reach). In this case, the operator provides telecommunication services, switching, core, transmission, the radio network, and customer access, while the MVNO—the Rabobank—builds on a strong trust and loyalty and broad national coverage by offering mobile financial services on top of standard mobile voice and data offerings.

4. Forge and manage partnerships.

Regardless of which blend of retail and wholesale

The Power of Partnering

Traditional Internet players have already established vital partnering businesses that illustrate the power of collaboration. Consider Amazon. The company views sellers and developers as its customers, in addition to the people who purchase its products online. In Q4 2007, Amazon shipped more than half a million units on behalf of sellers that use Amazon's fulfillment service. By mid-2008, the number of sellers employing this service had jumped more than 50% over 2007.

Moreover, through Amazon Web Services, the company has attracted more than 370,000 developers. It

recently released a variety of Web services, including those enabling developers and their companies to build Web applications in a reliable, scalable, and cost-effective manner to be used on a common platform.

IT giants have also excelled at partnering, providing additional models for mobile operators. Intel's Software Partner Program provides independent software vendors, which develop commercial software applications on Intel technology, with numerous benefits to support them across the entire product planning cycle, from planning and developing to marketing and selling of their application.

an operator chooses to use, the quality of the partnership can make or break the effort. To create deals that benefit all participants, operators must not only determine which players to partner with, but also must manage those relationships adroitly. By partnering with the right companies, operators can gain access to technical assets needed to complement their own service portfolios and commercial assets to lengthen their distribution reach. They can also offer their own assets as enablers for enhancing their partners' success.

Mobile Internet partnerships could take many forms. For example, companies can jointly develop new applications that an operator sells as part of

its retail offer to existing customers; conversely, an operator can integrate its assets into a service sold by a third party. Partners can also co-brand offerings leveraging their respective customer bases and brand equity.

To decide on the right partners, start by addressing these questions:

- What services do our customers want, and from whom do they prefer to buy these services?
- Which technical and commercial assets are required to create and provide these services for these groups of customers?

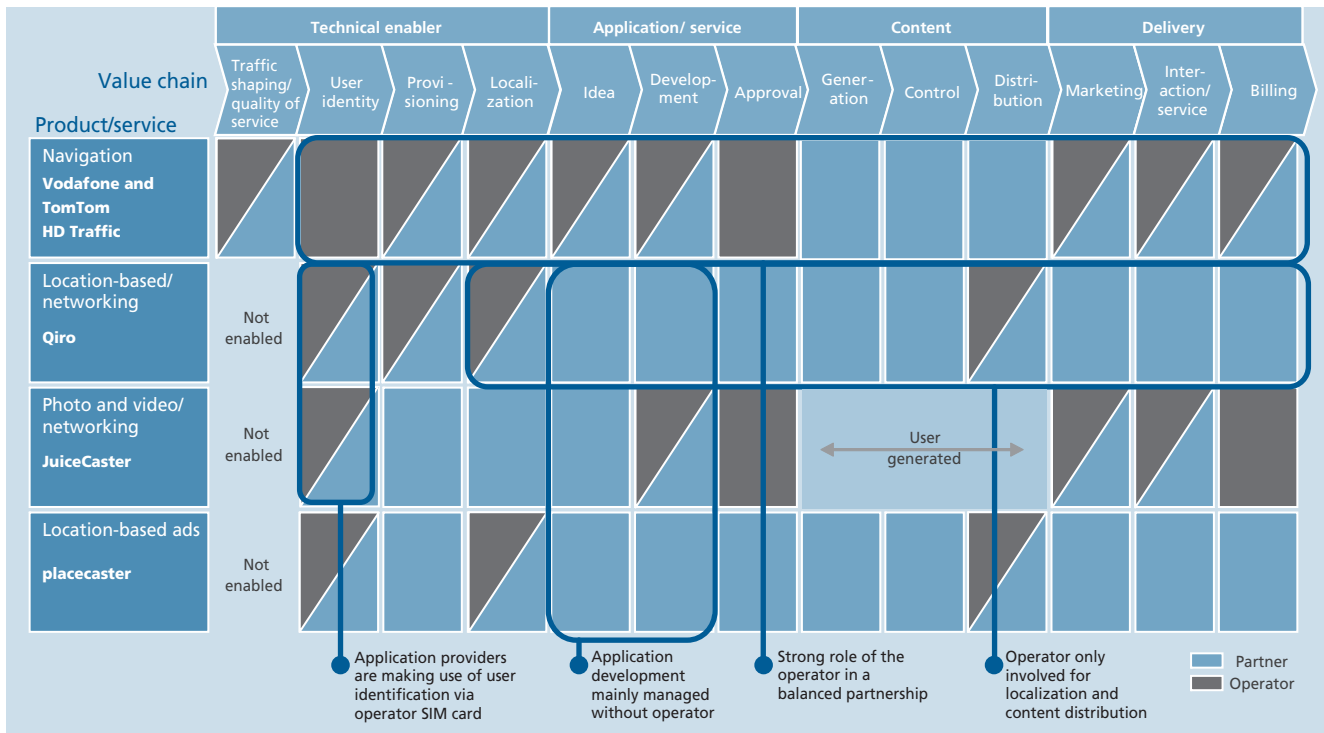
Exhibit 5 A partnership continuum

		Limited partnership	Strategic, bilateral partnership	Broad partnering with service providers
Strategic role	Application/service provider	<ul style="list-style-type: none"> • High level of control • Applications offered by operator are proprietary or by third party under operator control 	<ul style="list-style-type: none"> • Equal level of control of service and business model • Application offered by one party or jointly 	<ul style="list-style-type: none"> • Low level of control of business model • Application offered by third party
	Mobile enabler	<ul style="list-style-type: none"> • Operator markets own products or enabled services to the end customer • Example: Vodafone music, own location-based services 	<ul style="list-style-type: none"> • Examples <ul style="list-style-type: none"> – TomTom high-definition navigation – Music download – Security application (A1) 	<ul style="list-style-type: none"> • Leveraging operator infrastructure and enablers • Examples <ul style="list-style-type: none"> – Platform offering (hosting by operator) – Ringtones (delivery plus billing/payment by operator) – Voice/data MVNO, value-added services
	Transporter			
		Own/retail	Strategic partnership	Partner/wholesale
		Type of partnering		

Source: Oliver Wyman analysis.

Exhibit 6 The type of partnership is based on the operator's position and offering

Illustrative



Source: Oliver Wyman analysis.

- Which operator or third party has the needed assets we've identified? How can these assets be combined to create successful offerings? And what role will each participant play in the partnership?

Partnership types will likely range from limited to bilateral to broad, depending on the role the operator seeks to play and the degree of emphasis put on the retail versus wholesale approach (Exhibit 5).

Partnerships will also differ depending on where in the value chain the operator positions itself (technical enabler, applications or services provider, content creator, controller, distributor, or deliverer) and the product or service on offer (Exhibit 6).

Finally, operators must consider how they will manage a portfolio of partnerships that may change shape over time. For each partner, an operator needs to determine the following:

- *How the commercial relationship will work.* Will an operator acquire a partner? Take an equity stake in it? Share revenues with the other company? Earn a commission per user? License a particular asset? The structure of commercial models

should be flexible, as they are likely to change over time. Payment flows could go in both directions as different assets are monetized between the partners or even change direction over time as services mature.

- *How long the partnership will endure.* A relationship can last as long as it takes to execute a particular deal, or it can endure indefinitely, depending on the goals of the parties involved.
- *What the scope of the arrangement is.* Which activities (marketing and sales, R&D, thought leadership, technical product delivery) will each partner be responsible for?
- *How the relationship's value will be monitored.* What governance model will the partners use? What will be the incentives for meeting agreed-upon objectives? The penalties for not meeting them? How will the partners track and report progress toward key milestones?

The answers to these questions will differ depending on factors such as the goals and capabilities of the players involved, the regulatory environment,

and market realities unique to particular geographic locations and customer segments. Thus, operators and their potential partners must make choices on a case-by-case basis. Gathering and interpreting extensive information and taking the time to clarify mutual expectations can help partners lay the foundation for a mutually profitable relationship. Managing the relationship to a substantial portfolio of partners is a capability that many existing organizations have yet to develop in order to succeed in the dynamic mobile Internet space.

* * *

Now that mobile Internet is poised to take off, mobile operators must act quickly to decide

which technical and commercial assets will best help them to monetize the opportunity, and how they're going to leverage those assets and safeguard their value.

“Doing everything ourselves” will no longer apply. Instead, smart partnering with other players will be key to operator success. By understanding what customers want, forging collaborations to meet those demands, and managing that portfolio of partnerships adroitly, operators in saturated markets can spur much-needed new growth. This can open new revenue streams, but it will first require the development of new competencies to identify and manage different kinds of partnerships. ❖

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