IBM Global Business Services

IBM Institute for Business Value

Electronics

Go mobile, grow ...

Should mobile Internet services be the next big growth gamble for mobile device makers?

IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior executives around critical public and private sector issues. This executive brief is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to iibv@us.ibm.com for more information.

Go mobile, grow ...

Should mobile Internet services be the next big growth gamble for mobile device makers?

By Christian Seider, Sean Lafferty and Dr. Sungyoul Lee

Mobile device makers (MDMs), confronted by numerous challenges to growth and profitability, are looking to develop new avenues to expand their core device offerings. Based on a recent consumer survey by the IBM Institute for Business Value, we believe the rapidly growing market for mobile Internet services may provide just the ticket to revitalize MDM growth and send them profitably into the next decade.

While this executive brief focuses on opportunities for mobile device makers to move into the mobile Internet market, similar opportunities may exist for other electronics companies that offer consumer products.

Mobile device makers (MDMs), freshly off a heady period of growth, suddenly find themselves faced with an uncertain future.

All but gone are yesterday's double-digit annual growth rates in mobile phone shipments, as well as the historical year-to-year increases in market share, sales and profits. From 2001 through 2007, for example, global shipments of mobile telephones grew by a compound annual growth rate of 20 percent.[1] However, from 2007-2012, that figure is expected to plummet to 5.8 percent.[2]

As shipments of mobile phones fall, so do prices. For example, the big five players in the industry suffered an average 3 percent per year decline in average selling price for mobile telephones from 2001 to 2007.[3]

Less growth in demand, coupled with lower prices, has had a marked impact on earnings and market share. The earnings before interest and taxes of the same five players has declined, collectively, 7 percent since 2002. As well, market share growth has become relatively stagnant, with a CAGR of only 3 percent during the past five years.[4] Of the "big five," only a few were able to significantly grow their share during this period. Just like in many other industries, some MDMs have performed much better than the industry in average.

Ironically, some of the problems that now beset MDMs are of their own inadvertent creation. During the days when mobile telephones and PDAs seemingly flew off the shelves, mobile device makers, by simply responding to market demand, managed to flood the world with devices. It is estimated that market penetration for mobile telephones in

developed nations is at an incredibly high 90 percent – in some countries penetration even exceeds 100 percent, meaning there are more phones than people.[5]

Further exacerbating the problems is the fact that the rapid development and deployment of mobile device technology has led to commoditization. Technology and features have evolved to the point where there is little real differentiation in device capabilities. One brand of high-end phone will be pretty much the same as a competitor's. MDMs now must increasingly rely upon bundling and user interface to distinguish their offerings.

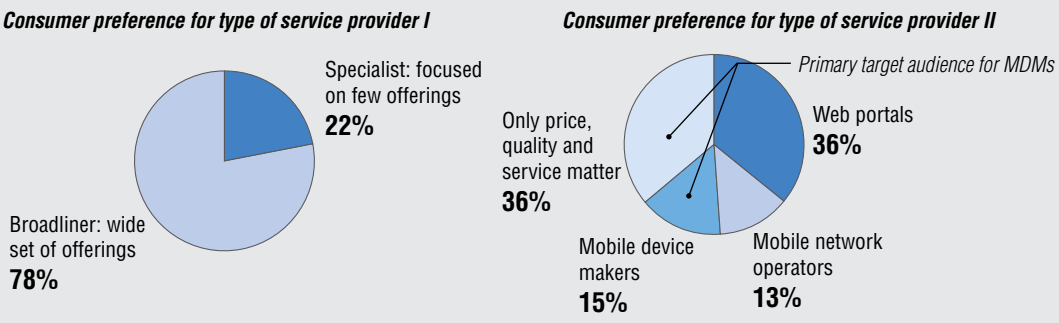
Faced with these challenges, we believe it is time for MDMs to explore new growth opportunities. A recent survey of nearly 700 consumers in the United States, Japan, India, China and Germany by the IBM Institute for Business Value indicates the provision of mobile Internet services may be an area of opportunity for many MDMs.

In our survey, only 20 percent of customers indicated they were "very satisfied" with their current mobile Internet services, while the remaining 80 percent were split among "somewhat satisfied (40 percent)," "somewhat dissatisfied" (12 percent), "not satisfied" (5 percent) and non-users (23 percent).

Additionally, a majority of respondents indicated they would prefer a service provider that can provide all of the applications and services they are looking for, instead of individual, specialized providers (see Figure 1).

Based on these responses, we believe mobile device makers, with their existing broad audience, ability to integrate hardware and software, and their collaborative business arrangements with mobile network providers and Internet service providers, have an opportunity to gain a foothold in what is likely to become a highly competitive market. To be successful, however, MDMs will need to develop a clear business strategy that augments their existing strengths and that clearly addresses consumer demand. As well, they need to keep a watchful eye out for channel conflicts that could be detrimental to their core device offerings.

FIGURE 1.
Mobile internet usage.



Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

Go mobile, grow ...

Should mobile Internet services be the next big growth gamble for mobile device makers?

Mobile Internet devices will be the "…next big thing in computing… And later this year (2008), we will begin delivering the mobile Internet with much smaller, lighter and powerful Internet-enabled devices that ultimately will fit right into your pocket."

– CEO, semiconductor company

Mobile Internet services – a safe haven for MDMs?

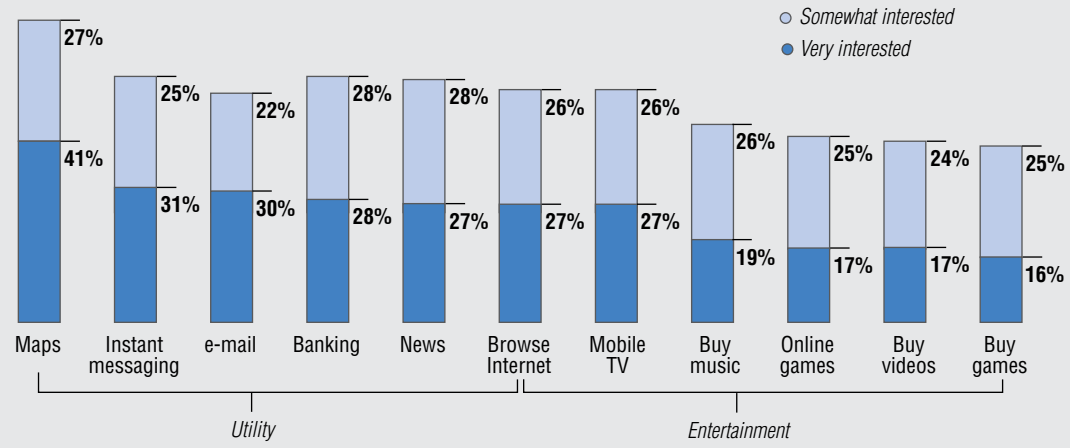
Mobile Internet services and usage

Mobile Internet services leverage the latest in mobile technologies and wireless Internet capabilities to deliver targeted information and services to a growing segment of digitally aware consumers. Simply put, the mobile Internet is a medium through which consumers can access online content through mobile devices, such as mobile phones or smart phones.

The mobile Internet is increasingly used for both utility and entertainment services (see Figure 2). Some examples of utility service include e-mail, instant messaging, banking and stock trading, news and information, and general browsing. Entertainment applications include social networking, video and music, gaming and photo blogging. Also, the mobile Internet can be a source for maps, directions and traffic information. More and more, services over the mobile Internet are targeted to make the user experience as similar as possible to that of the PC-based Internet.

Overall, the market for mobile Internet services is estimated to reach US$80 billion by 2011, with increasing usage expected to fuel growth

FIGURE 2.
How interested are you in using the following services on your mobile device?



Note: sorted by 'Very Interested' responses.
Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

Increasing numbers of users and devices, faster networks and enhanced user interfaces are among the forces shaping mobile Internet growth.

in both the provision of services and mobile Internet advertising.[6]

At the same time, the number of mobile Internet users worldwide is projected to approach 1 billion, a 191 percent increase from 2006 and a compound annual growth rate of 24 percent.[7] Market forces shaping this growth include a growing number of mobile Internet users, a greater number of devices that can support mobile Internet applications, increasing penetration of faster wireless broadband networks, enhanced user interfaces, including increased screen size, and more attractive pricing for mobile Internet services.

What this means for MDMs is the potential to provide services to an emerging market that, by many expert opinions, is poised for dynamic growth.

"We believe more people are going to access the Internet on their mobile devices in 10 years time than on the PC, so we have really been concentrating on this area."
– Vice President, Internet service provider

Catalysts for growth

The increasing number of mobile Internet users is being led by "digital natives," or those users who've grown up accustomed to using digital technology both at home and on the move and, further, expect the convenience of such services from their providers.

The growth in mobile Internet services has also been facilitated by the increasing penetration of third-generation (3G)-enabled mobile devices and smart phones. CAGR for 3G devices is expected to grow by approximately 32 percent by 2011.[8] Smart phone shipments are expected to grow at about 25 percent annually and reach 150 million units by 2009.[9]

Newer devices are also bringing increased storage capacity to the consumer. From the 1-4 MB of storage typically found in first generation mobile phones, capacity has increased to up to the 16 GB of storage in today's Apple iPhone and Nokia's N96.[10]

Case study: Apple iPhone – breaking the mold

Apple's new iPhone has captured third place in the global smartphone market, just behind Nokia and RIM (Blackberry).[11] Launched in mid-2007 it rapidly passed others in the smartphone segment, even with initially limited coverage and features.

Part of the success, we believe, can be attributed to Apple's popular iTunes service, which helps drive sales of both the iPod and iPhone.

Keys to the early success of the iPhone include its user-friendly interface, high resolution and large (3.5-inch diagonal) screen optimized for touch.[12]

Its packaging and versatility make it a combination iPod and mobile phone. And its robust operating system (OS X) and browser (Safari) help enhance the user experience.

Additionally, high-speed 3G protocols, such as High-Speed Downlink Packet Access (HSDPA), are playing a key role in the growth of mobile Internet services by significantly reducing download times of applications and content. Currently, 62 percent of the 166 commercial HSDPA networks globally support peak downlink speeds of 3.6 megabytes per second or higher.[13]

"I want something that has a reliable connection. This feature far outweighs any other."
– Consumer, Japan

As well as the technology behind mobile Internet services, improved interfaces are being developed to enhance the user experience. A good example of this is the move to bigger and more intuitive screens for mobile communications devices. New technologies now have the potential to elevate the status of the small mobile screen to a genuine "Fourth Screen" (the first three screens in technology jargon are the silver or movie screen, the television screen and the PC screen). Currently in development are such convenience features as rollable displays, which can facilitate electronic reading; virtual keyboards, which can improve usability; and nano projectors, which can potentially overcome the general concern with a small mobile screen size.

In addition to the demographic and technological catalysts behind the expected surge in mobile Internet services are the efforts by providers to attract and retain more users. The transition from volume-based pricing to flat rate data tariffs is a trend that is expected to kickstart an upward cycle in mobile Internet usage. A flat rate data tariff, by increasing the adoption of data applications and the alleviation of cost concerns, can stimulate customers to spend more time on the mobile Internet and use more services. As usage grows, the mobile Internet may then become more attractive to content providers as they gain more knowledge about what consumers desire in mobile services. Existing users and content providers will also have the potential to trigger awareness and interest from nonusers.

Key Challenges

While we believe the mobile Internet presents potential growth opportunities for MDMs, those that choose to pursue this route should understand the numerous risks also associated with market entry. These include:

Competition – MDMs will have to prepare to fight for market share, and the competition includes some of the world's most prominent brands, such as Google, Apple, Vodafone, Yahoo and MSN. Many of these major players, in addition to a plethora of other network providers and portal players, has targeted the mobile Internet as a source of potential revenue.

Content and service packaging – Developing and marketing differentiating content and services may be a must to avoid becoming a "me-too" player and getting lost among the many choices the customer is likely to have. Key considerations should be the types of services offered, how they are packaged and how easy they are for consumers to use. Currently, short messaging services (text and multimedia messages) and customized ring tones have been adopted by the masses. But more complex services, currently in various stages of development, add more "bling" to the mobile Internet and are much more likely to attract user interest. These include such functions as mobile e-mail, mobile gaming, broadcast television, location-based services (GPS), near-field communications payments, wireless VoIP and mobile search functions.

The number of mobile Internet users is expected to grow by nearly 200 percent over the next few years.

Mobile Internet usage – While mobile Internet usage is expected to surge, MDMs must work to develop the best package of hardware, software and services to attract and maintain users. Our consumer surveys reveals that a large majority of consumers are looking for a mobile Internet service provider that can offer them all the applications they desire, as opposed to buying these services piecemeal from multiple, specialized providers.

Business relationships and channel conflicts – Within the mobile Internet ecosystem, intense competitive rivalries are likely to develop among MDMs, along with channel conflicts with existing business partners, such as the Internet service providers (ISPs) and mobile network operators that currently provide the bulk of mobile Internet access. In a manner similar to that of the current MDM market situation, declining revenues and margin pressures have the network operators looking more and more towards mobile data and Internet services as avenues of growth. By getting into the mobile Internet services market, the MDMs could be perceived as threats to offerings by their network partners, which could adversely affect the business relationship and impact the core device business of MDMs.

Business model transformation – The traditional hardware-dominated business of MDMs will likely need to be transformed and aligned with the demands of mobile Internet software and services. Content services, such as music and games, will demand greater management focus in terms of content ownership, copyright issues and more. Additionally, MDMs will need to look to develop a services-based pricing model that can generate meaningful revenues and provide enough customer value to spur usage.

Three key provider segments are shaping the ecosystem

Mobile Internet services today are delivered through collaboration among MDMs, network operators and portal players. The mobile device maker, in conjunction with the ISP, often provides preloaded applications for mobile devices, as well as free downloadable applications supported by the mobile operating system. Working with mobile network operators, MDMs provide cobranded devices and the operator's services, along with a subscription to the operator's network.

As well, a growing number of MDMs are launching their own branded services – or are partnering to provide mobile Internet services.

Golden nugget: How attractive is the mobile Internet opportunity?

As previously mentioned, the number of users of mobile Internet services is expected to grow by nearly 200 percent in the next few years. Correspondingly, by 2011, the mobile Internet services market is expected to become a US$80 billion opportunity, driven in part by the increasing adoption of mobile TV, video and advertising.[14]

"The mobile Internet is the next global computing platform. The Internet is going to be far more open and accessible globally."
– President and CEO, mobile device maker

According to our survey, Web portals are preferred today by many customers, but a large number do not show a provider preference until the quality of service and pricing are to their liking. And despite the recent proliferation of entertainment services over the mobile Internet, most users are more willing to adopt utility services such as maps, instant messaging, e-mail, banking and general Internet browsing. Additionally, pricing of services, connection speed and convenience were identified by consumers as determining factors in their willingness to adopt mobile Internet services (see Figure 3).

And according to our recent survey, a large majority of consumers (69 percent) are looking for devices that are open to personalized configuration of applications (see Figure 4).

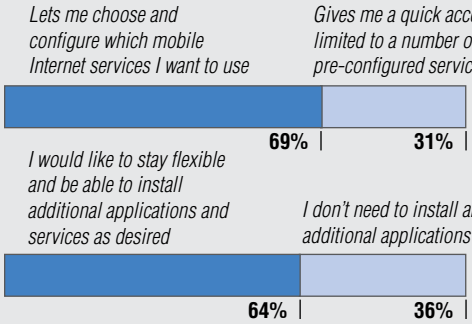
"I won't use mobile Internet much more until it becomes easier to use!"

– Consumer, Germany

Ultimately, among the biggest challenges MDMs may face is the fierce competition expected to develop with and among existing providers (see Figure 5).

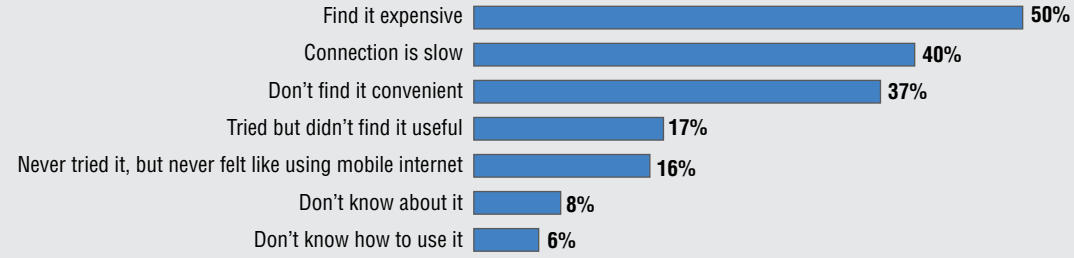
Currently, many of the mobile network operators and portal players serve the mobile Internet services market. Each of these market players is attempting to position their offerings to garner an increasing slice of the mobile Internet pie.

FIGURE 4.
When buying a new mobile device I would prefer one that …



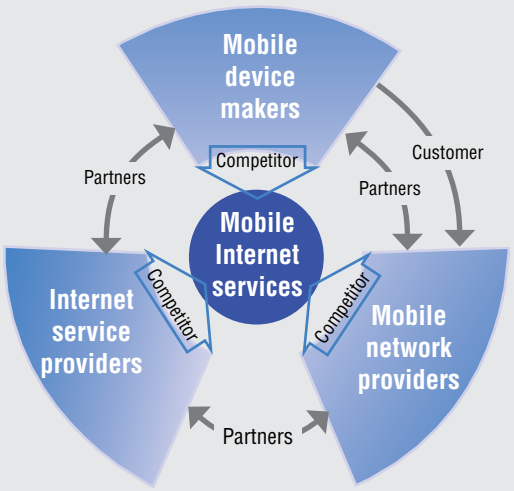
Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

FIGURE 3.
What stops you from using mobile Internet more often than what you do today? Select all that apply.



Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

FIGURE 5.
Three major types of players are vying for their share of the mobile internet opportunity.

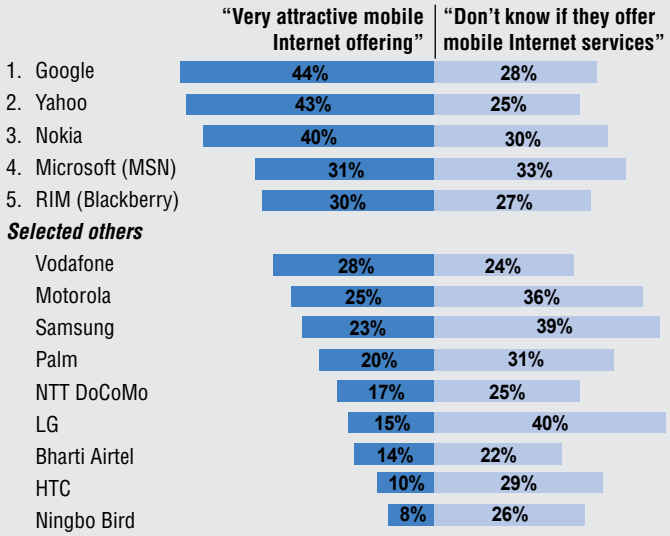


Source: IBM analysis.

Even though a number of "name players," such as Microsoft and Vodafone, are actively pursuing market share, considerable opportunities exist to improve awareness among mobile Internet users. According to our survey, for example, users ranked the Internet service providers as having the most attractive mobile Internet offerings, followed by the mobile device makers and, finally, by the mobile network operators. Companies that have a global brand have scored higher than companies that have a local or regional brand (see Figure 6).

However, ideally, the MDMs and operators could work together to foster an ecosystem of partnerships that promote open portals. This is likely to increase usage and prove to be beneficial to all players, allowing each of the players to derive a fair share from the market.

FIGURE 6.
Consumer rankings of mobile Internet service offerings.



Note: This ranking purely reflects opinions of surveyed consumers. Global brands may score higher in average than local or regional brands due to higher brand awareness.
Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

Consumers want the same types of offerings from both the mobile Internet and their PCs.

Additionally, MDMs will also need to compete with Web portal players, who are gearing up to make deep inroads in the mobile Internet services market. Google for example offers most of the services and platforms for free and is casting an eye toward the mobile advertising market.[15] Microsoft is looking to provide a set of personal Internet services and software, which will extend from the PC to the mobile devices platform, and create a seamless role of connectivity.[16] And Yahoo's strategy is to make advertising on mobile phones a big market.[17]

Finally, to take advantage of any opportunities that may exist for them in the mobile Internet services market, mobile device makers may need to transform their basic business models from a device and software focus and adopt a services model. This opportunity is substantiated by the fact that more than 60 percent of surveyed consumers do not have a specific brand preference when using mobile Internet services (see Figure 7). MDMs that successfully transform their businesses are likely to be better positioned to leverage the growth opportunities provided by mobile Internet service.

Prosperous future? What MDMs can expect and what they should do

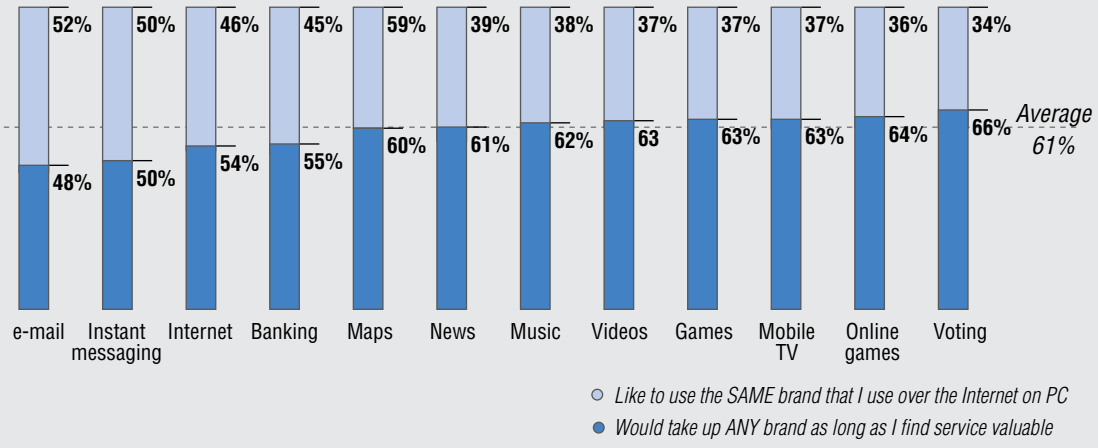
Mobile Internet super trends

In assessing the potential for success in the mobile Internet market, we believe MDMs should be aware of what we expect to be the four "super trends" likely to shape the evolution of the mobile Internet in coming years.

The mobile Internet will likely become an extention of the fixed Internet

We expect the mobile Internet to extend and complement the PC. Consumers are increasingly likely to want the types offerings on mobile devices that they use on PCs. They can choose to use the mobile to consume and capture content, while using the PC for performing more complex tasks, such as searching and managing content.

FIGURE 7.
Preference of brand for using a particular service.



Source: IBM Institute for Business Value: Mobile Internet Services Survey, 2008.

PC use loses momentum as mobile device use increases

In some parts of the world, the PC market is already shrinking – as younger consumers turn to mobile devices for Internet access, particularly in the entertainment medium.[18] Millions of Japanese consumers download music to their mobiles and use them for online shopping and gaming. More than half of Japanese consumers use mobile devices for e-mail and browse the Internet from their mobile phones.[19] Of these, 30 percent use their PCs less frequently for email, and 4 percent have abandoned the PC altogether.[20]

In addition to mobile phones, other devices, such as flat-panel televisions and digital cameras, have also cut into the PC market. Many consumers now print photographs directly from digital cameras and download movies straight to their flat-panel televisions.

Web 2.0 can give the mobile Internet a second life

On the fixed Internet, social media are quickly taking off. While consumers may still manage their social networks on the PC, they will likely use their mobile to upload short videos or photos, get alerts when somebody posts a comment and get RSS feeds on selected topics sent to them while on the go.

Operator portals are likely to lose dominance

Similar to the fate of ISP portals on the fixed Internet, which have been overtaken by the likes of Yahoo or MSN, operator portals may also lose their dominance to players that focus on understanding the opportunities of the medium.

Network operators may facilitate third-party content

Besides providing content and mobile Internet services, network operators also may have the opportunity to become facilitators of connectivity, which is their core business. They may provide the platform, support and management information tools on which service providers can introduce creative Internet services.

"I prefer to use all things which I am using with my PC, but there should be no or little extra cost compared to the PC."

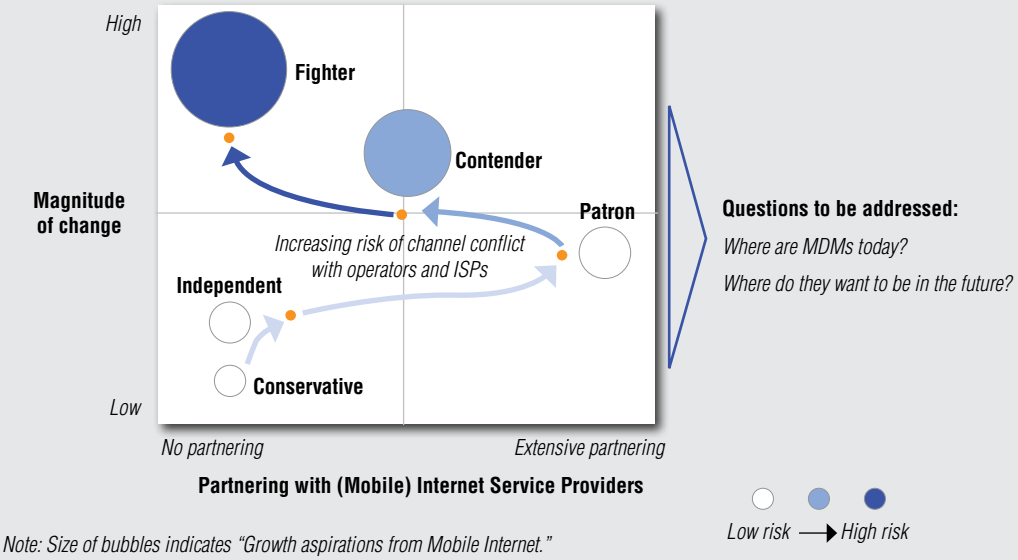
– Consumer, India

Strategic options

As well as being aware of possible industry trends, mobile device makers, should they decide to accept the challenge and become players in the mobile Internet services market, must also be fully cognizant of both the opportunities and pitfalls likely to confront them. They must decide how aggressively to attack the market, based upon their existing capabilities and willingness to change. We believe MDMs have five options in determining the strategic direction they can take in attacking this market (see Figure 8):

- *The conservative* does not want to consider mobile Internet as strategic and wants to preserve its traditional mobile device business. Its primary goal is to provide leading-edge devices.
- *The independent* looks at mobile Internet services as a realistic market development and wants to enable mobile Internet tech-

FIGURE 8.
Strategic positioning matrix for mobile Internet services.



Note: Size of bubbles indicates "Growth aspirations from Mobile Internet."
Source: IBM Institute for Business Value.

nology on its devices. However, it does not like to customize devices for partners or brands.

- *The patron* also considers mobile Internet services to be a realistic market development, wishes to partner with mobile Internet brands and is willing to customize its devices for partners and brands.
- *The contender* believes mobile Internet services to be a strategic driver of growth. It partners for some services with mobile Internet service providers and delivers other services alone.
- *The fighter* considers mobile Internet services as a main strategic growth driver, delivers most services alone and partners only on rare occasions.

The strategic direction an individual MDM chooses will be determined by its growth aspirations, partnering philosophy and readiness for change. To begin the process of identifying the category into which each individual MDM should fall, company leaders should answer the following questions:

- How can the company's strengths be leveraged to develop a sustainable competitive advantage in the mobile Internet?
- For which services should an MDM partner and for which should it invest in its own solutions?
- Which service segments can be most profitable?
- Are the company's leadership and employees committed to a major transformation of the business model?
- Does the MDM have a clear understanding of the risks, obstacles and challenges that must be faced?

MDMs will likely need to both collaborate and compete with their channel partners.

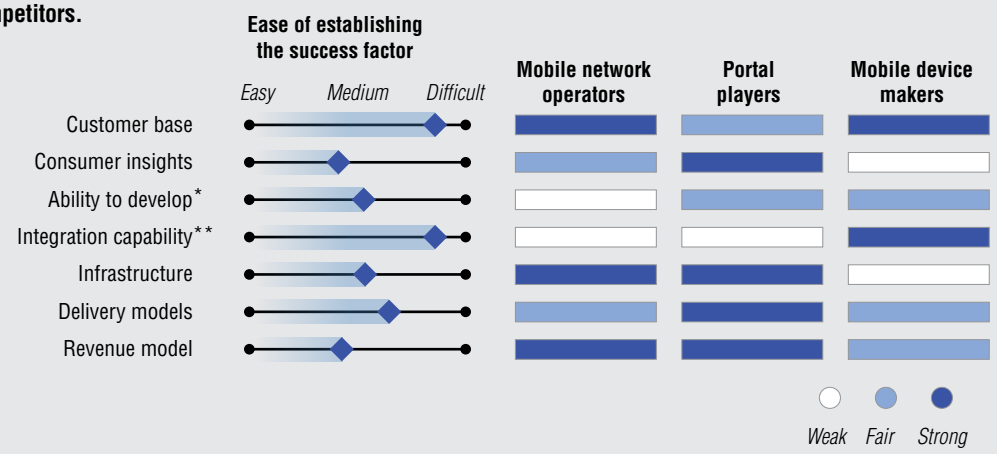
MDMs, regardless of strategic direction, still must identify the areas in which they need to collaborate with other providers and the areas in which they need to compete. They can do so by looking at the relative strengths and weaknesses of each industry segment competing for market share (see Figure 9).

MDM strengths, for example, include a worldwide customer base of 2.7 billion people, based on the number of handsets worldwide, the ability to develop applications for mobile devices and expertise in developing integrated hardware and software platforms.[21] Their capabilities are limited, however, in understanding consumer motivation and needs, due to lack of experience in the arena. As well, they have a limited backend infrastructure for providing mobile Internet service, a small presence in frontend portals and content and only limited experience in developing revenue models for Internet services.

Portal players, on the other hand, have a "smaller" customer base – 1.3 billion – but all of them are Internet users. Because of their experience, portal players are likely to have a deep understanding of customer usage and patterns on the Internet. And they generally have established capabilities in developing Internet applications, content management and revenue generation. They are usually limited, however, in the ability to integrate devices and mobile applications.

Mobile network operators have a large customer base, have insights into customer usage, have a scaleable infrastructure, have developed delivery models based on partnership and have solid Internet revenue models in place. However, they are limited in integration capabilities and the ability to develop mobile Internet applications.

FIGURE 9
The MDMs need to understand how they stack up against each of the success factors vis-à-vis their key competitors.



*Note: Individual companies may score higher or lower than the industry averages as shown. *Ability to develop mobile internet applications and services. ** Capability to integrate applications and mobile devices.*
Source: IBM Institute for Business Value.

With each player in the market having particular strengths and weaknesses, we believe MDMs should look to their ecosystem partners for collaboration opportunities. Collaboration, for example, should occur with chip and processor manufacturers in the development of new hardware, such as faster processors and increased storage capacity, and with network equipment providers and operators in the development of faster wireless broadband access. MDMs should work with ISPs to create intuitive, interactive user interfaces, and should interact with the industry as a whole in the active development and promotion of open industry standards.

To differentiate their offerings, however, MDMs should compete with their partners in the areas of establishing a scalable, efficient infrastructure, creating customizable, integrated and innovative applications, providing attractive pricing that creates a strong value proposition for customers and garnering a thorough understanding of customer expectations and unmet needs.

Recommendations

Despite the potential for growth, penetrating the mobile Internet services market will not be an easy proposition in light of the significant competition from portal players and mobile network operators. To compete effectively, MDMs need to be at their innovative best. We believe concentrating efforts on the following seven key factors will help MDMs derive meaningful value from their efforts to secure market share in this arena:

1. Mobile Internet services strategy: MDMs should define their strategic positioning in regards to the rising mobile Internet services opportunity by asking themselves the following questions:

- What are our growth aspirations from the mobile Internet?
- What magnitude of change is our company ready to undergo?
- Is our partnering philosophy to stay neutral, partner or compete full scale?

Depending upon the chosen strategic positioning, the company's business strategy may need to be realigned.

2. Standards-based, open ecosystem – MDMs should actively participate in the development and promotion of open standards for devices and services. Open systems generally foster greater innovation, as more people from diverse companies and backgrounds are able to contribute ideas. To facilitate this, it is helpful to create an "open mindset" within the overall operations of the company, as well as participate in alliances that promote open platforms. An open ecosystem is likely to attract more users.

3. Consumer insights – Mobile device makers should gain a deeper understanding of customer expectations in order to develop innovative applications, devices and business models, including knowledge of consumer usage patterns on the Internet, as well as any unmet needs and expectations. Also, MDMs should attempt to move closer to their customers by increasing direct

consumer interaction through channels that can help collect and analyze data regarding consumer demographics and mobile Internet preferences. Incremental innovation of the offerings based on regular analysis and feedback from customer insight can be a key to success.

4. Offering and partnering strategy – MDMs should identify services that should be delivered independently or through a partner, as well as the breadth and depth of these offerings in accordance with the needs of targeted customer segments. Different types of customers often have different needs and preferences that need to be addressed. A broad set of services for the majority of customers with generic needs can help bring in a large number of users. The offering of select premium services, however, can target specific customer segments and result in higher margins.

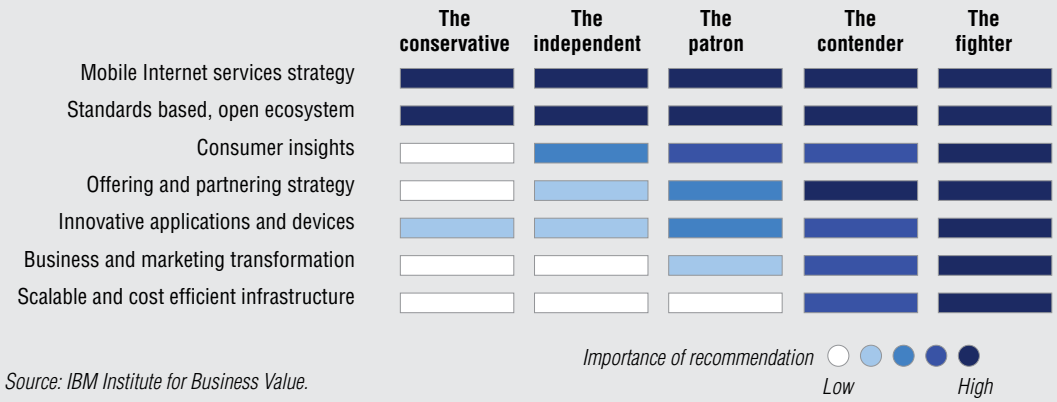
5. Innovative applications and devices – Many mobile Internet services still languish even years after their introduction. Greater adoption of services can likely be spurred only when customers can use innovative and nicely packaged applications that deliver value and improve their overall mobile Internet experience. Working to develop the mobile Internet as an extension of the PC-based Internet requires the development of services that can be smoothly integrated with applications and mobile devices. To accomplish this, MDMs should integrate consumer insights with R&D to fulfill unmet customer needs. Obstacles such as poor speeds and lack of connectivity must be overcome. And MDMs should work to develop intuitive interfaces that can help users engage the mobile Internet more effectively.

6. Business and marketing transformation – To take advantage of the opportunities offered by the mobile Internet, many MDMs may need to transform from device-driven to service-driven. This may require changes in marketing and brand perception, partnership strategies, content delivery and management, as well as revenue models. Mass marketing, for example, may no longer suffice. Instead, MDMs may find they need focus on specific customer segments, depending upon the wants and needs of their customer base.

7. Scalable and cost-efficient infrastructure – MDMs will likely need to establish a scalable infrastructure that enables them to rapidly ramp up services. This may include looking at the benefits of partnering with a third party (e.g. outsourcing partner, system integrator, etc.) in order to bring in the necessary expertise, while still keeping the costs low.

Depending upon the mobile Internet services strategy the company has embarked upon, the importance of each of the previous recommendations may vary (see Figure 10).

FIGURE 10.
Recommendations heat map for mobile device makers.



Source: IBM Institute for Business Value.

Are you ready to connect?

We believe the mobile Internet services market represents a realistic but challenging option for MDMs to diversify their business mix and reduce dependency on the commoditizing device business. To get to the next step in determining whether this approach is right for your company, ask the following questions:

Do you know what your customers expect from the mobile Internet?

How well do you understand the new competitive landscape?

How can you leverage your strengths to develop a sustainable competitive advantage in mobile Internet?

For which services should you partner and for which of them should you invest in your own solutions? Which service segments can be most profitable?

Are your company's leadership and employees committed to a major transformation of the business model?

Do you have a clear understanding of the risks, obstacles and challenges that you will have to face?

The mobile Internet is projected to be a market with explosive growth potential. At the moment, it is somewhat fragmented. But it is unlikely to stay that way for long. The time to act is now.

Are you ready to log on?

About the authors

Dr. Sungyoul Lee is the Global Leader of the IBM Global Business Services electronics industry organization. He leads a worldwide network of nearly 5,000 IBM employees focused on electronics industry clients and the development of business and technology solutions that meet industry needs. He has a wide experience with multiple global electronic firms in United States, Europe, Japan, Korea, and Asia, including China. He has been published regularly in industry journals and newspapers media and is the co-author of "The enterprise grows through Innovation", (Korea Econmoics Daily, 2006). Dr. Sungyoul Lee can be contacted at *sungyoul.lee@kr.ibm.com*.

Christian Seider is a Senior Managing Consultant and leads the electronics industry for the IBM Institute for Business Value. Christian has more than 10 years consulting experience and has helped various clients across the electronics industry with topics related to business strategy and operations. He is a frequent interview partner for print and online media covering the electronics industry and he also is a member of the German electronics industry association. He has been published regularly in industry journals and is co-author of *Reshaping Supply Chain Management*, (IBM Press. 2005.). Christian can be reached at *christian.seider@de.ibm.com*.

Sean Lafferty is an Associate Strategy Consulting Partner in IBM's Global Electronics Industry Team. Sean's focus is developing and implementing online strategies for consumer electronics companies focused on integrated product and service offerings, channel and sales strategy, direct selling, consumer care online customer experience and digital delivery of software and content services. Sean has more than 12 years consulting experience working with several of the world's leading consumer electronics companies in Osaka, Tokyo, Korea, United States, Finland, China, Denmark and the Netherlands. He authored a chapter of the book *Irresistible! Markets, Models and Meta-Value in Consumer Electronics* and has published several white papers. Sean can be reached at *seanml@us.ibm.com*.

Contributors

Shogo Akashi, Associate Partner, Strategy & Change, IBM Global Business Services, Japan

Bruce A. Anderson, General Manager, Global Electronics Industry, IBM Sales & Distribution, United States

John Blackburn, Vice President, IBM Global Business Services, United Kingdom

Kevin R. Custis, Partner, Strategy & Change, IBM Global Business Services, United States

Charlie Hawker, Vice President and Partner, IBM Global Business Services, United Kingdom

Jeenyoung Kang, Partner, AP Electronics Industry, IBM Global Business Services, Korea

Acknowledgements

We would like to extend our thanks to our participating clients and consumers, our client account teams as well as IBM executives and consultants – in particular Gaurav Sharma, Farhan Syed and Akhilesh Singh from Strategy & Change in IBM India Private Limited – as well as to many others who have contributed to this study by sharing their insight of the mobile device industry.

About IBM Global Business Services

With business experts in more than 160 countries, IBM Global Business Services provides clients with deep business process and industry expertise across 17 industries, using innovation to identify, create and deliver value faster. We draw on the full breadth of IBM capabilities, standing behind our advice to help clients implement solutions designed to deliver business outcomes with far-reaching impact and sustainable results.

References

[1] IBM Institute for Business Value analysis based on Deutsche Bank Global Markets Research on Nokia. October 19, 2007.

[2] IDC, "Worldwide Mobile Phone 2008-2012 Forecast and Analysis: Continued Growth," Document #211441, March 2008.

[3] IBM analysis based on Deutsche Bank Global Markets Research on Nokia, Oct 19, 2007.

[4] IBM Institute for Business Value analysis based on Credit Suisse Research on Nokia. September 4, 2007.

[5] Information Economy Report 2007-2008, United Nations.

[6] IBM Institute for Business Value analysis.

[7] IBM Institute for Business Value based on "The search wars are going mobile." eMarketer.com. July 17, 2007.

[8] IBM Institute for Business Value analysis based on "Worldwide Mobile Phone 2007-2011 Forecast Update." IDC. September 2007.

[9] "Dialing up the killer app for mobile Internet." Susquehanna Financial Group Report on Google Android. November 6, 2007.

[10] Morrison, Dianne See. "Apple launches 16 GB iPhone; Belgium to get iPhone?" mocoNews.net. February 5, 2008. "Nokia N96: The one to watch." Nokia.com. February 11, 2008.

[11] "Apple takes third place in global hardware market." Iphone world.com. February 6, 2008.

[12] Ibid.

[13] IBM Institute for Business Value analysis based on WCDMA_HSPA Databank. GSA.com. http://www.gsacom.com/gsm_3g/wcdma_databank.php4#HSDPA_Operator_Comments

[14] IBM Institute for Business Value analysis.

[15] Delaney, Kevin J. and Amol Sharma. "Google, Bidding For Phone Ads, Lures Partners." *The Wall Street Journal.* November 6, 2007. http://online.wsj.com/article/SB119427874851482602.html?mod=US-Business-News

[16] "Enabling Secure Anywhere Access in a Connected World." Microsoft.com. http://www.microsoft.com/mscorp/execmail/2007/02-06secureaccess.mspx; "Bill Gates on the Age of Software-Powered Communications." Microsoft.com. http://www.microsoft.com/mscorp/execmail/2007/02-06secureaccess.mspx

[17] "As Google pushes phones, Yahoo zeros in on ad deals." *Reuters*. http://www.reuters.com/article/internetNews/idUSN0740726020071108?feedType=RSS&feedName=internetNews

[18] "High-Tech Japan Watches PC Sales Start to Decline." Redorbit.com. November 7, 2007.

[19] Ibid.

[20] Ibid.

[21] "Information Economy Report. 2007-2008." United Nations.

IBM Global Services
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
05-08

GBE03051-USEN-03