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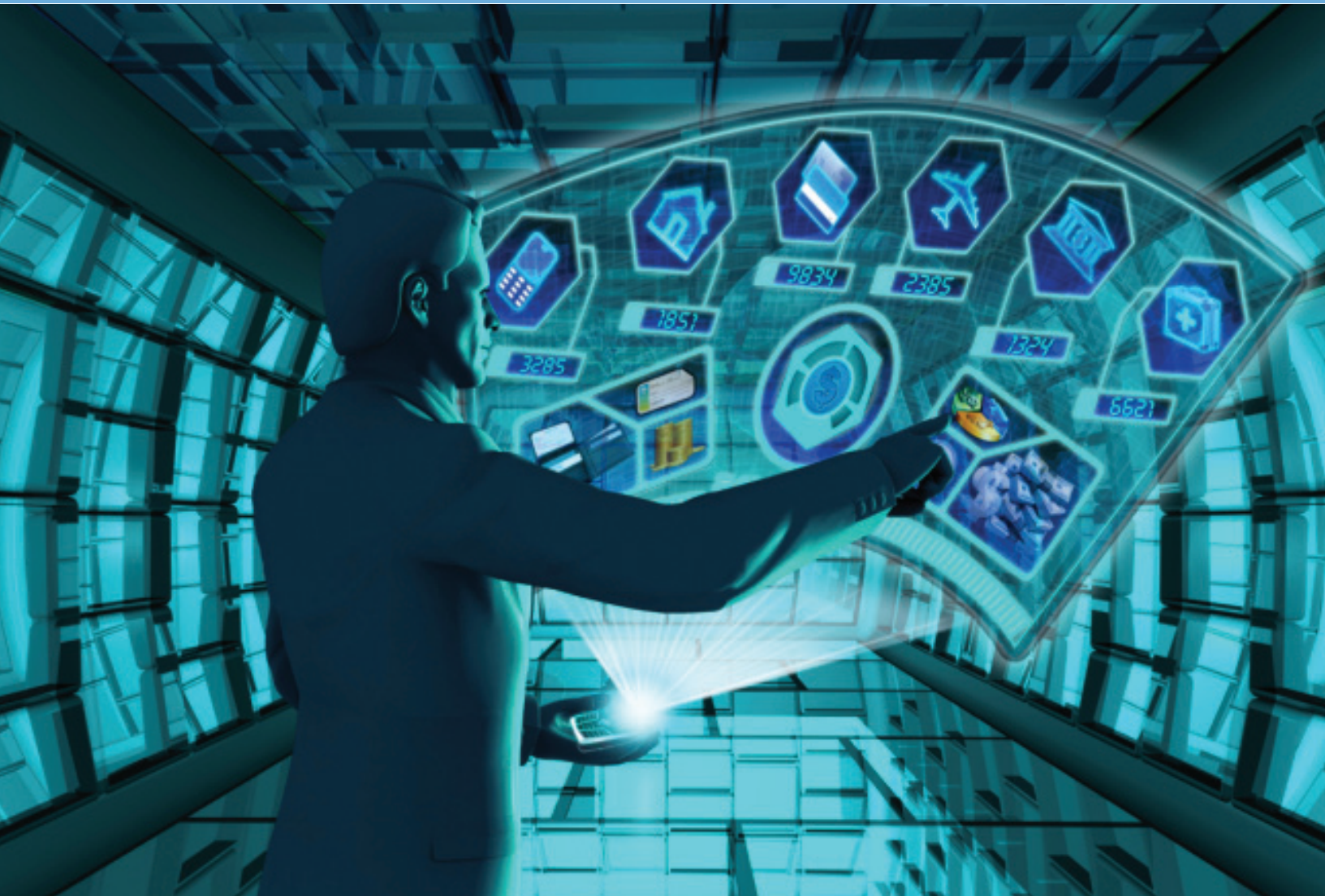
Knowledge@Wharton-Wipro Future of Industry Series: Telecom, Media and Technology

New Business Options Spring up for Telecom, Media and Technology in the Digital Age

The business models for the telecommunications, media and technology (TMT) industries are being transformed. Power is relentlessly shifting from the owners of scarce, proprietary resources to a ubiquitous Internet platform. Building on this shift are cloud computing, social networking, wireless mobility and the proliferation of devices. Information technology services providers are helping TMT companies navigate these changes and shift seamlessly to a new order. In this article, Ayan Mukerji, head of the media and telecom business group at Wipro Technologies, and Wharton digital convergence expert Kevin Werbach assess the coming changes and what it will take to address them successfully.

The business models for the telecommunications, media and technology (TMT) industries are being transformed. Power is relentlessly shifting from the owners of scarce, proprietary resources to a ubiquitous Internet platform. The wide scale adoption of cloud computing, social networking, wireless mobility and the proliferation of devices is further fuelling this shift creating a multitude of new opportunities for TMT players.

Information technology (IT) services providers are helping TMT companies navigate these changes and shift seamlessly to a new order. In this article, Ayan Mukerji, head of the media and telecom business group at Wipro Technologies, and Wharton digital convergence expert Kevin Werbach advise TMT companies to boldly embrace these emerging business realities and rapidly revamp their offerings.

IT services companies can help TMT players capitalize on the new world of digital opportunities in a variety of ways. For example, telecom providers are now exploring value-added offerings such as location-based services; media companies are expanding from their traditional print domains to online publishing; and technology firms are finding ways to deliver content across multiple platforms and devices.

Mukerji identifies seven key trends that are redefining the TMT industries:

- The proliferation of consumer electronics and other "smart" devices.
- The growing importance of content.
- The growth of video transmission systems.
- The emergence of Internet protocol (IP)-based communication networks.
- The global popularity of social media and its impact on business.
- The digitization of business transactions and myriad forms of commerce.
- The growing role of cloud-based and bundled IT services.

Accompanying these trends are falling costs as data-processing power increases. "Storage is going to get cheaper, processing is going to get cheaper, screens are going to get cheaper, and therefore people are going to develop things to take advantage of all those — that's a given," says Werbach. Cloud computing, mobile telephony and social networking are the three big developments that will be hugely significant over the next 10 or 20 years, he adds.

THE SHOCK OF THE NEW

The biggest challenge for telecom companies will be to wean themselves away from reliance on proprietary metered services and to adopt new business models, says Werbach. "The Internet model is all about interconnection and open, decentralized systems where the transmission is not the source of the marginal revenues," he says. "That is just a deep, fundamental challenge."

But it's one that telecom companies must meet in the face of pressures that include declining voice revenues, Mukerji says. Compounding such pressure is the prospect of government-mandated "net neutrality," which would require Internet service providers to deliver unrestricted access to all online sites. Faced with such challenges, telecom companies "want to take advantage of being relevant with all these devices coming into play," says Mukerji.

Staying relevant is easier said than done, however, especially as telecoms struggle to figure out how best to monetize their services to replace shrinking voice revenue. "Voice is incredibly cheap to go across the Internet, and anyone building a network today is building it using Internet-based technology," says Werbach. "So it's very appropriate for incumbents to say, 'Even if the end point is better — in terms of more innovation and cheaper services and

better offerings for users and so forth — it may be worse for telecom companies unless they can make up the lost revenues.'"

The Internet challenge is equally stark for traditional print-based media companies as new websites, "citizen journalists" and online bloggers invade their turf. In moving to the digital space, "some media companies have made it quickly and some others are really struggling to get their houses in order," notes Mukerji. Those struggles could lead to more consolidation within the media industry, he says.

NEW OPPORTUNITIES FOR IT SERVICES PROVIDERS

The transformation of business models across the telco-media value chain requires technology services providers to realign their offerings as well. For instance, Wipro has structured its services around these four themes:

- Delivering innovation in a resource-constrained world.
- Developing multiple uses for the same IT infrastructure, a process known as "variabalization."
- Addressing the consumerization of technology as people increase their spending on IT tools and devices.
- Providing business analytics to extract fine-grained insights into consumer behavior, identify areas of waste and streamline operations like supply chain networks.

Mukerji sees shifts in IT spending as telecom companies recast their business models. He expects 80%-to-90% of telecom IT spending will be on consolidating operating structures, minimizing costs and reducing the number of "lead-to-cash" processes — those that go from identifying business leads to collecting payment for services rendered.

With media companies, and particularly those in the print industry, technology services providers will have to work upwards from lower down the IT ladder, says Mukerji. "Print media companies are quite organized in their IT infrastructure. But organizationally, there is not a coherent view on how they must transform their business lines," he adds.

Mukerji expects more publishers to adopt cloud technologies over the next 12-to-18 months to monetize their printed content and move towards convergence of multimedia platforms. He offers the example of media companies that have introduced device-agnostic digital learning tools — based on studies of how students prepare for tests and how instructors develop lesson plans for technology courses. Such tools are among the many ways in which publishers are utilizing new technologies to respond to the fundamental shifts taking place in the industry, says Mukerji.

Publishers also are trying to monetize their digital content with value-added offerings such as advanced search and archival functions that cannot be provided through print channels, Mukerji says. He foresees "an accelerated shift towards end-to-end digital products, with a massive transformation over the coming five-to-10 years across all demographics."

Such transformations will reduce publishing companies' reliance on warehouses, printing presses and other production facilities, Mukerji notes. This will also enable their traditional IT resources to be deployed in a variety of new ways in what is called "variabalization of IT."

These shifts in the publishing environment have been "long in coming," Mukerji says. However, they are now gaining momentum, thanks to the pervasive accessibility of Internet, rapidly dropping price points for digital devices,

improved bandwidth and ubiquitous wireless connectivity. "It's a new world out there for these companies and most are trying very hard to figure it out," Mukerji says. "Many have taken a couple of whacks at the ball. Some have missed, some have hit."

He points to Condé Nast, the New York Times Co. and Dow Jones, which publishes *The Wall Street Journal,* as companies that have embraced digital publishing with distinct print and online products. Meanwhile, some niche business publications have exited the newsstand and migrated to the Internet. "All [publishers] are somewhat struggling to find their way," Mukerji says. "They know the [digital platform] end-state but are struggling with the business decisions needed to get them there."

A WEALTH OF NEW DIGITAL PRODUCTS

Mukerji and Werbach highlight some emerging opportunities for the TMT industries:

Location-based services. Telecom companies are launching numerous services based on location tracking and cell-phone usage data. For instance, an insurance company can utilize this data to track their agents and monitor how much time they spend with clients. The data can also provide insight into the design of optimal routes and better management of traffic. Telecom companies are testing services that enable truckers to reroute or reschedule deliveries using almost real-time traffic information, Mukerji notes. These services employ tools such as Google Maps and route-mapping software, and can be delivered from remote IT servers.

Advertising can also be delivered via location-based services, Mukerji adds. For example, a bank that knows the cell phone number and product preferences of a customer waiting in a

teller line can send text messages describing relevant financial offerings.

Cloud technologies. Clouds in IT parlance are remote servers that host data storage and applications that users can rent on a pay-as-you-go basis, instead of having to invest in building their own IT assets. Many telecom and media industry functions are increasingly moving to cloud platforms. This is consistent with Wipro's theme of developing multiple uses for IT infrastructure, since clients can deploy cloud-based assets in many ways.

IT services companies address issues such as which applications to put in a cloud and which ones to eliminate. Also in question is how to migrate programs into a cloud without disrupting business. "The challenge in some of these [cases] is to maintain service levels, response times and security," Mukerji says.

Among the functions now housed in clouds are billing, customer relationship management and network cost-optimization programs. One such project currently under way aims to reduce the number of a client's IT applications from 350 to about 100, considerably reducing costs, improving efficiency and agility, says Mukerji.

Business analytics. Telecom companies can use customer data more freely than in the past thanks to regulatory changes, says Mukerji. "Traditionally, telecom service providers have not paid much attention to data," he says. However, analyzing customer-usage data can help companies reduce operational costs, route voice and other traffic more efficiently and increase business volume. Telecoms can also monetize some types of data, as they are doing through location-based services. Mukerji sees a big upside in data use.

Mukerji cites a telecom project that utilizes business analytics to measure the rate at which Indian mobile prepaid subscribers switch service

providers. Such customers dominate the Indian mobile services market and switch carriers each time a more attractively priced user plan comes along, says Mukerji. This is a classic example of how IT services providers can now analyze churn data and help telecom companies develop strategies to combat it.

IT services providers are also helping telecom, media and entertainment companies utilize data collected through cable television set-top boxes. These data can include customer channel-flipping and movie-buying behavior. Armed with this information, companies can address such issues as whether to offer subscription-based or bundled services, and how to build a coherent content strategy.

M2M Services. Machine-to-machine, or M2M, services are a new frontier for telecom companies. It calls for consolidating service-delivery platforms with back-end infrastructure. A typical M2M framework might combine an entertainment offering and a smart sensor for energy-monitoring for customers, and logistics tracking and surveillance capabilities for companies. Such device-to-device communications could open up "an infinite amount of application and services," says Mukerji.

IPTV. Many telecom companies are rolling out Internet protocol television (IPTV) networks. IPTV services are delivered over the Internet, instead of through cable or satellite. IT services providers can facilitate IPTV by delivering technical support for billing, customer relationship management and other functions. IPTV could be "the single largest driver of growth" for telecom companies, says Mukerji.

Bundled services. Mukerji expects companies to increasingly bundle the cost of IT services into the price of products for the convenience of customers. He pictures a scenario in which a person in the United States wants to check the

blood pressure of his or her parents in India. This could be done by a blood-pressure monitoring service in India that uses a device with embedded software that allows the information to be routed through a set-top box or cell phone to a U.S. medical-care provider. Each of these services could then be bundled into one flat monthly bill.

But bundling might not always be desirable, says Werbach. "Many telecom and media companies are making the mistake of assuming that customers always prefer bundling," he says. It's not that bundling always fails, he adds. "It's just not always what people want and it depends on what the alternatives are."

Video gaming. The video game industry is worth U.S. $60 billion-to-$70 billion worldwide and is growing at double-digit rates, says Werbach. "They are already heavily converged with other kinds of media, so that is another important piece of the puzzle that's growing," he says. The San Francisco-based social network game developer Zynga "is the tip of the iceberg" when it comes to rapid growth, he says, along with the online game publisher Nexon in South Korea and the Internet portal Tencent in China.

Zynga, which recently went public at a valuation of U.S. $8.9 billion, has 230 million monthly active users on Facebook. "Both casual and social games have been growing like gangbusters," says a recent report by *TechCrunch*, a publisher of digital media technology trends. It sees "hockey-stick growth" in the gaming industry's fortunes, and attributes that to an industry-wide transition from a paid to a "freemium" model. Freemium games can be downloaded for free but require a payment for premium features.

OVERCOMING THE FEAR OF CHANGE

Some older telecom companies have been resisting change. "The challenge is that telecom has typically had very high fixed costs," notes

Werbach, "and carriers appropriately are saying, 'We can't just shift to a model of give-it-away-for-free and make it up on volume.'" Moreover, the open, converged and distributed structure of the Internet is in many ways in conflict with the traditional approaches that telecom and media companies have taken to their businesses, he adds.

This conflict has led to what Werbach calls "an innovator's dilemma." For example, new ways of doing business may not produce the same level of revenue and operating margins as the old ways, he points out. The new ways "may be better but they also may be worse. There's reason to think that there are opportunities for [telecom companies] to grow their business beyond even what they had before, but it's not guaranteed."

Mukerji sees the dilemma facing telecom and cable companies in a different light. It is "more around the fact that they don't own the food chain," he says. "Without control of what is delivered over their pipes, they are dumb pipes becoming dumber," he says.

Some large cable TV companies have purchased stakes in select content and network enterprises in order to "expand their [role] in the value chain," notes Mukerji. But "only the big boys can play this game, and it leaves the rest dangling."

Media companies face challenges when it comes to letting go of old ways. "When information goes into digital form, the ability to manage proprietary scarcity becomes unsustainable," Werbach says. But the companies that thrive tomorrow will be those that embrace digital services wholeheartedly, he says.

"If you are in this industry because you want stability and because telecom and media have traditionally been stable, utility-like generators of returns, then you are in the wrong industry," Werbach notes. "It's not that stability is a bad goal. But we are going through a fundamental

transition and you don't succeed in a fundamental transition by hoping that it will be smooth and easy."

Clearly, to succeed in the new digital order, TMT companies must find ways to monetize their offerings as market power shifts to Internet-enabled open platforms. And the companies' chances of success can benefit from the aid of an IT services partner that can help to spot and capitalize on emerging opportunities.

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