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In the information and communications technology (ICT) industry in developed countries, a wide range of diverse products and services has been popularized along with the development of relevant technology. Starting with TVs, the industry has gone on to see the popularization of PCs, mobile devices and then social networking services (SNS). In the future, expectation is given to the application of ICT to utilities as represented by smart cities. However, in India, all of these technologies are spreading at essentially the same time.

In India, the country is just about to see an explosive growth of all sorts of ICT services as triggered by the rapid spread of mobile services to the majority of the population.

Moreover, India is seeing the development of unique local services such as mobile value-added service (MVAS) with voice-activated search, social media that uses short message service (SMS) and smart agriculture.

Rather than being locked in stiff competition with global players for the top of the economic pyramid (TOP) market, Japanese companies should instead set their sights on the majority segment. To develop business targeting this segment, it is essential to partner with local Indian companies that have a strong presence in this market and are capable of deploying their own unique services.

I Current Status of Major ICT Markets in India

In this chapter, we look at those markets that typify the information and communications technology (ICT) industry, namely, (1) the mobile phone market, (2) the broadcasting market, (3) the Internet services market and (4) the electronic commerce (EC) market.

1 Mobile phone market

As of the end of March 2010, the number of mobile phone subscribers in India had reached 584 million. This number has continued to grow by rising to 812 million by the end of March 2011 (Figure 1). While this rate of growth may well decrease in the future, given that the penetration rate has not yet reached 100 percent and that the number of prepaid service users is very high, and assuming that any one person may have multiple contracts, there still seems to be considerable room for growth.

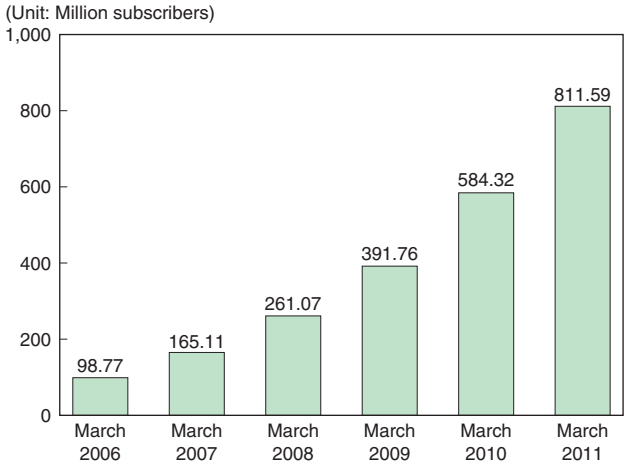
There are three major mobile phone providers in India. They are Bharti Airtel (20-percent share), Reliance Communications (17 percent) and Vodafone Essar (17 percent). Second-tier companies include Bharat Sanchar Nigam Limited (BSNL) (11 percent), Idea Cellular (11 percent) and Tata Teleservices (11 percent). These six companies dominate the majority of the market (Figure 2).

Japan's NTT Docomo has a stake in Tata Teleservices, which ranks fifth and is a telecommunications service provider of the Tata conglomerate. The company was able to increase its market share considerably by switching from the Indian norm of per-minute cellular billing to billing based on 30-second increments.

An increase in the number of subscribers does not necessarily lead to an increase in revenue. With intensified competition in the market, much more severe price competition has occurred. Figure 3 shows the trend in the revenue of mobile phone operators and the average revenue per user (ARPU). The graph shows that for the fiscal year ending March 2010, ARPU was only around 120 rupees per month. Furthermore, we must be aware that this ARPU figure has been falling year on year. Despite the number of mobile phone subscribers having grown rapidly even after 2009, the quarterly income of mobile phone operators has held steady at around 1.4 trillion yen, pointing to increased price competition. Tata's 30-second billing is one example of the measures taken in the face of price competition. Some companies, as part of their promotional campaign, have been offering 30 minutes of calls and 100 SMS (short message service) messages free of charge, indicating fierce competition in attracting customers.

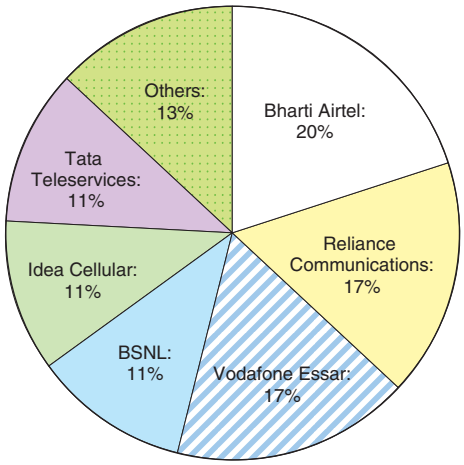
Factors other than price competition that have led to the lessening in ARPU include the pursuit of markets

Figure 1. Trend in the number of mobile phone subscribers in India



Source: Telecom Regulatory Authority of India (TRAI), "Annual Report 2010 – 11."

Figure 2. Market share of operators in the mobile phone market



Source: TRAI, "Annual Report 2010 – 11."

where the ARPU is small. As mobile phones have increased in popularity, companies have gone after the mass market (the majority), rather than the top of the economic pyramid (TOP) market, such that this segment now constitutes the largest proportion of users. As we will discuss later, in the Indian market, mobile phone subscribers can already be found among even those segments of the population with very low household incomes.

The Indian market has already entered the stage in which if service providers are to attain dominance in this market, they must offer higher value-added services (mobile VAS) to gradually increase ARPU and, at the same time, they must increase the number of contracts.

The services that are provided as mobile VAS include information services such as news and entertainment as typified by music, ringtones and video, mobile commerce such as travel booking, and financial services such as mobile banking and payments. While the most wealthy demographic uses high-end devices such as

iPhone and BlackBerry smartphones, downloading and using a range of applications (software) from the application stores of their respective companies, such users constitute only a very small part of the Indian market (shipments of smartphones in India account for only less than 10 percent of overall mobile phone shipments).

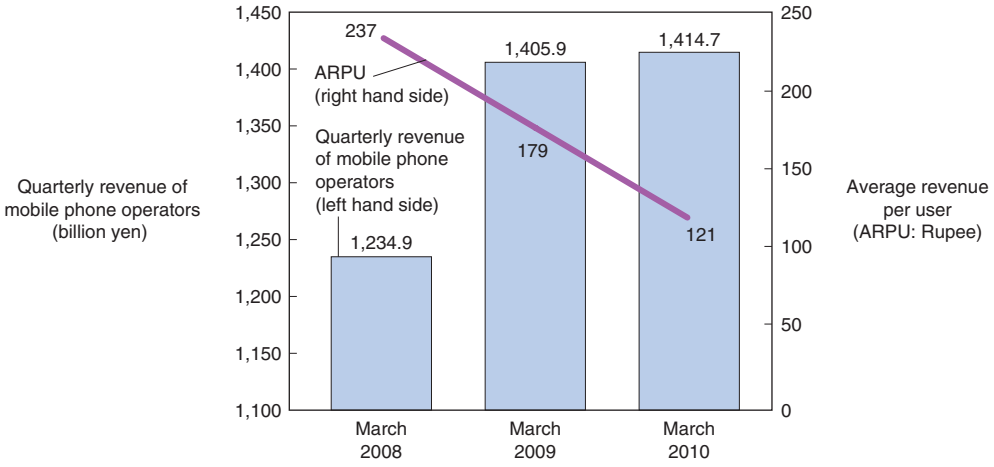
Many users of mobile phones come from households with no PC or landline Internet connection. In such households, mobile phones have become one of a few means of communication and information gathering. In addition to voice calls and SMS messaging, their handsets also provide simple web access, as well as radio and other functions. A variety of models are available such as those with touch panels, simple bar types, slide types and those with built-in QWERTY keyboards.

For these users, mobile VAS is not simply a means of accessing entertainment services, but has the infrastructural functions needed for daily life. They use their phones and mobile VAS to access information needed to be more efficient in their work, as well as improve the quality of their lifestyles. In terms of hardware, it is impossible to ignore the presence of mobile phones. While, currently, traffic is still limited, the use of counterfeit high-end smartphones such as those shown in Figure 4 has already started to spread. These phones are not inferior in terms of equipment and functions because they offer functions such as web browsing as well as GPS (global positioning system) and touch panels.

2 Broadcasting market

In terms of size, India's broadcasting market is the world's third largest after the U.S. and China. As of March 2011, the number of households in India stood at

Figure 3. Trend in the quarterly revenue and ARPU of mobile phone operators



Source: Compiled based on "The Indian Telecom Services Performance Indicator Report" for the quarter ending March of each year, published by TRAI.

Figure 4. Mobile phones observed during the survey on the lifestyle of the middle-income segment in India

Mobile phone (1) Counterfeit of HTC's Windows Mobile 7		
Mobile phone (2) No longer used because inserting and removing the SIM card is not easy Counterfeit of Sony Ericsson's Xperia		
Mobile phone (3) Left hand side: Samsung's mobile phone with built-in camera Right hand side: RIM (Research In Motion)'s BlackBerry		

Table 1. Major broadcasting industry indicators as of March 2011

Number of households	233 million
Number of households owning a TV set	143 million
Number of cable TV subscribers	92 million households
Number of DTH subscribers	35.56 million households
Number of cable TV operators	60,000
Number of MSOs	6,000
Number of TV channels	649
Number of pay TV channels	155

Note: MSO = multiple system operator.
Source: TRAI.

approximately 233 million, of which 143 million owned a TV set, indicating a penetration rate of 61 percent (Table 1). Because the figure stood at 136 million households with a penetration rate of 58 percent as of March 2010, the growth rate is not as high as that of mobile phones. Nevertheless, the market still continues to grow. In addition, the market is characterized by many subscribers to cable TV (about 92 million households), making India's market structure similar to that of the United States. Although the number of subscribers to direct-to-home (DTH) satellite broadcasting services is relatively small at 36 million households, the growth rate of DTH is unparalleled.

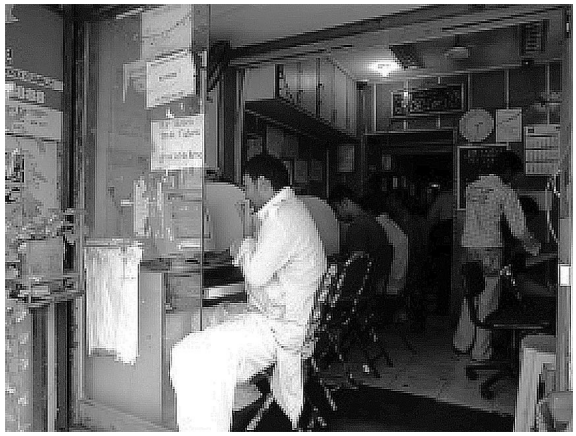
In 2010, revenue of the TV broadcasting market stood at around 297 billion rupees, with around 194 billion rupees coming from subscriber fees and the remaining 103 billion from advertising sales.

3 Internet services market

India has 90 million Internet users, of which more than 40 million have Facebook pages, giving India the world's third-largest population of users. When we look at the makeup of Internet traffic in India, we find that 30 percent is generated from homes, 29 percent from offices, 37 percent from Internet cafes and the remaining 4 percent from mobile accesses. The level of service provided to homes that is generally referred to as broadband service in India offers speeds of 256 to 512 kilobits per second, for which subscribers pay somewhere between a little less than the equivalent of 1,000 yen to around 2,000 yen.

Recent years have seen an increase in the number of people using the Internet in their offices, with the amount of time spent on Facebook during working hours becoming a problem. There are a large number of Internet cafes throughout the cities (a photo of one of them in Mumbai is shown in Figure 5), where users can access the Internet for a low price of around 40 yen per hour. Mobile access to the Internet principally through smartphones is also on the increase.

Figure 5. Internet café in Mumbai



Of Internet users, 58 percent are young people, with the majority of those being university students. With high levels of literacy, young people constitute the driving force for the spread of the use of the Internet. In India, computer education starts from as low as the elementary school level in some cases. As such, information technology (IT) education among the Indian population has been growing rapidly. From a hardware perspective, the international trend towards inexpensive PCs, as well as the development and sales of low-priced PCs within India itself, has led to an increase in the number of PC users.

For example, a professor at the Indian Institute of Technology (IIT) has developed a "35-dollar laptop PC." In collaboration with Sony Ericsson, IIT plans to start a business targeting people living in rural areas. Siemens, Motorola and Fujitsu have also become involved in this project. Because they are considering the use of WiMax (worldwide interoperability for microwave access), high-speed wireless communication technology, it would seem that the growth rate of the use of the Internet in India is set to increase even further. In addition, a growing market for used PCs is accelerating the increase in the number of Internet users.

4 B-to-C EC market

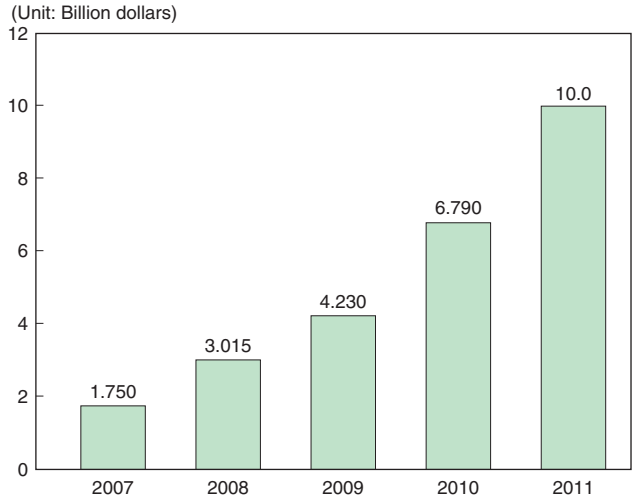
The Indian B-to-C EC market (the electronic commerce market that includes services such as online shopping) was worth 31.5 billion rupees in 2010, and is expected to have generated 46.5 billion rupees in 2011. For 2010, this amount accounts for around 0.4 percent of gross domestic product (GDP). In Japan, the EC market was worth 7.8 trillion yen in 2010, or 1.6 percent of GDP, while China's online shopping market was worth 461 billion yuan in 2010 – the equivalent of about 6 trillion yen. When compared to China and Japan, the EC market in India is clearly in its infancy. The main problem hindering the growth of the Indian EC market, in the same way as in other emerging countries, is the lack of logistics networks and trust among consumers in electronic transactions.

Nevertheless, given that consumption in India has been increasing rapidly, the Internet services market has also been expanding steadily (Figure 6). Of course, the B-to-C EC market is also expected to grow. According to news reports in October 2010, the high-end fashion EC site, "Fashionandyou.com" (FAY), which is the Indian counterpart of the U.S.-based "Gilt (http://www.gilt.com/)" site, had attracted funding of 40 million dollars in about two years since its founding. Four companies provided the funds, namely, Norwest Venture Partners, Intel Capital, Sequoia Capital India and Nokia Growth Partners. FAY currently has 2.7 million members, and continues to grow.

It is interesting to note that while FAY is based on a U.S. business model, the model has been localized for the Indian market. In other words, while the basic services provided by FAY are identical to those offered by Gilt in the U.S. market, FAY targets the specific needs of the Indian market. Early in 2011, one of the authors had the chance to interview FAY representatives when the company still had only around 500,000 members, and was able to ask about the market that the company was targeting. Their response was "those people who have so far been spending 40,000 to 50,000 yen to travel to Singapore for shopping." Because high-end fashion brands that are sold in developed countries are not available in India, anyone wanting to buy the latest fashion bands had to travel to Singapore. Otherwise, consumers could not get what they wanted easily. In targeting this relatively wealthy demographic, FAY aimed to have them use the cash that they would have used for traveling on buying fashion products instead. Many such targeted consumers went as far as stating that their use of Facebook is "commonplace." FAY is probably one of the most proficient companies that use social media for its marketing activities in India.

Establishing partnerships with companies such as FAY that are well versed in businesses in developed countries, are capable of localizing such businesses for the Indian market and have a good command of social media would be effective for Japanese companies. This holds true for all businesses and is not limited to Internet-related businesses.

Figure 6. Trend in the size of the B-to-C EC market in India



Note: B-to-C EC = business to consumer electronic commerce (including services such as online shopping).
Source: Compiled based on materials published by Indian Market Research Bureau (IMRB) and Internet and Mobile Association of India (IAMAI).

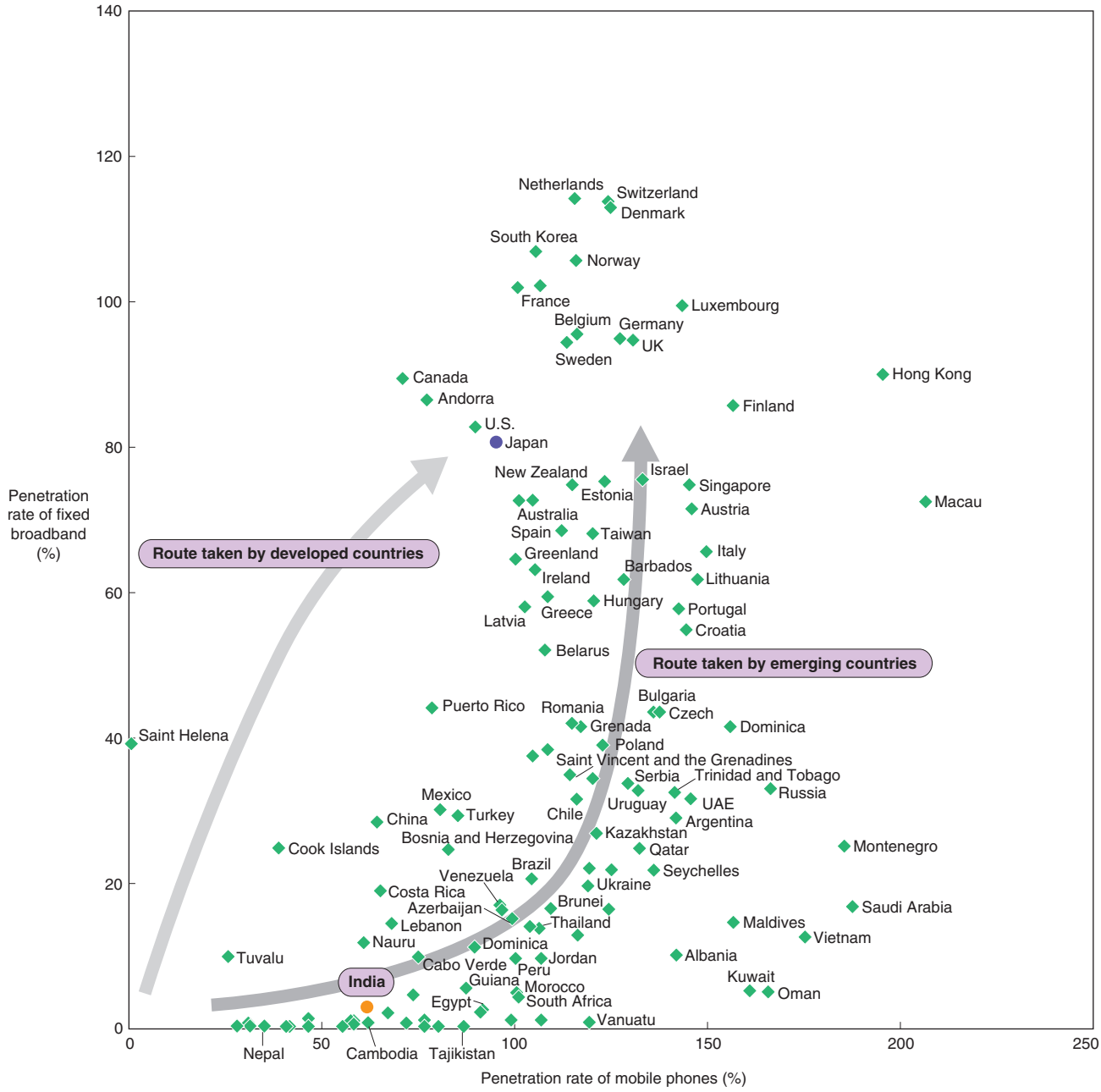
II Differences between ICT Industries in India and Developed Countries

1 Mobile sector drives the ICT industry

As described in Chapter I, the most popular ICT service in India is mobile phones, followed by TV broadcasting, the Internet and PCs. On the other hand, ICT services in developed countries such as Japan and the United States first saw the spread of landline telephones. After this service had become commonplace, other ICT services have become widespread in the order of TVs, PCs, mobile phones and the Internet. As such, the way in which ICT services have spread in India is very different from the way they spread in developed countries. This difference becomes clear when we map the penetration rates of fixed broadband and of mobile phones that were published by the International Telecommunication Union (ITU) for individual countries (Figure 7).

In developed countries including Japan, the popularization of technology followed the same order. However, in emerging countries such as India, mobile phones have become the first technology to be widely adopted. This will have an impact on the spread of Internet services in the future. In developed countries, Internet services were first provided using mostly fixed broadband connections and PCs. This can be seen in

Figure 7. Mapping of penetration rates of fixed broadband and mobile phones for individual countries/regions (2010)



Source: Compiled based on material published by ITU.

the fact that services assume the use of a PC to access their websites. In India, however, the majority of services are accessed using mobile phones and mobile networks.

2 Indian market grows to an overwhelming scale

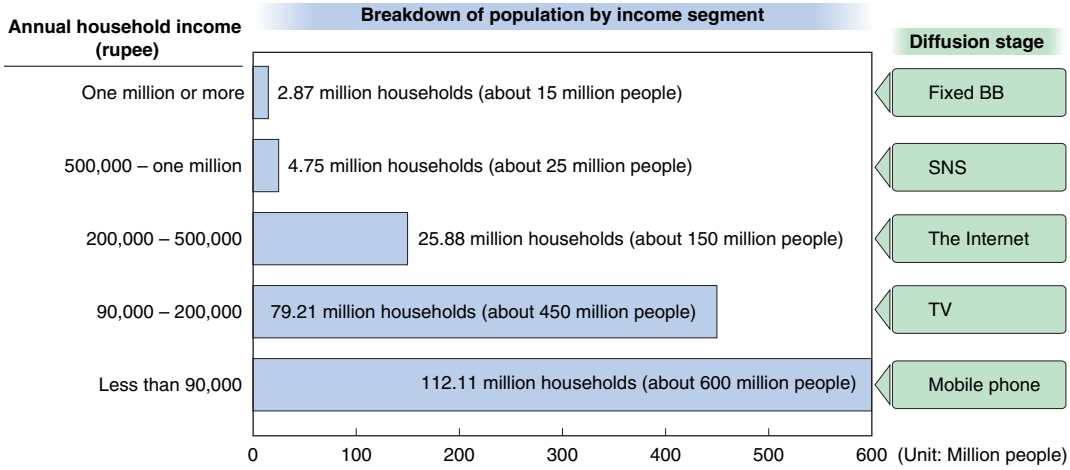
Another feature of the Indian market is, unsurprisingly, its scale. India's population stands at around 1.2 billion. If we break this down in terms of income, we find that those at the top of the economic pyramid (TOP) with a household income of at least 20,000 dollars number no more than 20 million. This segment is followed by those in the middle of the economic pyramid (MOP), whose household income is between 3,000 and 20,000 dollars and which number about 450 million or about 40 percent of the total population. Those at the base of the economic pyramid (BOP), whose household income is less than 3,000 dollars, account for the remaining 700 million, or 60 percent of the population. Because the mobile phone penetration rate has exceeded 60 percent, the huge BOP population already constitutes a market. On the other hand, the Internet penetration rate is still low, at 7.5 percent (Table 2). However, the use of the Internet is just beginning to spread from the high-income TOP segment to the MOP and BOP layers in which most of the population falls (Figure 8). Since the number of mobile

Table 2. Comparison of market size in Japan and India (fiscal 2010)

	India	Japan
Number of mobile phone subscribers • Penetration rate	752 million 61%	120 million 95%
Number of households owning a TV set • Penetration rate	110 million 48%	50 million 98.6%
Use of the Internet • Number of users • Penetration rate	 90 million 7.5%	 94 million 78.2%
Number of landline telephone subscribers	35 million	40 million
Number of fixed broadband subscribers • Penetration rate	11 million 0.9%	34 million 26.9%
Scale of Internet advertising market	19 billion yen	770 billion yen
Scale of EC market • Proportion of GDP	About 500 billion yen 0.4%	About 7.8 trillion yen 1.6%

Note: GDP = gross domestic product.
Source: Compiled based on various materials.

Figure 8. ICT service diffusion stage for each income segment



Notes: BB = broadband, SNS = social networking service.
Sources: IMRB and IAMAI.

phone subscribers reached this stage some years ago, the number of subscribers has exploded. Undoubtedly, the same trend seems destined to occur with the Internet over the next few years, presenting a huge business opportunity.

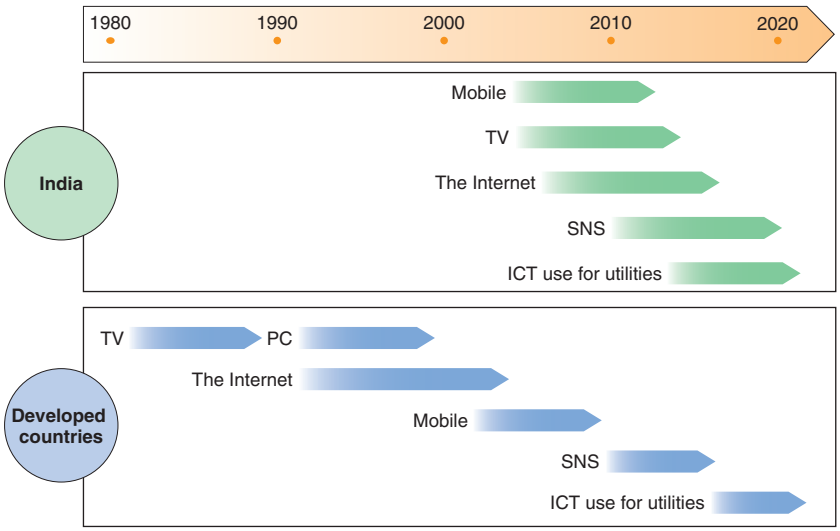
3 All services set for explosive growth and in step

An important point to note when we consider India's future ICT industry is that, from now on, all services such as TV and social media will spread almost simultaneously.

As mentioned above, in developed countries such as Japan, ICT services up through mobile phones have basically spread to the point of saturation, with the major trend now shifting to the diffusion of social media. When we look into the future, we will enter the stage where ICT is used for utilities such as electrical power, transportation, logistics and medical services, as typified by M2M[1], smart cities and smart grids. One may think that because the Indian market is finally at the stage where it saw the popularization of mobile phones and TVs, the opportunity to do other businesses there is still some time in the future. However, we cannot assume that the development of emerging countries will follow the same path as that of developed countries. In India, social media is being adopted almost at the same time as ICT use for utilities (Figure 9).

Nevertheless, when we think of social media and the use of ICT for utilities, we find that the situation again differs slightly from that in developed countries. India appears to be developing along its own path. This trend is described in the next chapter.

Figure 9. Conceptual comparison of the popularization of ICT services between India and developed countries



III Launch of Service Models that Are Unique to India

1 India's mobile VAS service: Interactive voice response (IVR) service

It is a very difficult task to provide information services throughout India, which has a vast land area. In the Indian market, Google is not the only search engine that offers localized information search services throughout the country. The service that has attracted the most users is Just Dial voice-based search service. This interactive voice response (IVR) service was launched in 1996. Around 850 million mobile phones have been sold in India. Although the vast majority are not smartphones, all are capable of voice communication. Given that India has no less than 22 languages listed in its constitution, this voice-based service is very user friendly. Users can obtain information by conversing with the service regardless of the type of the phone they are using or their educational level.

In response to a user's inquiry or request for a recommendation, Just Dial service provides the user with information free of charge about stores in a local area that paid membership fees. The business model is shown in Figure 10. Because the service is funded by advertising (membership) fees paid by stores, the business model is approximate to that adopted by the HOT PEPPER local free paper published by Recruit Co., Ltd. of Japan. Just Dial offers both regular and platinum memberships. Priorities are given to platinum members in introducing their stores to users.

This area of business, known as local search, seems destined to see fierce competition in the future. Expected competitors would include multinational companies such as Google and Groupon as well as Japanese companies like Recruit and Gurunavi. While Just Dial's principal business is voice-based search, it also offers Internet search. In 2011, it handled 77 million Internet searches and 94 million voice-based searches, a total of 170 million searches. Because Just Dial enjoys such a large number of accesses, more and more stores are willing to register as members. The resulting enhancement of the company's database (Just Dial currently has information on 6 million product and service providers throughout India) in turn attracts even more users, certainly creating a virtuous circle.

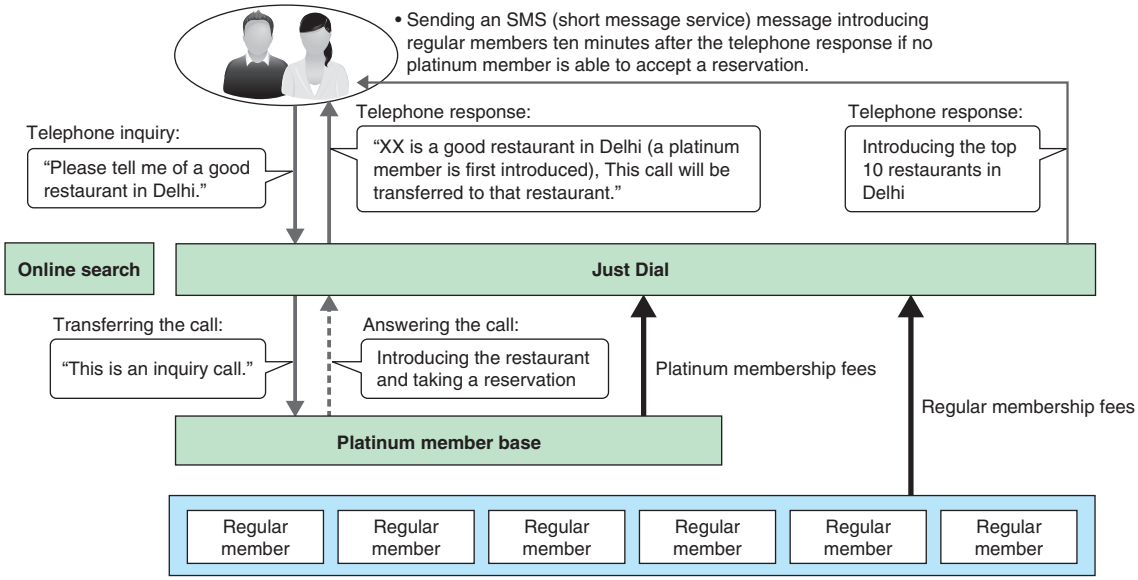
In India, the Internet is not the only tool for sending and receiving information. Services that are tailored to the country's characteristics, land and people should be developed and offered. Just Dial is an excellent example of such a service.

2 India's social media: SMS GupShup

In Chapter I, we mentioned that India has the world's third largest population of Facebook users. However, according to VentureBeat, India is also home to more than 40 million users of an SNS (social networking service), which greatly outweighs the number of Facebook subscribers. This SNS is an SMS-based service called SMS GupShup (SMS-GS). As we mentioned in Chapter I, although some 850 million mobile phones are used in India, less than 10 percent of these are smartphones. Therefore, it becomes possible to approach India's huge market only when services are offered to users of feature phones, rather than to users of smartphones.

SMS-GS is basically a group messaging service, where users register to subscribe to friend groups, groups or companies that they want to follow. Users are able to read the latest posts in the groups to which they have subscribed, as well as to write to those groups. The

Figure 10. Just Dial's business model



users only have to pay SMS usage fees to their mobile phone providers. This service generates no less than 4 billion SMS messages every month, or more than 10 percent of all SMS messages sent in India.

The SMS-GS business model is based on advertising. SMS-GS earns revenue from advertising fees paid by companies in return for delivering their advertisements to the users of the service and sales promotion expenses paid by companies for the analyses of user characteristics and communication with users through group pages in which companies can interact with users. The service already has 25,000 small-scale businesses and 500 multinational companies as its customers. According to VentureBeat, since SMS-GS was founded four years ago, in 2007, it has received investment from some different funds, with total investment in the company now standing at 47 million dollars. Mr. Beerud Sheth, CEO and co-founder of SMS-GS, graduated from the Massachusetts Institute of Technology (MIT) Media Lab in the U.S. and went to work for Merrill Lynch. SMS-GS is an excellent example of a so-called Non-Resident Indian (NRI) spending time abroad and bringing overseas culture, business, knowledge and technology back to India, all of which contribute to the success of business in India.

3 India's cases that use ICT for utilities: Mobile VAS in agriculture

One of the cases that use ICS for utilities is M-Agriculture VAS where mobile VAS is applied to agriculture. In India, more than 60 percent of the population, that is, more than 700 million people, is engaged in agriculture, such that there are many potential users in this field. In the field of agriculture, VAS services can be broadly divided into the following three types:

- Agro-advisory services that provide information on how to grow various crops as well as how to deal with epidemic diseases
- Agro-meteorological services that provide information needed for agriculture such as rainfall and natural disasters
- Market information services that provide information on the market prices of various crops and other market-related information

The service that provides these agricultural advisories through mobile phones is IKSL (IFFCO Kisan Sanchar Limited). Formed as a joint venture between India's largest mobile phone provider, Bharti Airtel and the largest farmers' cooperative, Indian Farmers Fertilizer Cooperative Limited (IFFCO), IKSL offers services in much the same way as a mobile virtual network operator (MVNO). Users buy SIM cards from IKSL and insert them into their mobile phones. This enables the users to receive voice-based advice and SMS-based information service from agricultural experts.

These agricultural advisories cover a wide range of topics. In order to provide advice on different types of crops, soil, weather and the types of fertilizer being used, specialist knowledge is required. Therefore, IKSL provides advice in collaboration with postgraduates of agricultural universities in Indian states, as well as with research institutes specializing in agriculture. Because the fees for using the service are included in the call charges, users are not billed separately.

This service has proven to result in a win-win situation for Bharti Airtel and IFFCO. For Bharti Airtel, although it was previously difficult to gain new mobile phone subscribers in rural areas, the well-known IFFCO brand among farmers has made it easier for the company to increase its subscriber base there. Meanwhile, for

IFFCO, the provision of advice on agriculture can lead to increased productivity and promote the sales of the products it sells such as fertilizers. Moreover, by incorporating the service fees into the call charges, it appears as though the service is offered free of charge, something that is only made possible through the tie-up with a mobile phone service provider, Bharti Airtel.

Besides mobile phone service providers, handset manufacturers have also become very active in the area of VAS. Nokia, which enjoys the largest share of the Indian handset market, has introduced its "Nokia Life Tools" VAS offering, which is aimed at users in rural areas. Through the use of SMS messaging, Nokia Life Tools not only provides agricultural information (such as advice on crops and market trading prices), but also information in the education field (such as English education), as well as entertainment content such as ringtones and cricket scores. Content related to agriculture and education is provided to a user through regular SMS messages at a rate of around 30 rupees per month, respectively, for agriculture and education. In addition to monthly services, pay-per-use plans are also available in which users can access the services whenever they want information. Although Nokia Life Tools can be accessed from only some Nokia handset models, several million people are already using the service in India. In order to provide information on agriculture, Nokia has teamed up with agricultural universities and research institutes throughout India in the same way as IKSL.

Global information providers have also entered this field. Reuters Market Light (RML), a subsidiary of Thomson Reuters, which is well known as a provider of information aimed at professionals such as in the financial field, is providing information services tailored to the agricultural sector including weather conditions, natural disasters, crops and market prices. RML gathers real-time localized market information and delivers such information in the form of SMS messages. The information can be accessed through any mobile phone service provider and on any manufacturer's handset. The fee for using the service is about 250 rupees for three months, and the service can be accessed through scratch cards that are available at retail shops and so on. RML's service, which was launched in 2007, already has around one million users. There are reports of some users who have been able to increase their income by several thousand rupees through the use of this service, while others have been able to save costs or avert losses by similar amounts.

To date, payment for these VAS services has typically been through SMS billing or the use of scratch cards. By sending an SMS to a specific number, the cost of accessing the information is automatically deducted together with the cost of the message, and usage fees can be collected even from users of prepaid mobile phones. In the same way, in addition to the use of SMS, users can call a specific telephone number and be billed for the information and the call. In addition, some content providers sell scratch cards as a means of accessing their fee-based content.

SMS billing or billing to a specific telephone number only requires a notice to users by indicating such billing method in brochures, leaflets, etc. and does not require the sale of scratch cards. However, because service is provided through mobile phone service providers, a handling fee must be paid to these providers. The fee is usually at least 50 percent of the use fee paid by the user, and it is often as much as 70 percent, which is not realistic from the viewpoint of the content provider's profitability. Nevertheless, many content providers have opted to use this method because they do not have to create their own billing platform or establish scratch card sales channels.

What must be noted regarding the above three agriculture-related cases is that respective principal providers originate from different layers. In the case of IKSL, Bharti Airtel, a mobile phone service provider, has partnered with IFFCO to provide the service. Nokia, a handset manufacturer, is the principal service provider of Nokia Life Tools, while RML's principal service provider is Thomson Reuters.

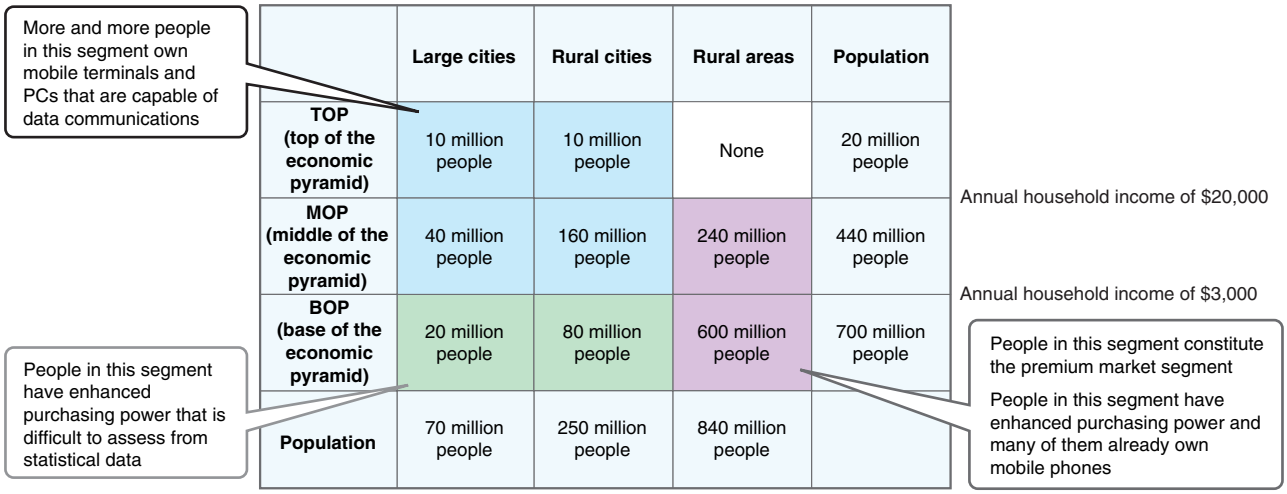
VAS servies in India are still developing, with many different players starting to offer services to become the principal entities in this field. In Japan, as typified by NTT Docomo's i-mode, mobile phone service operators have become principal entities that offer VAS services. In India, the presence of mobile phone service providers is also significant because they have billing systems and SMS platforms. Nevertheless, no one yet knows who will dominate the market.

In the cases of agricultural VAS services that we have discussed in this paper, all require cooperation with local agricultural research institutes and government agencies, as well as partnerships with other companies. This is not limited to agriculture, of course, and whenever VAS is offered for a fee, consideration must be given to whether to use a mobile phone service provider's SMS and other platforms as the billing method.

In addition to agriculture, in India, mobile phones are expected to be increasingly used to offer many services in areas that are essential to users' lives. Examples include m-education, m-health, m-money, m-government and m-commerce. To provide VAS services for these areas that are closely related to users' lives and daily work, it is essential to establish partnerships with companies that already have a considerable presence based on their existing customer base, or with local communities.

The start-up of business to provide VAS services in India takes considerable effort in that it is necessary to decide the layer on which to operate and the player with which to cooperate. However, by entering the market now, there is still a fair chance for a company to establish a foundation on which to build a business aimed at

Figure 11. Population distribution according to household income levels and areas



Note: PC = personal computer.
Source: *BOP Cho-kyodai shijo wo dou koryaku suruka* (BOP: Ways of approaching this gigantic market) written by Noritaka Kobayashi, Kotaro Takada, Tatsuro Yamashita and Kazuaki Ibe and edited by Nomura Research Institute, Nikkei Publishing Inc., 2011.

potentially more than 1 billion customers and to take the lead in the market.

IV Business Opportunities for Japanese Companies

As we have already discussed, ICT services that have taken many years to spread in developed countries are set to spread simultaneously throughout India over the next few years, with the market quickly becoming huge. Of course, this rapidly growing market presents big business opportunities for Japanese companies. Of particular note are the MOP and BOP segments, which will see most of the growth and which are "blue ocean" (untapped) markets.

While the TOP segment certainly has considerable purchasing power and owns advanced products, the market is already saturated. Furthermore, as exemplified by the fact that Facebook is the de facto social media standard in this segment, we can see that this segment of the market is already exposed to global competition. It would be very difficult for Japanese companies, which are latecomers to this market, to differentiate themselves from their competitors.

On the other hand, for the MOP and BOP segments of the market, some people predict that it may take many more years for these segments to increase their purchasing power and to use TVs, mobile phones and the Internet. However, as we have discussed in this paper, despite low purchasing power and poor ICT infrastructure, services have appeared that draw on such weak infrastructure. Conversely, India's unique ICT services have been developed and evolved because infrastructure is weak and purchasing power is low. Moreover, even if the Indian population with annual household incomes of less than 20,000 dollars is simply divided into the MOP and BOP segments based on their income levels, as shown in Figure 11, these people are dispersed throughout the urban and rural areas, resulting in their having varying needs. By making the effort to meet these differing needs, businesses can launch a wide range of diverse services in the future.

These services present areas in which Japanese companies can find business opportunities. However, it will not be possible for Japanese companies alone to offer such localized services and reach Indian consumers. Rather, the key to success is to partner with local players such as communications carriers and utilities companies that have widespread local networks, as well as with local governments.

Note:
1 M2M is an abbreviation for "machine to machine." Rather than using mobile phones for voice-based communication, the mobile phone network is used to enable machines to communicate with each other.

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