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Technology, Media & Telecommunications India Predictions
2013

Contents

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Foreword

Welcome to the 3rd edition of Deloitte's Predictions for the technology, media and telecommunications (TMT) sector in India. We are often asked why we create a Predictions document. Our answer is simple. Our view is that across every global industry, knowing what is likely (and unlikely) to come next in TMT trends is a key competitive differentiator.

This publication is released in conjunction with Deloitte's global Predictions report for the TMT sector and presents our view of key developments over the next 12-18 months that are likely to have significant medium-to long-term impacts for companies in TMT and other industries in India.

This year's Predictions report continues to be published as a single report rather than split by technology, media and telecommunications. Our view is that developments in each sub-sector are now so inter-linked and interdependent that TMT executives need to be cognizant of key trends across all sectors.

We believe what differentiates Deloitte's TMT Predictions from other perspectives is methodology. Our methodology which is reviewed and updated every year is summarized below:
• We use both primary and secondary sources, fusing both quantitative and qualitative analysis, based on in-depth discussions, polling of individuals and reading of hundreds of articles.

• Globally, we test out the emerging hypothesis with Deloitte's clients, analysts and at conferences throughout the year.
• We publish only perspectives that we think are new or counter to existing consensus and which we believe our readers should know about
• We predict change and – where we disagree with the consensus view – lack of change.
• Our aim is to provide clear endpoints so that our accuracy can be evaluated annually.

We hope you and your colleagues find this year's Predictions for the TMT sector useful. As always, we welcome your feedback. We remind readers that our aim with Predictions is to catalyze discussions around significant developments that may require companies or governments to respond. We provide a view on what we think will happen, what will likely occur as a consequence, and what the implications are for various types of companies. We do not however presume that ours is the last word on any given topic: our intent is to kindle the debate.

Whether you are new to this publication, or have been following our Predictions for years, we thank you for your interest. And to the many executives who have offered their candid inputs for these reports, we thank you for your time and valuable insights.We look forward to continuing the conversation.
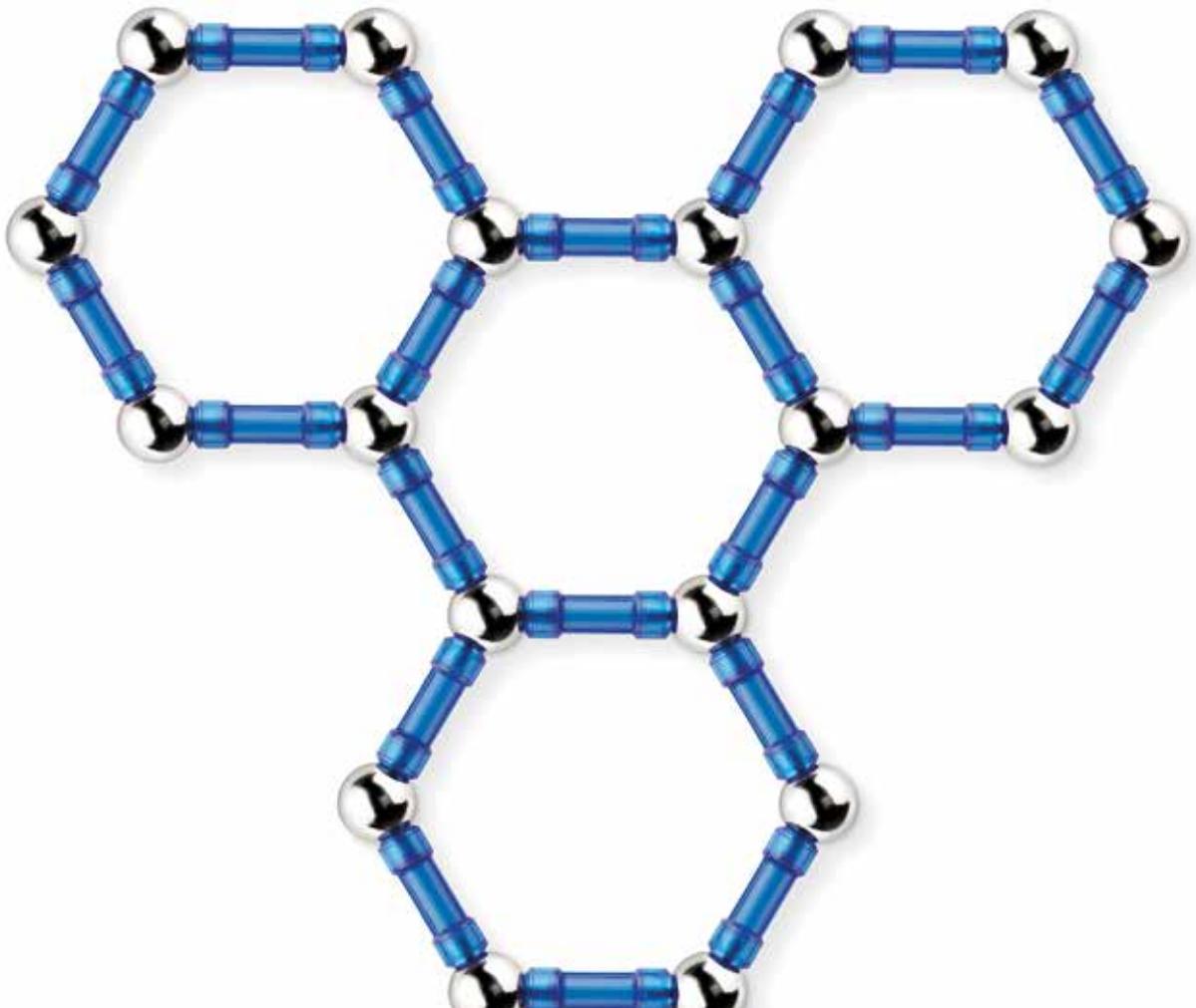
Technology

Hawking their ware
Would technology find its next big market in India retail?

As policies get less amorphous and global retail giants scramble for a share in the great Indian bazaar, a set of players, keenly watching these developments, is a bunch of technology companies. While the relevance of technology in retail was always perceived to be limited in India, emerging trends indicate that offline retailers need to have very strong back-end support in logistics, recommendation, fulfillment, etc., progressively becoming more dependent on technology as they scale up[1].

Technology companies across the spectrum are betting big on retail. The large IT services and products companies would be the obvious winners, given the significant amount of IT infrastructure that would be needed. This would include the large enterprise software vendors and also the global infrastructure providers operating in the storage, computing and networking space. We predict that the niche SME focused ERP solution providers would find adequate space in the market. We also expect the emergence of many Tier-3 local vendors, targeting the long tail of the retail segment. Such Tier-3 vendors would provide basic billing management, inventory management and POS applications.

Deloitte predicts that in the long run, the fragmented nature of the market would lead to consolidation. Among small and medium-sized Indian technology players, there could be more opportunities to act as System Integrators and Support and Maintenance providers[2].

With the online and offline models facing off, Deloitte envisages significant investments in technology facilitating a coherent multi-channel marketing strategy. Analytics and campaign management that is seen as a niche play currently will gradually become mainstream in the online retail space. However, it would be sometime till we see large scale usage of analytics by a significant chunk of brick and mortar retailers in India. Many serious solution providers would use analytics and big data as a selling proposition, though their actual implementation would still be fledgling at best. While we may see significant capability build-up among the technology service providers in the analytics and big-data domains to serve the western markets, this capability would see limited traction in India for the time being. For e-commerce platforms, creating better customer-interface and user interaction would remain a major driver for technology investment. Solutions for distribution and supply chain optimisation would emerge as a growth area for all retailers with an estimated visible impact of around 20 to 40% on their bottom-line.

The other area where technology would find significant whitespace is transaction facilitation. **Around 65% of the consumer transactions in India are still cash-based. This provides a significant potential for non-cash-based transactions, which could be driven by a combination of online, mobile, NFC and card-based payment solutions**.

As a whole, this year could turn out to be the beginning of a significant technology-adoption story in the domestic Indian retail market that could give rise to a set of new champions among technology vendors focused on the retail segment.

Bottom line:
We see increasing use of technology in the retail industry in India as online and offline retailers scale-up and address newer market segments.

There will be substantial investment in enterprise class infrastructure and applications and a space for a varied range of global players to address customers across categories. The Indian technology players focusing on retail would find more opportunities as System Integrators, Development and Support services.

While areas like analytics and campaign management would find gradual traction, we predict significant amount of initial investment in supply chain management, web-enabled channels, user interface development and non-cash-based transactions solutions.

Government to citizen
Yet too young to take wings?

Technology in governance has been so limited in India, that the UID project has created more buzz than any other government project since the Green revolution. Many have touted it is the panacea to all social technology requirements of the country. But learned experts have pointed out that while technologically the UID initiative provides a better option, it's not the only solution. It is a system of reforming the current Government to Citizen (G2C) landscape. There are problems to be addressed on the ground before the full benefit of such initiatives are realised.[4] Perhaps it's time for policymakers, technologists and other stakeholders to take a re-look at the model and ascertain how best and how quickly this opportunity could be utilised.

Deloitte predicts that this year, will see more ideas being incorporated around UID that would accommodate structural changes in the model to make the concept a hub for addressing a range of governance issues. As this happens in a top down fashion, we expect a few large players to start taking baby steps towards forming the ecosystem around the G2C model. We are yet to see significant start-up activities in this space, though Deloitte predicts that in the long run this could be a big opportunity for the technology community.

The key to harness the full strength of UID would be in ensuring that data is available seamlessly across the various arms of government. To illustrate, only a seamless integration of census data and patient information can help in building a comprehensive community healthcare programme. We envisage that the structure of UID would move more towards a Freemium model, where the services weaved around an Open-data platform would be monetised. While technological barrier to achieve this is not so large, this may require significant policy level mandates to be implemented across government agencies.

A few enablers of G2C initiative, which in the meanwhile may be encouraged, are investment in last mile FTTH connectivity; cloud infrastructure that would be capable of handling such a humungous amount of data; digitisation of records and content and data security. Deloitte sees many firms leveraging this opportunity presented by the underlying infrastructure required for disseminating the G2C services.

As the larger policy-level debate regarding the structure of G2C initiatives continues, **Deloitte predicts that the coming year would see a few large players and a handful of start-ups joining hands across some segments to offer key "Inclusion services"**. Primary among these would be remittance services that would bring banks, mobile operators, retailers and application service providers / aggregators / banking correspondents on a single platform. The integration will enable offering of banking ability to a larger section of the society via a much wider channel than what could be traditionally offered. Such a model in the long-run can significantly widen its scope by linking to the UID.

Privacy issues would be another determinant of G2C policies. Lawmakers would find a balance to ensure that while enough data is available to a larger community for service deployment, the privacy of individuals is respected and any mala-fide usage is curbed. Overall, this year could witness the beginning of a coherent structure for G2C services in India, with some private sector investments and fledgling start-up activities that would establish the ecosystem.

Bottom line:
2013 will witness more experiments and structural changes around UID and related Government to Citizen services. Policy level initiatives surrounding seamless availability of data needs to be initiated before we see significant traction on services around the core platform. Deloitte expects a few large organisations, especially in sectors like Telecom and Banking to join hands with a set of fledgling innovators to start providing localised "Inclusion Services". The UID ecosystem is likely to foster a Freemium model with specific services around the data platform.

We do need more education

One sector that has seen rapid adoption of technology without attaining maturity is education. New formats of courseware and other content, innovation in delivery and technology for process automation have accelerated the pace of technology adoption in this segment and the same trend is likely to continue in the coming year.

Our belief is that content digitisation and its subsequent dissemination would remain a dominant theme that would drive technology investment in the education sector. **A number of companies engaged in building education-centric tablets would enter the market more aggressively this year**. We expect some products with the most optimised set of features involving form factor, display, interactivity and capability to run applications to succeed in the market. However, they will have to maintain a low bill of material (BOM) so as to qualify as a cost-effective alternative for traditional medium of education. Vendors may come to the conclusion that their offering may not necessarily be an e-reader, interactive platform and a personal mobile device rolled into one package. The requirement would drive the features and we see enough room in the market to accommodate at least a few different players in the long run. While innovative hardware would play a key role in shaping this ecosystem, there are a whole host of issues that need to be considered before the adoption of tablets becomes more common. Key among these are a clear strategy for ensuring that the cost of device and subsequent content becomes lower than paper-based education or at least converge towards a same price point. There is also the need for strategy level initiatives to steer the transition from a textbook-based model to that of digital content without any significant loss of content and knowledge[5]. In the short term **we expect this model will rely on government support in the form of PPP and policy level guidance before it reaches a sustainable scale**.

Digital content will definitely remain a key driver in this space. Three sub-trends that would be dominant here are digitization of legacy content, localization of existing digital content and creation of completely new and predominantly interactive content. While the first two would generate substantial traction in the short run,

the third would create long term revenue prospects for the content providers. The dissemination of the content is likely to be more tilted towards an IP/Web-based delivery for the present, while its interplay with mobility would gradually evolve. Overall we see a structural shift in education from being a dissemination process to an experiential and interactive process.

Adoption of ERP platforms, especially by Universities is expected to drive up the technology spend in terms of value. While, so far, the ERP adoption and its application has been limited to automation of processes like admission, examination and result processing, scheduling, etc., Deloitte predicts that the real value of this segment will be realised once the collaboration among students and teachers can be established seamlessly for coaching, projects, examination and assessment. Also **as universities move towards common best practices, technology vendors would be able to provide cost effective solutions requiring minimal level of customisation**.[6]

With more than 8,000 institutions under AICTE, around 600 universities and an equivalent number of other professional institutions, this segment shall see a lot of action over the next few years.

> **Bottom line:**
> Digitisation and subsequent dissemination of content would remain the dominant theme of ICT-adoption in education during the course of the year.
>
> A more sustainable model will emerge in the next year addressing the adoption of tablets in schools. But the emergence and acceptance of such models would be dependent upon the government and policy level initiatives to support the migration from paper based to electronic based education.
>
> Business from digitisation of legacy content, localisation of existing digital content and creation of completely new and predominantly interactive content is expected to increase substantially. Currently digital content is more likely to be delivered via IP/Web-based channels and its interplay with mobility would evolve later.
>
> Adoption of ERP platforms among education institutes would be a key driver for technology investment in this space.

Cloud
The ascent continues

Indian corporates especially in the SMB segment have been reluctant adopters of technology primarily on cost consideration. The adoption of cloud in its various forms seems to have reversed that trend.

As our last edition of this publication had highlighted, cloud adoption in India would reach significant levels over the next 2-3 years, driven by increasing uptake across a broad base of large enterprises, SMB, as well as, individual (non-corporate) technology users. There has been a surge in adoption of the cloud as most of the SMB are using productivity software services from large vendors like Amazon, Google and Microsoft. These companies have also become early adopters of public cloud model as they are more cost conscious and less sensitive towards data security issues. The SMB adoption at this stage is primarily driven by Software as a Service[7]. **The segments where we foresee continued adoption of the cloud by the larger corporations could be in CRM, Finance & Accounting and Recruitment processes** because of the non-real-time nature of such applications. Other high adoption segments could be Business Intelligence and Collaboration.

The large enterprises, though consuming a substantially high volume of services from the cloud vendors, would remain less inclined to embrace public cloud. Their preferred mode has been a Hybrid Model of adoption which we perceive is a long-term trend and not merely a measure to mitigate the network cost of adopting cloud or the associated risk that arises out of infrastructure related issues. Such a model provides flexibility in application and infrastructure deployment and optimal deployment of internal and external resources[8]. The other large consumer of cloud could be the Government to Consumer (G2C) services, which would see a steady growth in the coming years. As such G2C services move more towards an Open data model, cloud adoption especially Infrastructure as a Service (IaaS) would witness significant uptake. This may eventually tilt the balance towards Public Cloud as multiple agencies would be required to access the data. But before such a large scale migration to the public cloud model happens among large enterprises and government, the vendors need to ensure that issues of data security,

compensation for data loss, etc. are addressed. Also, improvement in reliability, availability and pricing of bandwidth will play a pivotal role in accelerated cloud adoption.

While Platform as a Service (PaaS) is at a nascent stage in India, adoption of the same could make a sea change in the overall technology landscape in the country. The adoption of PaaS has been very rapid among the more savvy technology start-ups and their number has proliferated owing to the minimal set up cost. In India, the impact of PaaS would be critically dependent on the worldwide adoption of PaaS as a technology. PaaS adoption would change the way bespoke Application Development happens and directly affect the way large IT services companies function. We predict some short time cannibalisation of revenue of Indian IT services providers due to the advent of various cloud models[9]. We predict that the **IT Services companies would start taking a deeper look at their business model in the coming two to three years to ascertain how they can adapt to the new environment**.

Bottom line:

While large enterprises would drive the volume consumption of cloud computing services, we shall continue to witness large scale adoption of cloud-based services by SMB. This segment would largely prefer the public cloud model and the current adoption would be driven by SaaS and hosted infrastructure.

The large enterprises, on the other hand, would continue to prefer a hybrid model. Currently, the large enterprises are likely to migrate relatively non-real-time segments like CRM, BI and Finance & Accounting to the cloud.

With G2C services reaching critical mass, public cloud adoption may get a significant boost with the advent of an open-data model that needs to be accessed by a multitude of service providers.

Platform as a Service and similar business models may not find immediate adoption in India but has the potential of altering the scope and model of application development services provided by Indian IT service firms. This may compel these players to re-innovate their business model.

Payments and Education
Biggest votaries of mobility

Mobility is becoming by-far the most dynamic ecosystem in Indian technology landscape. **The number of customer touch-points that can be addressed due to the availability of mobile technology is so high, that there is a multiplicity of players trying to gain a foothold in the value chain**. Deloitte envisages two distinct strands of DNA that will define the space in the medium term.

The first among this is the ubiquity and acceptance of an open platform across devices of various form factors, usability, etc[10]. The other is the blurring of distinction between the mobile and the web with increasing presence of tablets and smart phones. The first has made the Indian consumer more globalised. The consumer can now access a bulk of the apps that are available in such platforms globally. It has also fostered localisation of existing and custom applications developed to suit the requirement of the Indian consumer. The nature of such applications has changed from being predominantly communication, productivity or edutainment oriented and now also addresses more critical areas like commerce, healthcare, etc. The blurring of distinction between mobile and web format is also creating a paradigm shift in areas like discovery, content generation and access and electronic transactions.

Deloitte predicts a glut of application and services in the mobile payments space. Mobile payments, though modest in terms of its application as of now, are set to become the alternate currency for many transactions. This would become more prominent as smart-phone-based applications work in tandem with NFC devices and other web-based applications. Small ticket transactions ranging from buying a metro or bus ticket, to buying a burger would be the drivers for its growth. Deloitte predicts that mobile payments as a concept would be further linked to discovery tools that would integrate the concept of location-based services and mobile payments. We also predict further integration of traditional banking services and alternate currency using mobile, especially in areas like remittance. The impact of this can also be felt in G2C sector where cash disbursement and related concepts can be linked to the mobile.

Education is another sector that would be positively shaped by developments in the mobility ecosystem. Education content specific to tablets, smartphones and feature-phones would be created or customised from their legacy versions. But before a full-fledged dissemination of content via tablet happens, we expect issues concerning technological and business viability of education focused tablets to be addressed first. Deloitte predicts a set of mature, field-tested and well-differentiated set of tablets to address the education segment for a wide variety of usage[11,12]. The convergence of web and mobile would play a significant role here in bringing together collaborative models of learning, teacher-student-parent interaction, assessment and more efficient scheduling.

Finally, would 4G/LTE have a real impact on the Indian mobility landscape? Like its predecessor, 4G LTE too would have a slow start, given that only the best of the breed smartphones are compatible with the service. But we would see the initiation of new applications and ideas in the market in anticipation of 4G.

Bottom line:
Mobility will be the most dynamic technology platform that would influence a multiplicity of segments of which the most notable ones would be education and payments. The critical aspects that are shaping the mobile landscape are the ubiquity of open standards that facilitates relevant application development and the blurring of distinction between mobile and the web. In India payments and education would highlight the early transformation ushered in by the pervasiveness of mobile technology.

Payment methods would see changes with wider adoption of alternate currency under various use-cases. Deloitte expects significant innovation in this space that will integrate various concepts like location-based services, search and payments.

In education the emergence of open standards and the mobile web interplay would bring together collaborative and experiential models of learning, promote greater teacher-student-parent interaction, and provide more insightful and relevant skill-assessment platforms.

Media

Television
Old school, but still rocking the show

In 2013, Deloitte predicts that television will continue to dominate as a media source and as an impactful medium for advertising. With the advent of digitisation, the industry is expected to expand its reach using the digital platform to virtually every corner of the country. Content too will evolve as it focuses on localisation and targeted advertising to cater to regional tastes and needs.

The 2011 Census of India found that over 47% of Indian households have television sets and when we factor in community viewing, which is popular in rural areas, the coverage increases. Probably the only other device that has a higher coverage is the telephone/mobile. Television's importance as a source of entertainment and a medium for advertising cannot be overemphasised.

The average viewer spends around 130 minutes per day watching TV. Of this, nearly 80% time is spent on a leading set of 30 channels. This means that the rest of the channels—anywhere from 150 to 350, depending on the DTH or cable operator—are fighting for a slice of roughly 26 minutes each day.[13]

The report titled 'India Television Industry at an Inflection Point' states that the television industry would expand at a compounded annual growth of 11% to hit $15 billion by 2017, up from the current $9 billion. This is a higher growth rate than that for China, the U.S. or the UK, but lower than the 16%, expected of the Indonesian television industry.[14]

Advertising
Till a few years ago, print was the undisputed 'King' when it came to advertising media. Since then television, with its reach across all strata of society has become the preferred medium for advertising, While internet advertising is also been growing, it continues to trail the other two, given low penetration levels in the country.

Advertising spends in India are expected to grow 9% in 2013, according to the International Ad Spends 2012 report released by advertising data research service Warc.[15]

The advertising segment, which contributes about 35% of revenue in the entertainment and media industry in India, is dominated by television and print that constitute about 80% of the pie. This suggests that both the segments will continue to dominate the industry over the next five years.[16]

This trend re-emphasises the viewers' preference to watch television. The Media Democracy Survey, commissioned by Deloitte found that 51% of those surveyed preferred to watch television on any device. Further, 64% responded that watching advertisements on television had the most influence on them, followed by reading them in the newspaper.[17] With targeted advertising and localisation services, campaigns can be focused on a city or even a specific locality in a city.

Due to these changing trends, media planning for a campaign is more relevant than before. Matching ad campaigns to content and target audience are more critical as television viewership expands. There will be regional content in advertising, which will become an important part of a media campaign. With the number of channels in India crossing the 500 mark, the reach of an ad campaign can be phenomenal for building or maintaining a brand. Dubbing an advertisement in local/regional language and weaving the same with an outdoor and/or print media campaign is a trend, which is increasingly seen in the country and will be targeted to garner maximum recall amongst the masses.

It is established that **the television is a very effective medium of advertising and will ensure that it will continue to grow and dominate the arena**.

Digitisation

The Ministry of Information and Broadcasting, Government of India, has stated that 85% of the Cable TV digitisation has been achieved in four metro cities i.e. Delhi, Mumbai, Kolkata and Chennai[18] and the next phase of mandatory digitisation has been kicked off with more cities/towns being covered. With digitisation, viewership measurement and ratings of the channels will see quantum improvement. Media planning will be based on more accurate information as clients will have more data points available to enable decision making to maximise the reach of their product/service.

Mandatory digitisation will provide a boost to the television industry, as a whole. For example, digitisation leads to an increase in the sales of 'set-top' boxes. This has also resulted in expanding volumes for satellite broadcasters – known as the 'Direct-to-home' or the DTH platform. The indirect effect of digitisation will also be substantial in the medium to long term.

Digitisation also makes viewing a more fulfilling experience for viewers with the ability to control his/her spends for content and the capability to view programs/content at their convenience. This facility will also influence ad agencies while formulating ad campaigns for clients.

Smart Televisions

The market for television sets has also seen significant shifts in last decade. The market, which was once dominated by 'Cathode Ray Tube' (CRT) television sets, shifted to Plasma TV then 'Liquid Crystal Display' (LCD) sets to, recently, 'Light Emitting Diodes' (LED) and 'High Definition' (HD) sets. Globally, the next generation of HD TV known as 4K (offering four times the resolution of the current HD TV) will be rolled out during the year. The trend hasn't stopped here. The TV set is now evolving to 'Smart Televisions'. Internet-based services, including traditional broadcast channels, catch-up services, video-on-demand, electronic program guide, interactive advertising, personalisation, games, social networking, and other multimedia applications, are all part of the Smart Television. With internet succeeding in gradually attracting the masses, the growth of Smart Televisions will also fall in-line. However, due to the limitations in availability of bandwidth the extent of penetration of internet in the country is low. Therefore we believe that Smart TVs will need to wait for its day in the sun. According to 6Wresearch, India Smart Television market was valued at $0.22 billion in 2011 and is expected to reach $10.41 billion by 2017, growing at an impressive CAGR of 87.02% during the period 2012-2017.[19]

Bottom line:

Television will continue to dominate as a media source and is now ahead of the newspapers.

Though advertising on television is not the only option, it surely is a very effective medium. Ad rates will be affected with digitisation stepping in and would be based on more realistic viewership ratings.

Digitisation will have an impact on all. Viewers would be spoilt for choice and will be able to choose the content they wish to see and pay for the selected content. Broadcasters would benefit in terms of improved transparency and expected higher revenues.

Smart Televisions are the new 'kids-on-the-block'. However, their growth is dependent on various factors – major being the penetration of broadband in the country.

Print Media
Time for transformation

In 2013, Deloitte predicts that newspapers will remain pervasive and will continue to form part of the fabric of Indian landscape. Today, more people read newspapers than ever before, thanks to the multi-mediums in which it is available. This has prompted publishers to find more ways to match that growth with revenues from other avenues, such as, the digital platform.

According to available data, more than half of the world's adult population reads a newspaper. More than 2.5 billion read the print edition and over 600 million read the digital edition. This represents more readers than total global users of the internet.[20]

In India, new newspapers being published will continue to grow at around 6% every year. While circulation numbers continue to grow across all editions of newspapers, this is more evident in the regional editions, which seem to have a very strong brand following. While the 'instant news' era of 24 hour news channels on television has had its impact on the circulation numbers of newspapers, it is evident that India still 'wakes-up' with a cup of tea and the newspaper. The highest circulated daily in India still remains a regional language newspaper.[21] At the national level, the English language dailies rule.

A trend that is picking-up is that of the digital edition of newspapers. Though impacted by bandwidth challenges, changing lifestyles, particularly in metro cities has led to more people being 'on-the-move' and wanting to catch-up with the latest on their tablets or handhelds. More applications (apps) are predicted for the print media, which will help the publishers to monetise digital content. Incorporating premium content on the digital platform is another strategy being implemented by the publishers. Since the future is in digital content, the business parameters of the publishing world (which includes magazines) are poised for a major change.

Magazines on the other hand could have a bumpy road ahead. In general, the circulation of national weeklies/monthlies is on the decline due to the exposure of similar content on television and on other mediums. Here too, publishers are exploring innovative means to monetise digital content by publishing digital paid

editions of the magazines with additional exclusive content bundled in. This trend could take-off for the publishers, on the back of the roll out of the broadband internet network in the country. This has already started by way of roll-out of the 3G mobile networks, which is now preferred by the youth and is an enabler for the digital publishing content – both for newspapers and magazines.

As the printing industry rejuvenates itself, the focus will be on making investments in digital printing, which represents a market growth opportunity for technology vendors, as well as, users. Projections indicate that while digital monochrome will decline, the retail value of digital color will experience a CAGR of 5.4% between 2010 and 2015.[22]

In the recent Deloitte Media Democracy Survey, when respondent was asked 'When you encounter advertising in the various media, which three forms of media have the greatest influence on your buying decision?' Almost 64% identified television as the primary influencer and about 63% mentioned newspapers as the next influencer.[23] This trend, although declining as far as the print media is concerned, is likely to stay around for the next few years. The pricing of newspapers is still advantageous to the reader as it does not pinch the pocket and delivers the needed 'infotainment' in a format familiar to the user.

Bottom line:
Newspapers will remain pervasive and will continue to form a part of the fabric of our societies.

More people read newspapers than ever before, thanks to the many ways they now can be accessed. Publishers will need to find more ways to match that growth with revenues from other avenues, such as, the digital platform.

As the printing industry rejuvenates itself, the focus will be on making investments in digital printing, which represents a market growth opportunity for technology vendors, as well as, users.

Newspapers will remain the second biggest influencer behind television as the preferred advertising media.

Social Media
Expanding infinite boundaries

In 2013, Deloitte predicts that Social Media will increase its dominance further over other forms of media for connecting to the masses both at a personal level and for business purposes. Users will tend to spend more time on social media either for communicating in the virtual world or searching for their favorite webpages or simply echoing their voice about the current political and social issues concerning them and their lives. Social media users are expected to grow by approx. 21%in Asia-Pacific (including China, India, and Indonesia).[24]

As for marketers, social media will provide infinite opportunities to grow their businesses beyond geographical boundaries and get on to the stage at national (including regional) and international levels.

Mobile access
When it comes to mobile access, smart phones are the preferred device compared to laptops and desktops. Increasingly, it is becoming evident that mobile internet users will exceed the wired users. The growth rate of mobile internet users will primarily depend on the success of internet penetration in the country and that of faster and more reliable mobile networks – like 3G and forthcoming 4G.

Software development for mobile platforms will need to be 'in-sync' with the development of hardware and advancement in technology for transmission and networks. Ease of navigation and more features for sharing information between private users will be the key to success of such software development. Instagram, for instance, has more mobile users than Twitter.[25] Users will follow the 'Trending Apps' list and try out newer and improved versions of social networking apps. Innovation will be the key in developing and rolling out newer Apps that address the ever increasing need to connect to social media platforms. As per a recent article, Instagram has already reached 80 million users in July 2012 and soon there will be more mobile phone-based applications of a similar nature.[26]

Social, local and mobile (SoLoMo), a terminology that gained popularity on 2012, will continue to gain ground in 2013. Social networking sites will help feed data analytics for the retailer, who then can use the same to target separate segments of consumers. The result will be more target-focused campaigns and personalisation of businesses.

Enterprise social networking
Companies have been using Social technologies to improve intra or inter-organisational collaboration and communications. Also social technology is being used to match talent with tasks. Companies have identified that increased enterprise social networking can add immense value to the organisational functions, such as – Product Development, Operations and Distribution, Marketing and Sales, Customer Service and Business Support. There is a great untapped potential for social technologies to improve communication and collaboration within and across enterprises. Productivity can be increased manifold by regular and intelligent interaction amongst employees using social technologies. Today a huge amount of relevant enterprise knowledge is locked up in e-mail inboxes – which is referred to by the user as per the needs. Also with increasing availability of internal knowledge and information on social media, time spent on searching for information can be reduced.

'Connect' to be the Mantra for growth and for building Brands
Customer relationship management on social media will enhance visibility and encourage more brands to leverage these platforms to create brand awareness. The need to directly interact with consumers makes it critical to connect using social media platforms. Increasing numbers of B2B and B2C companies are building up domains on social networking sites to connect with businesses/customers. **This interaction will take all forms, including registering complaints for products/services or getting more information of the same or staying abreast with the latest consumer trends and technologies in products/services concerned**.

Social networks will push ahead with new social ad models like Promoted Tweets and Sponsored Stories. Behind it all is the concept of convergence - the idea that advertisements and content can be interchangeable For instance, companies are already sending out Tweets to followers on their social media channels. Using analytical tools to identify the most read tweets, they can selectively amplify the best of the bunch as Promoted Tweets, turning content into ads and reaching an even larger audience.

After its acquisition by Facebook, Instagram saw its share of social media traffic **grow by 17,319% in 2012**, while Pinterest grew by 5,124%.[27] This demonstrates that niche networks, which offer deeper,

more focused functionalities overlooked by the bigger players, will continue to experience truly explosive growth.

In a recent survey commissioned by Deloitte, almost 51% of the interviewees, who went on-line, visited their social networking site. 61% used mobile devices to update their profile page on the social networking site. Further, 47% discussed social networking sites in conversation with friends, family and at the workplace. The interviewees also preferred to have intelligent software on their social network which, for example, alerts them on happenings in their neighborhood or in their fields of interest at their social networking page. All this relates to an exponential growth in the use of social networking and related sites.[28]

Formalization

A recent Harvard Business review survey showed that only 12% of the companies using social media feel they use it effectively. In 2013, there will be more social media coursework at universities, as well as, dedicated social media MBA programs, as schools rise to the challenge (Syracuse, NYU, Columbia, Harvard Business School and other higher educational institutions have already begun such courses).[29]

Most critical of all will be social media compliance training to ensure that workers in sensitive industries from finance to healthcare uphold regulatory standards while taking advantage of social media's benefits.

Bottom line:
Mobile (mainly smartphone) Internet users are set to overtake wired Internet. Therefore, Mobile apps would be a necessity in every business.

Companies have identified that increased enterprise social networking can add immense values to the organisational functions, such as – Product Development, Operations and Distribution, Marketing and Sales, Customer Service and Business Support.

Customer relationship management on social media will enhance visibility and encourage more brands to leverage these platforms to create brand awareness.

More and more users of the internet are increasingly using the social networking platforms and access to these is preferred through a mobile device.

In 2013, there will be more social media coursework at universities, as well as, dedicated social media MBA programs, as schools rise to the challenge.

Movie Content
Digital means of entertainment

In 2013, Deloitte predicts that growing consumer demand for movie content will lead production houses to be more innovative and will witness an increasing shift towards a digital format.

Digitisation allows consumers to indefinitely store and access digital content and is becoming increasingly popular for its convenience and availability of a wider selection of content. Such technology has the potential to boost consumption of movie content because it does not allow users to rent or share it.

A recent report from IHS Screen Digest, a company that analyses trends in digital media, says that movie studios will cease producing 35 mm film prints for major markets (the U.S., France, the UK, Japan, and Australia) by the end of 2013. In India, the economics may be spurring directors toward digital movies, but theaters are yet to pace up. The move from film to digital will almost certainly create a burden on theaters to invest money on new projection technologies. Digital projection systems can cost between $70,000 to $100,000 and small town movie houses may find it difficult to find that kind of cash.

Digital and 3D screens are being installed in more and more cinemas and the trend will continue. Digital screens allow cinemas to show alternative content. In many countries, people are already able to watch sporting matches, opera and ballets in cinemas. **This trend towards digitalisation, although a potential threat, will cut time and costs for distribution companies, helping boost the industry's average profit margins**.

At present, the movie and video distribution industry in India is highly fragmented, with a large number of small operators. Distributors will increasingly consolidate their operations in an attempt to broaden their value-added service offerings and increase their market shares. The Hindi movie industry, popularly known as 'Bollywood' releases a minimum of 200 films in a year, with at least one release every Friday of the week. There is a lot of content, which the distributors can pick-up for their film distribution business. However, as is the case the world over, movie audiences are unpredictable and with the substantially higher investments required in the distribution industry, the trend will be one of caution.

The regional film industry will also see growth in double digits, around 10%, as they too fight for space in the regional language sectors. The film industry in South India remains a strong competition for Bollywood. Increased regionalisation will be the key to the success of content, which often gets dubbed in various languages to increase viewership.

Hollywood too, has a big presence in India. With western studios and distribution houses setting shop in India, films from the West have good viewership here. The increasing trend of dubbing popular movies in various regional languages will also see a rise as Hollywood content continues to excite the Indian viewer. There are more than 10 Hollywood films being released in India every month and this trend is expected to continue as the content is well-received both in metros as well as Tier II cities.

The multiplex industry is closely mirroring the growth of the celluloid world. However, the business model is very different here, as these capital intensive investments takes years to realise and multiplex owners have to try out innovative strategies and models to get the viewers interested in spending time at multiplexes. Also, the growth in this sector is connected to the growth in real estate market – particularly the commercial-mall industry. Any dip in demand of malls will have an impact on multiplex owners.

The digital platform in films also includes the 'video-on-demand' feature on television. Through cable and 'direct-to-home', viewers are increasingly opting to watch latest films from the 'comfort of the couch'. The recent trend of making recently released films available on these platforms has seen producers, distributors and broadcasters taking advantage of this trend.

To combat the 'monster' of piracy, there were attempts by production houses to release films initially on the internet followed by the theatrical release. This is an unexplored area and most producers are adopting a 'wait and watch' strategy here.

As the world increasingly connects wirelessly, a time may come when viewers may get to watch a new release on their handheld and portables! Whether, in this scenario, the DVD will make its exit, is yet to be seen!

Bottom line:
Growing consumer demand for movie content will lead production houses to generate more content in the digital format.

The move from film to digital would create a burden on theaters to invest money; they may not have on new projection technology.

Distributors will increasingly consolidate their operations in an attempt to broaden their value-added service offerings and increase their market shares.

Growth in multiplexes is connected with the growth of the real estate sector – mainly the commercial-mall industry.

Combating piracy may lead producers to use innovative channels and digital platforms for sharing content. This may result in viewers using personal devices to watch movies.

Telecommunication

4G is still a few years away

Smartphone market will grow but usage will remain simple

Voice and data tariffs to undergo transformation

Dumb pipes becoming smarter
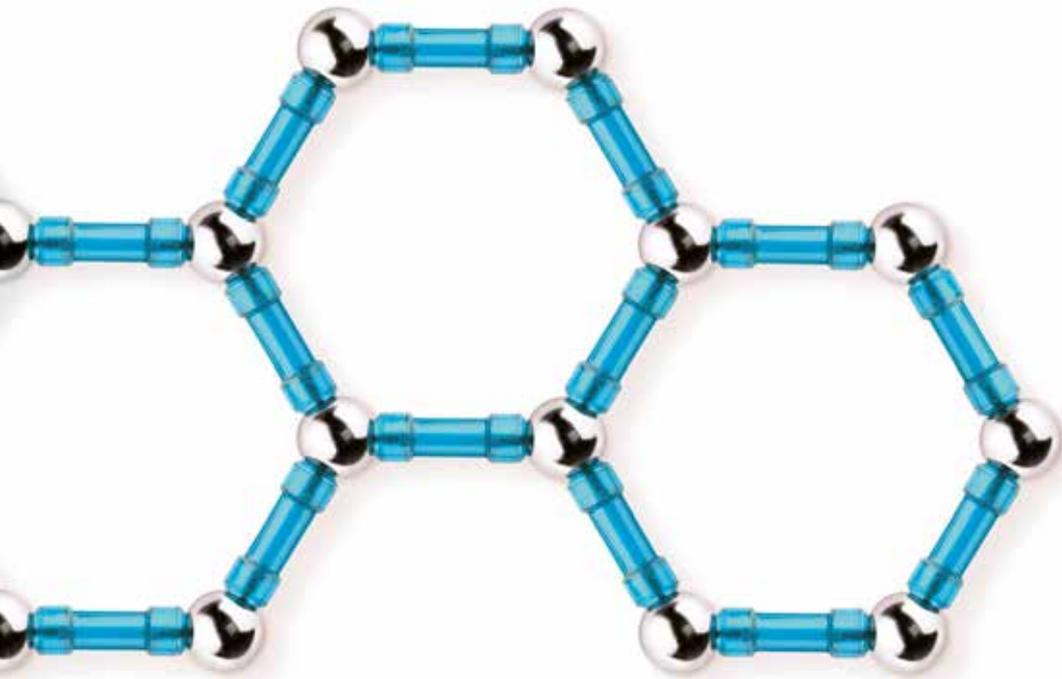
4G is still a few years away

The impact of 4G is likely to be significant on the Indian telecom market when most of the Broadband Wireless Access (BWA) license holders will roll out LTE services across the nation in 2013[30]. There will be substantial impact of 4G launch on the enterprise segment[31].

LTE was first launched in Sweden in 2009[32]. Growth has since been steady but slow, with exception of the United States, Canada, Japan and South Korea, which have seen faster take up.[33] By end 2013, more than 200 operators in 75 countries will have launched a LTE network.[34] About 300 LTE devices (smartphones, tablets and dongles) are expected to be available by year-end, including a growing range of sub-$100 smartphones.

India was a late entrant in the 3G arena, but as the auction of BWA and 3G spectrum was done simultaneously, India stood almost in-line with other countries to grant spectrum and to launch LTE networks. There might be several reasons for the delay in 4G services. LTE ecosystem is still developing. The number of towers required to launch 4G services (due to frequency band of 2300 MHz) will be more than that required for 2G services, thereby, increasing cost to the operator. The new electromagnetic frequency radiation (EMF) radiation norms set by Indian Government needs to be met. Widespread availability of 4G-enabled devices working on 2300 MHz band will be a challenge and depends on the price point at which they will be launched. Considering the vast geography of India and the lack of competition with pan-India presence, it would take some years for LTE operators to provide seamless coverage, which may impact adoption of 4G.

Bharti Airtel took the lead in rolling out LTE services on dongles and wireless router in Bangalore, Kolkata and Pune in 2012.[35] As per the tariff plans launched by Airtel, the 4G services in these cities cost between INR 100 to 150 per gigabyte (GB) (3G service is cost between INR 150 and INR 250 per GB). It is likely to expand its services to other areas in 2013, where it has BWA spectrum. Users in these cities are grappling with limited coverage, limited availability of devices, non-availability of compatible LTE handsets or tablets, steep downgrades in speed after the utilisation of plan data and high tariffs.[36]

New pan-India players are likely to enter the market with 4G services in 2013. Lack of 4G-enabled devices working on 2300 MHz band are expected to be fulfilled by Mi-Fi[37], which will convert 4G signals into Wi-Fi signal, hence, extending its reach to all current smartphones, tablets, laptops and other devices in the market.

This could impact the other players, both in 4G, as well as, 3G. LTE is more efficient in carrying data than 3G networks over a given amount of radio spectrum, meaning that the cost to the operator of carrying a gigabyte of data on an LTE network should be several factors lower than for 3G. Customers using 3G may move their relatively high data usage to LTE networks triggered by the availability of higher speeds. This is likely to be a disruptive trend for the 3G service providers who have paid large amounts towards license fees and infrastructure. Also the other 4G players (having 4G license in fewer circles) could be impacted with these low tariffs and bundled device offers.

The launch of 4G will also be disruptive for fixed line broadband (although the penetration levels are not high). **Due to the lack of optic fibre infrastructure, the bandwidth offered on fixed line in India is far from being competitive with 4G.**

The New Telecom Policy 2012 has opened doors for ISPs to provide VoIP services in India. This is another angle where 4G could prove disruptive in the primarily voice-driven (voice revenues amount to 80% of total mobile revenues) Indian telecom market. ISP players with 4G spectrum will have a competitive advantage by routing voice calls on data networks of LTE and bundling these voice calls free with data plans. Such bundling offers could be a boon for enterprise segment and all the international long distance (ILD) users. This could adversely impact the ILD service providers as most of the customers would move to LTE networks for making high quality international voice and video calls. Nevertheless, given the robust network of inexpensive 2G voice services in India on affordable handsets, there is unlikely to be significant impact of Voice over LTE (VoLTE) on 2G service providers.

Overall, Deloitte expects the majority of voice calls made over LTE handsets to continue to be carried over 2G or 3G networks. While LTE networks will be fast enough to support video downloads, Deloitte expects that LTE will be used only occasionally for video download, due principally to the cost of serving that capacity and /or the data costs to the end-user.

There may be no new killer app for 4G that 3G could not deliver. Deloitte expects that usage of 4G handsets, tablets and dongles will be largely similar to that of 3G. Voice calls and simple text-based messages are likely to remain a key usage of LTE phones. What will differ markedly, however, is the user experience. Browsing a website could be faster and more pleasurable. Photos captured on a device may be shared at a higher resolution than with 3G, simply because the upload for a larger file takes less time. For business users, e-mail is still likely to remain a key application, but sending and receiving e-mails with bulky attachments should be an easier experience, and as such is likely to be attempted (and accomplished) more often.

Initially, LTE network coverage is likely to focus on urban areas, as this is where the majority of traffic is generated and revenues are earned. However, mass market adoption is unlikely in 2013. Deloitte believes it will still take few years for the ecosystem to develop for adoption of 4G services by the masses.

Bottom line:
Operators will increasingly need to make offerings independent of technology, device and network. A key question for operators across the globe, especially in India, remains how to price LTE services to encourage demand for LTE while ensuring a return on investment. Operators will need to come up with unique pricing models keeping a balance between affordability and data usage of Indian populace.

As India is an acutely price-sensitive market dominated by prepaid users, offering LTE handsets at lower prices is likely to be a significant driver of adoption. The availability of $100 LTE handsets suitable to the LTE band 2300 MHz in India, which helps user in voice, data and video, could result in a faster adoption of the service.

As most of the operators would launch their LTE services in 2013 and as consumer uptake has been limited so far for 3G/4G, operators need to communicate a simple message to consumers: LTE can offer speeds of up to five times higher than the existing 3G connectivity. While being enthusiastic, operators will need to ensure that they can manage expectations.

Smartphone market will grow but usage will remain simple

In 2013, Deloitte predicts that global shipments of smartphones, defined as any device perceived by consumers as being a smartphone, is likely to exceed by one billion units for the first time and a large proportion of it will come from India.

Growth of smartphone sales has surpassed sales of feature phones in India, although they have a relatively minor share in the overall handset market[38]. Several factors are driving smartphone adoption in India:
• Affordable smartphones along with the introduction of high speed internet services such as 3G and 4G are making headway.
• Application stores are continuously increasing the 'wow' factor as they have helped increase smartphone utility and the user experience[39].
• Advanced calling features coupled with the instant messaging options make smartphones the primary devices used by enterprises for facilitating mobility amongst its employees.
• Mobile operators offering mobile phones under their own brand are pressurising handset manufacturers to sustain a strong brand image and to produce innovative products, which further increase competition in the market.
• Local smartphone vendors are now challenged by global players that have matched them in terms of affordability and number of features and are now graded higher by customers due to their brand reputation[40].

As the base grows, usage is likely to stratify further[41]. The absolute number of those exploiting the full breadth of a smartphone's capability is likely to increase. In addition, the proportion and absolute number of those using only the basic functionality of a smartphone – voice, text, and photos – is also likely to rise.

One significant example of diversity in usage of smartphones relates to data. When smartphones were first launched, a key difference was the ability to handle data, as well as, voice. Yet in 2013, one in every five smartphone owners, globally, may never or rarely (less than once a week) connect to the Internet through cellular or Wi-Fi. While in case of India, the trend would compute to two in every five smartphones owners.

The reasons for using these phones in such a basic way are multiple and often overlapping:
• The limited capability of new entry-level smartphones and older hand-me-down high-end smartphones
• The lack of interest or ability among a proportion of smartphone owners to use their device's smart capabilities
• The lack of understanding or affordability of data tariffs
• The lack of the required cellular and /or Wi-Fi infrastructure that would enable a user to exploit the full set of a phone's smart functionality
• The low battery life while using data services[42]

In 2013, any full touch-screen-based device, or any device with a full QWERTY keyboard, might be described by manufacturers, presented by salespeople, or perceived by purchasers as a smartphone. In marketing and in stores there is no enforceable rule on what can or cannot be promoted as a smartphone.

Owners of entry-level or older smartphones may download and try out apps, or browse some sites soon after acquiring their devices, but if the experience is poor, they may never try it again . It may be that the only apps this category of owners will ever use are those that come pre-loaded onto the device. According to Deloitte's research, almost 16% of smartphone owners have never downloaded a single app.

In a few cases, individuals may spend hundreds of dollars on a new high-end smartphone and just use it to make calls and send messages. **Owners of high-end smartphones – as with owners of any high-end products – may purchase these devices because of their build quality, or because of the status that comes with ownership, rather than for their functionality**.

Another reason for under-utilisation of smartphones is that the owner's underlying cellular network may have poor mobile data quality and coverage. While the 3G coverage in cities has been improving, mobile broadband penetration in rural areas remains inconsistent, fixed broadband infrastructure is patchy and public Wi-Fi hotspots scarce.

Bottom line:
Smartphones have been a phenomenal success and are likely to remain so in 2013. Burgeoning smartphone penetration in India is expected to develop a healthy position for enterprise mobility vendors to capitalise on[44].

However, while the smartphones' shipments and installed base should continue to grow as they are likely to be used in different ways by different users.

A key recommendation for operators is to encourage those currently refusing or reluctant to use data services to try them out. Local smartphone vendors are challenged to bring a new differentiating strategy to the market, other than that of offering lower costs, to remain competitive with global vendors and grow their market share.

Understanding the diversity of smartphones and smartphone owners is critical to any company attempting a "mobile centric" strategy. This strategy needs to respect the diversity of the smartphone user base and also acknowledge the reluctance or financial inability of a large number of smartphone owners to use a smartphone for data. Retailers and content companies should determine how their addressable market may vary by phone model or operating system[45]. Just because someone owns a smartphone does not necessarily mean that they will often or ever access mobile website.

Smartphone vendors should determine how best to differentiate their products with target clients who are unlikely to use data services. One approach would be to preload a range of apps, such as games that can be played offline. For apps that require Internet connectivity, content companies or businesses need to subsidise Wi-Fi or cellular connectivity costs, in order to ensure increased app usage outside the existing customer base.[46]

Voice and data tariffs to undergo transformation

Deloitte predicts that voice and data tariffs will need to be rationalised in 2013 to sustain the telecom industry. Operators will leverage on innovative pricing strategies and launch new tariff plans to position themselves competitively in the industry.

Voice and text revenues are declining or becoming stagnant but operating costs are increasing exponentially. An increasing number of operators and the implementation of regulatory policies like mobile number portability lead to increased churn rates. The likely, loss of almost 10% of revenues from loss of inter-circle roaming charges will further hit the operators in 2013. Competitive pressure and price wars are forcing operators to reassess the pricing of voice and data services.

Although consumers are signing up for mobile broadband in record numbers, often encouraged by flat-rate pricing, networks are becoming congested and are either running slowly or denying access entirely. Data traffic is not translating into equivalent increase in average revenue per MB. Also, the quality of service has gone down in order to comply with the new EMF radiation norms. Poor quality of service translates into poor user experience. Unhappy customers are voicing their displeasure – but seem unwilling to pay more to improve service.

There is a strong need for more rational pricing, especially in the mobile market. Firstly, this is forcing operators to move away from unlimited plans and promotional offers. Secondly, this is pressing them to consider an increase in the tariffs in urban areas to compensate for the rural operations[47].

However, Deloitte expects that the tariff hike will be gradual in 2013 - either in the form of removing discounts or increasing tariffs nominally, so as to prevent a sudden drop in volumes due to a significant hike[48]. This trend has already begun with many operators discontinuing the promotional offers and freebies[49]. They are gradually increasing the voice and SMS tariffs of both, prepaid and postpaid plans, to support network infrastructure upgrades.

The consensus view on global data pricing has been that the only way to attract subscribers is to offer unmetered data. Moreover, the consensus also suggests that once made, the offer of unmetered data pricing can never
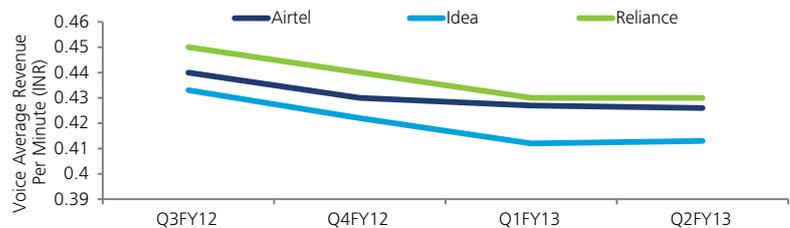
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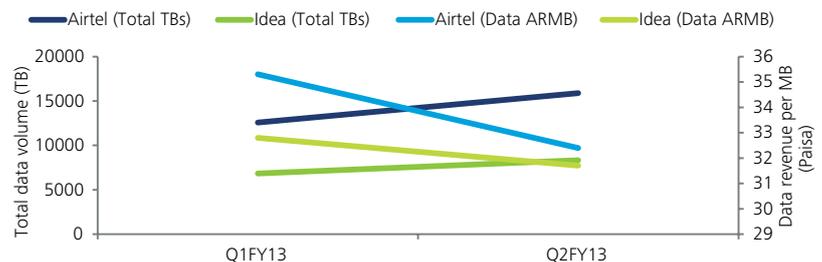
Source: Company quarterly reports

be withdrawn without enormous customer backlash[50].
However, Deloitte predicts that in 2013 network operators in India – both wireless and wire line – are likely to stay away from unlimited data pricing plans and become stricter towards fair usage policies. Specifically, 'power' users will almost certainly be billed for how much data they use, and may be even charged for when they use it and also what kind of data is being used.

Moving away from "unlimited" is only the first step – a key question is what kind of metering will work best. Should charges be similar to utilities such as water or electricity?

On the other hand, a pure metered "pay per byte used" could dramatically reduce revenues for carriers. Many service providers offer tiered service, with various caps on total bits used in a billing period. But, once these caps are exceeded, each additional bit can be prohibitively expensive or the speed is likely to be drastically reduced to few kbps. These coverage charges may make sense from the carrier's perspective

as they create an incentive for the consumer to opt for more expensive plans. However, it leads to unhappy customers either due to bill shock or due to poor user experience after the capped usage.

In order to stop the subscriber loss and to grow market share, Deloitte predicts that in 2013 operators will be leveraging on innovative pricing strategies to position themselves effectively against their competition.

For example, recently an operator had launched a unique 'All Share Postpaid Plan', which allows up to 10 members within a family or group to enjoy free sharing of voice, data and SMS on a single bill[51]. Having one contract, stops users from picking different tariff plans from different operators and also helps providers to acquire and manage a single account instead of separate subscriptions, eventually reducing subscriber acquisition and management costs.

Also to develop targeted services and tariff plans, operators will increasingly leverage on the customer analytics, which provides a more detailed view of the customers' usage patterns, leading to new revenue sources.

Continuous innovation in the telecom sector has enabled operators to provide telecom service to people at lowest tariff rates. Operators have been continuously reducing CAPEX and OPEX through innovative business models (outsourcing core network operations and network sharing) and marketing service offerings (per second billing, bundling offers, micro-prepaid).

Bottom line:
Telecom tariffs have been on a long-term downward trend. Changing consumption patterns and market conditions, as well as, competitive pressure from peers and new entrants, substantiate the need for operators to be creative and innovative in whatever they do.

Pricing is an important criterion for customers when they decide to switch service providers. Innovative tariff plans of voice and data services are one of the best ways for operators to differentiate themselves from the competition. Tariff plans, which provide flexibility to connect multiple devices, differentiated pricing at off-peak hours and seamless connectivity via 2G, 3G, 4G and Wi-Fi are likely to attract customers. Deloitte expects that segmentation of customers and targeted marketing of different service offerings would be critical for success in 2013.

With reduction in subscriber base in 2012 and the market heading towards saturation, the operators will need to focus on retaining the customers. Hence, getting the most out of customer data and consistently managing customer experience are likely to be the key differentiators for operators going forward.

Dumb pipes becoming smarter

2013 will see telecom pipes to add greater value to the content that they carry between smart devices. It will probably see the beginning of collaboration between over the top (OTT) players and telecom operators to convert telecom networks from mere connectivity pipes to smart pipes. In addition Deloitte predicts that operators will identify new revenue opportunities in verticals such as energy, healthcare, banking, advertising, etc. to make a range of business-to-business (B2B) services available to a larger number of customers.
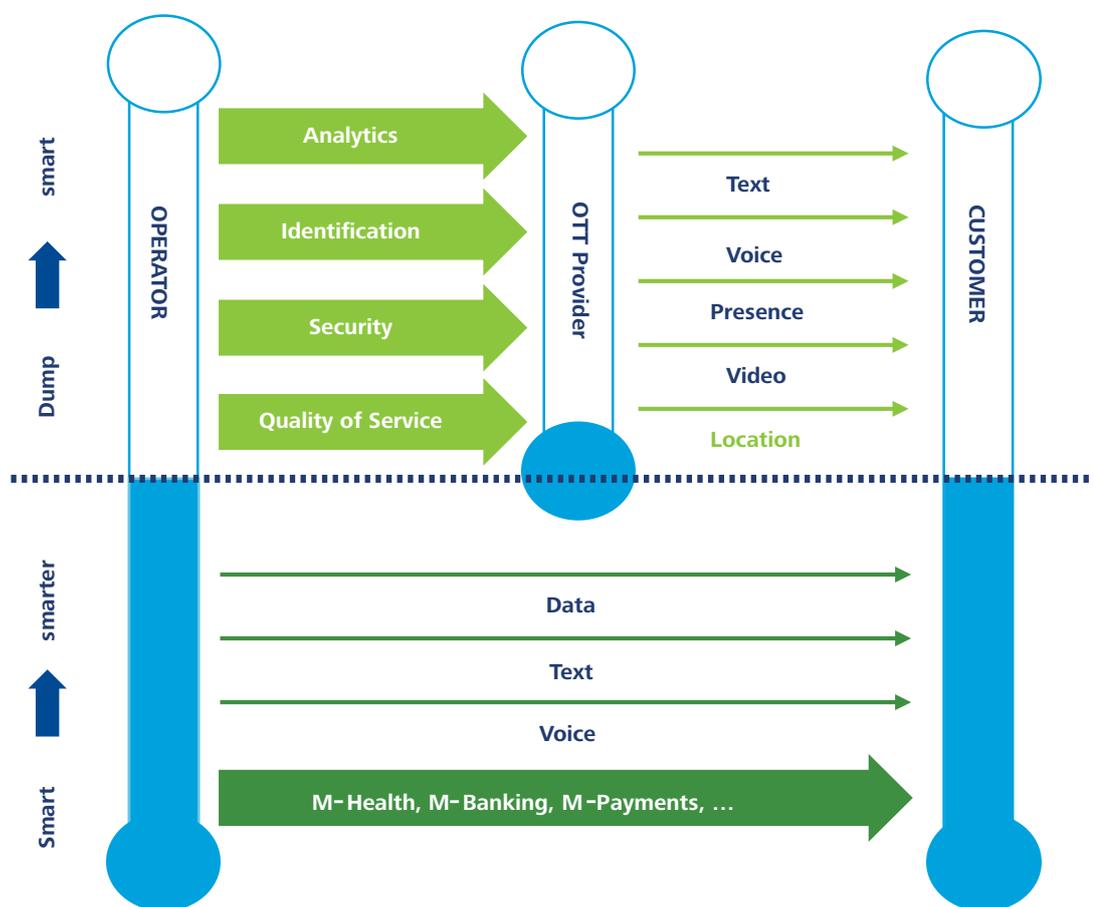
Source: Deloitte

Telecom networks from dumb to smart pipes

So far telecom operators do not differentiate between the content third parties are routing on top of the data network of the operators, making the network nothing but a dumb pipe. With collaboration of network operators and third party service provides, these dumb pipes can be turned into smart pipes, representing a substantial market opportunity for both operator and the third party.

OTT applications and services have major implications on the business models of both fixed and mobile network operators. Network operators are not in a position to compete with the globally-established brands such as Apple, Microsoft, Amazon and Google. Voice (via Skype, GTalk) and SMS (via WhatsApp, iMessenger, Blackberry messenger) have been delivered over the top, which directly impacts the revenues of operators. An emerging trend of bundling popular applications with smartphones is also being observed in India. E.g. Samsung Galaxy Chat B5330 comes with ChatOn messenger, Nokia Asha 311 offers bundled apps such as Angry birds, WhatsApp, Facebook, Twitter.

In 2012, as per analysts, about 30 million Americans paid for VoIP service and the VoIP industry is expected to generate about $15.4 billion in revenue[52]. VoIP via a mobile phone has been technically possible since many years but regulatory policies had restricted the same in India till now. But after the approval of National Telecom Policy 2012, VoIP has been fully legalised. Routing calls over LTE could reduce demand on the cellular network and catalyse the disappearance of the voice tariff. However, high quality VOIP is likely to be available only in LTE covered areas, which will still take some time to pick-up in India.

OTT services are attractive to customers as long as they have good reliable underlying data connectivity. Hence, **indirectly OTT providers depend on the quality of service (QoS) provided by the network operators to facilitate a better user experience for the customers**. Skype voice calls or voice & video calls, for instance, are only appreciated by a user if he gets high quality real-time experience without lag and interruption.

After years of fighting over-the-top delivery of communication services, network operators will need to modify business models and consider OTT providers as customers of their services. Operators will need to partner with OTT providers and launch innovative plans, which attract customers towards the data plans. For example, Enjoy Unlimited WhatsApp & Facebook at just INR16 per month! OTT players will need to share the burden of network upgrades (to support the increasing multimedia traffic) and infrastructure rollouts (in smaller cities and rural areas) with operators to mutually benefit from the increased coverage, better QoS and hence user loyalty. Especially to cater to the enterprise segment, OTT players will need to tie-up with network operators to provide high availability, strong security, and other QoS parameters that are pre-requisite for serving enterprises. Such arrangements will help telecom network, erstwhile considered as a dumb pipe, to become a smart pipe.

### Telecom pipe from smart to smarter

Networks are no longer confined to communication services offered by telecom operators but are increasingly used by third parties to offer collaboration and location-based services, presence, customer analytics, financial services, etc. The knowledge that operators have about their customers coupled with their skills and assets in identity and authentication, billing, device management and customer care, allow the operators to position their 'networks' as 'enablers' of digital operations.

In the consumer markets, machine-to-machine (M2M) growth is driven by wireless Internet connectivity being built into an increasing number of consumer electronics. As growing number of devices from various industries such as automobile, healthcare, education, governance, retail are connected to the Internet, seamless and automated flow of data and services in real-time is becoming critical. **Telecom networks are becoming the backbone of several industries as the operations of these industries increasingly depend on the reliability of robust telecom networks.**

Mobile Banking and Payments	• Smartphones, tablets and laptops have become primary platforms for daily banking increasing the electronic payments to 48% of non-cash transactions in FY2012[53]. • IMPS merchant payments are enabled by many banks to facilitate micropayments over the counter electronically[54].
Mobile Health	• National Rural Health Mission (NRHM) the government leveraged the use of mobile phones as part of their efforts to reduce maternal mortality rates by 43%[55]. • India ranked 2nd highest in adopting mobile healthcare[56].
Mobile Agriculture	• India currently has several different information sharing products (including Nokia Life Tools, Reuters Market Light, IFFCO's Kissan Sanchar venture with Airtel, EkGaon and a Monsanto helpline) through which farmers can access information on agricultural best practices, weather and market pricing via SMS, IVR or call centres[57]. • Various voluntary organisations are working closely with technology companies to come up various region-specific and crop-specific solutions and applications to aid farmers improve productivity[58].
Mobile Governance	• Deployment of electronic governance solutions to provide online public services and record keeping, including online bill payment, taxes, land records, income certificates, loans, driving licenses, birth and death certificates and several government entitlement programs is undergoing various states.

The implementation of smart homes, smart cars, smart grids and smart city will add value to the telecom networks as they will carry smarter applications and services. Pilot projects on smart grids are underway[59] and deployments of smart city[60] and smart homes[61] have begun in various parts of India.

Modern networks allow access to more sophisticated applications and services (HDTV, interactive gaming, video on demand, and increasingly Web 2.0), which in turn calls for even more bandwidth. Although this phase has just began, as more and more content gets digitised and as the palate of younger generation improves for applications, Deloitte expects continuous growth in demand of data services. Similar trend is shown by increasing non-voice revenues from 13 to 20% of the total mobile revenues in the last five years.
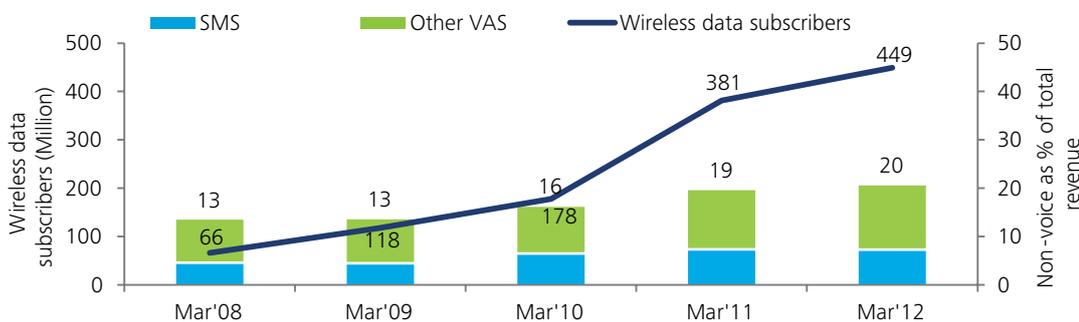
Source: TRAI

Bottom line:
 Depending on how the operators control and add value to the network, will determine if telecom will remain a dumb pipe and earn utility margins or will evolve to be a smarter pipe in future. Smarter networks will benefit end-users, content providers, application providers, technology providers, mobile operators and their vendors. This is the only long-term strategic growth avenue for network operators.

 Operators should understand the short- and mid-term implications of mobile VoIP. The move to all-IP architecture would create a more open environment for these OTT providers and third party services. Operators should recognise that they indirectly benefit from OTT applications and services that increase demand for high-end smartphones and data tariff packages. OTT players should see network operators as enablers of reliable and high quality connectivity in the absence of which users are unlikely to use their applications.

 In order to earn a return on the large investment requirements for building and upgrading modern networks, telecom operators must generate additional sources of revenue. This will increasingly require operators to add new data and video services to their offerings as they cannot afford to depend on revenues from voice and SMS. Most of these offerings will need close cooperation between technology, content and service providers along with handset manufacturers.

Endnotes

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