Telecommunications

Short Messaging Services versus Instant Messaging: Value versus volume

Deloitte predicts that in 2014 instant messaging services on mobile phones (MIM) will carry more than twice the volume (50 billion versus 21 billion per day) of messages sent via a short messaging service (SMS).[56] This is a significantly greater ratio than in 2012, when 1.1 instant messages were sent for every text message.[57] It might be supposed that the growth in MIM is coming at the expense of SMS and mobile carriers. SMS volume declined to 2 SMS per day in July 2013 from 9 SMS per day two years back in India.[58] Similarly revenue from SMS has fallen to 3-5 percent of total revenue, from about 7-8 percent about a year back.[59] However, despite the burgeoning volumes of messages carried over MIM platforms[60], we expect SMS to generate more than $100 billion globally in 2014, equivalent to approximately 50 times the total revenues from all MIM services.[61] This might be slightly different in India as operators have reduced low cost SMS plans due to regulatory changes; resulting in subscribers using other means to communicate.

So MIM services may win the battle for volume in 2014, but SMS will be victorious in revenue terms. We expect SMS to continue to generate significantly greater revenues than MIM even as far out as 2018, by which point global SMS revenues are expected to have started falling.[62] We would also expect MIM services on mobile phones to continue to substitute not just for SMS, but all other forms of communication, from e-mail to phone calls.

Text messaging's superior revenue-generating ability is due to three main factors: ubiquity, technology advancement and business model.

SMS is the one messaging standard common to almost every mobile phone.[63] There are 870 million mobile phone subscribers that can send and receive SMS in India.[64] Especially in India, maximum subscribers use basic feature phones (81 percent of the total mobile market)[65], where SMS serves as the ideal messaging tool. MIM is popular, but it requires a smartphone, tablet or MP4 player. It also needs a mobile data plan, or a connection to a Wi-Fi network. Both are ubiquitous in some regions in the world, but in India, only a small number of people have mobile broadband, and even fewer have fixed broadband. Internet or other telecom technologies are not yet fully advanced, thus retaining SMS an edge. Still India has not fully migrated to the 3G technology and 4G is far away due to the price and limited coverage. 2G is mostly opted by the Indian masses due to its cheaper rates but do not deliver the user experience demanded by the high bandwidth social media apps. The trend has started to reverse with fall in 3G data tariffs, increased smartphone penetration and rise in the youth population.

Further, many over-the-top (OTT) providers are incompatible with each other. Communication via an OTT service requires all parties to have the same app. A WhatsApp customer cannot message a WeChat user directly. In order to communicate, the requisite app would need to be downloaded, otherwise SMS would have to be used.[66]

Some MIM services only work with a single brand of phone. When sending a message to someone using a different manufacturer's phone, SMS is the choice by default. While SMS is common to all smartphones, most smartphones are likely to send far fewer SMS than MIM messages in 2014.

MIM's lower direct revenues may also be due to the provider's business model. Some MIM services are a value-added offering to all users of a manufacturer's device. For example Apple's iMessage service is a feature of the device ecosystem and there is no subscription involved.[67] Facebook's communication services for mobile devices arguably help drive mobile advertising revenues. Some services such as WhatsApp seem to be focused, at least for now, on capturing the largest possible user base, and are not focused on revenue. Other services such as Wechat may focus more on the value from accumulating large volumes of users, to whom value-added services can subsequently be sold.[68]

It is also important to note that while MIM and SMS are based around messaging that is predominantly text based, there are subtle but fundamental differences, which engender different behaviors. MIM is based around two-way communication and an interchange of quick-fire responses. Presence awareness often acts as a signal for one correspondent to start conversing with another – or multiple others. Further, instant messaging's origins are as a free-of-charge PC-based service. By contrast SMS is more about individual, paid-for messages, for sending information.

MIM and SMS are likely to be regarded as direct competitors in 2014.[69]

One analyst estimated that in 2013, MIM depleted global SMS revenues by $32 billion. A single text message costs about 50 paise to send, but an MIM consisting of 160 characters of text may generate less than 5 paise[70], and the MIM provider may not earn anything from this.[71] Given the rising volumes of MIM messages in 2014, the implicit loss might be even higher.[72]

According to the Global Mobile Consumer Survey conducted by Deloitte, almost two-third of smartphone owners regularly use MIM in India. In 2014 it is very likely that trillions of MIMs will be sent in place of a text message. But it is also very likely that, billions of times per day, MIMs will also be sent instead of e-mail, tweets or other forms of communication such as phone and video calls.

SMS's significant revenues and margins in 2014 are likely to contrast with the challenges facing some standalone MIM service providers. The latest transition in the Indian market is witnessed with the entry of more than 100 MIM players.[73] Competition between MIM providers may prevent significant profitability from being achieved.[74] With some providers relying on revenues from app purchases or one-off annual fees, average revenue per user is low. For example, WhatsApp is subscription-based and free for the first year and then it charges users with an annual fee of ₹55 on most mobile platforms. LINE generates maximum of its revenues from voice calls and stickers.[69] As more services become available and competition increases, some providers like WeChat and LINE are forced to buy TV ad space to raise awareness rather than relying on free viral marketing.[75] Indeed the MIM business model may face substantial challenges in 2014, and the upper limit on revenues may be surprisingly low.

But while MIM may be taking revenue from mobile operators in the form of lost text messaging, it may also be driving demand for mobile broadband. And in 2014, revenues for mobile broadband may overtake SMS.[76] While it is difficult to assign an exact value for the impact of instant messaging on the take-up of mobile broadband, it is sizable, and should become larger still over time, as MIM services are used increasingly to send large audio and larger video files. A one minute-long video sent via MIM can be more than 100 times larger than a text-only MIM. MIM eases use of video, audio or photo sharing. While sending multimedia message is not only limited to smartphones, it is also expensive at the same time.

The number of text messages is capped in few mobile plans, thus charging for each additional text message sent thereafter. This drives users towards MIM for broadcasting unlimited messages and freely chatting without exceeding the allotted limit.

Operators have started collaborating with the OTT players rather than acting as dumb pipes. Some provide bandwidth to the MIM players while others are entering partnerships, such as Reliance with WhatsApp and Airtel with Facebook.

Bottom line:

Text messaging is at its peak but in 2014 it should still generate significant margin for the mobile industry. Its importance should be neither overlooked nor underestimated.

There are several ways for operators to respond to the negative long-term outlook for SMS:

- Try and create an operator-owned OTT messaging service to rival the existing providers. For this to work as well as SMS, it would need to be a global standard; if the industry relies on opt-ins on a per carrier basis, adoption is likely to be too slow.[77]
- Incorporate MIM-type features into SMS, such as by replicating the ability to send messages to groups easily, and to include audio and video clips. Presence functionality may also help.
- Rather than competing with MIM services, efforts must be made to encourage their adoption, so as to encourage take-up and usage of mobile data. Carriers should evaluate the merits of exposing network and data assets to OTT players via APIs (Application Programming Interfaces).[78] Given that MIM services tend to have low consumer loyalty, carriers could help improve the dynamics of OTT MIM, whilst at the same time positioning themselves to capture a share of MIM revenues.
- Encourage the usage of SMS as a bearer for application to person (A2P) messages, which are used to send personalised messages to individuals, from advice of bank balance, to warning of a delay to a flight, to a reminder for a medical appointment. One analyst has estimated that A2P messaging volumes could grow an average 6 percent per annum over 2013-2017.[79]

Standalone MIM service providers aiming at maximising revenues may need to diversify their income streams. Some providers may become content platforms. Standalone MIM providers may also want to generate additional revenue from advertising, but this might cause some users to change their service.

Phablets are not a Phad

Deloitte predicts that in 2014 shipments of phablets, smartphones with 5.0-6.9 inch screens, will represent a quarter of smartphones sold, or 300 million units globally.[80] Similar sales trend, i.e. about quarter of smartphones sold, is likely to be observed in India. This is double the 2013 volume, and ten times 2012 sales. Phablet revenues should be about $125 billion, implying a $415 average selling price, which is about 10 percent higher than that for smartphones as a whole.[81] The segment of phablet grew 17 times year-on-year, accounting for 30 percent of smartphones sold in India in the second quarter of 2013.[82] But after initial rapid consumer success, 2014 may mark a 'peak phablet' year, as only a (sizeable) minority of smartphones users will want to handle such a large device.

But even at 25 percent of the market, it is tempting to ask: "Where are all these large-handed people, and where do they buy jeans big enough to fit their phablets?"

Two thirds of phablets in 2014 will be less than 5.1 inches, just meeting the definition, and less than 10 percent are likely to be 6 inches or larger.[83] About 25 percent of 2013 phablet sales were new versions of existing devices that enlarged the screen and shrank the bezel, rather than actually making the phone larger.[84] Low priced phablets with dual SIM and price tag of about ₹10,000 are an attractive proposition for Indian consumers.

There are various explanations as to why phablets are so much more popular in some markets than others. One theory is that the phablet may be a superior mobile gaming device. Another possible explanation is that for a small portion of the population, especially in urban settings with crowded mass transit systems, phablets are acting as an all-in-one device that combines the features and functionalities of a smartphone, portable gaming unit, tablet and PC.[85]

The larger phones and greater data usage is correlated in a way to point towards a higher rate of engagement. As per analysts, in India data consumption on phablets surged by 123 percent, while devices with 3.5 inch displays witnessed a steep fall of 30 percent.[86] Users are keen to use the phablets for accessing social media, navigation, video, retail, and music apps.

Another possible explanation relates to language, and may explain why phablet sales in much of Asia Pacific are strong. Hindi is more complex, and texting may be easier on the large screens and larger virtual keyboards of phablets.

Prior to 2007, the average smartphone screen was very small: the need for a physical keyboard meant that the screen area was typically 2.5 inches or less, even for large devices. The arrival of capacitive touch screens meant that the screen could expand to occupy most of the smartphone, boosting size to 3.5 inches. At first that seemed more than big enough, but manufacturers tried out something slightly larger and four-inch screens began to sell in small volumes. Over time, there seems to be a 'screen creep', where phones that were deemed too large to use at first have become the new normal over time.

Therefore, it seems reasonable to ask whether there is any limit to screen inflation, and what percentage of the smartphone market might be captured by phablets, especially those over 5.1 inches?

The human body and clothing are almost certainly limiting factors, for several reasons.

Most smartphone users want to type on their device with only one hand, at least some of the time. Even for a big person with big hands, that normally requires a phone less than six inches[87], and many smaller people may struggle with phones bigger than 4.3 inches.[88] While some users may be willing to use two hands on their phone, and some software techniques make one-handed use easier on a phablet[89], it seems likely that most users will prefer smaller devices.

Next, many smartphone users may not want a phablet that appears out of scale next to their head when making voice calls. Some people may use a headset, or make very few calls, but they are likely to be in minority. Finally, there is a 'pocket' of users who habitually carry their smartphone in their jeans, jacket or purse. Although one clothing manufacturer increased its front pocket size to handle larger phones[90], it seems likely that many consumers will not consider a phablet because of stowage reasons.

Given the sizes of the various groups who will not want a phablet as their everyday phone, it seems probable that they may have an upper limit of between 30-40 percent of the total smartphone market, which suggests that their market share may reach a plateau in either 2014 or 2015.

A complicating factor may be multi-device ownership. According to the Deloitte 2013 Global Mobile Consumer Survey, 66 percent respondents were phablet owners in India, more than 50 percent also had a smaller smartphone.[91] If an increasing number of users choose to own both form factors, it seems likely that on those days when small size, lots-of-voice-minutes or one-handed usage is most important, the smaller device will be jammed into a pocket. But when the day's usage tilts towards text, video and gaming, the larger device will get put into the backpack or purse. Ultimately, it may be more appropriate to think of the phablet as a supplementary device for many users, with very few thinking of it as their only smartphone.

It is unlikely that the buyers of phablets over the next year will be mostly gamers, texters and mass transit users. Another potentially large market is those in the 55+ age group. Currently under-represented in the smartphone market, older consumers may find the large, bright screen, comfortable virtual keyboard and audible loud-speaker just the right ingredients to persuade them to buy.

Bottom line:
The biggest difference from smartphone usage compared to phablets is likely to relate to the size of the screen. According to Deloitte survey, among smartphone and tablet users in metros, tier I and tier II cities, 80 percent of users watch video on their smartphones/tablets. Almost 40 percent of these users watched video on their devices for 15-30 minutes per visit.[92] As more phablets become part of the installed base, the number of hours of video watched on sub-tablet devices is likely to climb. Operators will need to consider the implications of growing phablet penetration on their networks, both at the radio access network level and the backhaul level.

Further, large screens are likely to be better for display advertising and in app purchase.

Bigger screens on phablets don't necessarily mean higher quality pictures: a lot depends on pixel size. Some phablets offer true 1080p (1920x1080) screens. Others, even of the same screen size, support 1280x720 images. As at the end of 2013, no phablet has a 2160p (Ultra HD) screen; but a few have cameras that shoot in Ultra HD, and since there are seven-inch tablets with Ultra HD screens, some phablet manufacturers may offer this option in 2014.[93]

As phablet screens move to higher resolution, the data required for video or gaming will increase sharply, with 2160p requiring 16 times as many bits as 720p, all other things being equal. Carriers' data plans will need to reflect the fact that phablet users are likely to be amongst the heaviest data users.

A challenge for website and app designers will be how to best use the larger screen area that phablets offer, with the choices being more critical for devices over six inches. For video consumption, it's not an issue: a bigger screen is almost always a better screen. But for email or web browsing, there is a fundamental design decision: do users want and need bigger fonts and larger objects, or do they want more things (at the same size) to be shown on the larger screen? For phablet buyers aged over 55, a preference for bigger fonts and larger virtual keyboards seems likely, while younger users may prefer having more information at their fingertips.

In a similar vein, device manufacturers should think about how best to use screen real estate, especially within the context of the operating system. Simply making the user interface (UI) components and features larger is unlikely to be enough to please increasingly sophisticated customers. Specific features that make the most of the screen size, such as UI components optimized for single-handed usage, or custom input devices such as styluses, may help to create a more refined and appropriate user experience.

Some smartphones support multitasking, with more than one application running in the background. Larger screens introduce the possibility of having two apps open at the same time[94]; this will put pressure on application processors, graphics capacity and even memory.

Emergence of Mobile Video

In 2014, Deloitte predicts that there would be high proliferation of mobile video. Given the pressure on driving data usage and revenues, it would be the key focus area for all telecom operators. Likewise, mobile video would also be the focus of efforts by content producers, content aggregators and content distributers to increase content consumption. For end-user, mobile video would act as an alternate content consumption mechanism and would be driven by availability of affordable smartphones and 3G+ network uptake. Market is likely to see several new mobile video products and services designed around convergence of multiple services and platforms. While pre-downloaded and side-loaded form of video will continue to be a major part of the overall video consumption on mobile, Deloitte envisages emergence of innovative business models in mobile video streaming/time-restricted download space in 2014. These business models could get extensive support from the telecom companies who would be willing to maximise their data usage through high data consuming value added services (VAS).

Globally, mobile video will be one of the fastest-growing consumer mobile services. In fact, mobile video services are growing at a much faster growth rate than fixed Internet video services. Global mobile video users are expected to grow from 435 million in 2012 to 2 billion in 2017 at a 36 percent Compound Annual Growth Rate (CAGR).[97] According to the Business Insider Intelligence 2013 survey, the penetration of mobile video among smartphone users in US doubled in just 9 months.[95] Deloitte expects similar trends of high mobile video uptake in the Indian market as well. Not only, there are many examples of 'TV Everywhere' services being launched by digital TV service providers across globe, but content providers are also developing content specifically for online and mobile video viewing.[96]

Smartphones and 3G penetration in India attained new heights in 2013. Data consumption jumped 220 percent, driven by a two-fold increase in smartphone users and a 124 percent jump in data users.[98] A larger part of this data consumption comes from mobile video. Consumers are becoming screen agnostic and, are "snacking" on video content on their smartphones both inside and outside the home. Mobile television registered a 400 percent growth rate in viewership for the country's largest telecom companies as more Indians watched TV on the go.[97]

Figure 5: Several players betting big on convergence, 2014

Source: Deloitte Research

In 2013, there were 51 million smartphone users in urban India.[98] Deloitte believes that this number would cross 104 million in 2014. Further, highest video consumption on mobile would be driven by smartphone users who have highest penetration in metros followed by tier I and II cities of India.[99] Although video can be accessed on feature phones, smartphone enable its users to access videos in multiple formats or easily stream directly from different video service providers. In a consumer survey conducted by Deloitte, 78 percent of the consumers mentioned their desire to use video streaming services provided by the internet video host site or by operators/over the top (OTT) service providers.[99] YouTube is one of the preferred destinations for mobile video users and makes the largest share of mobile video market in India[100]. This trend is likely to tread into 2014 as well. Nonetheless, several mobile video service providers will gear up to provide targeted content offerings to the different segments of the customers as per their specific content need. Example of these services can be sports-specific video service for sport fans, travel and lifestyle related video services for globetrotters and news-specific content for news lovers etc.

Still, network is essential for mobile video services and seamless user experience. 2013 saw impetus on 3G; however, seamless connectivity has still been a key consumer concern. Almost 53 percent of the respondents, in a mobile video service user survey conducted by Deloitte, mentioned that they faced long buffering issues while streaming video on their mobiles.[101] In 2014, Deloitte believes that operators will be strengthening their 3G+ networks further, which will enhance customers' video consuming experience on mobile and attract new users to the service.

Thus, cheaper smartphones, increased user awareness, stronger networks, existing and budding OTT players along with operators themselves have created a viable and sustainable eco-system for mobile video in India.

In 2014, mobile video is likely to be the preferred service over other mobile value added services. This is corroborated by the fact that when operators across India implemented double-consent regulation mandated by TRAI, mobile video service activations witnessed the least negative impact as compared to other VAS services.[102] Deloitte anticipates 50-60 percent of all the mobile data consumption in India to be driven by video over next 2-3 years.[103] Also, with improved networks and connectivity, users will increasingly consume higher resolution videos.

It is to be noted that video content that is consumed on mobile is different from that viewed on the traditional TV. This is due to the fact that content preferences differ as per consumer demographics. While females form the larger part of television consumer demographics, mobile video consumer demographics is male-dominated.[101] Personal mobile devices make capturing accurate demographics of the consumer and tracking user activity much easier. This information can be used by the service providers for improving the service or designing an optimised business models. In 2014, various new innovative business models will emerge, designed as per the needs of specific consumer segments. Deloitte envisions that in 2014, telecom companies will alter their position from high cost dumb pipes to affordable smart networks that will support third party video service providers as well as help developing video consumption habits among customers.[104]

In 2014, industry players would continue to experiment with business models ranging from subscription, banner ads, video ads- clickable/skipable, pay-per-use[105] etc. Further, the focus would be to design effective monetisation models, specific to the kind of service offered. This will be possible by offering targeted video content and services based on personalisation and recommendations. Industry players need to focus on customer behavior analytics and create recommendation engines for scientific targeting of the content for maximising the usage and hence the revenues.

Although, pre-downloaded and side-loaded mobile video are preferred by larger set of smartphone users, revenues from these modes of video consumption on mobile forms a negligible part of the overall mobile video market. This is due to the fact that mobile video consumption through these modes is dominated by pirated content. Industry players need to devise video content streaming service models based on quality and ease of access, which can compete with pirated

content and meet specific customer needs. To design these models, value chain players need to understand the key levers of this market. They can look at the levers like (i) customer segments and segment-specific content preferences (ii) historic usage and trend analysis, (iii) product/service positioning and strategic alliances with other value chain players, (iv) service delivery platforms & modes, (v) packaging and pricing options, (vi) monetization model options.

Content aggregators need to identify key customer segments and target their offerings to specific segments. A prominent genre of content on mobile that surfaced in 2013 in India was Live-TV especially GEC, News and Sports.[98] However, the consumption levels tend to vary from segment to segment. In 2014, apart from live, on-demand video on mobile service driven by genres like movies, music and other regional content is expected to generate a huge traction.

Content owners need to look at strategic alliances with mobile video platform owners and focus on creating content suitable for the mobile platforms. Mobile platforms have certain different characteristics than traditional screens like smaller screen and personalised viewership, which could be leveraged for mobile video content creation. Content owners also need to focus on management of digital rights, which would be the key for monetisation of the content. Providing seamless support across plethora of smartphones being used in India would be key challenge for mobile video platform creators.

Telecom companies will need to create a supportive eco-system for content owners, content aggregators and other players in the value chain by providing access to their networks and other backend support system. They could leverage mobile video opportunity to increase overall data usage and data ARPU. Currently, telecom operators get the highest share (of the order of 80-90 percent) of revenue from mobile video services that depend completely on telecom operators for customer reach, wallet access, data connectivity, etc.[106] Deloitte believes that mobile video platform owners and telecom operators together need to devise innovative monetisation models to aid the service uptake. OTT players also need to look at ways to reach the customers and package the offerings to create the demand pull. Nevertheless, historic usage and internal analytics would make the foundation for strategic decisions and service model designs for all the successful value chain players.

So, these are the interesting times - the year 2014 presents a promising opportunity for all the mobile video players in the Indian industry. However, challenges remain and all players need to think of their strategy from their own perspective.

Bottom line:
With all the favorable factors like (i) smartphone penetration, (ii) improving high speed mobile networks, (iii) increasing demand for mobile video, and (iv) influx of new mobile video service providers; an ecosystem for mobile video market has developed. However, this market is still in its nascent stage. 2014 is likely to mark a new era in growth of mobile video in India. India will see several OTT, DTH and telecom operators themselves trying to leverage this opportunity. To be successful, focus of the players would remain on:

- Targeted Content: Customer segments / content preferences etc.
- Historic & Internal Analytics: Behavior analytics / trend analytics etc.
- Innovative Service Models: Live streaming / on-demand streaming / limited downloads etc.
- Innovative Business Models: Content owner's share / operator's share / customer wallet / sponsorship etc.
- Quality of Service: Connectivity / better quality at lower speeds etc.

'Ruggedised' Data Devices: Reinventing the business case for mobile field force

Deloitte predicts that the Indian market for rugged devices would double in size in 2014, driven primarily by new device introductions by manufacturers targeting business and government users. Until recently, there have been very few such devices targeted at the Indian market. However, given increasing penetration of enterprise mobility solutions, this trend is expected to change. Today businesses are looking at ways to improve operational efficiency by empowering the field force and the government sector reflecting on ways to drive the scope of its services to remote areas, thereby, tapping the unreached users e.g. mobile banking.

While the specific needs will come mainly from banking and insurance segment, retail industries, and the government sector, demand is expected to be highly fragmented. Supply side is expected to be dominated by few large players, as traditionally such products are not off-the-shelf and mostly designed as per specific requirements of business or government users[107]; however, a few other connected consumer devices (smartphone/tablet) manufacturers are likely to foray into the ruggedised device market with standardised products in 2014.[108] The rugged connected device market size is estimated to be worth ₹300 to 400 million in 2014.[109]

Traditionally, only specific industries (e.g. military, healthcare, field sales, public safety, utilities, retail, maintenance, supply chain logistics and insurance etc.) used rugged device solutions. The devices were mainly rugged PCs, PDAs, handheld or embedded (mounted) devices. However now, enterprises across industries prefer their employees to access enterprise applications through tablets and smartphones. Thus, the demand for ruggedised device platforms based on tablets and smartphones is expected to rise rapidly in next few years.[109] Key features that are essential for these devices are long battery life, incorporated wide-range wireless, Bluetooth, network connectivity options, higher storage, latest software, better screen resolution, etc. apart from being damage resistance in harsh conditions like dust, shock, vibrations, rain, humidity, solar radiation, altitude, and adventurous lifestyle.[110] For certain institutional users like government and military, security of the information being transmitted is a primary feature.[111]

Currently, rugged connected tablets for Indian market are priced starting from approx. ₹70,000 (typical configuration of 7" display, 1024x600 pixel resolution, 1.5 GHz processor running on Android 4.0) to ₹175,000 (typical configuration Intel i5 2.9 GHz processor, 10.1" screen with 1920x1200 pixel resolution and multi-touch capabilities, running on Window8).[108] Similarly, handheld computing devices, rugged PCs and Laptops are available starting from approx. ₹40,000.[112]

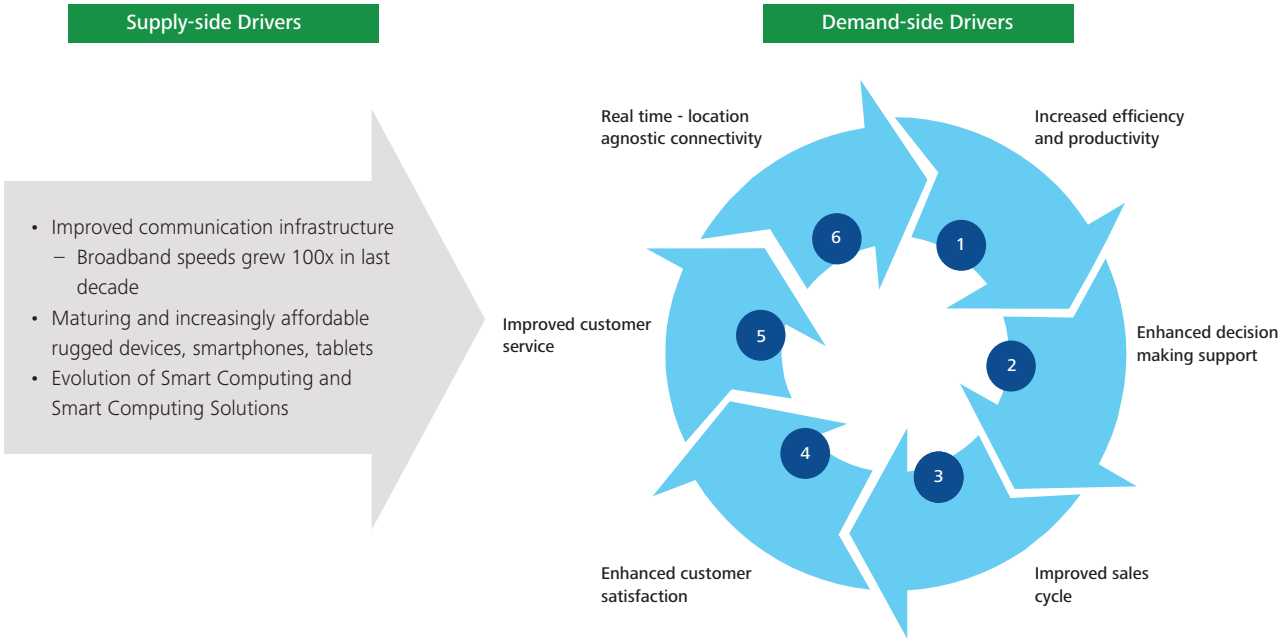
Courier services like Blue Dart have been using rugged mobile handheld devices for a few years now. These devices can withstand extreme environment conditions. At the same time, the front-end applications are simple because it is used by frontline couriers. Use of these devices has reduced the delay in tracking mechanism of the parcels and documents to real time from that a few days earlier.[113]

Similarly, rugged handheld devices are being used by Delhi Transport Corporation (DTC) and BEST in Mumbai for automated ticketing. This has an edge over manual ticketing system and has resulted in improved revenues by reducing leakages besides making the ticketing system commuter friendly.

Benefit of the use of mobile devices such as PDAs and ruggedized laptops is that technicians/field users have access to the whole wealth of historical and technical information when they have to carry out manual inspections or perform repairs in the plants. Further, there is no interruption or delay necessitated by going back to their desk, or to a kiosk to inspect records or review instructions. The primary reason for adoption of rugged devices in other industry segments is employee productivity improvement, enhanced employee availability and customer satisfaction through enterprise mobility. An analysis of various survey reports and Deloitte discussions with the industry sources indicate that more than two-third of CIOs are interested in deploying mobility through these devices to improve employee productivity. Other reasons for mobility adoption and hence rugged device demand are increased revenue, improved sales cycle, and competitive differentiation.

But not all field force deployments require the same level of ruggedness: for millions of existing rugged device applications and tens of millions of potential users, ultra-rugged devices may be overkill. Thus, there is a growing need to modernise the existing, first-generation mobility deployments, often based on Windows PDAs or rugged devices. On the other hand, consumer devices over the years have become progressively robust, to cope with increasingly intensive usage patterns, and also to act as a differentiator.

Figure 6: Growth drivers of rugged and semi-rugged devices



Source: Deloitte Research

Enterprises are looking for cost-effective, mobile solutions that can positively impact organizational effectiveness and give real-time access to company data anytime, anywhere. However, the nature of field assignments mandates the devices to be always connected to the organisation networks and to be rugged for use under harsh conditions. Key demand side drivers are (i) need for location agnostic and flexible mobility solutions – e.g. solutions required for online retail and its complex supply chain; (ii) enhanced decision making support – e.g. an executive can take a decision on purchase, while on the move, based on the real-time availability of raw material data on the shop floor; (iii) improved sales cycle – e.g. leads generated across channels can be segregated and delivered in real time to the mobile devices of the field force, which can help agents pursue the leads in a much efficient manner; (iv) enhance customer satisfaction - through delivering information in real time, responding to customer queries at the earliest e.g. real-time of the courier service. Key supply side drivers are (i) improved communication infrastructure – 3G+ network roll out and slashed data prices; (ii) increasingly affordable smartphones and tablets both rugged and semi-rugged; (iii) evolution of smart computing and associated solutions. There is a confluence of supply and demand drivers powering the rise of mobility through the use of rugged and semi-rugged devices.

In 2013, a few large mobile phone manufacturers launched "semi-rugged" versions of their high-end smartphones.[110] These devices are tough, dust and water resistant but do not meet the rugged standards (like MIL-STD-810). Demand for such devices, which are rated at least IP65[114], would increase given the developing consumer habits of being always connected - be it while jogging, travelling, in rain etc.[115] Today's smartphones and tablets need to be able to cope with thousands of hours of active use in their life time, and many thousands of hours being carried around in pockets and bags.[116] Moreover, these devices become rugged to some extent with the use of a suitable case. Currently, such devices are available with starting price of approx. ₹30,000.[117] This adoption of consumer-grade rugged devices is likely to speed up under bring your own device (BYOD) policies.[118] In 2014, Deloitte expects multiple new smartphones/ phablets to be launched in "semi-rugged" device category, blurring the demarcation between consumer and rugged devices.

Bottom line:
In 2014, alongside continued utilisation of existing models of rugged data devices, Deloitte expects a large number of additional deployments of standard, consumer smartphones and tablets for field force workers, with the only adaptation required being an additional body case. This would enable low cost solution with specification sufficient for a field force worker: a 1.5 GHz processor, high RAM, a toughened screen (4.5 inches or larger), Wi-Fi, Bluetooth and cellular mobile. The challenges would continue in the form of security and protection of data in case of theft of devices, etc.

Further, improved network connectivity and lower data prices across telecom operators (later half of 2013 saw data tariff cuts – 2G services by up to 90 percent and 3G services by up to 33 percent - by all major operators)[119], organisations would prefer 24x7 connected rugged devices that can access and update data in real time. A growing range of consumer smartphones and tablets would be water-resistant and dust-proof, which would make them much more suitable for field use. Also device and application developers should look at adding the requisite data security features. These advanced mobile handheld devices would enable more-efficient field service for workforce or asset management and customer service improvement across industries.