# REPORT ON

# MOBILE VAS IN INDIA: 2010

**July 2010**

## Table of Contents

## EXECUTIVE SUMMARY

With the increasing monthly additions in subscribership, TRAI reports that there are 601 Mn mobile subscribers in India as of April 2010. Considering that the metropolitan and large urban cities have reached a high level of penetration, Tier I & II cities as well as rural towns seem to be the next beneficiaries of this technology. Due to this duality, network providers and other industry stakeholders have to provide advanced services to the existing matured users as well as ensure that financial challenged sectors are provided mobile services at affordable costs. Consequently, Mobile Value Added Services (MVAS) which comprise advanced as well as basic services will need to be provided to the divergent mobile subscribers.

The revenue through MVAS has been growing in the past years and by the estimates in the study, it is INR 11,680 Crores in size. Traditional MVAS like P2P SMS and Caller Ring Back Tones (CRBT) continue to be a substantial provider of these revenues. These basic services are expected to be large contributors. The stakeholders, however, are not able to garner higher revenues from value added services due to limitations in technological infrastructural platform. Further, in keeping up with the competition the call rates have been dropping resulting into low overall Average Revenue Per User (ARPU). With the expectations of advantages that 3G could provide and the technological innovations (specifically in devices and content), the anticipations towards improved service delivery abound.

In order to ensure a high growth in MVAS revenue, it is imperative that newer avenues are explored to provide user-centric content and application services. Such forecasting is not unfounded as there are innovative offerings available for users. However, the need is for identifying specific niche segments that require certain specialized delivery. These segments could be among the urban or non-urban users. In addition to such improved delivery, it could serve the industry well, if a user-centric approach is adopted in providing services that are technology-agnostic. Long term growth will be ensured if detailed learnings from user experiences are examined continuously in providing innovative services.

## METHODOLOGY

The research team at eTechnology Group with IMRB International conducted the research in 2 steps, Primary and Secondary Research.

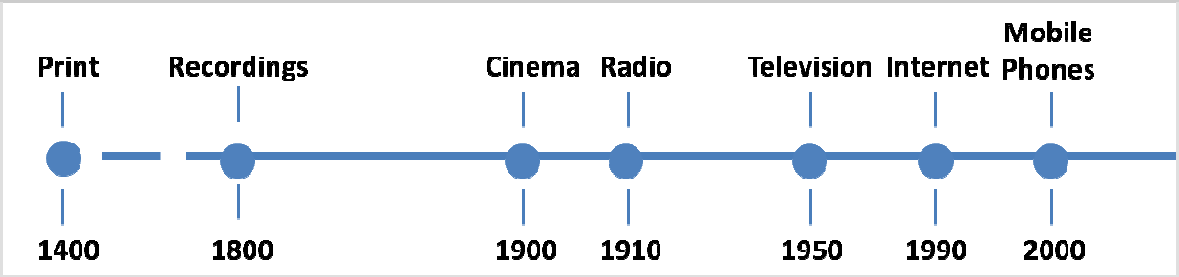
Depth interviews were conducted with across stakeholders of Mobile VAS industry. These included telecom operators, technology enablers, content owners, aggregators as well as content providers. Secondary research was simultaneously conducted for in-depth understanding of the market. Various sources used during secondary research include annual reports of telecom operators, websites of regulatory bodies such as TRAI, DoT (Department of Telecom) and press releases, business news, articles and interviews of various stakeholders published in media.

Information collected from secondary as well as primary research was thoroughly analyzed in preparing the report.

## MOBILE: A "FORMIDABLE" SCREEN/MASS MEDIA

Over time, media with intention to reach masses have assumed different forms. The disguises have transformed from being static to being rich and interactive. In tracing the continuum of this transformation, there have been many avatars: Print (Newspapers, Magazines), Recordings (Cassettes, CDs, DVDs), Cinema, Radio, Television, Internet, Mobile and Out-of-Home (Digital Signage). The degree of richness of content and/or interactivity has been mainly limited among modes that have been offered in the last few decades. The goal, however, has remained constant – acting as a vehicle for exchanging content between a communicator and the "target group." In adhering to this vital goal, media and their encompassing content are in the mode of continuous exploration. One of the most recent media options coupled with latest technological innovations is - Mobile. It is often termed as the "fourth screen" (subsequent to Cinema, Television and Internet) or the "seventh mass media".

**Mass Media: Timeline**




*Source:* Tomi T. Ahonen, "Mobile as 7th of the Mass Media"

Upon ownership of a mobile, a user is bound by the device and it becomes their "identification". The device largely guides the capabilities of a user and also governs the type of content and services accessed. Due to the supporting platform for the mobile devices and the enabling infrastructure, business stakeholders are able to broadcast targeted content to the users. Consequently, Mobile is at once a personal as well as a mass medium.

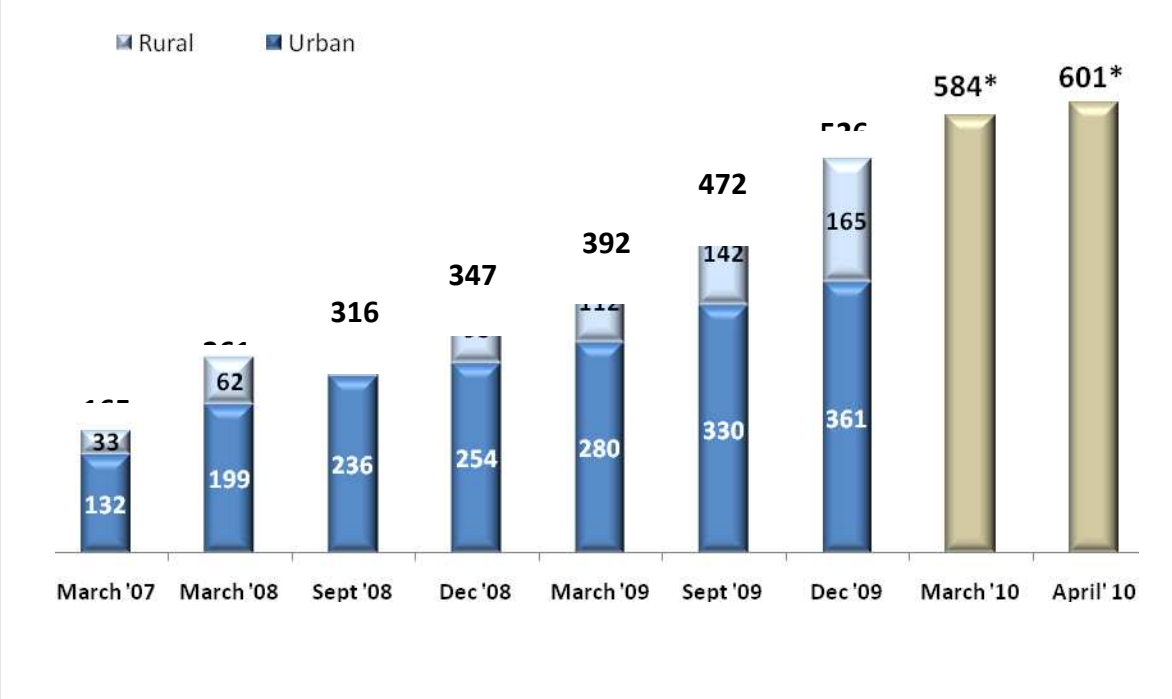
None of the personal media has seen a high surge of penetration in India (more than 50% of country's population are Mobile subscribers). Indian populace enjoys one of the lowest tariffs in voice communication. In recent times, the industry has witnessed innovations in low-cost feature phones using which mobile users are capable of using disparate content such as audio, video and interactive games. As a result, mobile has emerged as an effective interactive avenue blurring the social, economical as well as geographical boundaries.

## INDIAN WIRELESS TELECOM INDUSTRY

As per the latest estimates of Telephone Regulatory Authority of India (TRAI), the total telephone subscription in India reached 638 Mn in April '2010, resulting in 54.10% tele-density in India. Of these, wireless subscription comprises 601 Mn, a 17 Mn increase from the previous month. Wireline subscription, which has been witnessing steady decline, is at 37 Mn. In past 2 years, the wireless subscriber base has grown at more than 20% every half year. While the urban top-tier markets are near saturation with the number of subscribers, the growth has mainly been triggered by subscription in rural areas – Circle B and Circle C.

The composition of rural and urban subscribers has been changing in the last few years. While the proportion of rural subscribers has been growing lately, it still dwarfs the magnitude of urban subscribers. On Dec 2008, rural wireless subscriber base was 93.15 Mn which has grown to 164.57 Mn a year later – an increase by 76.7%. Urban wireless subscription, on other hand, has grown from 253.74 Mn to 360.52 Mn in the same period – a 42% increase. However, the proportion of rural to urban subscribers is 31:69. The inequality suggests a large untapped market to reach the users at the bottom-of-the-pyramid.

**Wireless Subscriber Base (in Millions)**

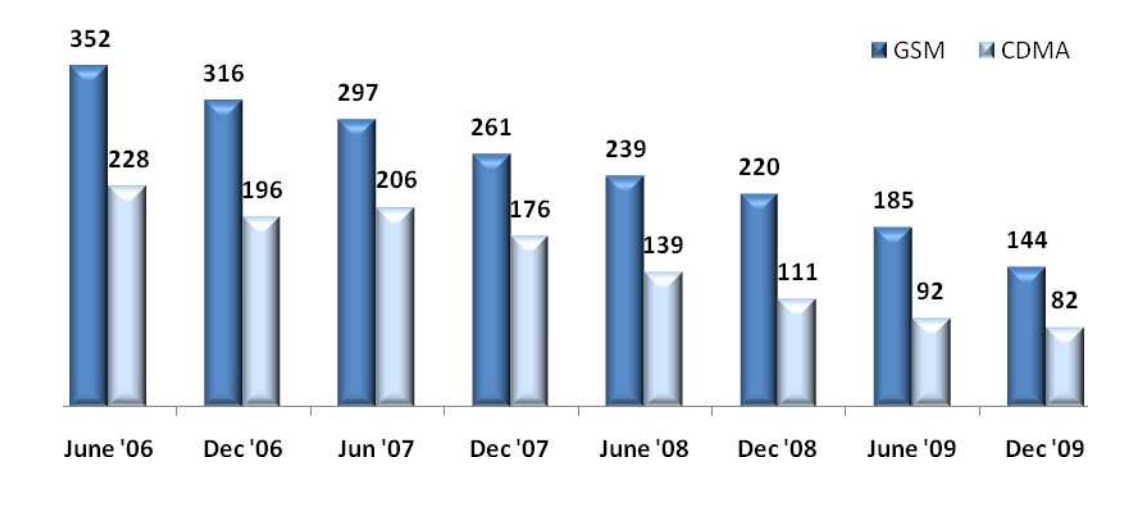



**: Rural figures are not available*

## DECLINING ARPU

Global System for Mobile Communication (GSM) and Code Division Multiple Access (CDMA) are the two competing infrastructures set up by cellular network providers across the globe. In most of the countries GSM is a dominant technology for mobile communication – GSM Association (GSMA) claims that, globally, the technology is being used by more than 80% of the mobile subscribers. In India, the distribution has followed a similar trend wherein 20% of the subscribers are on the CDMA networks. While the providers of these competing technologies were distinct in the past, the boundaries have blurred[1]. The market characteristics of these technologies, however, have remained distinct since the introduction. Average Revenue Per User (ARPU), as an example, is and has been much lower in case of CDMA than GSM.

**Blended ARPU Across Wireless Technologies**



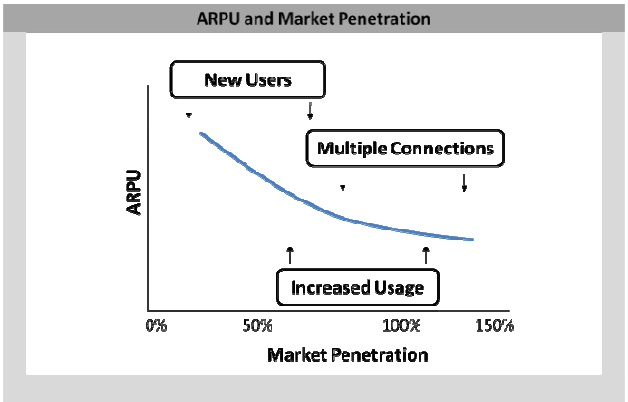

*Source: TRAI*

Worldwide wireless ARPU have been in decline. As per a recent report, it has decreased to between 6 to 9 percent year-over-year in the third quarter of the last year. Closer to home, the ARPU has been falling and stood at Rs. 144 for GSM networks and Rs. 82 for CDMA networks as of December 2009. The main reasons for low ARPUs for the mobile operators are increasing competition from new entrants, introduction of newer billing schemes such as per-second billing and the focus towards rural markets. Examining ARPU in isolation is not necessarily an ironclad investigation. Although lower ARPU does indicate decrease in revenue for network operators, it is hardly a sole cause for operators unable to build returns

[1] CDMA providers, Reliance and Tata, had started their GSM services in the year 2009.

on its investment. There are also other related phenomenon that need examination to arrive at a holistic picture of falling revenues or returns.

As mobile penetration increases, analysis based merely on connections might provide a distorted picture.[2] When the market penetration of mobile subscription is low, there is a high probability of getting new users. As the usage and penetration increases, there is lesser likelihood of new users getting signed up. Instead, existing subscribers opt for multiple connections. In addition, the ARPU decreases as there is inertia towards achieving higher volumes – very much evident in India with the growth in the rural areas being higher than urban metros.



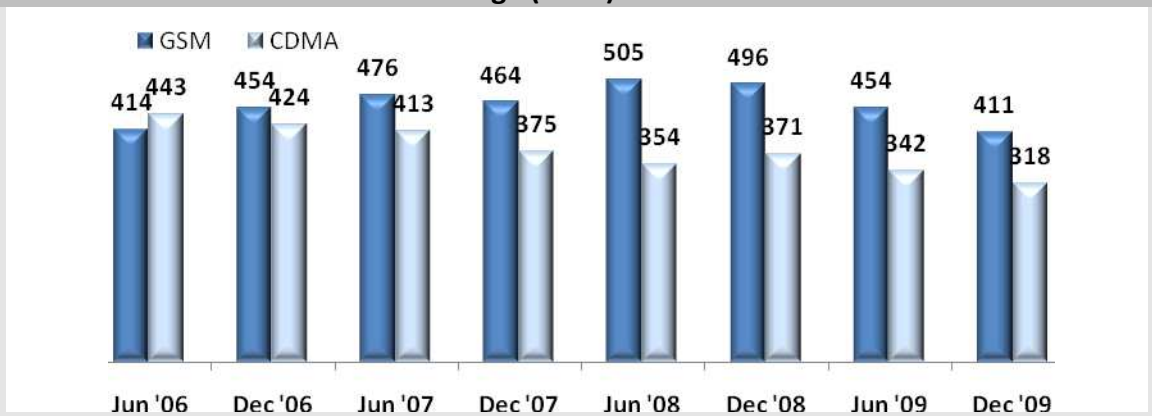

The existence of subscribers owning more than one SIM does negatively impact the profitability of most companies. As per a recent publication, as much as one-fifth of mobile connections by the end of October 2009 are either second or third phones[3]. Not just an Indian phenomenon, this behavior seemed to be more apparent after introduction of GSM services by the traditional CDMA operator (refer to "Blended ARPU for GSM and CDMA"). Further, newer schemes by the network operators have allowed for arbitrage opportunities among the urban subscribers leading to reduction in revenue for the incumbent operators. For instance, Per-Second Billing, introduced by Tata Docomo, was followed by almost all the mobile operators. Call rates dropped from Re. 1 per minute just 2 years back to 1 paise per second – resulting in round of price wars. Mobile users benefited the most, however, it is estimated that mobile operators end up losing 15-18% revenues as a result.

A related aspect is to identify patterns in Minutes of Usage (MoU) among mobile subscribers, which has also been on continuous fall since December '2008.

[2] Martin Garner, "Don't panic over ARPU – We're actually spending more", http://www.ericsson.com/ericsson/corpinfo/publications/ericsson_business_review/pdf/issue_no1/opinion.pdf

[3] LiveMint, "Multiple SIMs multiply amid tariff war", http://www.livemint.com/2009/11/25223722/Multiple-SIMs-multiply-amid-ta.html

**Minutes of Usage (MoU) in GSM and CDMA**




*Source: TRAI*

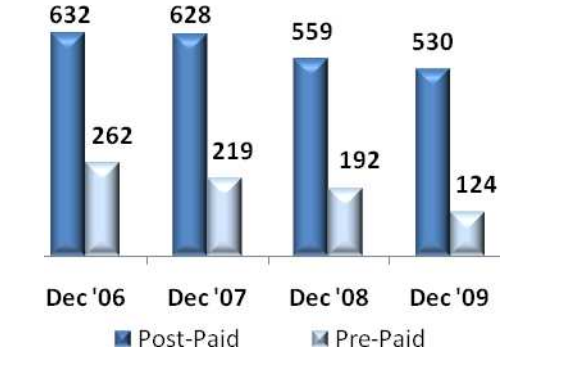
Instead of evaluating patterns in ARPU or MoU, growth of average revenue or MoU per "*real*" user might be a useful indicator.[2] To arrive at this metric, it is important to relate the metrics to overall connections and to the people using them. It would be more fitting to determine Average Connections Per User (ACPU) that exists among the mobile subscribers and recalibrate *"real"* ARPU or MoU.

## PREDOMINANT PRE-PAID MARKET

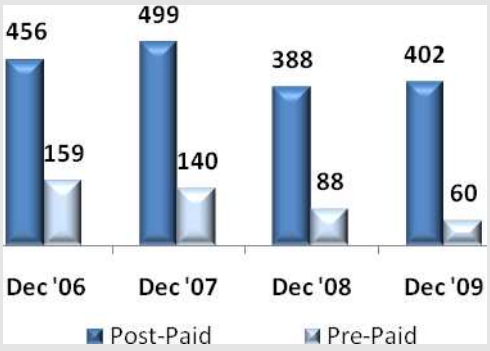
The mobile industry in India is predominantly a pre-paid market. With nearly 95% of mobile subscription being pre-paid across network technologies, there seems limited potential in increasing revenue with the current purchase behavior among existing MVAS users. While the blended ARPUs are on the continuous decline, it is more evident among pre-paid subscribers.

| | Pre-Paid Subscribers | Post-Paid Subscribers |
|---|---|---|
| **GSM** | 95% | 5% |
| **CDMA** | 94% | 6% |

**ARPU Per Month: GSM Users**




**ARPU Per Month: CDMA Users**

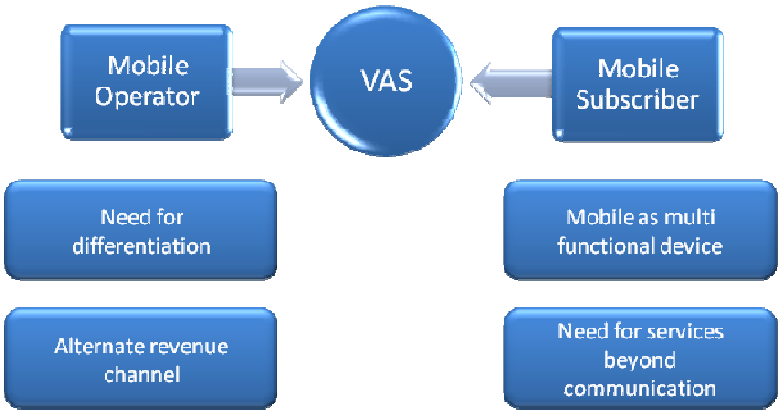



*Source: TRAI*

Pre-paid mobile subscription is dominant in Indian market due to the advantages it offers to the users. This subscription model is quickly available, requires minimal documentation, enables faster activation of service and provides control to customers in deciding their expenses towards mobile usage. As the mobile usage penetrates among "bottom-of-pyramid" value-driven users, there is high likelihood of increase in pre-paid subscription. For services providers, it also points towards providing services based on "pay-as-you-go" or "sachet" pricing.

This pattern, however, exists across various markets. It is estimated that in 2010, there will be an estimated 3.5 billion prepaid subscribers worldwide with the majority of such users residing in Asia Pacific.[4] However, such a pattern has not deterred network operators or service providers to offer data, music, health or luxury services to such subscribers – Pocket Internet cards from Aircel is an example. By embracing the scenario, providers can tailor their offerings to ensure MVAS is an equitable service across pre-paid as well as post-paid subscribers.

## VAS: A SOURCE OF REVENUE




### FOR MOBILE OPERATOR

Continuously declining ARPU (Average Revenue Per User) is a major concern for mobile operators. Reduction in call rates has reached a stage where it is difficult to sustain. Decreasing call rates has also resulted in decreasing ARPU for the mobile operator. And thus it initiates the need for VAS as revenue tool for mobile operator. To maintain a healthy growth, the operator needs to come up with innovations that will result in revenue

[4] Paul Budde Communication Pty Lts, "Global Mobile Communications – Key Trends and Growth in a Challenging Environment"

generation. These innovations in plans and offerings can only be offered through VAS. Also, mobile operators can differentiate themselves only on the basis of VAS and no more on the basis of price.

## FOR A MOBILE SUBSCRIBER

For a subscriber, mobile is not just a device to communicate, it's a multipurpose tool that enables users to communicate as well as provides infotainment[5] to them. This evolution from mere substitute to telephone to "All in one" device leads to higher usage of VAS. Voice calls as well as P2P SMS (conventionally considered a VAS) is more like a commodity. VAS is something which enables them to do lot more than mere communication.

[5] Infotainment services include entertainment as well as informational content.

## MOBILE VALUE ADDED SERVICES: CHARACTERISTICS AND CATEGORIES

Mobile Value Added Services (MVAS) does not constitute as a basic service offered to a subscriber. It is provided to subscriber as an add-on service, for which the operator charges a premium. MVAS is offered to add "value" to subscriber and can also be stated as services beyond voice communication which are offered by mobile operators to their subscribers at premium. Commonly, it could be defined as:

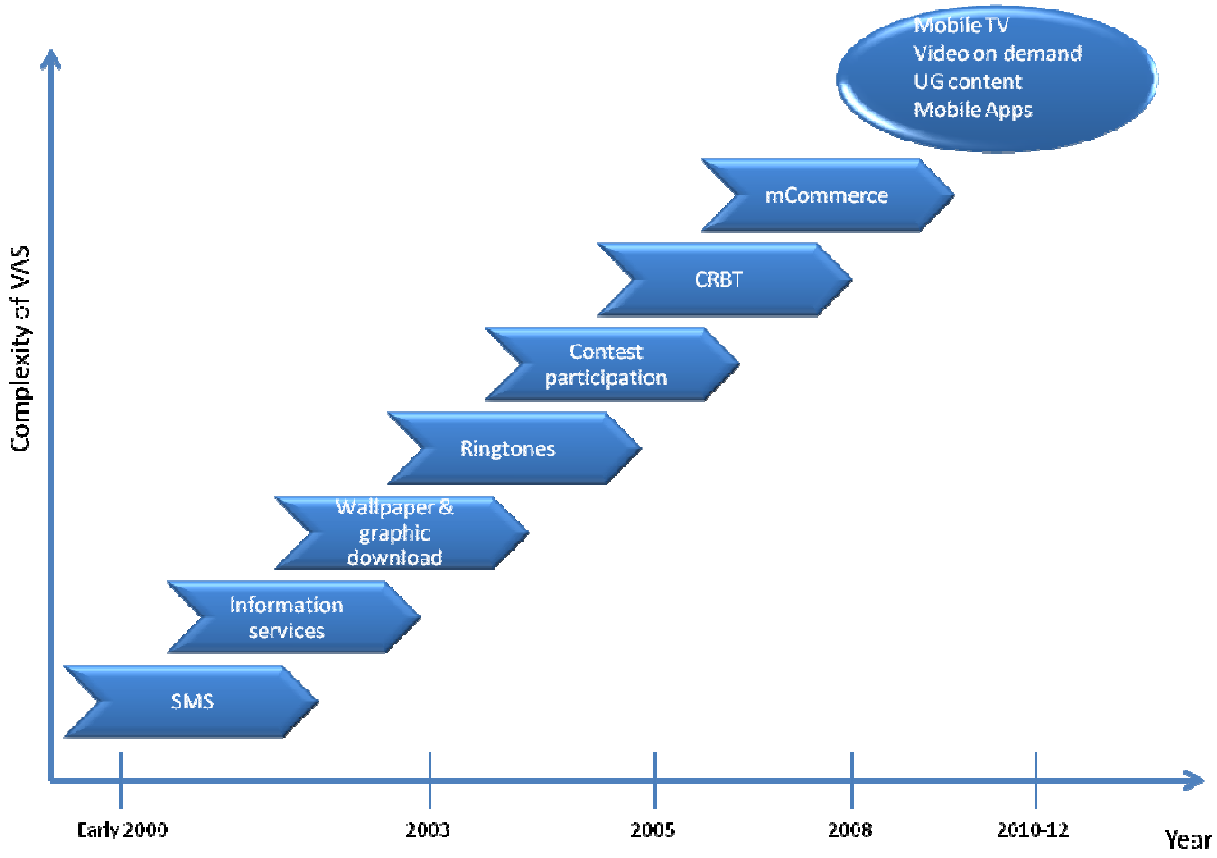
***Services that are not part of the basic voice offer and availed separately by the end user. They are used as a tool for differentiation and allow mobile operators to develop another stream of revenue.***

With continual technological improvements in mobile devices and various MVAS available to mobile subscribers, the mobile handset has gradually become an "Information Swiss Army Knife".

**Mobile Device & MVAS: An Information Swiss Army Knife**

Indian mobile VAS industry has evolved from P2P SMS to mobile TV over the past decade. It is evident from the illustration below that as mobile industry in India evolved over the decade, more innovative and complex VAS entered the market. These services followed the trend Entertainment VAS- Information VAS- mCommerce.

Mobile VAS industry is in India is about to enter its second decade where mobile TV, video on demand and user generated content (UGC) are expected to be the driving VAS.




Indian mobile industry when started was primarily seen as substitute to conventional landline phones. It was considered as a mode of communication facilitating “on the move” to stay connected with others. It was high premium services, affordable to only few.

By early 2000, P2P SMS was the only value added service being offered to as well as used by mobile subscribers. Slowly other VAS such as wallpaper and graphic downloads entered the market and VAS started getting momentum.

By 2003-04, mobile industry in India slowly started transforming from a premium offering to mass market. CDMA launches across various circles kicked off early stages of price war. Around same period, value added services also witnessed large number of new services as

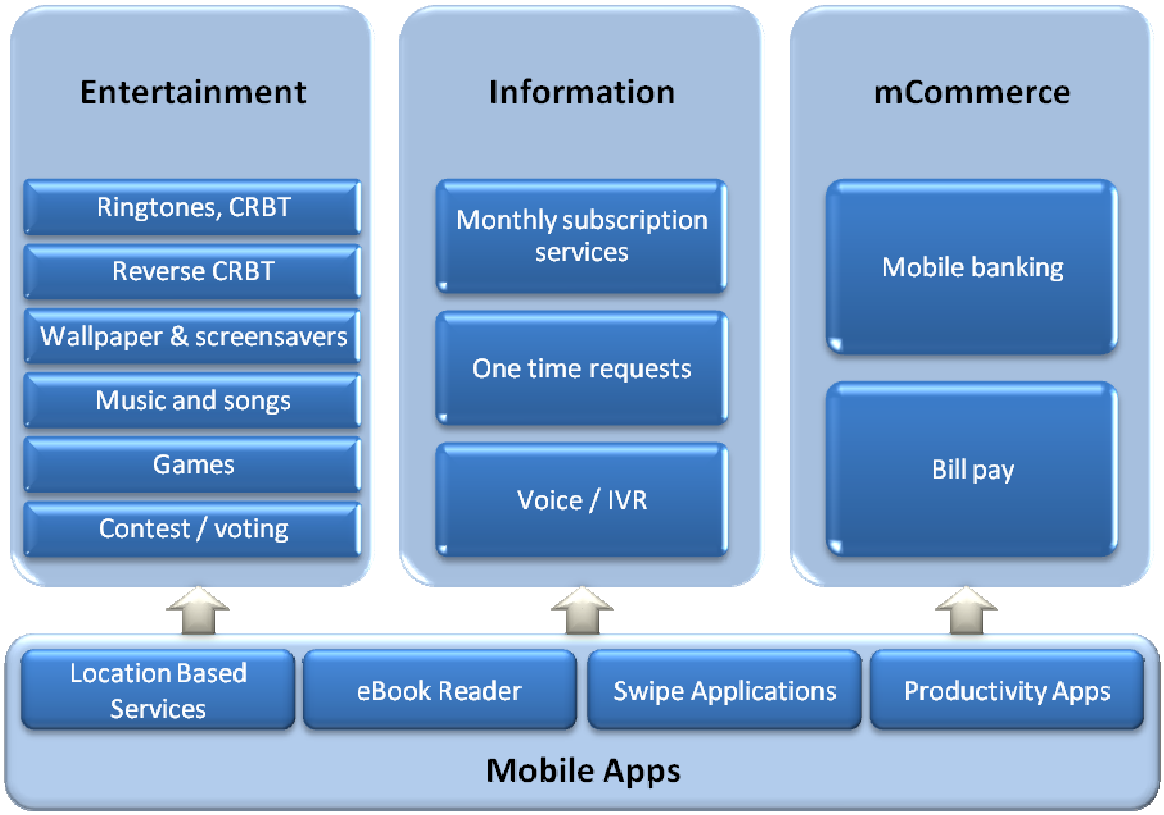
well as innovative plans and pricing. However VAS offerings till mid 2003-04 were primarily basic application and focused on entertainment VAS

It was still only by middle of the first decade when high order VAS such as ringtones, voting / contest participation, arrived. Both, ringtones and contest participation got large subscribers. TV shows such as KBC (Kaun Banega Crorepati) and Indian Idol, one of the most famous shows at that time on Indian Television saw large number of viewers participating in SMS contests. It was the same time Indian wireless subscribers crossed 50Mn mark.

By 2007-08, SMS started becoming a commodity among urban users. High end VAS such as Caller Ring Back Tone (CRBT), mobile internet and mCommerce slowly started getting momentum in urban circles. On other side, rural subscribers were getting added in large numbers who were new entrants; for them entertainment VAS (SMS and downloads) continued to be the main services.

Today, in year 2010, we are witnessing new offerings such as Mobile TV, social mobile entering the Mobile VAS. Similarly Mobile Apps - potentially the next big thing in VAS is already witnessing large push from supply side.

## VAS CATEGORIES



Various types of MVAS offered can be broadly classified into Entertainment, Information, mCommerce and Mobile Apps, which is a new entrant. Traditionally entertainment VAS has been the key driver for growth of MVAS in India. Bollywood and Cricket has traditionally been main content in Indian entertainment VAS. As the ecosystem evolves, newer mobile will users will get added to the system, entertainment VAS will continue to have high perceived value among both, urban and rural user.

Information VAS is another dominating category of VAS where innovative offerings have been introduced. However, its usage has been low among urban users as they have lot many alternatives available for getting information they need. Rural users, on other hand, do not have access to varied resources. If addressed correctly, Information VAS, which addresses needs of specific segments (rather than being a mass appeal) can certainly be success among rural VAS user. Services like weather updates, crop prices, farming related information can be provided to target VAS users in rural India. If relevant content is provided to rural user, information VAS can be a success in rural India.

mCommerce requires high-involvement from users as well as the providers. It tops the VAS hierarchy in terms of complexity and involvement of a mobile user. mCommerce is still confined to very small number of users in India. It is only for the highly evolved mobile users, and currently is targeted more towards urban market.

Recently, telecom providers, device manufacturers and content aggregators have started offering applications to the mobile users which they can use for certain specific purposes. These purposes could vary widely and are likely to provide for entertainment, informational access or for initiating transactions.

The above categories vary based on the importance that users assign to such categories (Perceived value) and the value they get by using these categories (Practical value).

Perceived value of a MVAS depends on perceived rather than the actual utility to the end user. When the immediate benefit may not be clear to the subscriber, the value that a subscriber derives from it largely depends on the marketing efforts and persona related to the service. The value is gauged more from the intangible benefits derived from the service like emotional benefits. A good example of a MVAS with high perceived value is CRBT (Caller Ring Back Tone).

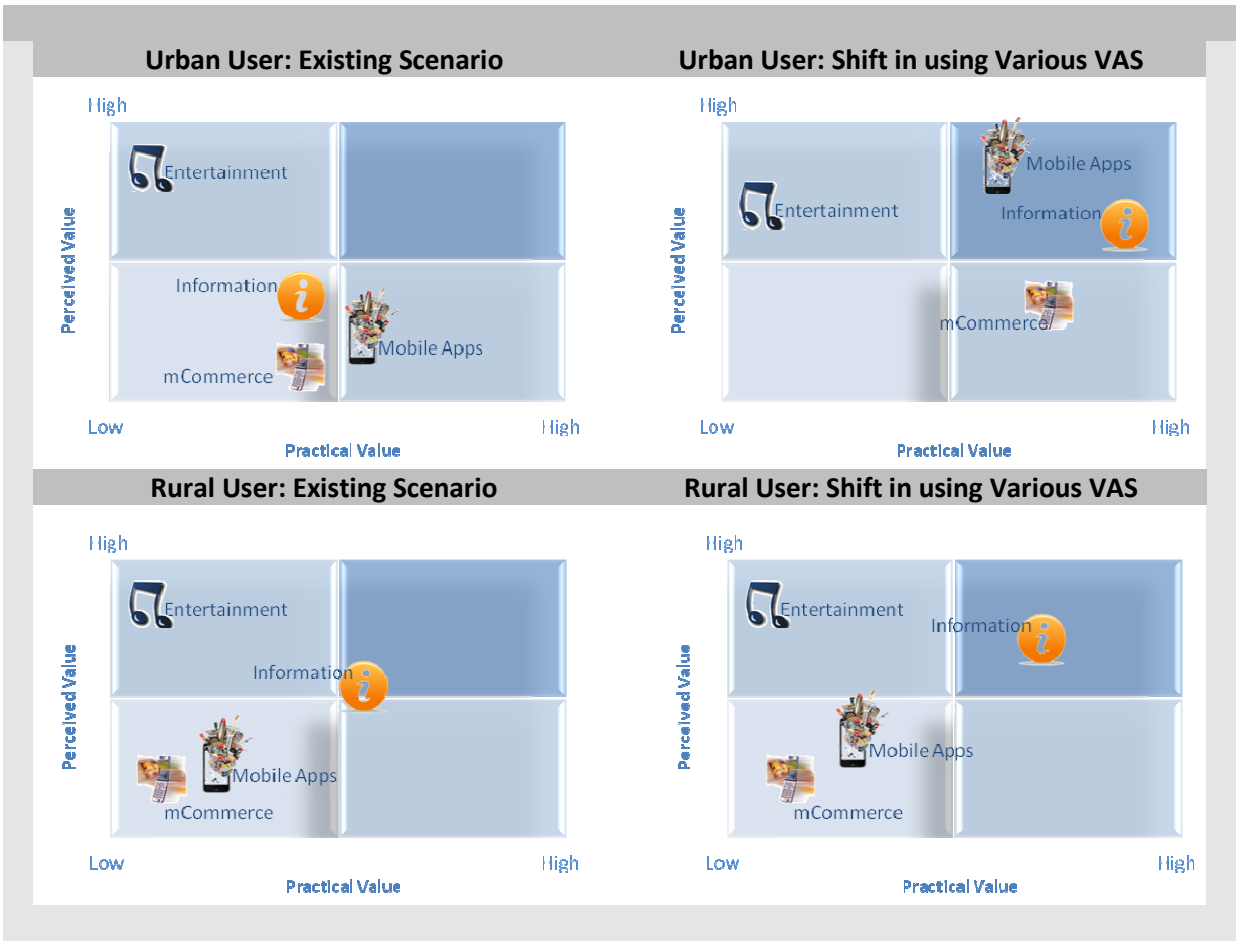
Practical value is entirely dependent on tangible benefits derived from the service. The benefits considered could be based on convenience, time or money. E.g. Service availed to get the cheapest air fares available, money transfer using mobile phone, other mCommerce applications. Currently, mCommerce scores low on both perceived and practical value for

urban as well as rural mobile user. While in urban users, it has potential to move to high practical value in near future.

Conventional categories of MVAS provide a unique combination of perceived and practical values for every user and this may change over time as the market & users evolve. To understand the growth of the different types of MVAS and their future growth, they have been analyzed on both the above mentioned factors.

It's been observed that the perceived & practical value matrix for VAS differs for Urban and Rural mobile user. Reason behind this can be attributed to difference in their lifestyles, difference in their needs and their perception towards Mobile as a service. For urban user, who is more mature mobile user, mobile is a multi tasking device which enables them to communicate, entertain as well as provides them an effective mode of transaction. On other hand, for a rural mobile user, who is relatively new mobile user, mobile is a tool for communication and source of information. It's the only 'powered device' they have.

Mobile Apps have large potential to shift from low perceived value to high perceived value quadrant in urban market. In rural market though, Mobile Apps may not shift across the quadrant.



## VAS USERS

The nature and the capabilities of VAS have been changing over the last decade. What used to be VAS earlier has become more like commodity today. For instance P2P SMS, though they contribute the most towards MVAS for any operator, it has become more like a routine for today's mobile user in India. Due to the need to differentiate itself, mobile operators are introducing wide range of VAS. At broad level, usage of VAS differs among urban and non-urban users.

### URBAN USER: EXPECTING MORE UTILITY

Urban mobile users are relatively mature mobile users. As a result VAS services like P2P SMS and CRBT has become routine activity for them. Mobile handset is a daily part of their life and is almost inseparable from them. Relatively newer VAS such as games, music, mCommerce as well as Internet access is being tried by urban users. For such users, mobile is multi-purpose gadget - a communication device, entertainment tool, utility provider.

Gradually, conventional entertainment VAS is turning into a commodity in urban market. To provide services that go beyond entertainment and provide utility for their daily lives, services like Location-based Services (LBS), mCommerce and Mobile Apps have opened a window towards innovative offerings. If such newer services are offered for effective use, it is very likely that this set of users adopt them leading to increase in MVAS usage and revenues, resultantly.

### NON URBAN USER: MOBILE IS 'WINDOW TO THE WORLD'

Almost 50% of mobile users have been added in past 2-3 years. Majority of this addition has occurred among users in non-urban India. These are relatively new, less mature mobile users. For them, mobile is the only 'powered device' which they can use as "window to world".

It has been observed that non-urban (rural) users, who are relatively new mobile users, and have limited communication and entertainment options, tend to spend more on mobiles than urban users having multiple options for entertainment, information as well as transactions, the three key VAS categories.

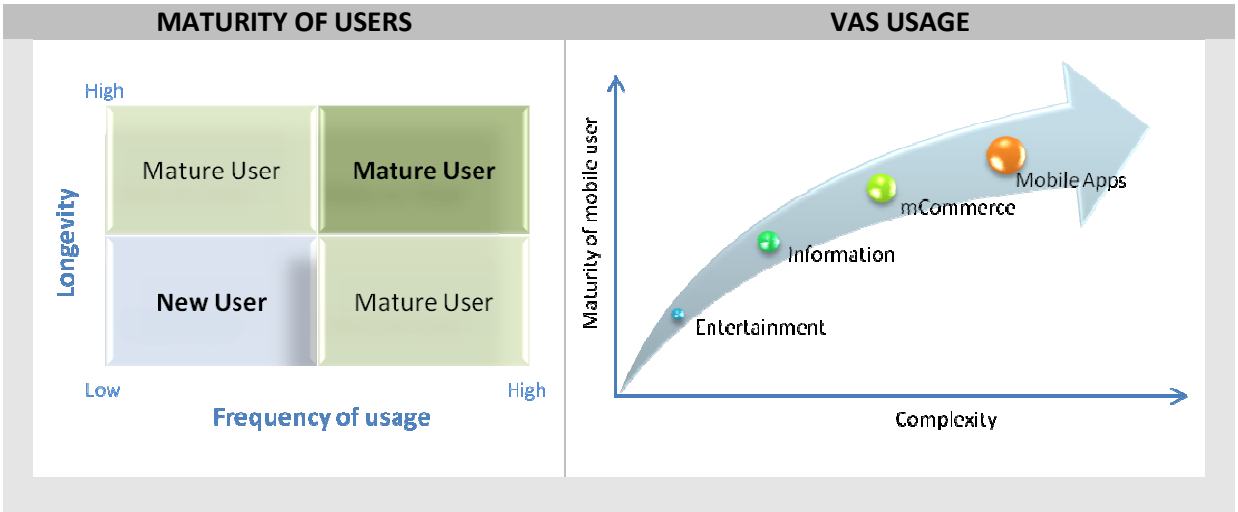
Till recently, mobile was considered household service while in urban market, it is much more individual and personalized product. Mobiles phones have entered into smaller towns and rural India. The expansion of mobile subscribers' base in rural areas presents a great opportunity to the MVAS industry. To begin with, for Rural VAS user, relevant information

services such as economic data and agriculture-related information will be useful along with conventional entertainment services. For a rural VAS user, mobile is undergoing transition from a communication device to entertainment device. It's just a matter of time when rural VAS users will also demand high end value added services.

## MATURITY OF USERS & VAS USAGE

Maturity of mobile users depends on two factors namely longevity and frequency of mobile usage. Mobile user high on longevity & frequency of mobile usage is mature user. As the time progresses, cumulative usage of mobile increases which enables new user evolve into mature user. On other hand, lower longevity user with high usage frequency and low usage frequency with higher longevity also can be termed as mature users.

Conventionally mobile user starts using Entertainment VAS first. As they evolve and become more mature, comes the usage of information VAS while mCommerce tops the hierarchy among conventional VAS categories. Mobile Apps, the most recent category tops complexity of service as well as need evolved and involved mobile user. The chart, below, depicts relation between maturity of mobile user and complexity of VAS they use.



## MARKET SIZE OF MVAS

Indian mobile industry is slowly but steadily transforming from being a basic telephony (voice-only) market to a value-driven one. Increasingly, mobile services are being introduced that are designed to serve specific needs for entertainment, information search or making a fund-related transaction. As per TRAI releases, the annual revenue for the wireless industry was INR 1,07,110 Crores in FY 2009-2010. The revenues are generated through various means; the composition differs for varying network technologies.

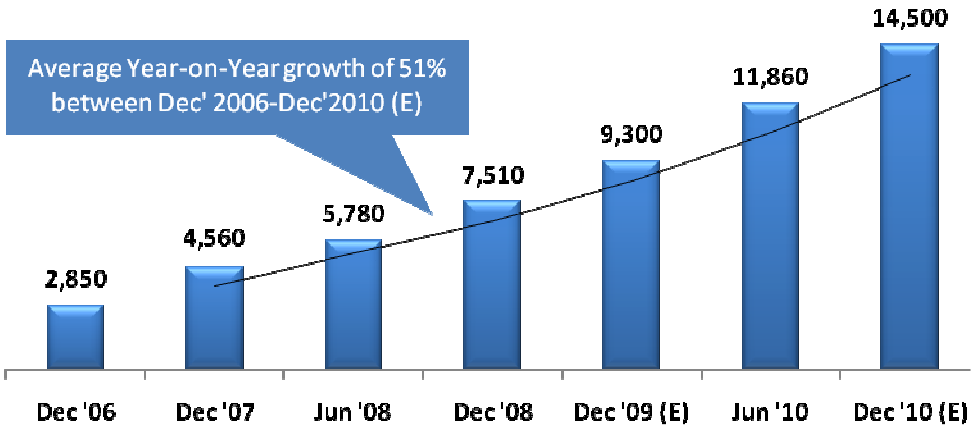
| Revenue Components (December '2009) | GSM | CDMA |
|---|---|---|
| Rental Revenue | 17.7% | 27.6% |
| Revenue from Calls | 59% | 56.1% |
| Revenue from Roaming | 8.6% | 1.5% |
| Revenue from SMS, VAS & installation | 14.6% | 14.7% |

*Source: TRAI*

Although the aggregated MVAS proportion in the Q3 of the last financial year is a little higher than 14%. Network operators have reported lower annual MVAS contribution towards revenue. For instance, MVAS revenue for Idea cellular was 12.4% for the Q4 in FY09-10. For Reliance, contribution was a little over 10% for their GMS services. Bharti Airtel reported that their contribution was 11.8%. These proportions are among the lowest in the world.

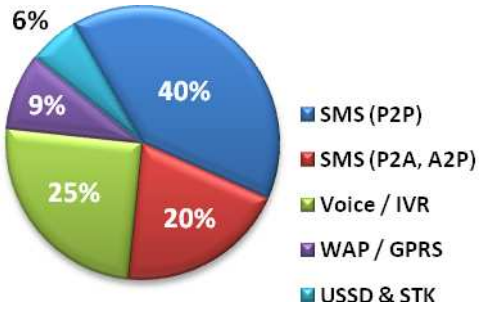
Based on the primary research conducted for the study, Indian mobile VAS industry is estimated to be Rs. 11,860 crores. The industry has grown from INR 2,850 Crores to INR 11,860 Crores in less than 5 years.

**MVAS Revenue (in INR Crores)**



The MVAS revenue, arrived at based on the research conducted, can be further evaluated based on various content accessed by the mobile subscribers as well as the modes used for accessing these types of content. Mobile subscribers access entertainment, informational or transactional content using different modes such as SMS, voice/IVR, GPRS/WAP or USSD/STK. The next subsections highlights features of the modes and content. The overall breakup of June '2010 MVAS revenue across various modes and content are illustrated below.

**Revenue Breakup Across Mode**




**Revenue Breakup Across Content**

## VARIOUS MODES IN USING VAS

MVAS modes can be broadly classified in the following types:

### SMS PLATFORM

Short Message Service (SMS) platform is one of the first platform used to access MVAS. It includes P2P (Person to Person), P2A (Person to Application) and A2P (Application to Person) modes. P2P are initiated by the subscribers to exchange messages among them. P2A and A2P messages are exchanged to access services such as news alerts, one-time information requests etc. Traditionally, SMS is the most used MVAS feature. By our estimates, it is one of the most used platforms - approximately 77% of the mobile subscribers use this mode and it is 60% of MVAS revenues – 40% P2P SMS and 20% SMS exchanged between a subscriber and applications.

### VOICE PLATFORM (INCLUDING IVR)

Interactive Voice Response (IVR) system is used to deliver Voice-based MVAS to the VAS users. An automated system provides access to information via a telephonic system. It integrates computers and communication, allowing people to ask and answer questions and

receive replies using Touch-Tone (DTMF) and/or voice. IVR is offered in variety of languages. It is expected to be one of the leading platforms in future, especially for Rural MVAS VAS users. It is estimated that around 14% of MVAS users use this platform and forms 25% of VAS revenues.

### GPRS (GENERAL PACKET RADIO SYSTEM)/ WAP (WEB ACCESS PLATFORM)

The number of GPRS-enabled mobile handsets has been on the rise recently. However, the usage of GRPS-specific features is far low compared to the other MVAS. As of now, this platform comprises 9% of MVAS revenues. Further, just 4% of MVAS users use this platform to access value added services.

### USSD (UNSTRUCTURED SUPPLEMENTARY SERVICES DATA) AND STK (SIM APPLICATION TOOLKIT)

USSD is used as a service to request for independent services that do not require SMS usage. Such requests could be used as a callback service (e.g. cheaper phone charges while roaming) or interactive data service (e.g. stock quotes, sports results). STK consists of set of specialized commands that are programmed in SIM which define how it is expected to interact with the services residing on the mobile network. At present, these services are used by around 5% of MVAS users and forms 6% of MVAS revenue.

## VARIOUS TYPES OF CONTENT ACCESSED IN USING MVAS

### ENTERTAINMENT MVAS

As with any other medium, mobile is also used primarily for entertainment purposes. Entertainment MVAS has traditionally been the prime revenue contributor and continues to remain so. This set of MVAS includes downloading ringtones, listening to songs/music, participating in contests by voting their responses and downloading games.

**Entertainment MVAS & its Composition (Figures in Crores)**

| Entertainment MVAS (Of overall revenue) | 57% | INR 6,760 |
|---|---|---|
| Ringtones, CRBT<br>Reverse CRBT | 52% | INR 3,515 |
| Music and Songs<br>Wallpapers | 25% | INR 1,690 |
| Contests, Voting | 15% | INR 1,014 |
| Games | 8% | INR 541 |

CRBT features are the most commonly used MVAS – 33% of users subscribe to this feature. However, it contributes to 52% of the Entertainment VAS amounting to INR 3,515 crores in revenue. Nearly a quarter of MVAS users download wallpapers, songs and music and this forms 25% of the revenue (INR 1,690 crores). Participating in contests and

voting over mobile phones is done by 15% of MVAS users and form identical percentage of revenues resulting in INR 1,014 crores.

## INFORMATION MVAS

Value added services that deliver informational content to users form 39% of the total MVAS revenue (i.e. INR 4,625 crores). Information MVAS includes one-time requests made by the subscribers to get content related to scores, updates regarding flights/travel, etc. It also includes subscription for news/jokes/ stock updates, accessing IVR for obtaining information. In addition, there are different types of information VAS that do not belong to any specific categories.

**Information MVAS & its Composition (Figures in Crores)**

| Information MVAS (Of overall revenue) | 39% | INR 4,625 |
|---|---|---|
| One-Time Requests | 45% | INR 2,081 |
| Monthly Subscription | 25% | INR 1,156 |
| Voice / IVR | 14% | INR 648 |
| Others | 16% | INR 740 |

While majority of the contribution towards Informational MVAS

It includes monthly subscription (23%), one time requests (42%) and voice services (12%) and others like mobile apps. etc (10%)

## MCOMMERCE MVAS

mCommerce is a small contributor to mobile VAS in India. It is estimated that all mCommerce services (mobile ticketing, mobile coupons, other mCommerce services) contribute 4% to mobile VAS revenues.

## USER GROUPS

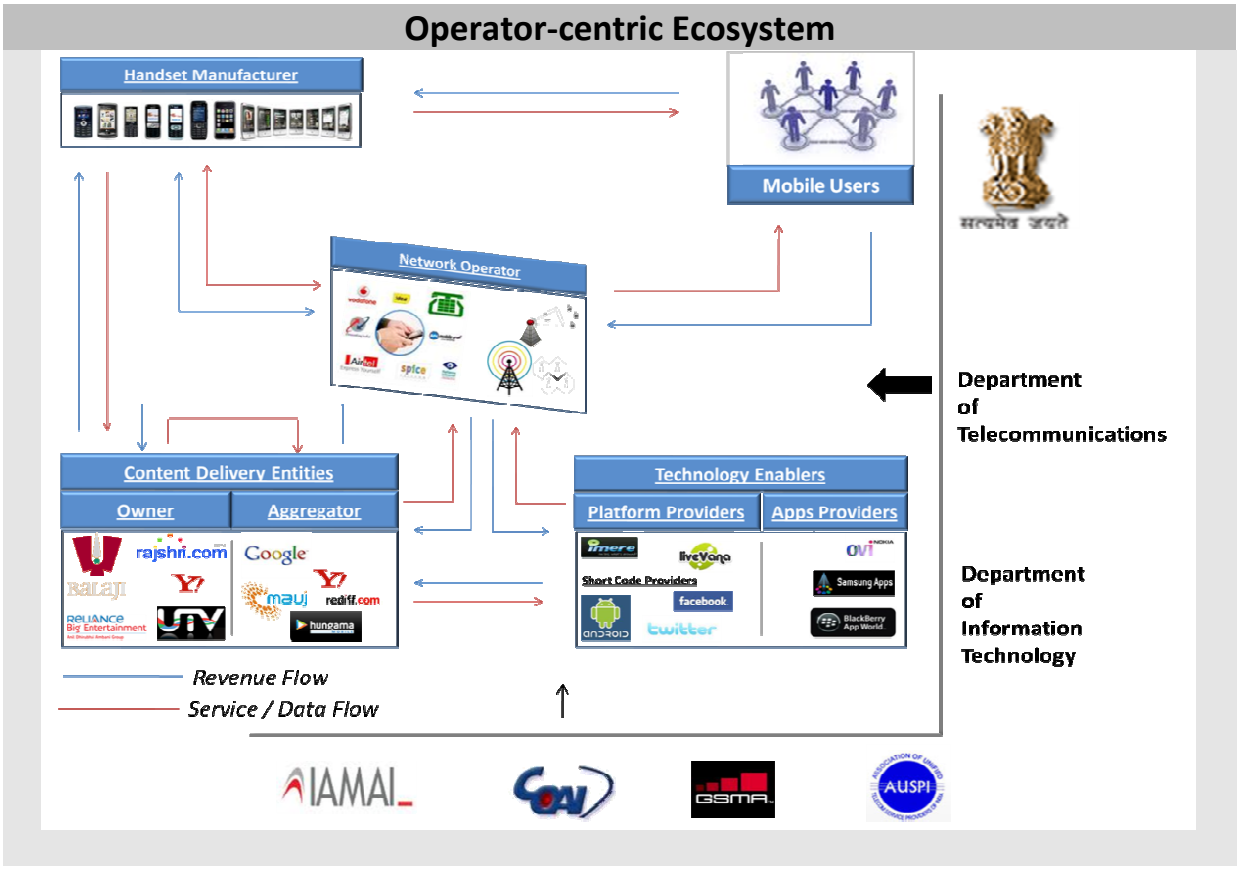
Presently, nearly 85% of mobile users use MVAS for their individual purposes. Concerted enterprise-based mobile offerings are not highly prevalent in the industry – enterprise usage forms 15% of the overall use. In the similar vein, 90% of the revenue . used Users of VAS highly skewed towards individuals. ~85% users of Mobile VAS are users while balance 15% is Enterprise user. Individual users contribute 90% to VAS revenues while enterprise users contribute 10% to VAS revenues.

As on Dec 09, Indian mobile industry had 68.7% urban users and 31.3% rural users. Over March 09-March 10, circle B witnessed 52.6% growth in subscriber base while circle C witnessed 68.3% growth; the highest among classes of circles.

Among VAS users, though, 70% users belong to urban India while balance 30% VAS users belong to rural India. However, it is expected that in near future, proportion of rural VAS will steadily rise as urban market is more or less saturated.

## MOBILE VAS ECOSYSTEM

Unlike in previous years, the roles of various stakeholders in MVAS ecosystem have come to be distinct lately. Mobile operator, however, continues to be the center of the stakeholder relationships. The figure, below, depicts the relations. Mobile operator remains the key influencer for most of the services as well as applications offered to a mobile user.




The two most primary activities that a mobile user does is subscribing to a pre-paid or post-paid connection with a network operator and buying a mobile device from a device manufacturer. The types of content and the services that will be witnessed by the user are entirely dependent on the device they buy and the type of service they have subscribed. The rest of the section details the characteristics of these stakeholders.

### MOBILE/NETWORK OPERATOR

Mobile operators are the most prominent stakeholders in the entire ecosystem. As of now, there are more than 12 mobile operators providing services in 23 circles. Some of the prominent operators include private players such as Bharti Airtel, Idea Cellular, Vodafone and Reliance. The state run companies are MTNL (serving the metropolitan cities) and BSNL

for serving users in the other cities and rural regions of the country. Mobile operators set up business relationships with other stakeholders – content delivery entities, technology enablers and even device manufacturers. Based on the set relationships, the revenue is shared among these entities.

### CONTENT OWNER

Among content providing entities, content owners hold the copyright of the content that they have created and mobile users witness. Examples of content owners include companies like UTV Software Communications that owns copyrights on movies, Balaji Telefilms which owns copyrights on television serials. They provide content to content aggregators or directly to mobile operators and share revenue with them. Even Internet publishers such as Yahoo! own online content related to sports and news is part of this segment. In India, Bollywood and Cricket are the most popular types of content accessed over mobile phones.

### CONTENT AGGREGATORS

The aggregators collect specific types of content from various content owners and deliver onto mobile. For instance, Mauj provides mobile users the option of downloading games and entertainment content which is aggregated from various sources. Hungama enables users to download Bollywood-related music and movies on their mobile phones.

### TECHNOLOGY ENABLERS: PLATFORM PROVIDERS

Relatively new entrants, these entities provide platforms that form the basis of interaction with the mobile phones. They provide backbone infrastructure to facilitate additional services that could be used. The platforms could be operating systems for the mobile phones such as Android or social networking applications like Facebook.

### TECHNOLOGY ENABLERS: APPLICATION PROVIDERS

Application providers are the newest entrant in the MVAS ecosystem. They provide different types of applications that are meant to provide specific kinds of services to a mobile user. As of now, the telecom operators and the platform providers offer virtual stores that mobile users can visit and download applications they are interested in. Such applications are mostly available for high-end phones. In the near future, innovative applications and services could alter the usage experience of the MVAS users.

## HANDSET MANUFACTURER

Handset market in India is undergoing transition phase. Indian brands have entered with lower priced products, affecting share of existing leading handset players. This has resulted in technology war between handset players. Almost all handset manufacturers are now offering 'fully loaded' handsets such as QWERTY and multimedia feature rich mobile handsets loaded with social networking experience at affordable price in the Indian market. This has helped enhance mobile experience for the users. At the same time, high-end handsets like Blackberry, HTC and iPhone are also gaining foot in the Indian market.

Tie-up of handset manufacturer with mobile operators is not new to Indian market, however, with changing landscape, handset manufacturers are tying up with content owners to provide content through their handsets to mobile users, in a way sidelining or eliminating operator. Recent example is launch of OMU-OVI Music Unlimited by Nokia where Nokia has started offering legal copyrighted music to its OMU enabled handset buyers. Consumers who buy Nokia OMU enabled device are able to download sound tracks from about 4 Mn legal digital tracks (including 1 Mn Indian songs) that Nokia purchased from various major global labels.

## REVENUE SHARING RELATIONSHIP

As mentioned before, network/mobile operators form the center piece of the mobile ecosystem. The operators have been the key beneficiaries of mobile VAS revenue. In the past, mobile operators enjoyed more than 70% margin of the revenues. However, as the ecosystem has grown and evolved more number of stakeholders are staking their claim as they provide varied and improved services to the users. The operators' share of revenue has reduced to 60-65% depending on the type of content that is being delivered to the users. The rest of the revenue is shared among content providers and technology enablers.

| | Copyrighted Content | Non-copyrighted Content |
|---|---|---|
| Operators' Revenue | 60% | 65% |
| Technology Enabler | 15% | 20% |
| Content Developer/Aggregator | 15% | 15% |
| Copyright/Content Owner | 10% | - |

In case of MVAS where a copyrighted content is involved, the mobile operator gets 60% revenue. Technology enabler gets 15% while content developer and aggregator together gets 15% share in mobile VAS revenue. Copyright owner gets balance 10% of mobile VAS revenue.

In case of non-copyrighted content, mobile operator receives 65% margin in revenues, technology enabler gets 20% and balance 15% goes to content aggregator, provider and developer.

As the mobile VAS industry is evolving, data rich VAS and user centric VAS will need to be developed and offered to the mobile subscriber. Currently, content developers do not have enough incentives to create innovative content. If better VAS has to be offered, it is necessary to offer enough incentives to non-operator segment of the ecosystem. With evolving VAS, segment who owns the content should have more bargaining power than the one who provides it to the VAS user. For instance, Internet is an appropriate example where content gets more importance than service providers.

## USER-CENTRIC ECOSYSTEM

Mobile VAS ecosystem in India is undergoing change from being Operator centric to User centric. In near future it is expected that the ecosystem will center around mobile user as shown in the diagram below.

This change will be driven by the following factors:

- Services leading users to be operator-agnostic such as Mobile Number Portability
- Rollout of 3G technologies
- Expectations of evolved MVAS users

### MOBILE NUMBER PORTABILITY (MNP)

MNP allows mobile users to change their mobile operator without changing their existing mobile phone number. Department of Telecommunications (DoT) had earlier set 31st December 2009 as the deadline which got revised to 31st Mar 2010 and is delayed even further due to several technical and regulatory difficulties. However, if MNP does materialize, it will allow a mobile user to switch between mobile operators. Such an enablement is bound to increase churn rates. The major advantage, however, is that the operators will have to introduce innovative services if they want to enjoy loyalty among their existing users.

### 3G

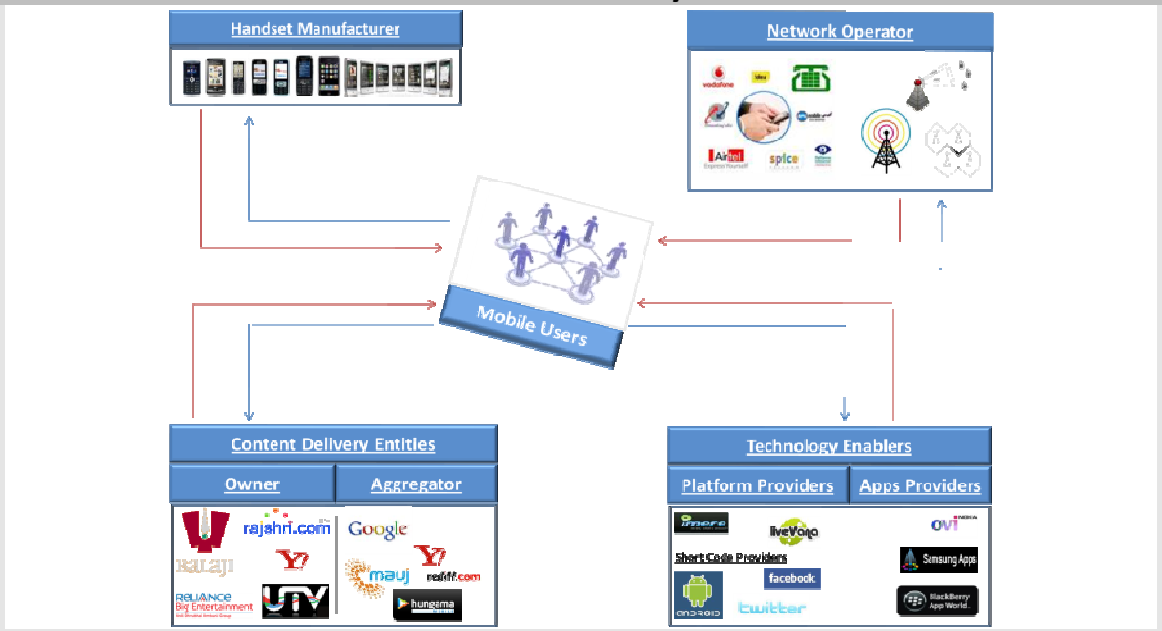
Auction for 3G spectrum was completed recently. Spectrum allocation to mobile operators will be completed by September 2010 and it is expected that the 3G services will be rolled out before the end of this year. It is expected that 3G will be initially used for voice services, however, metros like Mumbai and Delhi will be the first circles to have advanced services

rolled out. Once offered by the operators, 3G will enable high end services offered to the mobile users.

## EVOLVING USERS

Globally, India ranks just behind China in the number of mobile subscribers. As these users mature in their usage coupled with the technological innovations, they are likely to expect improved services from their providers. The demand for improved services is likely to lead in an environment where users would like to access variety of services for their informational needs – a scenario where users would "pull" the services or content rather than operators "pushing" the content. This evolution, however, is more applicable to urban users in India. There is a large untapped market in non-urban cities or metros where a high number of users still need to receive basic voice and SMS services.

**User-centric Ecosystem**



## OPPORTUNITIES AND CHALLENGES FOR MVAS

**Opportunity & drivers**

Growing subscriber base

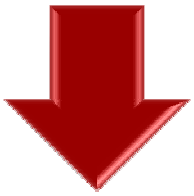
Evolving VAS users

Availability of smart phones

Innovative offering

Mobile as media

3G rollout



**Challenges**

Revenue sharing

VAS pricing

Consumer education & awareness

Devices & technology

Content

Dominance of prepaid subscribers

## OPPORTUNITIES FOR MOBILE VAS IN INDIA

### GROWING MOBILE SUBSCRIBER BASE

Mobile subscriber base in India has more than doubled in last 2 years and is expected to continue to growth in the near future. Majority of this addition could be in the Circles B & C (Rural India) as urban market and metros are reaching higher penetration rates. Circle C got 68% YoY net addition in wireless connections while circle B got 52.6% YoY net addition in month of March 2010. Further, teledensity in India is 54.10 as of April 2010; this indicates that a large growth potential exists in Indian mobile telephone market.

### AVAILABILITY OF SMART PHONES AT AFFORDABLE PRICES

Recently, large numbers of handset manufacturers have launched low priced, 'fully loaded' handsets. These handsets have all the functions similar to the ones offered by high-end mobile phones. Being low priced products, they are popular more among subscribers who

intend to pay limited amount for mobile devices. This could help boost usage of VAS among low-end users- the next wave of VAS users.

## INNOVATIVE OFFERINGS

Indian mobile market has been one of the most innovative in terms of offering to its subscribers. Per second billing, sachet pricing for recharges, lifetime free incoming for prepaid connection, one day internet connection plans are just few examples. Such innovative offerings help enable usage of VAS among both new as well as mature mobile users.

## MOBILE AS MEDIA

Mobile is gradually being viewed as an emerging digital by the stakeholders. UTV, partnered with Ideal Cellular and recently launched 'Audio Cinema'- first of its kind audio movie-on-your-phone service. This service was specifically launched for Tier I & II cities.

## 3G ROLLOUT

It is expected that it will take approximately 2 years for a complete 3G rollout. This time will be required for the entire MVAS ecosystem to transfer onto 3G platform in terms of technology, handset, pricing, revenue sharing as well as offerings to mobile users. It will take some time for last mile 3G connectivity. Though, few concerns and questions are still to be addressed, the industry and consumers sentiments are positive and there is an anticipation that 3G services will certainly help boost VAS usage in India.

## EVOLVING MOBILE USERS

Mobile user starts using mobile as substitute to conventional landline phone for communication. As the user gets familiarized with the handset and mobile technology, they gradually start using value added services beyond SMS.

As we have seen above, more than 50% of mobile subscribers have been added in past 2 years. This long tail of subscriber comes primarily from rural (or non urban) India. Being new users, they are relatively less mature and use mobile as communication device, primarily for voice calls. Currently for them, main VAS is P2P SMS and to some extent entertainment services such as CRBT and downloads.

However, as the time progress, these newly added users will evolve and will demand high involvement value added services. These subscribers would be the next wave of VAS users that offer huge potential for the industry.

## CHALLENGES FOR MVAS IN INDIA

### REVENUE SHARING

Revenue sharing has been and is the key concern for growth of mobile VAS. At present, 60% VAS revenue goes to mobile operator while technology enabler and content delivery entities get approximately 40%. This arrangement does not provide enough incentive to content developers to generate innovative and new content. If the revenue sharing is balanced and content creators start getting higher share in VAS revenues, it will lead to improved and innovative services for the mobile users.

### CONSUMER EDUCATION & AWARENESS

It is need of the time that operators and VAS providers put some effort in educating the consumers. Apart from exceptions such as CRBT, consumer awareness levels are low for majority of VAS. Consumer needs to be educated in order to start using VAS. Consumer education becomes even more important in present situation where more than half of mobile subscribers belong to rural areas.

### DEVICE AND TECHNOLOGY (OS COMPATIBILITY ISSUES)

Entry of low cost handsets and Chinese models has posed a new challenge. Many of these handsets have their own operating systems and technology unlike that used by branded players like Nokia. It becomes difficult to create suitable VAS that will run on the wide variety of handsets.

### CONTENT

Providing relevant content will be major challenge for success of VAS. This will be even more important factor in rural VAS where large number of new users is getting added. These users will need content which would be:

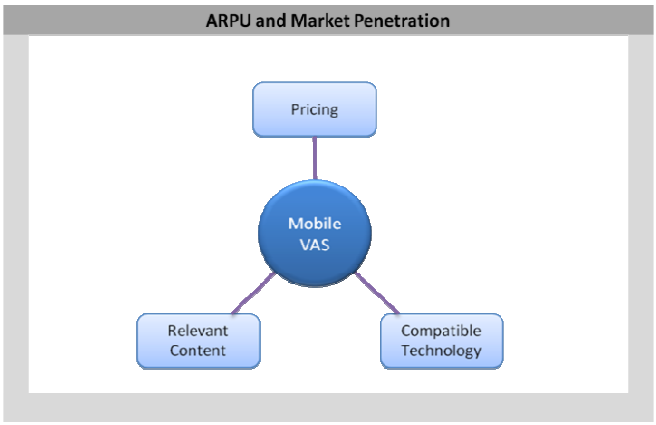
- Relevant to their needs (local information, weather forecast, regional entertainment)
- Available in language they understand (regional or vernacular language)

### PRICING

While new services could fillip MVAS usage and eventually lead to higher revenues and ARPU, it will be necessary to price the offerings at a reasonable level. Setting appropriate pricing will be the most challenging for 3G services that the providers plan to introduce.

## "SUCCESSFUL" VAS

P2P SMS has traditionally been the leading VAS in India. However, CRBT generates the highest revenue. It is always often debated that which VAS will be a "killer" in the future? Answer is, any VAS which will satisfy the three key aspects VAS user demands could very likely be the one. These three key attributes are:




- Appropriate pricing for the MVAS usage
- Relevant content offered to the users
- Compatible technology which requires minimal time for setup and initiating usage

CRBT has been the most successful VAS so far. It was successful mainly because it could satisfy the user on all the three fronts. It was priced rightly, it offered relevant content (Bollywood music – the key content) and it was suitable with all variety of mobile handsets. Any future VAS which can satisfy user on these three attributes will be success.

At present, most of the MVAS content is mainly focused on entertainment-related content. Mostly such entertainment content relates to Bollywood (movies and music) and cricket. Information and Transactional VAS get relatively less focus from operators as well as other stakeholders of the MVAS ecosystem. Gradually, as users mature they would require different types of informational content that would be useful in their daily lives.

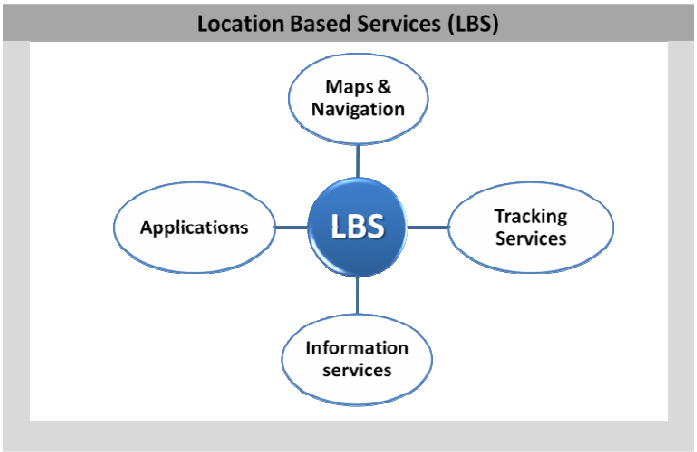
There are certain MVAS that are being offered currently that could alter the usage experience and hold promise in the immediate future.

### VOICE SMS

Rural subscriber base is significantly growing in India. Use of VAS in this segment is predominantly voice based in near future. Voice SMS is one such service which has taken off well in urban market and will possibly outperform in rural market. This service satisfies all three key attributes of successful VAS outlined above. In spite of being VAS, it is not costly, it is compatible with all handsets- feature phones as well as smart phones, and it delivers appropriate content- vernacular language.

## LOCATION BASED SERVICES (LBS)

Location-based Services are becoming a key ingredient in offering mass-market value added services across a wide range of wireless applications. To define them simply, they are information as well as entertainment services, accessible through mobile network which use geographical position of mobile handset to offer relevant content.




These services could be GPS-enabled as well as non-GPS based. These services offer a wide spectrum of services- from providing maps & navigation on mobiles to social networking applications. Illustration below details gamut of services offered using LBS platform

LBS platform can broadly offer services in 4 categories namely:

Maps and navigation: This is one of the most common and one of the first services offered under LBS. till recently GPS enabled devices was the key necessity to avail LBS for maps. However, with innovations in this domain, neither smart phone nor GPS enabled handset is a necessity.

Tracking services: Tracking vehicles, traffic updates, tracking friends, colleagues, family members is possibility using LBS.

Information services: This category of LBS has immense potential. Large number of information services can be offered using LBS. To name few, local search, city guide information, weather updates, local information regarding restaurants, finding nearby ATM etc.

Applications: Appropriate application will be developed to cater to vast location based services. Few of them have already entered Indian VAS industry. Social networking, context advertising are few such examples.

LBS can now be accessed sans GPS. Bangalore-based Imere Technologies has developed prototype of social application named Ohe! This application works with any Symbian 360 phone as well as many Java-enabled phones with GPRS connection. BSNL - state owned was

first to launch personalized value added LBS. It launched Telenity's LBS solution in Bangalore in year 2007.

## AUGMENTED REALITY BROWSING: LAYAR REALITY BROWSING

This is advanced MVAS, a form of location based service application. It provides real time local information as seen from camera of the mobile handset. All it needs is mobile handset with camera, GPS connection and Layar- the mobile app. Not only smart phones but features phones too are now equipped with cameras and are GPS enabled. Augmented reality browsing has huge potential which can bring radical change to VAS offering in near future. With availability of feature rich handsets and growing number of evolved users, this is likely to take off among evolved users in near future.

## MOBILE APPS

Mobile apps are the recent offerings in India. 2009-10 was the year of the app store launches. Following the remarkable success of the Apple App Store, OEMs, mobile platform vendors, mobile operators, and traditional aggregators either created new app stores or repositioned their existing offerings as app stores. Almost all handset manufacturers have entered with their mobile virtual stores as illustrated in table below. Not only handset manufacturers, mobile operators also entered the bandwagon with Airtel, Vodafone launching their mobile virtual stores in India. Airtel was the first operator to launch the app store.

**Mobile Application Virtual Stores**

| Store Name | Provider | Handsets |
|---|---|---|
| App Store | Apple | iPhone |
| Android Market | Google | Android Devices |
| BlackBerry App World | Research In Motion (RIM) | BlackBerry Mobile Handsets |
| LG App Store | LG | LG Handsets |
| OVI | Nokia | Nokia Smart Phones |
| Samsung Apps | Samsung | Samsung Mobile Phones |
| **Service Name** | **Network Operator** | **Release** |
| Airtel App Central | Airtel | February 2010 |
| Vodafone | Vodafone | March 2010 |
| | Reliance | April 2010 |

The mobile application stores provide both free and paid mobile applications to handset users. These applications span across categories and services such as:

- Entertainment

- eBook reader
- Games
- Health
- Video / music
- News
- Navigation
- Productivity tools
- Social networking
- Utilities
- Finance
- Weather
- Sports
- News

## SUBSTANTIVE FUTURE DEVELOPMENTS IN MVAS

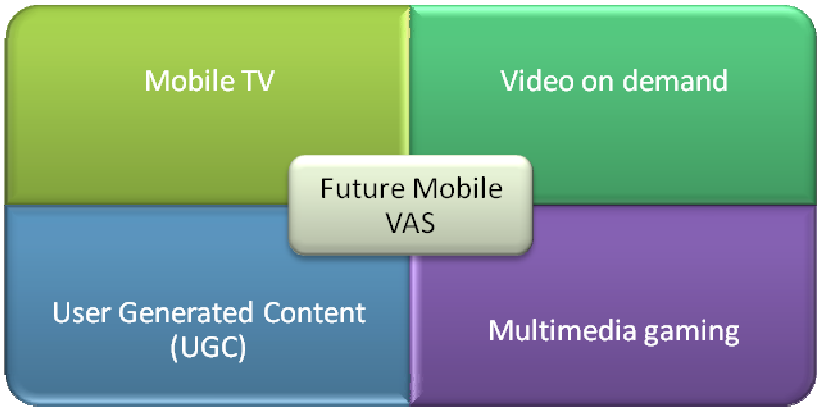
### MOBILE ADVERTISING

Mobile advertising is still nascent industry in India. Stakeholders are still experimenting with it and no standard business model is set so far. With growing subscriber base, it certainly has large potential however, it will take another 2-3 years before it gets evolved and stabilized. Currently it is estimated that the mobile advertising industry is approximately Rs. 150 crore.

SMS advertising leads the pack among type of mobile ads. It is estimated that SMS advertising is to the tune of Rs. 100 crores while display advertising is estimated to be approximately Rs. 25 crores. No other form of mobile advertising is significant in India so far.

### ENTERTAINMENT MVAS

Entertainment VAS will continue to remain key VAS category in the near future. It will be the main growth driver for the market. However, with other factors such as growing number of mature mobile users as well as availability of suitable technology and handsets, it is expected that data services will be leading in future VAS usage. These data services will be related to watching television over Mobile phones, gaming, downloading desired videos on demand and creating personalized content (e.g. social networking, uploading photos/videos).




### IMPACT OF 3G

The much awaited 3G auction was completed in the month of May'10. All the leading mobile operators participated in the auction, which itself was indication that 3G has large potential. It is expected that 3G will bring in lot of services and revenues for the entire ecosystem. 3G is expected to bring in high quality voice as well as high speed data and video services, all three being key components of future Mobile VAS.

Services such as video telephony, mobile TV, video on demand will be offered relatively in short span of time; other services such as music download, online gaming might take little longer.

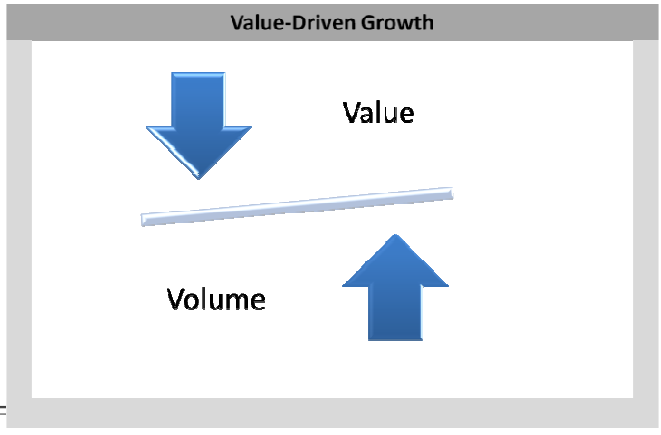
Though 3G spectrum auction is over, implementing 3G across the ecosystem will take 2-3 years. This period will be transition period when all the stakeholders will have to get on to 3G bandwagon. Operators and network providers will have to provide 3G enabled service, mobile handsets will have to be 3G compatible to get benefits of 3G services, content will need to be 3G compatible.

It would be difficult to comment whether 3G will bring paradigm shift in the MVAS industry in a short span of time. Also, for 3G to be success, all the stakeholders of the ecosystem (including users) need to have same pace in upgrading themselves. Success of 3G depends if all entities involved in ecosystem grow and evolve in tandem. Apart from infrastructural issues, handset and technology compatibility, other factors such as pricing is also key to success of 3G. So far VAS has been a premium service. Barring P2P SMS, no other VAS has been really commoditized.

Outlook towards effect of 3G on Mobile VAS industry is certainly positive. 3G will certainly be one of the main factor or driver for growth of MVAS in India. However, will it be the only or prime factor remains uncertain so far. 3G has large potential to change VAS industry. Future of VAS in India is going to be data services and not only voice services. It is to be seen whether operators will provide 3G as 'enhanced voice quality' than 'enhanced data quality'. Unless this mindset or view changes, it would be difficult to see a real positive effect of 3G on mobile VAS.

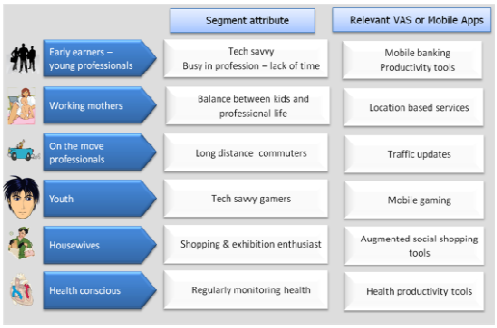
## SERVICE INNOVATION

Offering as successful VAS is a zero sum game. It's a balance between "Value" vs. "Volume". Offering right service to right customer segment at right price is the key to success. 'Value' based offering are expected to rise in future which will target niche segments.



Mobile operators and VAS providers need to segment the VAS users based on their needs and service usage. Targeting the users by segments will be more relevant than targeting them based on age. For instance, in Urban markets, mobile operators need to target segments such as single parents, working professionals, working housewives, whose mobile usage and needs from mobile VAS will be very specific and clearly outlined. They will have enough spending power to acquire VAS relevant to them. On other hand Youth segment or college going students- the most frequent VAS user may not be as successful a segment due to various factors such as lack of purchasing power, their outlook towards these services.

**Indicative User Segmentation**




In rural market, language and content are the key challenges. It is expected that rural VAS will be Voice dominated. For rural user, location based services and information VAS will be successful VAS if implemented correctly.

To ensure higher ARPUs, a lifecycle of service innovation[6] for every type of MVAS could be followed. The orientation towards service innovation will vary according to the positioning, maturity and generation of the MVAS services. Continuous service innovation will highly depend on the reengineering and learning that is had from the usage experience subsequent to a technological offering. It is imperative; however, that before entering the mode of continuous learning and reengineering the service is technology-agnostic in nature – which is the need of the hour for the MVAS offered in the industry.

[6] PB Sanjeev, "Service Innovation", Voice & Data October 2009