

VAS India 2011

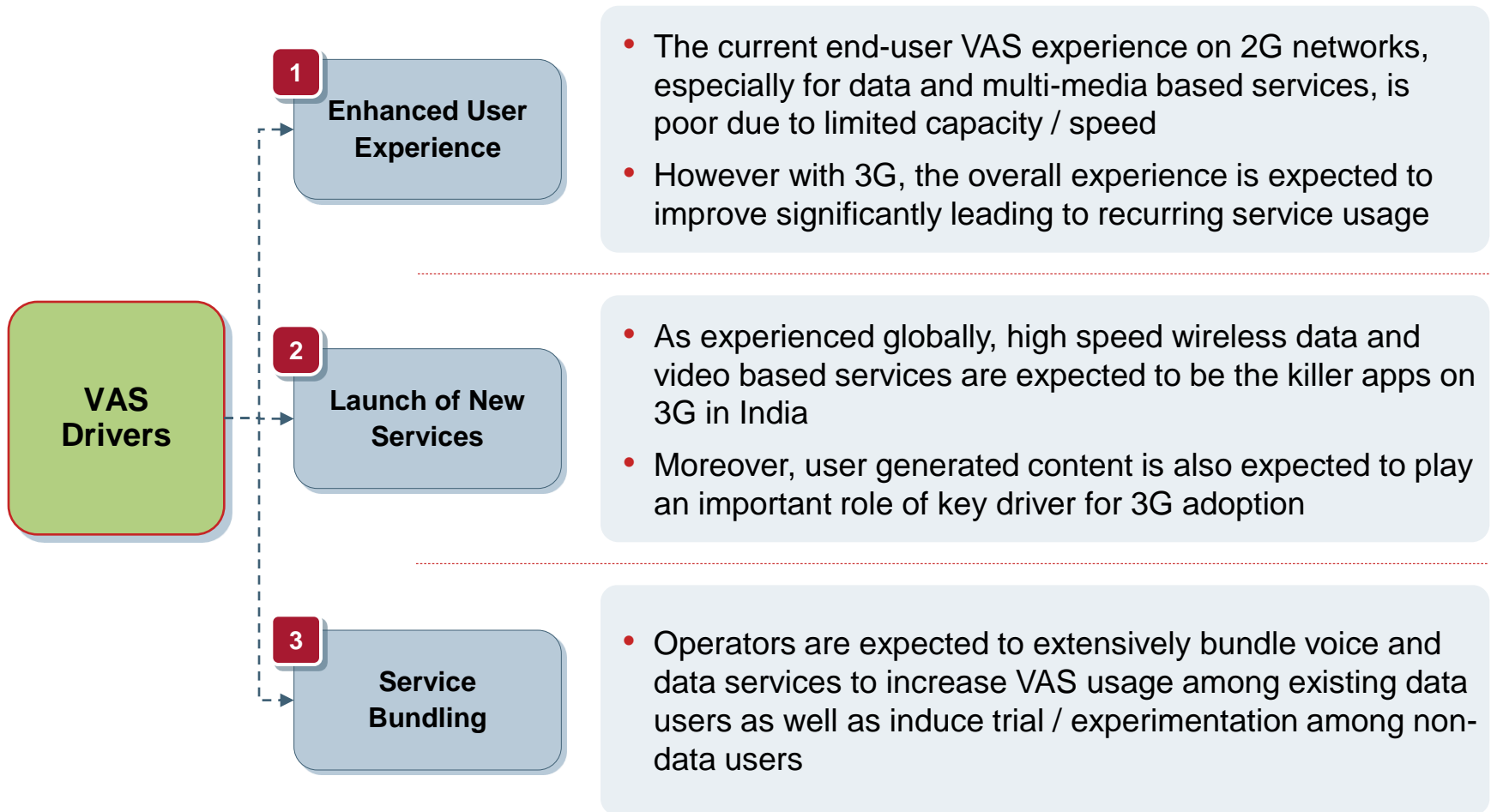
MVAS Landscape in 3G Enabled India

Key Drivers for Adoption

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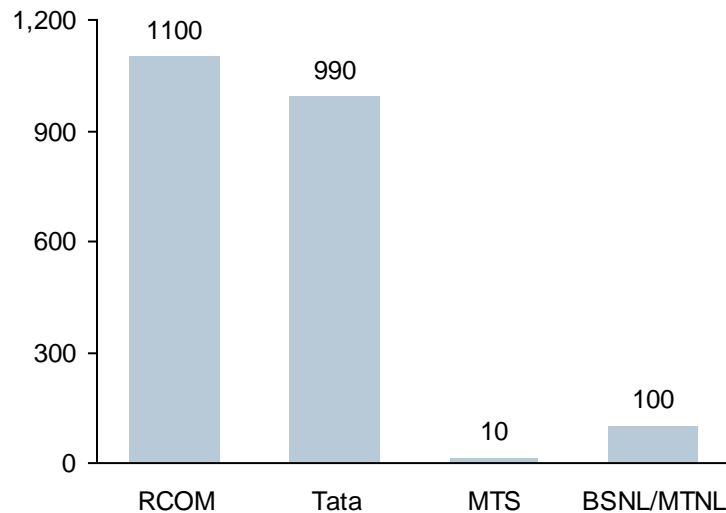
In India, VAS adoption will be primarily driven by enhanced user experience, new services & service bundling



With 3G, the end user experience, especially for high speed data based services, improves considerably

1 User Experience

**Mobile 3G Broadband Data Cards in 2009
(Thousand; Total: 2.2 mn)**



- In addition to the 3G (WCDMA and CDMA 1x EV-DO) data cards, approximately 1.3 mn 2G (GPRS) data cards are used in India indicating a latent demand for high speed wireless data services

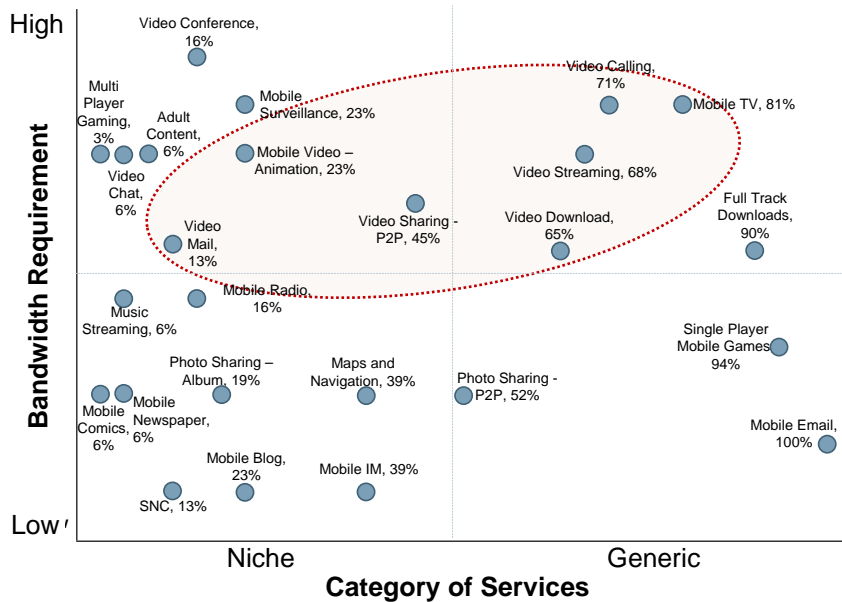
Key Factors for Driving Data Card Usage in Indian Market

Factors	Description
Pricing	<ul style="list-style-type: none"> • Offering affordable pricing of mobile broadband devices and plans will continue to be a key adoption driver
Bundling Initiatives	<ul style="list-style-type: none"> • As in developed markets, bundling initiatives, especially low cost prepaid plans, will increase adoption
Network Optimization	<ul style="list-style-type: none"> • With only 5MHz slots for 3G spectrum, operators will need to optimize networks to handle increasing mobile broadband traffic
Opportunity Area	<ul style="list-style-type: none"> • Promote mobile broadband beyond top 35 cities as a substitute for fixed / wireline broadband
Target Segment	<ul style="list-style-type: none"> • Highest adoption of mobile broadband is likely to be in the corporate segment; focus on customized plans for this segment

Video based services have been the primary differentiators for global carriers as they launch their 3G offerings

2 New Services

Relative Positioning of Unique 3G Services Launched by Global Operators¹



Mobile Video Service Providers in India – Offering, Partnerships & Role in Value Chain

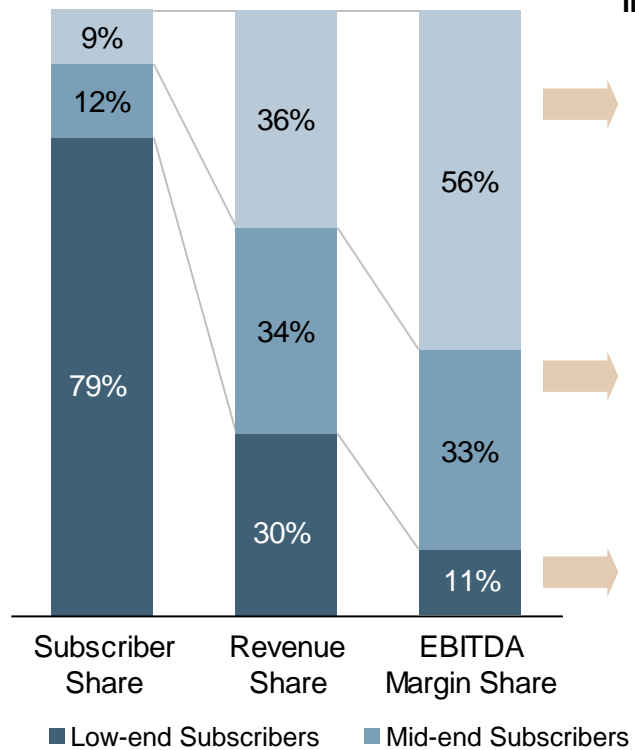
Company	Product Catalogue	Partnerships	Value Chain Role			
			CA	Pt	Ap	Web
Apalya	<ul style="list-style-type: none"> 120 channels No live streaming 	<ul style="list-style-type: none"> Most major telcos Content: Star TV, Aaj Tak, NDTV and others 	✓	✓	✓	
Bay Talkitec	<ul style="list-style-type: none"> -- 	<ul style="list-style-type: none"> Reliance Communications 		✓		
Mundu TV	<ul style="list-style-type: none"> 18 odd channels 	<ul style="list-style-type: none"> Zee network and a few other channels 	✓	✓	✓	✓
Zenga	<ul style="list-style-type: none"> Three key channels Live & pre-recorded 	<ul style="list-style-type: none"> Exclusive contract with MTV and Colors 	✓	✓		✓
VuClip	<ul style="list-style-type: none"> Video search and play platform 	<ul style="list-style-type: none"> Times Audience Network and others 	✓	✓	✓	
DigiVive	<ul style="list-style-type: none"> -- 	<ul style="list-style-type: none"> Currently trying to establish a base within Indian telcos 		✓		
YouTube	<ul style="list-style-type: none"> Video & Live Streaming 	<ul style="list-style-type: none"> IPL and Bollywood Movie Producers 	✓	✓	✓	✓

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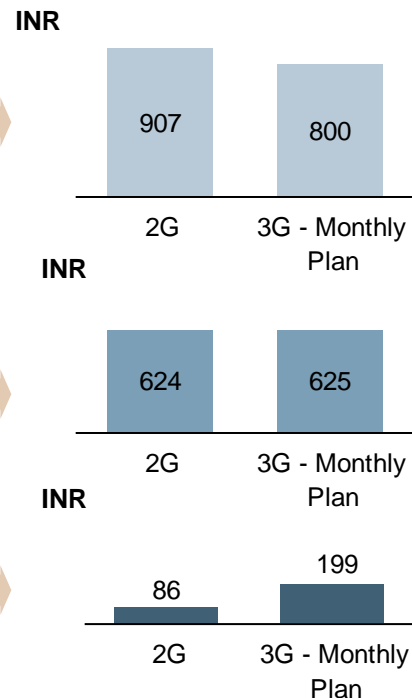
Bundled service pricing recently announced by Tata DOCOMO and RCom is aggressive and is expected to trigger adoption

3 Service Bundling

Revenue & EBITDA Margin Contribution by Subscriber Segments for Incumbent 2G Telco



ARPU Levels for 2G (QE-Mar'10) and Corresponding 3G ARPU based on Tata DOCOMO/RCom 3G Plans¹ (INR)



- The 3G plans of Tata and RCom bundle voice minutes and data, and while offering discounts over existing 2G voice tariffs, effectively offering free data. This will incentivizing trials
- Pricing is driven by subscriber acquisition strategy targeted at incumbent operators' existing high-end and mid-level 2G base
- With discounted voice and data offered within monthly plans, such price plans are expected to negatively impact margins by over 10% of current levels

In summary, 3G services such as video and multi-media based entertainment services will drive adoption

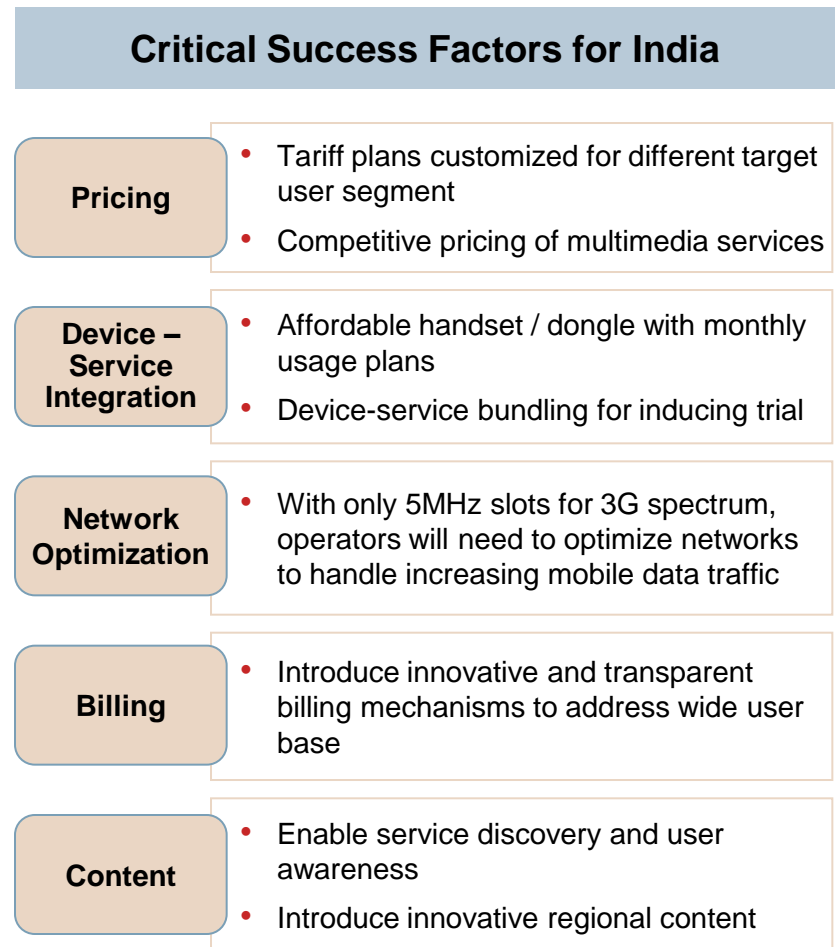
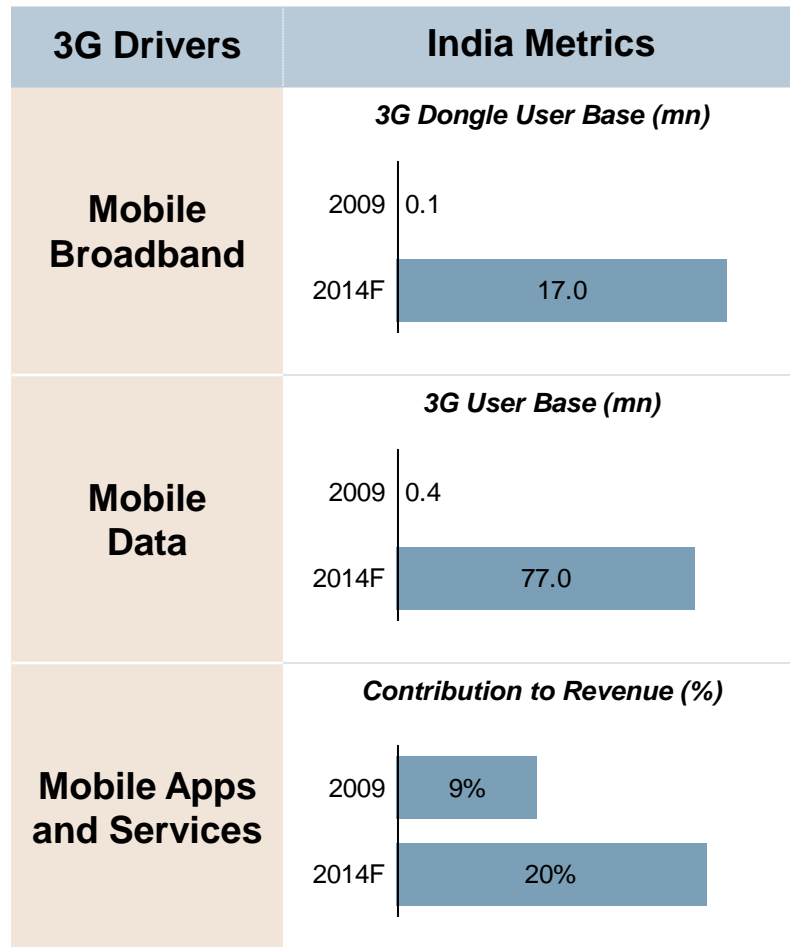
Preliminary Estimates

Category	Current Situation	Growth Drivers	Market Size (2009; USD mn)	
3G	<ul style="list-style-type: none"> Video 	<ul style="list-style-type: none"> Limited services on EDGE with very poor user experience 	<ul style="list-style-type: none"> Launch of 3G services by 2011 by all major telcos, with a strong video services portfolio (e.g. mobile TV, video calling) 	End user revenue 42
	<ul style="list-style-type: none"> App stores 	<ul style="list-style-type: none"> Telco app stores dominate; D2C app stores facing issues of billing as credit card penetration is low 	<ul style="list-style-type: none"> Emergence of affordable android based phones, app store push by handset OEMs, launch of 3G, utility apps (e.g. railway booking) 	End user revenue 9
	<ul style="list-style-type: none"> Mobile Ad / Marketing 	<ul style="list-style-type: none"> SMS / display ads used for lead generation and digital content sale; poor user experience 	<ul style="list-style-type: none"> 3G and device form factors expected to enhance effectiveness of display advertising and help ecosystem growth 	Ad spend 20
	<ul style="list-style-type: none"> Entertainment 	<ul style="list-style-type: none"> CRBT¹ and information alerts comprise major share; no 'killer app' after CRBT 	<ul style="list-style-type: none"> New products such as streaming music, full song download and mobile games 	End user revenue 1,597
2G	<ul style="list-style-type: none"> Mobile Commerce 	<ul style="list-style-type: none"> Current scalable models use smart cards, and not mobile; pilots by telcos, banks, D2C 	<ul style="list-style-type: none"> UID² accepted as KYC will increase share of G2C (~ USD 15 bn); financial inclusion also a key driver (banking, domestic remittances) 	Transaction Value 374
	<ul style="list-style-type: none"> Community Services 	<ul style="list-style-type: none"> Telco promoted SNCs (e.g. AirtelFrenz) aggregating audience on an ad monetization model 	<ul style="list-style-type: none"> Emergence of new monetization models based on micro transactions, content sales (e.g. Rocketalk) with telco marketing support 	End user revenue 492
	<ul style="list-style-type: none"> Enterprise Solutions 	<ul style="list-style-type: none"> Enterprise messaging solutions (e.g. Valuefirst) 	<ul style="list-style-type: none"> Emergence of enterprise mobility providers with vertical specific, telco / software agnostic middleware solutions (e.g. Mobien) 	B2B revenue 146
	<ul style="list-style-type: none"> Voice Services 	<ul style="list-style-type: none"> Multiple pilots, with only few scalable models (e.g. bubbly by Bubblemotion) 	<ul style="list-style-type: none"> Voice enablement to power information, community, entertainment services in lower income user base; overcomes literacy issues 	End user revenue 936
	<ul style="list-style-type: none"> Utility Services 	<ul style="list-style-type: none"> Multiple pilots, with few scalable models (e.g. RML) 	<ul style="list-style-type: none"> Utility apps and affordable feature-phones to drive adoption of productivity and livelihood enhancement services 	End user revenue 138

Note: 1. CRBT: Caller Ring Back Tone 2. Unique Identification

Source: Analysys Mason, Company Reports, Industry Inputs

However, operators will have to overcome pricing, network optimization and user awareness issues



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