

Winning with Real-time Insights in a Multi-SIM Market

A White Paper on Mahindra Comviva's Revenue Plus

March 2013

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1. Executive Summary

Operator revenues are a function of number of active users on the network and services they consume. As market penetration reaches its outer limits and mobile services become commoditized, customers are spreading their telephony spend across multiple networks. According to Wireless Intelligence there are 6.4 billion mobile connections and 3.2 billion unique mobile customers globally. This means each mobile customer approximately owns 2 SIMs to take advantage of arbitrage on pricing schemes.

Until now communication service providers have largely adopted a “batch and blast” approach to engage customers. These campaigns have a low conversion rate (between 0.2 percent and 2.9 percent), as they rely on broad segmentation techniques such as monthly ARPU rather than real-time context-aware information such as the customer’s status on the network, unique transactional patterns and prepaid account balance. Another common pitfall is the ongoing reliance on traditional, static methodologies even when customers are demonstrating significant changes in behavior. For example, the use of traditional cluster-based segmentation schemes (e.g. “technophiles”, “family talkers” or “value minders”) does not allow service providers to respond to shifts generated by dynamic changes across the customer base. Most CSPs have also launched loyalty marketing programs, rewarding customers for use and encouraging increased or different usage. These programs are, however, targeted at customers with steady usage patterns and are not effective in dealing with multi-SIM owners, who constantly toggle between networks.

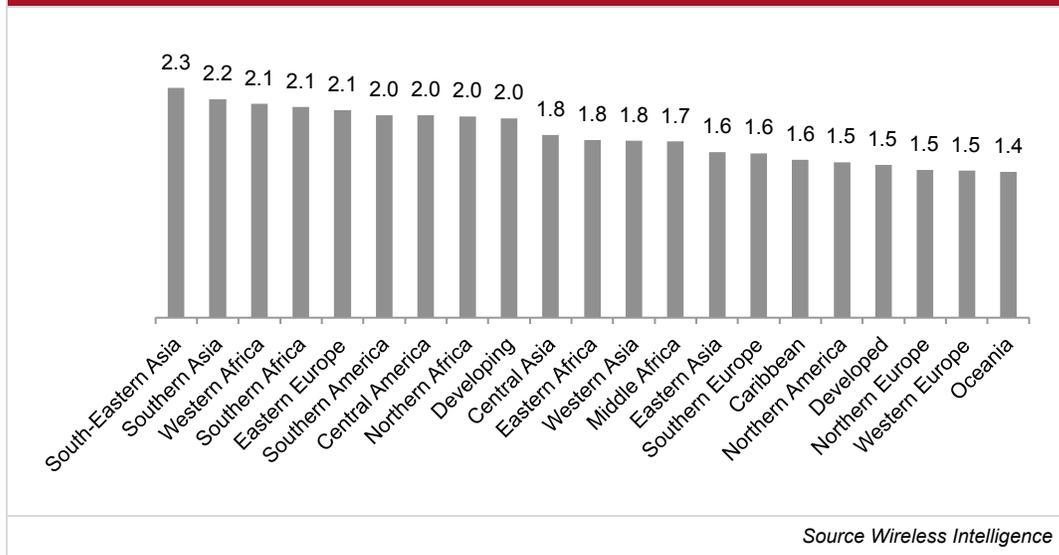
The key element in tackling multi-SIM usage is the ability to analyze customers’ mobile usage patterns to identify the presence of another SIM. Given infrequent usage patterns, operators need make high-quality real-time marketing decisions during each customer interaction to drive higher spends. Mahindra Comviva proposes an “IDEA” based approach founded on identifying customer needs, designing programs for distinct customer segments, executing programs and analyzing effectiveness of marketing spend - to enable CSPs maximize customer value. The framework anchored around a real-time approach can facilitate the CSPs shift from “finding customers for products” to “finding the right products for customers.”

2. Rise of the Multi-SIM User

The ability to retain a stable core of customers and growing their lifetime value forms the cornerstone of a service provider's growth strategy. In the wake of high competitive intensity in prepay telephony markets; churn has acquired a new dimension. Hyper connected consumers have lost their exclusive loyalty to the operator, and seamlessly balance their wallet spends across multiple networks to take advantage of the best promotions and deals available in the market. At any given point of time, this creates a substantial segment of users, who conduct infrequent or no transactions on the network for the period they avail competitor services. Price comparison websites such as www.uSwitch.com and social media have made it extremely easy for consumers to select the most competitive offers based on their personal usage patterns and requirements. Customers may switch to a competing provider for a few hours or days or limit consumption to a restricted set of services on the network. For instance, it is not uncommon for consumers, to have subscriptions for voice and data services from competing service providers to optimize their monthly telephony spends.

A report on the scale of multi-SIM usage by Wireless Intelligence claims there are 6.4 billion mobile connections; however, there are only 3.2 billion unique mobile customers globally. This means each mobile customer owns approximately two SIMs. In Indonesia, for example, consumers use an average of 2.62 SIM cards and in some prepaid segments, 10-12 SIMs per user per year is not uncommon.

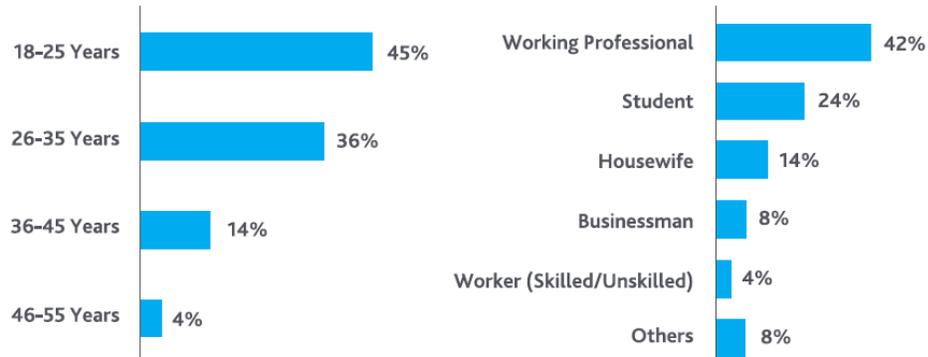
Figure 1: Active SIMs per customer



Whilst price sensitive low income segments constitute the bulk of multi-SIM owners, higher income multi-device owners also use network services from competing providers.

Figure 2 Profile of Multi-SIM users

Multi SIM User Profile



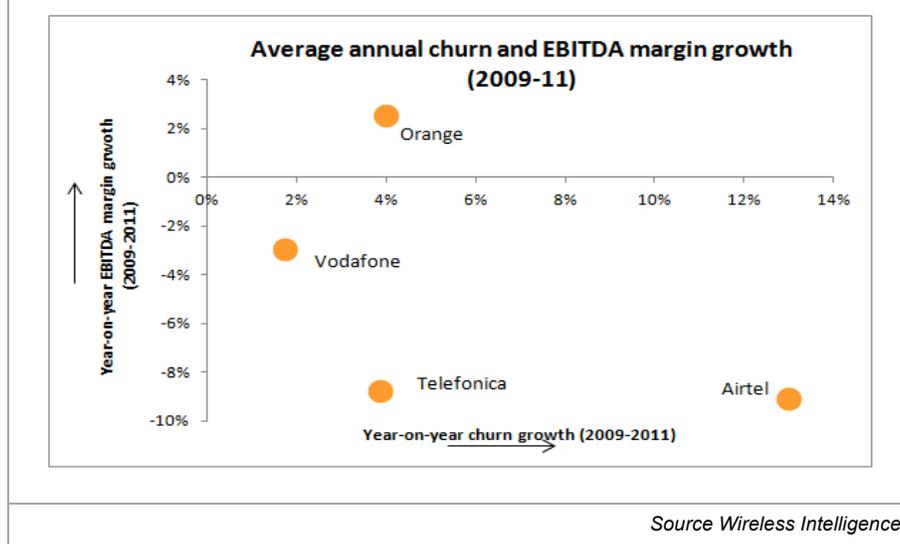
A study on multi-SIM usage patterns in India by Nielsen indicated multiple SIM card users tend to be younger - largely students, newly employed and working professionals.

Source Nielsen India

For CSPs the widespread use of multiple-SIMs represents a loss of customer value and creates a negative cycle of impact at multiple levels.

- The CMO office has to contend with steep escalation in acquisition and marketing costs.
- The CIO office may incur higher provisioning costs on account of high levels of rotational churn
- The CEO office will notice high gross subscriber additions do not result in a concomitant increase in revenues and would have to expend significant management attention on improving new strategies for revenue growth
- The CFO would spend more resource understanding the impact of churn on valuation of the CSPs' customer equity and approving measures to combat churn across the business

Figure3: Annual Churn and EBITDA margins



In the face of these irreversible changes in telephony consumption behavior, the paper focuses on improving the effectiveness of CSPs' marketing strategies. Current approaches fall short and only partially address the multi-SIM phenomenon. CSPs focus a large part of their marketing budgets on "batch and blast" marketing campaigns to broad customer segments. These campaigns have a low conversion rate as they rely on broad segmentation techniques such as monthly ARPU rather than real-time context-aware information including the customer's status on the network, unique transactional patterns and prepaid account balance. The average conversion rates for outbound mass marketing and traditional promotions range between 0.2 percent and 2.9 percent. Another common pitfall is the ongoing reliance on traditional, static methodologies even when customers are demonstrating significant changes in behavior. For example, the use of traditional cluster-based segmentation schemes (e.g. "technophiles", "family talkers" or "value minders") does not allow service providers to respond to shifts generated by dynamic changes across the customer base.

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The key element in tackling multi-SIM usage is the ability to analyze customers' mobile usage patterns to identify the presence of another SIM. Several indicators can help CSPs including:

- Variation in recharge behavior: Any deviation from normal recharge patterns is an indication of churn propensity. For example, a customer who does not recharge for two consecutive weeks or recharges with a lower value for a month, could be considering using a competitor offering.
- Customer device type: An approximate 30% of handsets in emerging markets are dual SIM devices and ownership of multi-SIM device indicates the customer uses more than one SIM
- Long period of inactivity: Silent period during the day can also help identify multi-SIM users, as customers may be availing competitor services during that time:
- Limited service usage: Customers use network only for off net calls or SMS or data services

To counter competition, CSPs need to focus on

- deepening monetization capability per active SIM.
- proactively identifying at-risk customers
- expanding the active customer base on the network
- winning back lapsed customers

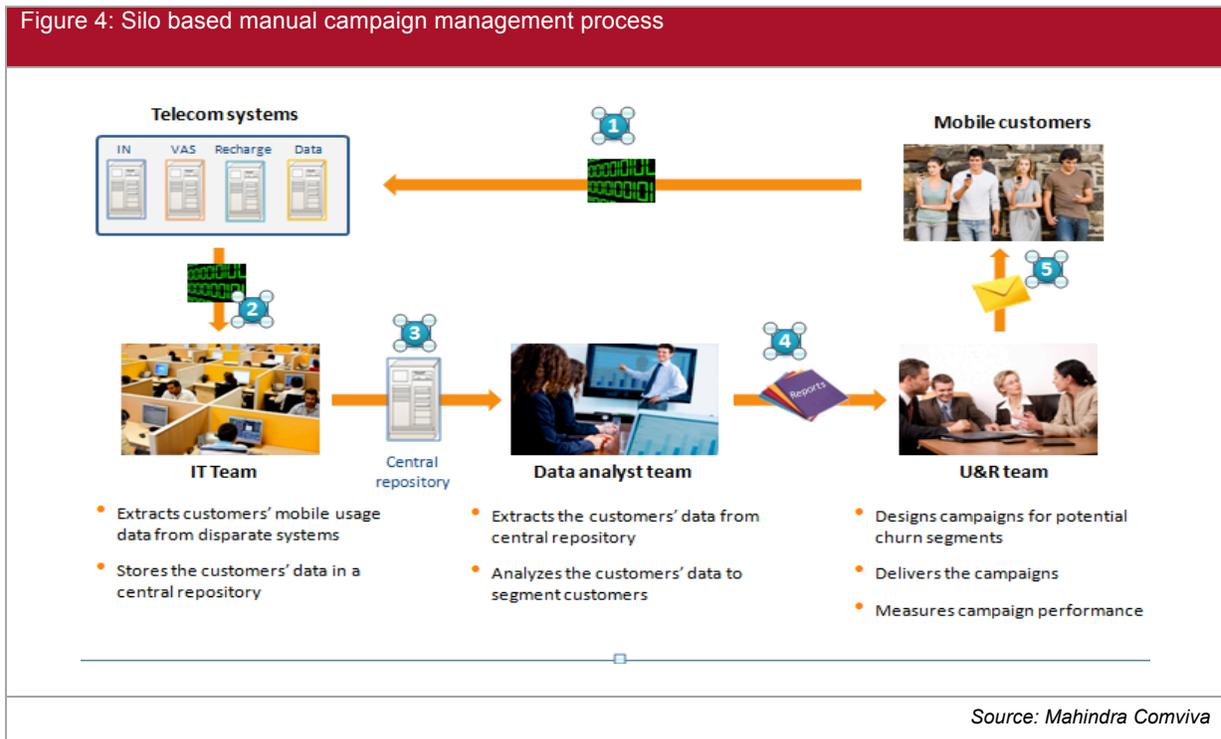
The short lifespan of customers on the network and the inherent volatility in consumption patterns of end-users calls for real-time actions. CSPs need to respond with great speed and agility to become the preferred services provider and protect their customer base. Research by Analysys Mason indicates in a multiple-SIM market, an approximate 50% of users will churn after 30 days on the network, while the next 30% or so will churn during the next 15 to 30 days. The 10 to 20% remaining after 60 days could be converted to a primary SIM user; these users are prime candidates for loyalty initiatives. To stimulate value creation CSPs need to deploy analytical techniques that anticipate and predict changes in customer behavior in real-time. For instance, multi-SIM customers often switch off their mobile phones. To effectively target inactive customers, service providers need to track customer activity on the network in real-time, and deliver a win back offer as soon as the customer latches onto the network.

An ability to make high-quality real-time decisions by combining analytics with up to the minute customer profile behavior tracking would differentiator successful campaigns from those that flounder or fail. Using real-time decision-making technology allows service providers to:

- Meet ever-changing needs of the customer.
- Automate and control the decision-making process.
- Rapidly adapt to changing business strategies

Current CSP architecture is however not designed to support an "information on demand" marketing environment. While the concept of "the single view of the customer" has been much talked about, there is still no end-to-end real-time perspective on users. Frequently, various bits and pieces of end-user data are stored in multiple, disparate data warehouses/repositories. The proliferation of new services has also created additional customer touch-points compounding the challenge of data aggregation. The piecemeal approach creates issues of data aggregation and verification for integrity and quality, delaying overall market responsiveness. Further, multiple teams are involved in aggregation and analysis of information and execution of a campaign and they often work in silos using standalone proprietary tools, which prolongs time to market.

Figure 4: Silo based manual campaign management process

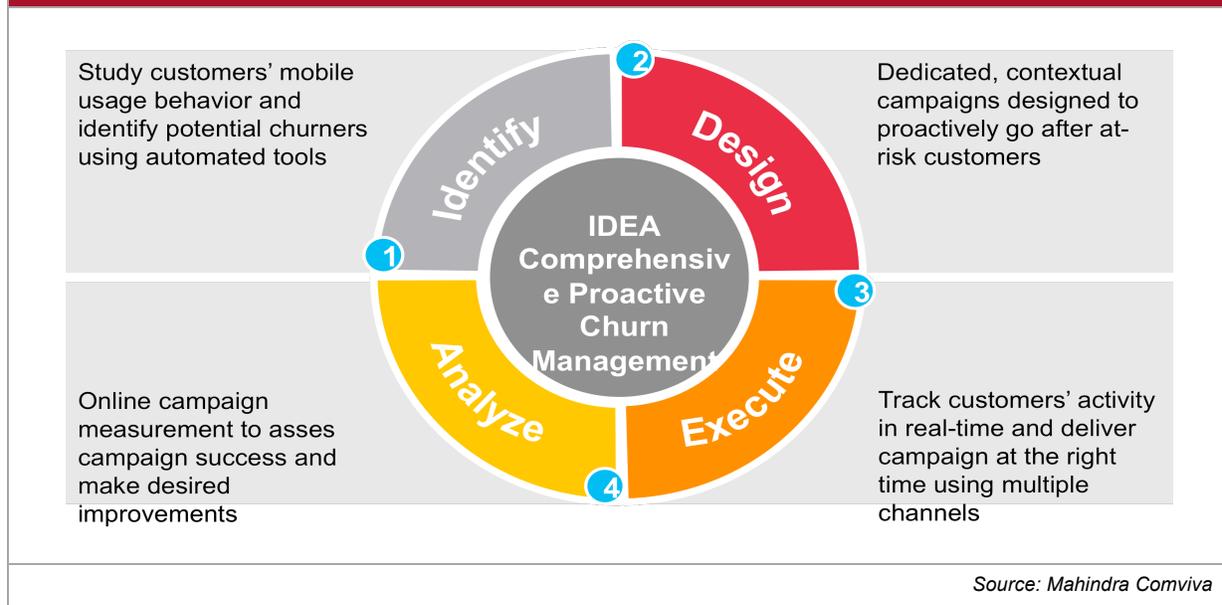


Mahindra Comviva proposes an “IDEA” based approach - focused on identifying customers, designing programs for distinct customer segments, executing programs and analyzing effectiveness of marketing spend - to enable CSPs maximize customer value. The framework grounded in a real-time approach can help CSPs facilitate the shift from “finding customers for products” to “finding the right products for customers.”

3. Optimizing Yield per Customer

To -maximize share of active SIMs in the market and improve yields per customer, CSPs need to focus on identifying and segmenting customers, designing context-specific, appropriate campaigns for each segment, executing campaigns in real-time and analyzing and measuring campaign performance.

Figure 5: Comprehensive proactive churn management – IDEA framework



3.1.1 Identify - What Data needs to be captured

Customer data is the new currency of business growth. Service providers need to focus on discovering the unique characteristics of users, understand what and why they purchase products. Any data related to the use of customers' mobile network services must be captured in real time or near real time for immediate use and must be centrally available to adjust pricing and promotional strategies to in real time. The table below illustrates the data that needs to be collected. Rather than mine all available data and potential uses, CSPs need to focus on activities that yield the highest return on investment.

Data to be Captured		
Source of data	Details of data elements	Why this data needs to be collected
<ul style="list-style-type: none"> Demographic information 	<ul style="list-style-type: none"> Name age, address in line with KYC norms for prepay customers 	<ul style="list-style-type: none"> Demographic information functions as an added input to design programs based on gender and income
<ul style="list-style-type: none"> Usage of voice, messaging, mobile and broadband applications 	<ul style="list-style-type: none"> Number of minutes or messages used. Roaming or international volumes. Amount of data used. Internet usage (streaming, downloading, browsing and peer to peer) website visited. Over-the-top service usage (e.g., VoIP or IM client used). 	<ul style="list-style-type: none"> Analyze recency frequency and monetary value to understand customers Analyze usage by service segment to deliver customized offers Identify at risk customers Analyze changes in telephony services consumption e.g. sudden drop in usage points to use of another SIM Analyze frequency of usage e.g. services being used at particular time of the day or days of the week is indicative of presence of another SIM Develop predictive churn scoring models
<ul style="list-style-type: none"> Location/ Presence 	<ul style="list-style-type: none"> Use of contextual data (e.g., customer's location and presence) Customer's location Customer's status on the network – present, switched off 	<ul style="list-style-type: none"> Location: Roaming or within-the network to prevent roaming customers from being spammed Understand cell location to deliver cell-based pricing offers- e.g. users receive discounts to make calls during off peak hours Understand geo-location to delight customers. Example Special Discount Call Zone at a busy shopping mall Presence: Subscribers who regularly switch off phone ay certain hours of the day may be using competitor services
<ul style="list-style-type: none"> Point of data 	<ul style="list-style-type: none"> Ninety per cent recharge transactions are over the counter. Collect sales data at a per agent level as n 	<ul style="list-style-type: none"> Analyze data from each point of sale to run myriad campaigns to enhance usage. Analyze sales patterns at point of sale. Example drop in agent performance indicative of competitor's gaining ground

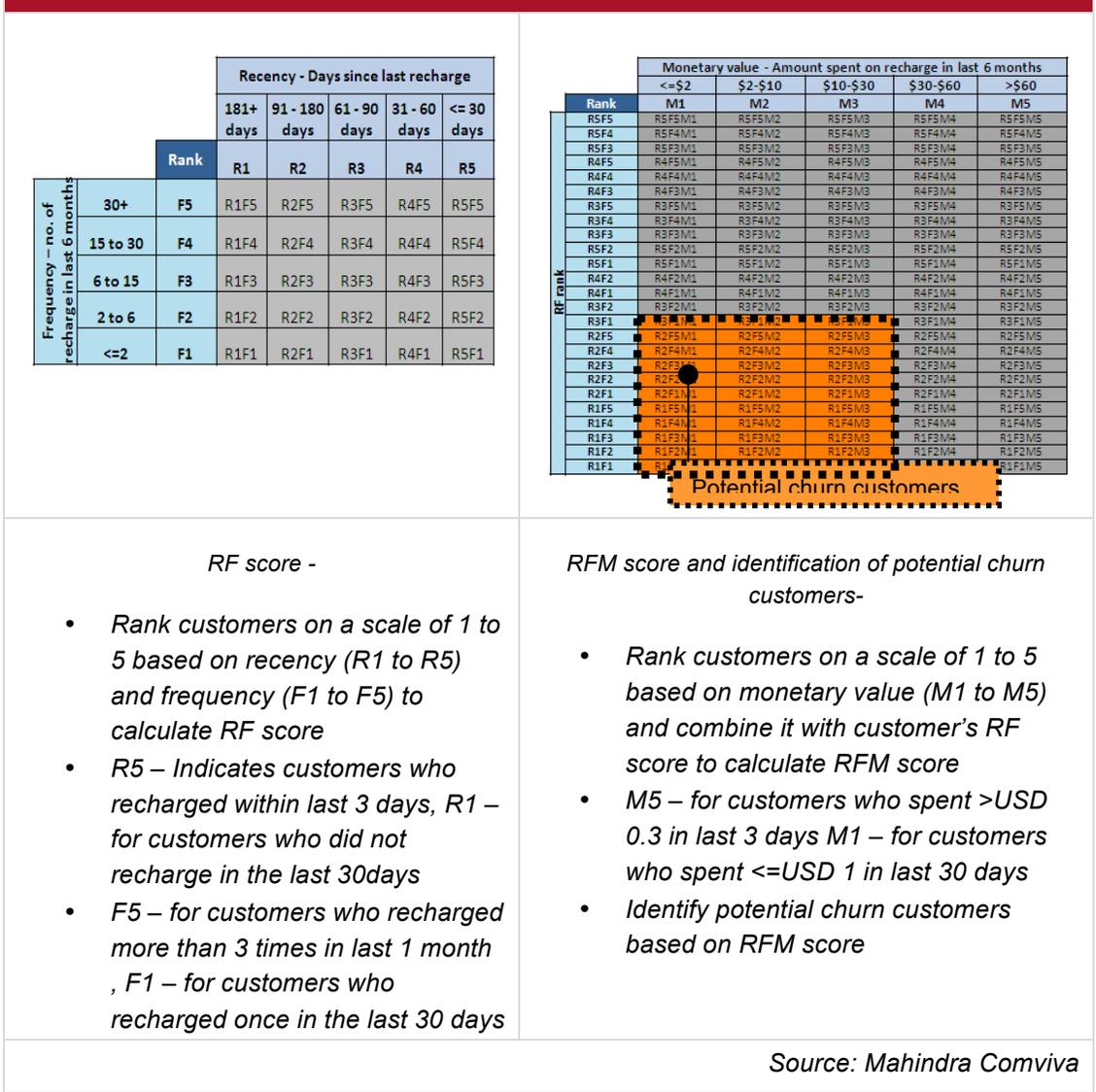
Data to be Captured		
Source of data	Details of data elements	Why this data needs to be collected
		<ul style="list-style-type: none"> Make real-time recommendations on recharge packs to agents to drive customer transaction value
<ul style="list-style-type: none"> Device information 	<ul style="list-style-type: none"> Basic information about the device or services that a customer uses. Also information about what services are available to a consumer and what applications are pre-loaded or have been downloaded 	<ul style="list-style-type: none"> Device type can indicate <ul style="list-style-type: none"> Single or Dual SIM to enable operators accordingly plan strategy 2G,3G,4G, capable or a feature phone to decide message format, choice of channel for campaign delivery and segment type for a specific campaign
<ul style="list-style-type: none"> Call Usage and social networking patterns 	<ul style="list-style-type: none"> Map call patterns and social relationships between communication users. 	<ul style="list-style-type: none"> Aggregate unstructured interactions between consumers, e.g., Twitter "tweets," Facebook entries and interactions with customer services to understand consumers' service perception Analyse social calling patterns Large number of off net calls is indicative of potential churn Detect calls to a competitor's contact centre to flag potential churn
<ul style="list-style-type: none"> Holistic performance of network and, service 	<ul style="list-style-type: none"> Information on quality of service as experienced by users 	<ul style="list-style-type: none"> Analyze service level information to take immediate corrective action, and prevent churn on account of service quality issues. Example special offer to heavy data users for latency experienced on account of system issues. Calls to the customer care to proactively resolve wider issues.

Source: Mahindra Comviva

Based on the data collected, service providers need to identify multi-SIM users. Although there is no thumb rule to detect multi-SIM customers on a network, value segmentation models based on purchase “patterns” can help CSPs arrive at a fairly accurate estimation. For instance, an RFM (regency, frequency and monetary value) score - how recently a customer has used a service, how often does the customer use a service and how much did the customer spend on a service - can form the primary basis to arrive at a broad understanding of customer transactional patterns. A comparative trend analysis of RFV patterns can aid identify whether users are toggling between networks.

Furthermore, considering the dynamic nature of prepay markets; customers move between segments with ease. Hence, CSPs maintain up to the moment customer profiles and monitor usage on an ongoing basis.

Figure 6: RFM model – Illustrative example for recharge



However to arrive at a de-averaged view and better understand and engage customers, RFM-based segmentation needs to be further enriched with additional parameters such as presence, time and location of usage, device type, age on network to arrive at actionable segments and formulate effective strategies that create real value. For instance, if a customer armed with a new SIM is using the same device (identified using the IMEI) and calling the same numbers from the same location as a customer who was previously registered on the network, CSPs can flag the new customer as a potential rotational churner.

CSPs need to exploit predictive analytics to truly understand customers – not just past behaviors. This knowledge enables CSPs to anticipate customer needs, improve customer retention and identify opportunities to cross-sell and up-sell to drive growth. Armed with this information, CSPs can potentially classify customers into the following segments:

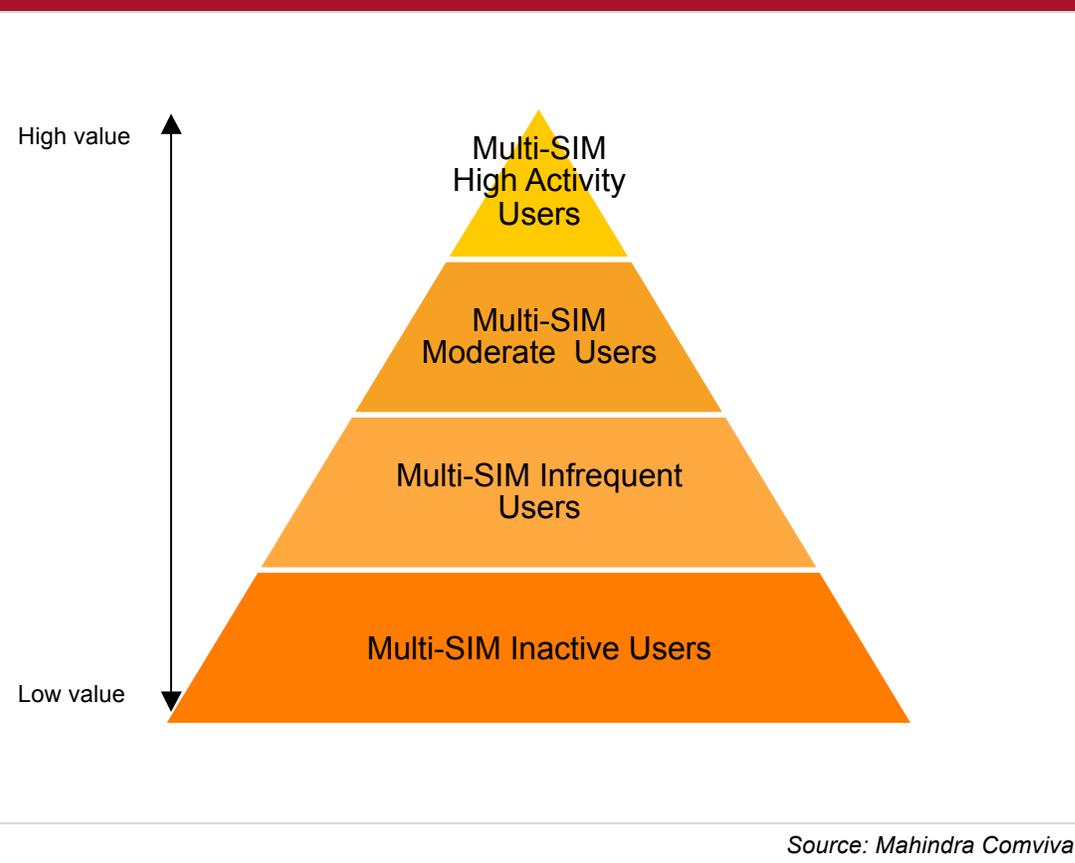
Multi-SIM Inactive Users: An increasing incidence of multiple-SIM usage is the primary contributory factor for a growing segment of inactive customers (between 20% and 30% of users) on the network. These segments are extremely price conscious. Based on availability of discretionary income, these customers may use telephony services for a couple of days in a month, selecting a service provider with the best offer at that point in time.

Multi-SIM Infrequent Users: These segments demand value for money and are extremely savvy in optimizing spends across services. A majority of them own dual SIM devices and make a conscious choice of networks on a daily and hourly basis. For instance, use different networks to make and receive calls.

Multi-SIM Moderate Users: Price as well as service quality guides the choice of network of these customers. Users may patronize data services of a network provider with better 3G coverage and call and SMS services from another network. CSPs need to monetize these segments via up-sell and cross-sell offers and ensure higher spend on their networks.

Multi-SIM High Activity Level: High ARPU customers owning multiple devices comprise multi-SIM, high activity level users. Customers within this segment are unlikely to be lured by discounted offers and place a premium on overall customer experience and service quality. These customers use a plethora of services, and service providers need to devise strategies to improve their lifespan on the network via VIP programs or cross bundling of offers across broadband, fixed-line, IPTV and wireless services.

Figure 7: Customer Segments



3.1.2 Design Promotional Programs

Service providers need to leverage insights to create relevant and proactive pathways to the customer - and stimulate usage. Growing usage and containing churn among multi-SIM users calls for campaigns that are tightly targeted for the most relevant opportunity, through the most effective channel, at the most appropriate time.

Depending on business objectives - reduce churn, reactivate dormant customers, and stimulate spending of active prepaid subscribers - CSPs need to design campaigns that take into account patterns and behaviors – and which call for action or can be exploited to improve results. These patterns and behaviors include:

- churn-risk behavior
- timing windows of expected recharge
- customer current and past service consumption patterns
- current customer segment category
- customer lifespan
- individual micro-timings of receptivity to offers,
- channels for interactions with the service provider

Customer Segment	Use Case	Type of Campaign	Campaign (Examples)	Campaign Trigger
<ul style="list-style-type: none"> Multi-SIM Inactive Users 	<ul style="list-style-type: none"> Customer with no outgoing call, SMS or recharge in the last 1 month 	<ul style="list-style-type: none"> Winback offers to reactivate customer connection 	<ul style="list-style-type: none"> You have won free talktime worth USD 0.2 Talktime valid for next three days. 	<ul style="list-style-type: none"> Immediately after customer powers on the mobile
<ul style="list-style-type: none"> Multi-SIM Infrequent Users: 	<ul style="list-style-type: none"> Customer use network only at certain times of the day Customers use network for certain services – example ISD calling 	<ul style="list-style-type: none"> Winback offers Real-time offers to ensure customers stay longer on the network Inbound recommendation 	<ul style="list-style-type: none"> 10% discount on all calls between 10:00 am and 6:00 pm 	<ul style="list-style-type: none"> Immediately after customer powers on the mobile Offer made on sharp drop in weekly usage Recommend appropriate plans at the point of sale for the customer on the next recharge Understand toggling patterns and deliver offer an hour before the user switches off the phone
<ul style="list-style-type: none"> Multi-SIM Moderate Users 	<ul style="list-style-type: none"> Inconsistent month-on-month consumption patterns 	<ul style="list-style-type: none"> Upsell and cross-sell offers Inbound recommendations 	<ul style="list-style-type: none"> Unlimited free calls for a month with data pack of USD 10 Free access to social networking sites for users using more than 500 MB data per month 	<ul style="list-style-type: none"> On initiation of recharge request On dialing a competitor's call centre Enquiry to IVR or contact centre which did not result in a sale On initiating a data browsing session Few days prior to end of validity of a data pack
<ul style="list-style-type: none"> Multi-SIM Highly Active Users 	<ul style="list-style-type: none"> Customer uses multiple smart devices to log on to the network. 	<ul style="list-style-type: none"> Bundled up-sell and cross-sell offers Shared plans Loyalty offers 	<ul style="list-style-type: none"> Additional free SIM for users generating ARPU above YSD 30 Link multiple devices to a single plan 	<ul style="list-style-type: none"> On initiation of recharge request On initiating a data browsing session Few days prior to expiry of a data pack

Please note this is an illustrative segmentation model. Actual customer segmentation can only be arrived after analyzing customer transactional patterns on the network in conjunction with the operator , Source: Mahindra Comviva

3.1.3 Execute Offers

Operators need to focus on defining and automating the campaign management process and ensuring campaign execution is timely from the customer's perspective. CSP interaction management tools need to support delivery of precise offers based on customer transactional triggers. For instance, while using their phones customers may experience dropped calls and call the contact centre. The call center representative is alerted through real-time decision making when the customer calls that this customer has experienced difficulty. Prior to the customer describing his frustration, the call center representative is able to pre-empt the ensuing discussion by acknowledging the problem and making a special offer. The real-time decision making system is integrated with an e-mail marketing system and is able to send a coupon to the customer immediately. It then places the customer's name into a queue within a campaign management system to receive a courtesy mailing the following week.

Further, with a proliferation of services and channels, CSPs need to adopt a multi-channel campaign delivery model, judiciously tailoring choice of channels to support customer usage patterns e.g., use of IVR or recommendations to agents for non tech-savvy customers and social networking channels for data users.

3.1.4 Analyze Performance

Innovations enabled by customer knowledge gathered through continual interactions are more incremental, focused, and invisible to the competition. Each time the operator makes a promotional offer, the customer does something in response. This back and forth is a "learning relationship" that makes both parties smarter and more connected. CSPs need to measure the efficacy of promotional programs to align marketing activities to customers. Closing the loop and feeding results back into market planning is essential for ongoing optimization of promotion, pricing and product strategies and overall improved marketing performance. This phase of the process also evaluates each marketing initiative and compares it with others in the marketing mix. Marketing mix optimization and scenario planning can be used to optimize and model future marketing plans at a global level, and can also be used to improve the performance of future initiatives in the area.

4. Conclusion

The ability to harvest real-time customer insight is a crucial differentiator for CSPs fighting to optimize yields per customer. CSPs need to deploy systems that can aggregate data from multiple sources: network, operational and transactional - to acquire deeper insight on usage and make smarter marketing moves. Ultimately, CSPs need to move towards an outside-in approach.

Mahindra Comviva recommends the following best practices

- Resist the temptation to initiate a blanket program for improving customer intelligence capability. Establish specific performance goals and invest in tools and techniques to measure and reveal new opportunities for improvement. This is important for the long-term sustainability of programs.
- Start by addressing "soft" areas capable of demonstrating quick returns with minimum investment; for example, reactivating dormant customers, improving recharge frequency among targeted segments.
- Develop an end-to-end perspective. Initiatives must go beyond tool selection to encompass how data is extracted, rationalized and accessed across data and information assets.
- Conduct appropriate due diligence to choose the right technology, process and vendors. Ask questions on vendor's experience in emerging markets.
- Focus on enhancing overall customer experience- example service provisioning , performance and responsiveness

4.1.1 How Mahindra Comviva can help?

Mahindra Comviva's Revenue Plus, an analytics-driven marketing solution, equips operators with tools to develop strategies to maximize customer lifetime value. By aggregating subscriber usage data from multiple sources, including transactional call data records, recharge records, billing systems and VAS service usage records, Revenue Plus enables operators to identify a wide range of service usage patterns. By mining and analyzing detailed usage patterns, operators can micro-segment customers based on transactional and usage characteristics on the network. The information can be leveraged to proactively target customers with - highly relevant promotions – optimizing usage and enhancing revenues per customer.

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About Mahindra Comviva

For over a decade Mahindra Comviva has been serving some of the largest and fastest growing mobile service providers with mobile solutions that accelerate revenue growth, enhance customer loyalty and deliver greater cost efficiencies. Mahindra Comviva's customer base now extends to over 90 countries, with its solutions serving more than 1 billion mobile users globally.

Mahindra Comviva focuses on creating value for mobile service providers and mobile subscribers with a portfolio of productized solutions that enhance the end-user experience and improve mobile service providers' service and business performance. Mahindra Comviva enables this by deploying solutions that exploit legacy investments and by incorporating advanced technology and service delivery and management techniques into its application, platform and service offerings. Mahindra Comviva's solutions also enable mobile service providers to build customer loyalty and extend customer lifetime on the network, driving revenue growth and improving profitability.

Recognized as a highly innovative and dynamic force in the mobile data and value added services space, Mahindra Comviva's solutions and services are helping shape the way mobile communications enrich the lives of over a billion people.

Mahindra Comviva's registered office and primary development centre is in Gurgaon. With additional R&D centers in Bangalore and Mumbai, Mahindra Comviva also has offices in the UAE, UK, South Africa, Americas and Singapore.

Mahindra Comviva Regd. Office

A-26, Info City, Sector 34
Gurgaon-122001
Haryana, India
Tel: +91-124-4819000
Fax: +91-124-4819777
Bangalore Office
Sixth Floor,

Bangalore Office

Kirloskar Business Park
50,51, Hebbala, Kempapura
Next to Columbia Asia Hospital
Bellary Road, Bengaluru - 560024
India
Tel: +91-804-3401600
Fax: +91-285-65854

Mumbai Office

Unit No. 1-4, 1st Floor
Paradigm Tower
Tower B, Mindspace
Malad-West
Mumbai 400064
India

Bangladesh Office

25, Gulshan Avenue,
Gulsha Circle I
Dhaka - 1212, Bangladesh
Tel: +88 028823935

Sri Lanka Office

86, Maligawatte Road
Colombo - 10, Sri Lanka
Tel: +94 11 2639500
Fax: +94 11 5345737

Kenya Office

13th Floor, Landmark Plaza
Argwings Kodhek Road
Nairobi, Kenya
Tel: +254-20-3673520
Fax: +254-20-3673232

Johannesburg Office

260, Surrey Avenue
Ferndale, Randburg, 2194
Johannesburg
Tel: +27 11 293 0500
Fax: +27 11 293 0555

UK Office

Level 2, Cyberhouse
Molly Millars Lane, Wokingham
Berkshire, RG41 2PX
United Kingdom
Tel: +44-118-9890144
Fax: +44-118-9793800

UAE Office

Mahindra Comviva Technologies FZ-LLC
240, Second Floor
Building No - 16
Dubai Internet City
P.O. Box 500583
Dubai, United Arab Emirates
Tel : +971-43687808
Fax : +971-43687809

CALA Office

CALA Region Office
1411 Sawgrass Corporate Parkway
Ste B, Sunrise
FL 33323, USA
Tel: + 1 954 495 9877