

Targeted Advertising

**Unleashing the value of next generation
customer intelligence**

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1 Abstract

Advertisers traditionally suffered from the inability to accurately identify and target potential customer segments for their promotion due to the broadcasting nature of underlying channels such as radio, television and newspapers, resulting in sub-optimal campaigns and lower return on investments. However, the growing popularity of non-traditional channels such as online and mobile for communications, media and entertainment, coupled with their capability to identify and aid in tracking customer behavior precisely, have created major interest and increasing investments by advertisers on targeted advertising. To harness this emerging opportunity of targeted advertising as a new revenue stream, Capgemini has identified that service providers need to have capabilities in four key advertising enabler roles – Delivery Channel, Media Channel, Market Planner and Content Publisher. These roles provide an in depth understanding of customer behavior, which is pivotal to the successful offering of targeted advertising. An operator, with its traditional hold on customers already owns a wide variety of information (demographics, network usage patterns, etc.) and therefore has an edge over its competitors, i.e. online players. However, the potential of targeted advertising and the significance of customer intelligence in this context have motivated online players to get into the race for advanced customer intelligence ownership through service leadership.

Enabling targeted advertising requires service providers to have advanced customer intelligence management systems capable of capturing, analyzing and developing multi-dimensional customer behavior profiles in real-time. Together with a targeted advertising platform, they complete the end-to-end system requirements necessary to compete in the market. Though operators globally have started deploying solutions through partnerships or acquisitions of vendors, they face some business, technology and regulatory challenges primarily due to the nascent state of targeted advertising. However, with an increasing maturity of technology and greater awareness among customers, these challenges can be fully addressed in due course of time.

Operators making an entry into the advertising value network need to actively engage, educate, and create awareness of the benefits of targeted advertising among customers, and leverage customer information through advanced systems, and mutually beneficial partnership and revenue models. Above all, we recommend that operators must adopt an iterative learn-and-adapt approach to handle constantly changing customer behavior, system standards and business models.

2 Targeted Advertising: An Emerging Revenue Opportunity

An advertiser's perennial challenge to identify its target customer segments effectively is best captured in the famous adage attributed to John Wanamaker, the 19th century department store owner – "Half the money I spend on advertising is wasted. The trouble is, I do not know which half." This has rang true for those using traditional advertising channels such as broadcasting and newsprint, which have very limited capabilities for accurately identifying target customers and their precise needs and behavior, thus resulting in lower Returns on Investment (ROI) for advertisers.

However, in recent years, with a growing customer preference¹ for non-traditional channels such as online², mobile and IPTV, advertisers finally seem to have found a solution to maximizing ROI on their campaigns. The advantage of these channels in identifying the detailed behavior of customers is reflected by the fact that online advertising is already a major business opportunity. It is currently growing at a CAGR of 19% and has 9% share of the total global ad spending. Online ad spending in the US alone (the largest advertising market globally) is expected to grow at over 23% in 2008. Among the non-traditional channels, mobile advertising is the fastest growing, with a CAGR of 66%.

Today, search advertising commands 40% of the entire online ad spending and its leadership position is expected to remain unchallenged in the coming years. However, an increasing demand from advertisers for highly targeted and integrated ad campaigns and consumers' strong acceptance of relevant ads linked to their interests is driving the emergence of **targeted advertising**. Advertisers see it as an opportunity to receive higher response rates and greater ROI than those offered by ads over traditional channels. Consumers, on the other hand, are more inclined to consume ad-subsidized premium content if the ads are personalized. They are also comfortable sharing personal information only with trusted entities who can address their privacy concerns.

Behavioral targeting is an advanced form of targeted advertising which serves targeted ads based on the behavioral traits of a consumer such as interests, opinion, lifestyle, etc. It offers superior value, measured in terms of a click-through rate (CTR) of 0.72% and Cost-Per-Mille/Thousand (CPM) of up to \$10, in comparison to 0.20% CTR and up to \$2.50 for non-targeted ads. Though behavioral targeting is still at its infancy³, the clear value proposition makes it an attractive option among all types of advertising in the coming years.

The growing potential of non-traditional channel-based advertising has led to dynamic changes in the advertising ecosystem, which consists of four key enabler roles – 1) Delivery Channel 2) Media Channel⁴ 3) Market Planner and

¹ Consumers spend 15% of their time on the Internet according to ZenithOptimedia, June 2008

² Throughout this paper, online is defined as Internet access over a fixed network

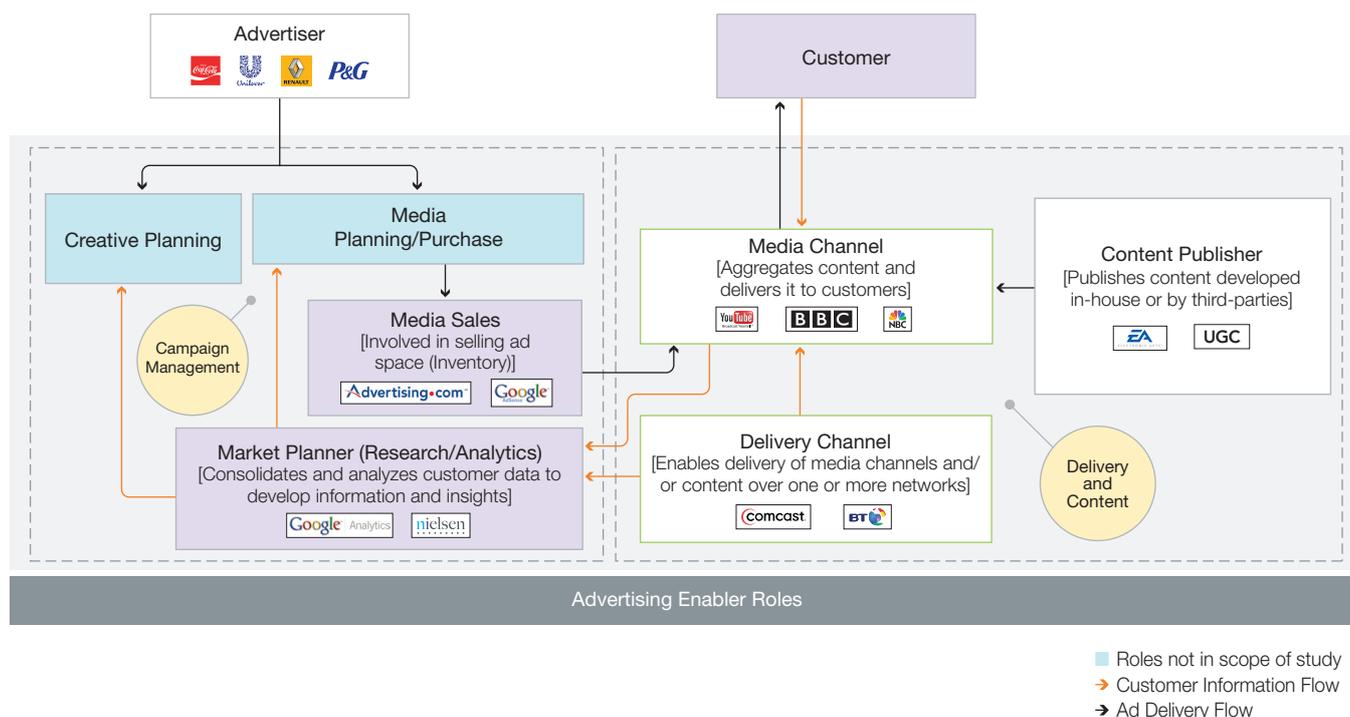
³ Behavioral targeting will only contribute to 3% of the US online ad spending in 2008 according to eMarketer, July 2008

⁴ A media channel may or may not have Media Sales capabilities

4) Content Publisher (see Figure 1). New players are entering the advertising value network by taking up one or more enabler roles, while existing players are extending their capabilities to new non-traditional channels. For instance, online players such as Google (YouTube, AdSense, Adwords, DoubleClick and Analytics) and AOL (Advertising.com), new contenders to the advertising business, are positioning themselves as Media Channels and Market Planners, while traditional advertising agencies such as WPP (24.7 Real Media) and Publicis (VivaKi) are busy extending their existing media planning and sales capabilities to non-traditional channels such as online and mobile.

Though online players have been the earliest contributors to this ecosystem evolution, some telecom operators have also started considering this as a major opportunity in order to address their ongoing business challenges such as declining revenue from traditional voice business and a growing threat to their existing strength in customer ownership and knowledge.

Figure 1: Evolving Advertising Value Network



Source: Capgemini TME TS Lab analysis

Operators are in fact in a unique position to offer targeted advertising due to the following factors:

- **Ownership of multiple non-traditional channels**
 - Enables operators to offer an integrated advertising proposition across multiple delivery and media channels (Internet, mobile, IPTV)
 - Enables consolidation and cross-analysis of customer information, resulting in in-depth and high quality insights.
- **Customer relationship built on trust**
 - Provides unmatched access to a wealth of reliable customer information by leveraging existing long-term billing and payment relationships.

However, operators' success in offering targeted advertising is dependent entirely on their ability to address the rising expectations of advertisers – for both reach and opportunity to see. In order to achieve this, comprehensive network and service-related data on customer behavior has to be gathered for building intelligence using advanced customer intelligence methods and tools. In doing so, they also need to consider the privacy concerns of consumers; no operator neither wishes to attract unfavorable regulatory attention nor, crucially, create distrust that drives eyeballs away.

3 Role of Customer Intelligence in the “Eyeball Chase”

The emergence of new channels, innovative web-based services and advanced analytics has added many more dimensions to traditional customer intelligence. The next generation of customer intelligence has found a number of applications across products and services offered through various channels. These include traditional applications such as CRM process optimization, Churn Management⁵ and more recently, behavioral profiling for targeted advertising. Following are some of the highlights of advanced customer intelligence capabilities and their relevance in offering targeted advertising:

Developing micro-segmentation based on customer behavior: New customer touch-points through non-traditional channels such as mobile and Internet provide deeper insights into the customer’s behavior and personal preferences. Advanced analytics can classify customers based on parameters (beyond the usual demographics and CDR data) such as interests, opinions, lifestyle and context, resulting in segmentation into smaller clusters which can be updated in real-time. Ads targeted to these micro-segments mean more relevance for customers and higher ROI for the advertisers.

Understanding customers’ social roles and relationships: Popular phenomenon of social networks allows customers to interact with a larger community and the analysis of these interactions tells a lot about individual and group relationships and their social roles. This information can then be utilized to influence customers within different communities. For instance, identifying group influencers or “alpha users⁶” and then targeting them with special product offers leads to indirectly influencing a wider audience within a group having similar profiles.

Extracting behavioral insights from the content of customer interactions: User interactions through various channels such as emails, blogs, photo/video sharing, etc. carries valuable information about a customer’s behavior and preferences. Legacy analytics systems have limited capability in understanding this data, which is largely available in the unstructured format. However, advanced analytics—with its capability to extract useful information from these hitherto unused data such as text, image or video content—can provide deeper insights into customer behavior critical for targeted advertising.

Creating a single view of customer profile in real-time: Legacy systems have data scattered across a number of systems, thus providing a fragmented view of the customer. New data integration techniques such as data federation and data propagation enable integration of real-time and historical data from disparate data sources to provide a 360° view of the customer. This has become much more relevant today when a customer has multiple profiles spread across various

⁵ Churn Management tools like LightBridge’s Churn Prophet and SAS Customer Retention look at the data for customers who have defected in the past, and using advanced predictive analysis, identify the current customers who are most likely to defect in near future

⁶ Alpha Users are individuals who exert maximum influence on behavior of members within a community that they belong to, and are typically early adopters of services and products

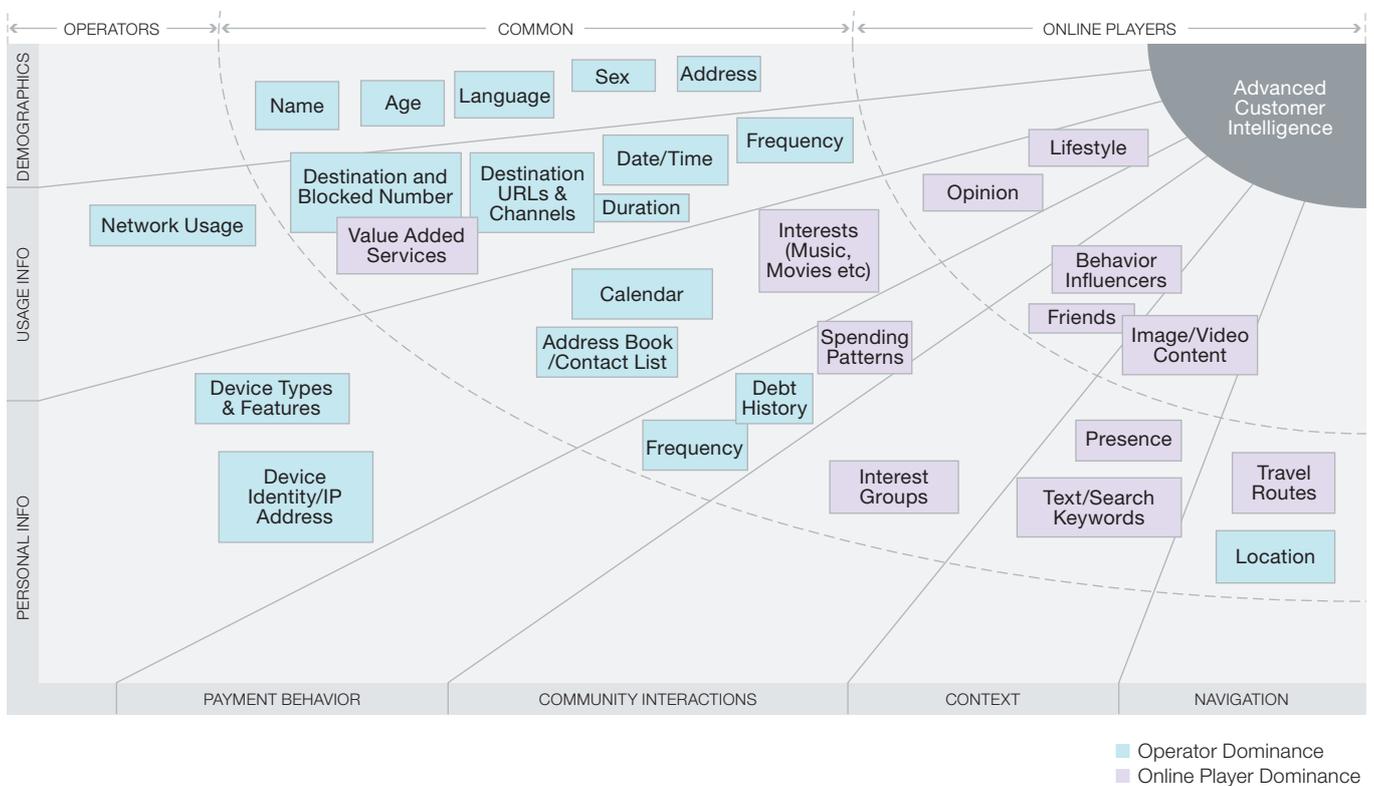
services with no single player having complete ownership and control of the customer profiles. A single view of a customer greatly improves the quality of customer behavior profiles.

Telecom operators have extensive experience and expertise in using traditional customer intelligence primarily for their own business. Hence, they are better equipped to extend this expertise in adopting advanced customer intelligence capabilities. However, they are facing stiff competition from online players in the race for ownership of customer information, which is central to building leadership in customer intelligence.

4 Race for Ownership of Customer Intelligence

Online players and operators have both started taking a keen interest in gathering rich customer information by leveraging their existing strengths and adding new avenues of customer touch-points. Figure 2 shows a summary of the customer intelligence ownership landscape.

Figure 2: Snapshot of Customer Intelligence Ownership



Source: Capgemini TME TS Lab analysis

Operators' strength lies in gathering and building network-related customer intelligence due to their traditional ownership and control of network infrastructure. In addition to the demographics, usage and device information which have largely been exclusive to operators in the past, the emergence of multi-play convergence gives them the additional capability to position themselves as a customer intelligence hub offering qualified (accurate) data across multiple delivery channels through identity management. Identity management, here, is defined as the capability to resolve and map unidentified customer data to an existing customer record using unique identification information. Though online players are attempting to match this capability through service-related Single Sign-On (SSO) initiatives such as Microsoft Passport and OpenID, these are still vulnerable to fake identities unlike the network-related approach adopted by operators.

Online players, on the other hand, have access to many service-related customer data sets captured from online services due to their leadership in offering innovative services. Leading online players like Google, Yahoo! and eBay are currently dominant in gaining service-related customer information through services such as web browsing, entertainment, navigation, social networks and search. Some of these players have also developed an early lead in media sales over non-traditional channels by offering greater reach⁷ and superior targeting capabilities. AOL's Advertising.com, Yahoo's Publisher Network and Google's AdSense are some of the leading examples.

Proliferation of online services offering content based on the interests of customers have increased the need for customer profile management. Foreseeing this challenge and the potential benefits, major online players have opened up their platforms using APIs for third-party service providers and developers. MySpace's Data Availability initiative, Facebook Connect, Yahoo's Fire Eagle and Google's Friend Connect are some such examples. Through such initiatives, online players can gather and explore rich and dynamic information on customer behavior, without actually having to develop new services. On the other hand, third-party developers can utilize the behavioral profiles of an existing large customer base of online players in order to offer their services.

Though online players have been proactive in this initiative, operators are also beginning to realize the benefits of an open platform strategy. Orange Partner is one such operator initiative which enables third-parties to build applications for photo-sharing, personal address book creation, and personal messaging by utilizing Orange's network and service infrastructure.

Though such open platform initiatives give benefits to customers and players alike, the key challenge is the lack of interoperability between such platforms in physically transferring customer profile data or porting of the context in which the data is used. "DataPortability" is an open standards initiative working towards the development of common guidelines and best practices to avoid the interoperability challenges among emerging open platforms.

⁷ Reach is defined as the number of monthly unique visitors to a site

5 Operator's Suitability for Targeted Advertising: "Eyeballs for Sale"

Gaining and leveraging leadership in customer intelligence ownership to maximize the value of targeted advertising offerings requires capabilities in four key advertising enabler roles – Media Channel, Delivery Channel, Market Planner and Content Publisher as previously mentioned. Together, these four roles are primarily responsible for meeting the rising expectations of advertisers and customers who form the two end-points of the advertising value network. Hence, understanding these key stakeholders' expectations is critical.

Advertiser's expectations are driven by the need for – 1) getting an in-depth understanding of customers in terms of their behavior, context of usage, opinion, etc. for delivering personalized ads 2) expanding the customer reach by innovative ad campaigns and improved quality of target customer identification 3) greater customer interactivity during the campaigns to continuously engage and learn from their behavior 4) efficient campaign management with greater flexibility and automation, and finally 5) realizing ad expenditure optimization and higher ROI through real-time measurement of campaign effectiveness based on precise metrics in a transparent manner.

On the other hand, customer's expectations are driven mainly by two factors – 1) to maintain privacy of personal information by making the Personally Identifiable Information strictly out of reach from ad providers with a choice to opt-in/opt-out of campaigns and 2) to receive ads relevant to personal interests and enjoy benefits such as service usage in return for receiving ads.

According to our analysis (refer Figure 3 on page 12), operators are stronger vis-à-vis online players in the delivery channel and market planner roles, whereas they lag as media channel and content publishers. This is due to the inherent strength of operators in the ownership of multiple networks with strong security, authentication and identity management mechanisms enabling them to gather and conduct cross-channel analysis of customer information. On the other hand, online players have established leadership in offering innovative content, web analytics, and highly scalable media sales capabilities.

Figure 3: Capability Assessment Chart-Operators vs. Online Players

		Enabler Requirements		Operator	Online Player	Operator	Online Player	Enabler Requirements	
DELIVERY CHANNEL	Gather real-time network-related customer data (network intelligence)	Operator	Online Player	Operator	Online Player	Operator	Online Player	Monitor channel effectiveness	MEDIA CHANNEL
	Enable real-time customer feedback	Operator	Online Player	Operator	Online Player	Operator	Online Player	Maintain customer data abstraction	
	Maintain data privacy	Operator	Online Player	Operator	Online Player	Operator	Online Player	Manage ad inventory	
	Enable convergence	Operator	Online Player	Operator	Online Player	Operator	Online Player	Enable billing and audit	
MARKET PLANNING	Unified view of customer information	Operator	Online Player	Operator	Online Player	Operator	Online Player	Develop multiple formats	CONTENT PUBLISHER
	Maintain data privacy	Operator	Online Player	Operator	Online Player	Operator	Online Player	Enable interactivity	
	Manage data quality and standards-based ad metrics	Operator	Online Player	Operator	Online Player	Operator	Online Player	Enable seamless fusion of content with ads	
	Conduct advanced data analytics and reporting	Operator	Online Player	Operator	Online Player	Operator	Online Player	Support easy discovery and personalization	

Source: Capgemini TME TS Lab analysis

● Strong ○ Weak

6 Reference Architecture

To fulfill the major requirements of enabler roles, operators need to implement processes which can be broadly classified into two: 1) Customer Intelligence Management and 2) Targeted Advertising. The Customer Intelligence Management process is considered as the primary pre-requisite for developing in-depth customer behavior profiles, critical for the delivery of targeted advertising.

6.1 Advanced Customer Intelligence Management

Operators today are facing three key customer intelligence management challenges – Firstly, data gathering is not done in real-time, leading to latency in analysis, reporting and action; secondly, lack of support for gathering and analysis of data (mostly unstructured) from non-traditional sources (such as social networks, search patterns, broadband usage, etc.) and thirdly, use of proprietary data models preventing faster integration of non-traditional data and interoperability with third-party sources. Operators therefore need to adopt advanced customer intelligence management architecture (see Figure 4 on page 14) supporting new capabilities in order to address the targeted advertising requirements.

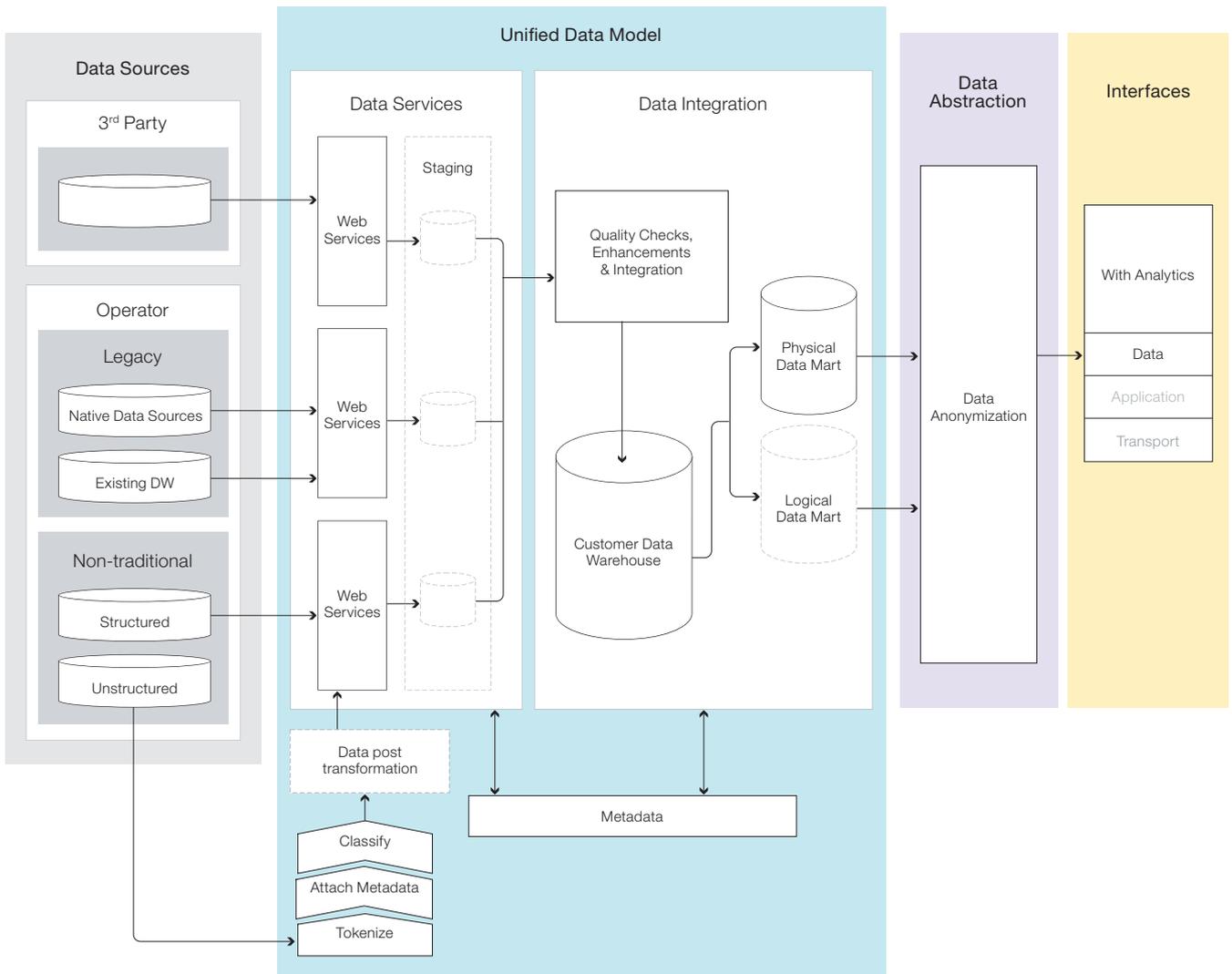
The advanced architecture capabilities include real-time, event-driven data collection from the network, and data collection from web-based services and unstructured data modeling. To address the issue of data model extensibility and interoperability with third-party online and offline sources such as mortgage agencies and media research agencies, open standards based (SOA) and unified data model is supported. The data services provide a layer of abstraction, making the calling systems agnostic to the data source types and platforms. It exposes a set of callable/event-driven services that fetch the data from disparate sources and present it to the data integration systems in a standard format based on the unified data model. Compliance to the standard unified data model enables easy interoperability with third-party sources and also enables extensions to the data model across the board in a consistent manner.

The **Data Integration** layer, apart from data quality checks and consolidation into a data warehouse, could also provide the important functionality of identity management. Once a single qualified 360° view of the customer is obtained, data needed for specific profiling /targeting requirements can be isolated from the data warehouse into physical or logical data marts. This increases the security of information in data warehouses and prevents the possibility of unauthorized access.

The **Data Abstraction** layer addresses the important issue of customer data privacy by stripping Personally Identifiable Information from the customer data before sending it to analytics. The challenge here is to remove the information that can potentially compromise a customer's privacy and at the same time retain enough data to support profiling and targeting.

Finally, the data needs to be conveyed to the analytics system via the **Interface** layer. This requires a secure and open standards-based interface to ensure seamless interoperability in transport (through REST support), application (through open APIs) and data (through Data Portability), particularly in case the customer intelligence, analytics and ad platform are owned by different players.

Figure 4: Advanced Customer Intelligence Management Reference Architecture



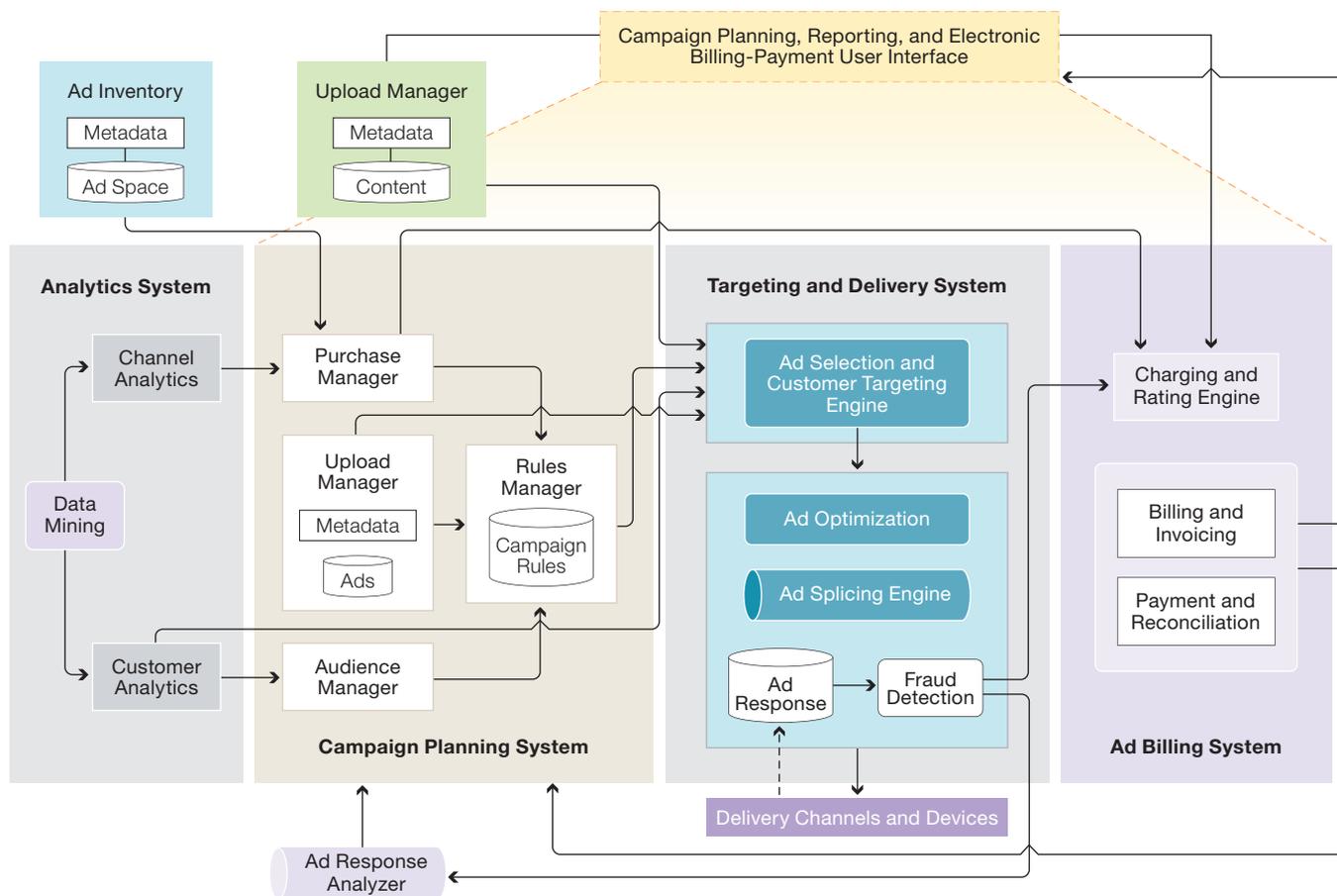
Source: Capgemini TME TS Lab analysis

6.2 Targeted Advertising

The “anonymized” data output from the customer intelligence system serves as an input to the advanced analytics system which consists of the customer and channel analytics modules.

Advanced **customer analytics**’ primary role is to develop multi-dimensional customer behavior profiles based on the data available. The functions include micro-segmentation of customers by matching and ranking their behavior to specific segments which are either predefined or created in real-time using automatic clustering techniques. Advanced **channel analytics**, on the other hand, involves aggregation and cross-analysis of the usage information across multiple channels. Such analysis can provide in-depth insights into the relative effectiveness of a particular channel. Here, implementing open standards based metrics, transparent or consistent in definition, is very essential for common understanding and clarity.

Figure 5: Analytics and Targeted Advertising Reference Architecture



Source: Capgemini TME TS Lab analysis

The campaign planning system takes inputs from the advanced analytics systems to assist in effective campaign planning and management. The system consists of four key modules—Audience Manager, Purchase Manager, Upload Manager and Rule Manager—to execute its functions. Data privacy issues are addressed by including a **Policy Manager**, responsible for maintaining the customer preferences and regulatory policies. **Audience Manager** uses inputs from customer analytics to select suitable customer micro-segments for the campaign planning and interacts with the policy manager to make appropriate data privacy decisions. The **Purchase Manager** module takes care of the media sales function by selecting suitable channels for the campaign based on inputs from the channel analytics and purchasing the selected channels based on available ad inventory. The **Upload Manager** serves relevant ads to the campaign planning system. The **Rules Manager** plays a central role in storing the rules defining the linkage of ad inventory with ads (targeting triggers) and configurations for campaign settings such as time duration, frequency capping and ad sequencing based on inputs from the Purchase and Audience Manager modules.

In order to keep the underlying complexities of campaign planning away from an advertiser, an automated, intuitive and easy-to-use web-based **user interface** with self-serve capabilities is required. Such a front-end interface assists advertisers in speedy planning, execution and tracking of the campaigns without bothering about the internal working of the system.

Finally, it is the targeting and delivery system's role to deliver the most suitable ads to customers based on their real-time activities. The **targeting engine** forms the central part of this system and is responsible for real-time selection of appropriate ads based on the targeting triggers defined by the Rules Manager such as customer behavior profile, type of content and device characteristics. These targeting triggers comprise information generated by customers through usage events such as browsing, streaming video, etc.

The delivery system comprising of the **optimization and the ad splicing** modules is finally responsible for placing the selected ads on various channels. The optimization module does the transcoding and rendering to make the ads compliant to formats recommended by standards bodies such as MMA and IAB, adhering to the requirements of various end-devices. The ad splicing module embeds these ads in real-time to the different channels (services and devices).

After ad delivery, an advertiser is keen to assess the success of the campaign program by evaluating the ROI. The system should support feedback monitoring and measurement in real-time to analyze the effectiveness of the ad campaign and its ultimate ROI. Due to rapid growth and emergence of multiple types of non-traditional channels, traditional metrics no longer fulfill the requirements of monitoring and measurements for the new delivery contexts. For instance, some of the earliest delivery contexts were static HTML-based web pages displaying text and banner ads, which were measured using page views as the ad metric. However, this metric will not be useful to measure ads delivered to numerous new delivery contexts such as search, dynamic and rich media web pages based on Web 2.0 technologies such as AJAX and RSS. Hence, the new delivery contexts require new metrics. The presence of multiple metrics can lead to inconsistencies in the way they are defined and implemented, leading to inaccurate outputs. Hence, support for a standards-based ad feedback metric is very essential to avoid confusion and achieve meaningful results for the advertiser.

Finally, the targeted ad platform requires a robust ad billing system which is channel-agnostic and supports multiple charging models and electronic bill presentment and payment for advertisers. It should also provide a real-time interface to the retail billing system for enabling discount and balance management for services based on an ad-funded business model.

7 Industry Developments

The race to develop end-to-end capabilities for advanced customer intelligence and ad delivery has resulted in many interesting trends. Customer intelligence and ad platform vendors are leveraging their existing capabilities and adding new capabilities to their portfolio through partnerships and acquisitions to meet the new architectural requirements.

Leading tier 1 customer intelligence system vendors have been developing end-to-end customer intelligence capabilities through acquisitions and in-house developments. For example, Oracle acquired Sunopsis, a leader in data integration products, and IBM acquired Cognos, a leader in data warehousing solutions. Both Oracle and IBM have been developing in-house capabilities for unstructured data modeling and integration. The best-of-breed players, on the other hand, are seeking partnerships to offer end-to-end capabilities. An example of this is the collaboration between Microsoft and Teradata that enables integration of Teradata Enterprise Data Warehouse with Microsoft Business Intelligence.

Vendors are actively pursuing SOA-based data federation solutions. IBM's WebSphere Federation server, SAS Data Federation and Alcatel-Lucent's Data Grid Suite are some of the leading data federation products supporting SOA. IBM and Oracle are leading the pack in adopting the open standards to meet new interoperability and data portability requirements.

Analytics vendors have started focusing on advanced analytics capabilities such as predictive analysis and unstructured data analysis. Some of the leading analytics products are SAS Customer Analytics and SPSS Clementine Workbench.

In the ad delivery space, vendors offering carrier grade ad platforms for IPTV are being acquired by large telecom equipment providers to complement their IPTV and Digital TV solutions. For instance, Tandberg Television was acquired by Ericsson in April 2007, and Tamblin was acquired by Alcatel-Lucent in September 2007. Online players and traditional ad agencies looking to expand their digital advertising capabilities have started acquiring online ad platform vendors. Google acquired DoubleClick in March 2008 and the ad agency WPP acquired 24.7 real media in May 2007. Some online players are also trying to spread their capabilities in mobile advertising by acquiring vendors in mobile ad platform solutions. Microsoft's acquisition of ScreenTonic is an example of this trend.

On the other hand, operators are leveraging their ability to collect detailed user information by offering it as a service to neutral ad service providers. The neutral providers are a recent phenomenon. NebuAd and Phorm are two prominent players in this category. These players gather information provided by their partner operators and use it for offering targeted advertising. This relationship helps to position the neutral ad service provider as a one-stop shop for customer intelligence across multiple operator networks in a market. It also maintains the continuity of customer information, in spite of churn from one particular operator to another (if both are partnering with the neutral player). Operators on the other hand, can increase the monetization of their customer information. However, this partnership model is currently plagued with data privacy concerns. Operators are also taking the partnership route with ad platform providers in order to offer targeted advertising. For instance, Amobee has a global partnership with Telefonica and a partnership with Vodafone restricted to certain European countries.

Deploying targeted advertising using advanced customer intelligence solutions has started delivering results for operators in marketing own products as well as of third parties. Some deployments have reported an increase in ad response rates from an average of 3-6% to 13-46% and customer acquisition growth of 21% compared to traditional marketing⁸.

⁸ According to the case studies from the social advertising intelligence solution provider Xtract

8 Key Challenges

Operators need to address a number of business, technological and regulatory issues in order to effectively compete with the online players in the advertising space.

Operators have traditional data warehousing solutions in place which have limitations in terms of reusability and extensibility for advanced customer intelligence as mentioned previously. These could be overcome by implementing open standards based Service-Oriented Architecture and a unified data model. However, these standards are still evolving and the lack of maturity could lead to interoperability challenges resulting in loss of investments.

From a business point of view, operators have traditionally played the infrastructure provider role and they have the required engineering talent and analytical skills for marketing their own products and churn management. However, to effectively compete with online players in the advertising space, operators also need to enhance their skills and resources in areas like content publishing and ad inventory management. These enhancements will need a fair amount of investment from the operators.

A major challenge is customer data privacy concerns raised by various regulatory bodies, privacy advocate organizations and individuals. General opinion on this issue is that customers should positively opt-in for information sharing for targeted advertising⁹. This regulatory challenge leads to some business and technical challenges. The business challenge is to create awareness and educate the customers on benefits of sharing information for targeted advertising. The technical challenge is to create robust systems to effectively “anonymize” customer data and prevent all possible circumstances that might compromise customer privacy.

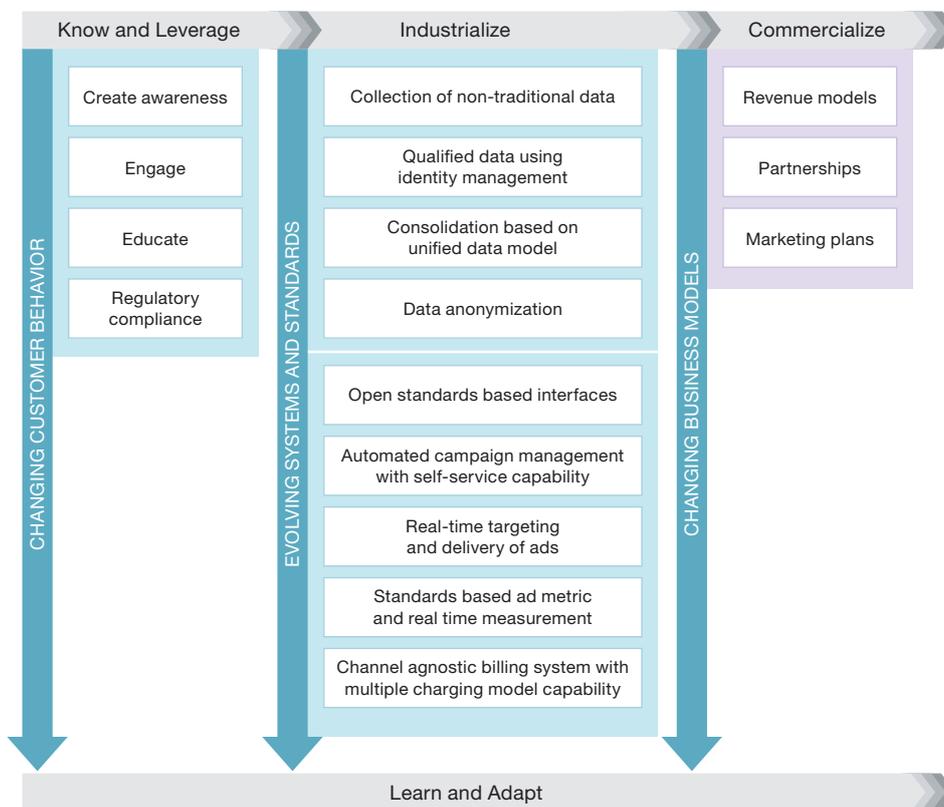
The regulatory requirement of data retention, such as those mandated within the European Union, might also increase the investments on storage for operators. However, this challenge can also be seen as an opportunity, since the retained data can be exploited for the operator’s own analysis of customers’ behavior.

⁹ UK’s Information Commissioner’s Office ruled in April 2008 that targeted advertising activities using Phorm’s technology will be legal only if customer positively opt-in. A few US congressmen voiced similar opinion about the use of NebuAd technology for targeted advertising.

9 Guidelines

In spite of the existing challenges, operators cannot ignore the opportunity generated by targeted advertising. One single strategy cannot be applicable across all the operators since each has its own characteristics such as the type of markets they operate in, subscriber base and status of legacy systems. Hence, a comprehensive strategy has to be developed based on an operator's specific characteristics and needs. We therefore suggest a set of guidelines (see Figure 6) that can assist operators in building a strategic roadmap for offering targeted advertising based on their requirements.

Figure 6: Guidelines for Operators



Source: Capgemini TME TS Lab analysis

The three major steps to be taken are described as follows:

Know and leverage: Operators need to have a deeper understanding of their customer behavior. Such an understanding can be achieved only when customers are comfortable in giving more information about themselves. This requires an operator to engage, educate and increase awareness about the benefits customers will receive in return. In addition to this, operators must also realize the value of already available customer information and find effective means of leveraging it.

Industrialize: In order to get maximum benefit from customer information, suitable processes and systems capable of addressing the new requirements

should be deployed. Reach (data gathering from multiple channels) and quality of information gathered have to be improved significantly. In order to achieve scalability in campaign planning, targeting and delivery, automation with self-serve capabilities are a must. Greater emphasis on open standards is required at the interface level as well as in the case of metrics used for ad effectiveness monitoring and measurement in order to achieve greater interoperability and consistent understanding.

Commercialize: Industrialization has to be equally matched with creative revenue models, strong partnerships with key players, and an effective marketing plan to identify, attract and retain multiple customer segments.

Above all and most significantly, operators should not consider the above mentioned steps as a one time activity only. Instead, operators must adopt a **learn-and-adapt** approach. This iterative approach will enable operators to learn and adapt to constantly changing customer behavior, evolving system standards and business models. This approach will also help manage risk and counter competitive moves.

In summary, operators cannot ignore the potential opportunity of targeted advertising as a new revenue stream. To harness this potential and maximize profits, operators need to deploy advanced customer intelligence and targeted advertising systems. In doing so, an operator should evaluate the benefits of new deployments from a holistic perspective and not in isolation of the targeted advertising business only. More specifically, in the case of transforming their legacy to advanced customer intelligence management systems, an operator should realize that these systems would not only support targeted advertising offerings but also streamline data processes for providing a whole host of internal and external services to its customers.

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