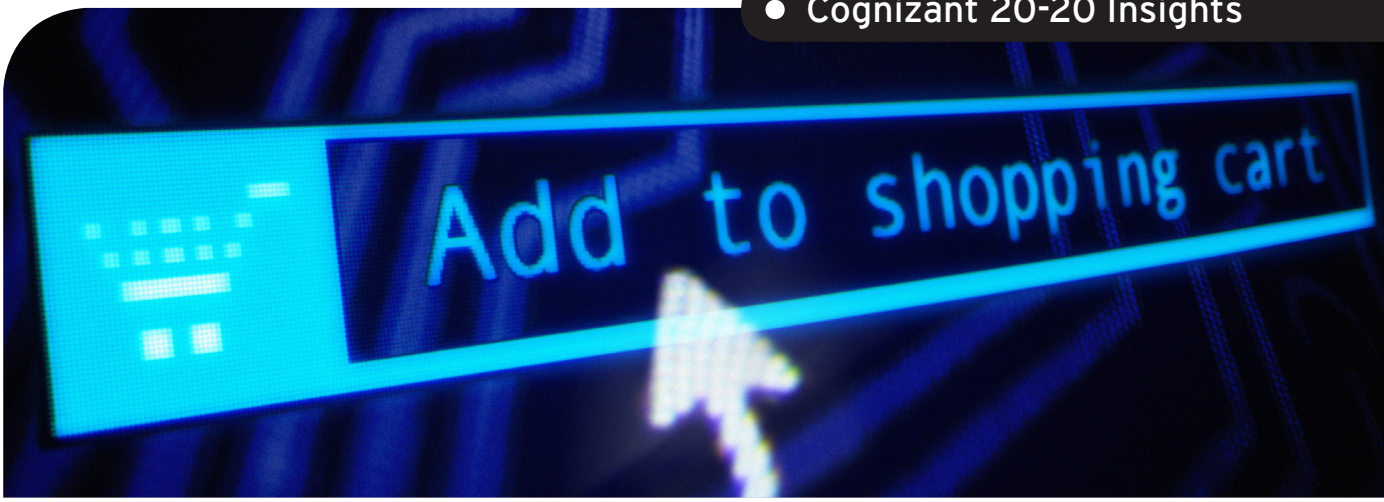

Making Online Shopping Smarter with Advanced Analytics

Merging offline and online data can help retailers to customize targeting, resulting in incremental increases in e-commerce revenues.

Executive Summary

Online shopping has emerged as one of the most popular Internet activities, providing a variety of products for consumers and a multiplicity of sales challenges for e-commerce players. Research suggests that online sales has grown 16.1% year-over-year from March 2010 through March 2011.[1]

Both brick and mortar and pure play online retailers are competing for the attention of the online consumer. A real opportunity for companies lies in applying advanced digital analytic techniques that integrate offline and online data sets to optimize on-site store inventories. One example from retail is how Best Buy is leveraging data to become more customer-centric. When Best Buy determined that 7% of its customers were responsible for 43% of its sales, the company segmented its customers into several archetypes and redesigned stores to address the buying habits of these particular customer segments, thereby enhancing the in-store experience and increasing same-store sales by 8.4%.[2]

While optimization and other analytical techniques like A/B/multivariate testing, visitor engagement, behavioral targeting and audience segmentation can point toward a high likelihood of a prospect's willingness to buy, transactional data points such as offline sales are key indicators of actual sales. This paper provides insights on how merging offline and online data can support customized targeting, resulting in incremental increases in e-commerce revenues.

Constraints and Opportunities

In most companies, unfortunately, online and offline sales are processed in technical silos. Offline shopping data is very important because many people still want to touch and see products first-hand before they buy. Conventional wisdom suggests that about 70% of all consumers will make an offline purchase as a result of online marketing. Thus, offline data is extremely beneficial, and mining it along with clickstream data provides a valuable resource for improving customer satisfaction, product development, sales forecasting, merchandising and visibility into the profit margin for goods and services.

The ability to identify and reach consumers at the most crucial point in their buying decision-making process, as reinforced by Google's "Zero Moment of Truth"[3] study, demonstrated that in-store or online transactions are heavily influenced by insights gained in the moment before a purchase decision is made. Thus, steering consumers

Applying Advanced Analytics

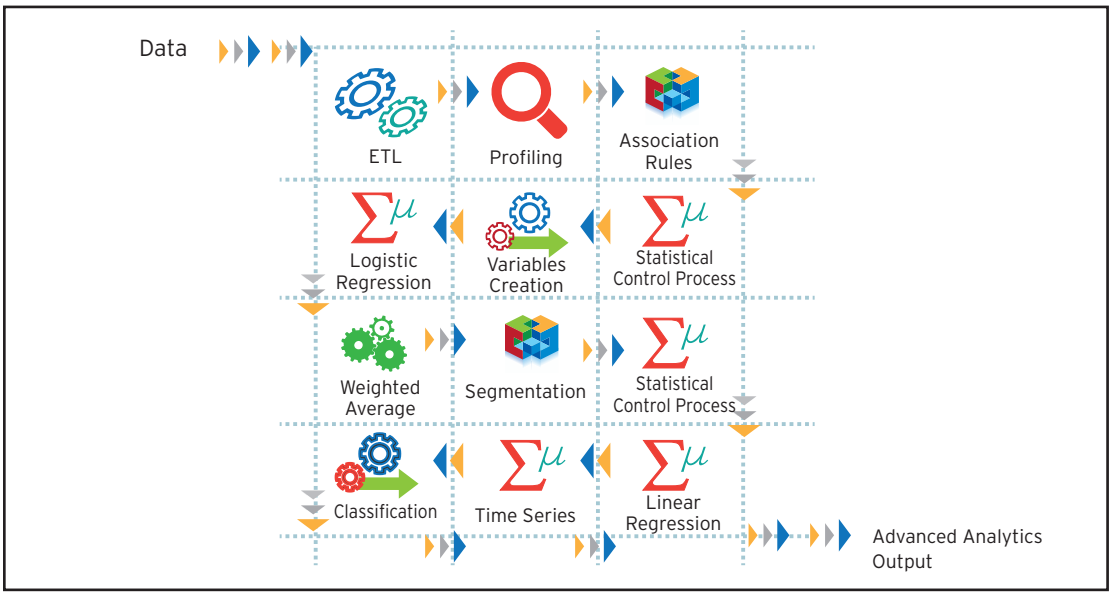

Figure 1

toward a particular product or service and then capturing them at the point of sale is a very powerful solution.

An e-commerce player that can capture the consumer's attention and activity further up the funnel and combine it with advanced analytics techniques can begin to assume the mantle of an analytics leader.

This is why Google's search marketing is so appealing to marketers; consumers' desires are instantly telegraphed by their actions.

Creating a holistic customer picture is not a new idea but very few companies have achieved it. Constraints have included database and hardware technology that could not effectively support the solution; data management issues; Web analytic systems that are not focused on the availability of the underlying data; not getting the right people to focus on the data; the division of online marketing and traditional marketing skill sets; etc.

Leading the Charge

For e-commerce companies, the challenge is that customers are often relatively far into the purchase funnel when they arrive at a particular site. An e-commerce player that can capture the consumer's attention and activity further up the funnel and combine it with advanced analytics techniques can begin to assume the mantle of an analytics leader.

Joining geographic, creative, time of day (e.g., morning, afternoon, evening, etc.) data and mapping these attributes against time and location-based sales data can highlight hidden interactions between online and offline sales activity. This means e-commerce players can develop more effective multichannel strategies. The end result is that real additional sales can be increased. Of course, e-commerce companies have an option to use advanced Web analytics to create a specific segment for visitors who arrived online via offline campaigns. Web analytic[4] tools provide similar solutions, but they are not by any means a complete set of offerings nor do they create a single view of your customer. Organizations need to pull all the data attributes, offline and online, into a single database, which would be further refined by advanced analytics techniques, and use the unified data for precision targeting as depicted in Figure 1.

Figure 2 illustrates that by combining Website data (i.e., clickstream information, etc.) with loyalty card insights, sales data and third-party information, e-commerce players can gain critical understanding into customer behavior. To reach the forefront of the data-driven digital revolution, e-commerce players need to acquire key tools, analytic prowess and necessary skills. Not only do e-commerce players need to invest in the right advanced analytics tools, but they must also gain access to mathematicians and statisticians to create models and interpret findings.

Blending Multiple Sources of Sales Data for Optimal Positioning

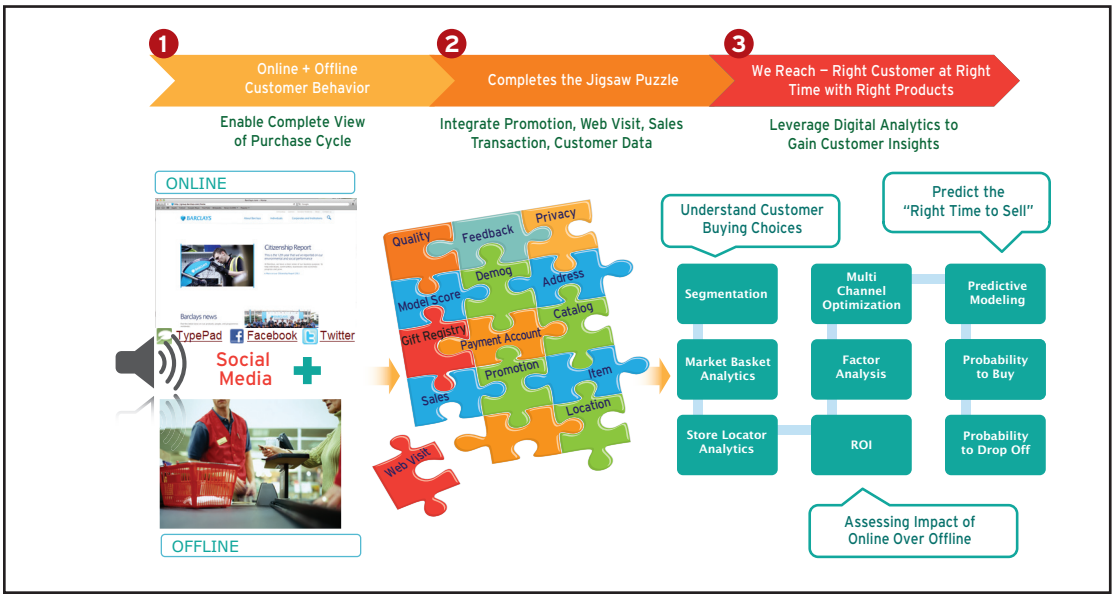

Figure 2

Organizations need to apply more complex data calculations to generate a more accurate picture of customer behavior and transactional activity. Measuring offline marketing campaigns statistics is not as easy as many people think. There are numerous different tools that can help organizations improve data accuracy; however, many are third-party solutions that are not integrated into a Web analytics solution.

Advanced Analytics Framework in Action: E-Commerce Gold

While e-commerce sales will continue to grow over the next four years, eMarketer[5] estimates that the rate of growth will decline steadily. This makes it even more vital for e-commerce players to be strategic about how they use clickstream or Web log data to reach consumers.

The Art and Science of Connecting Offline and Online Data

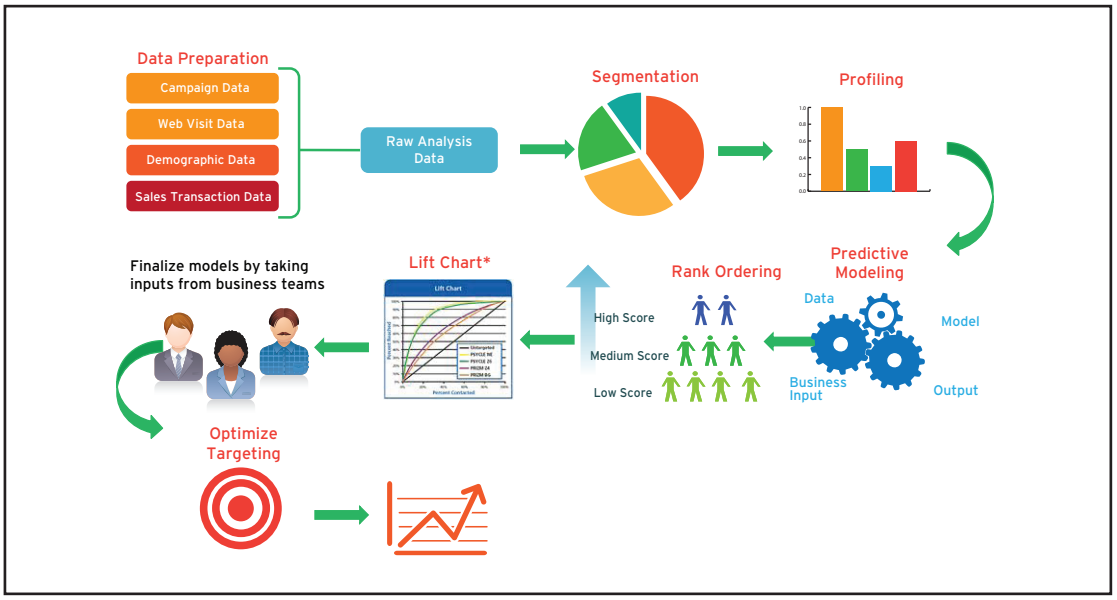

Figure 3

Benefits of Merging Online and Offline Data: Scenario One

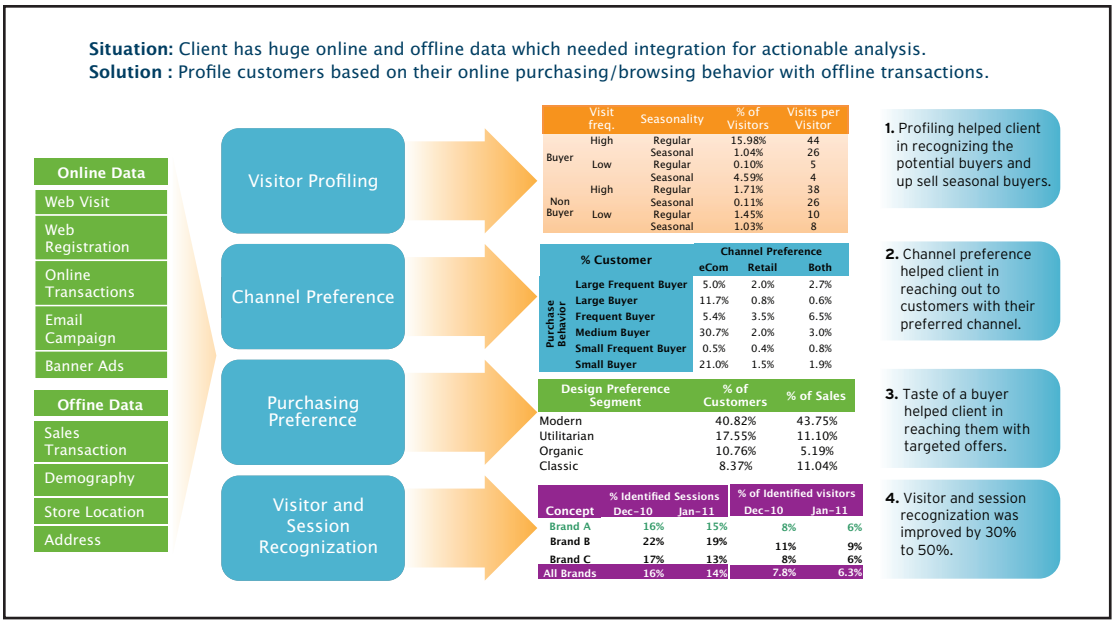

Figure 4

Figure 3 illustrates a typical process/methodology followed by a digital analytics center of excellence (CoE) to merge offline and online data in order to build predictive models that optimize customer targeting.

We have applied this methodology at several of our clients resulting in the scenarios presented in Figures 4 and 5.

In the near future, organizations will likely deploy more sophisticated and integrated Web/digital analytics tools to more easily combine online campaign data with offline insights. This will include:

- Getting the Web log or clickstream data from Web analytics tools.
- Merging it with point-of-sale data.

Benefits of Studying Online Customer Behavior: Scenario Two

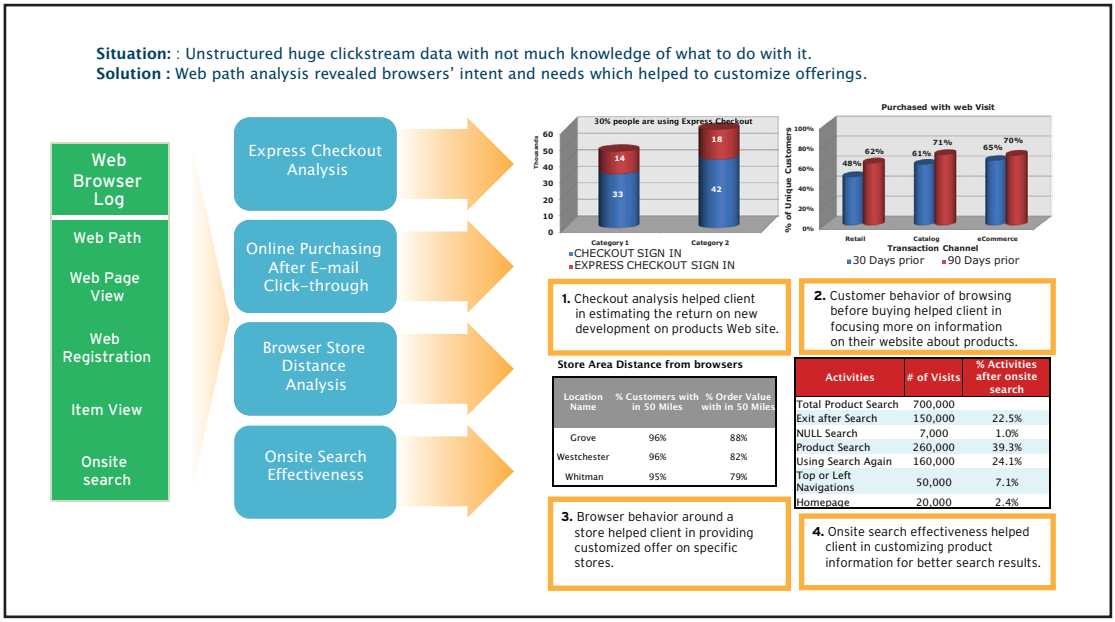

Figure 5

Generating Collective Intelligence

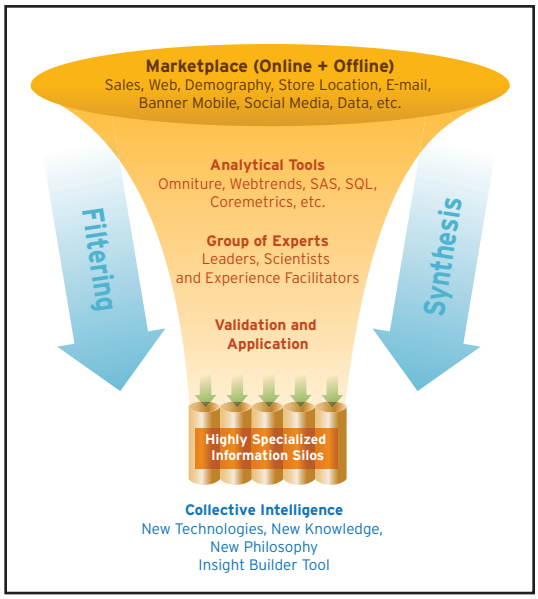

Figure 6

- Studying online and offline customer behavior.
- Refining that data with the use of advanced analytic techniques, set methodology and algorithms, applied by the right domain experts.
- Then, validating/refining the data for pinpoint targeting.

The end result: Enabling companies to reach the right customer with the right product offerings at the right time and place. With this in mind, we have created a unique solution framework (see Figure 6).

Conclusion

The solution framework shown in Figure 6 can be customized to meet the unique requirements of each company. Because it is technology agnostic, it can seamlessly integrate with any ERP system, the Web, social media, DW/BI, CRM and POS systems. Also, it takes data in whatever form is given and then it works toward synthesizing each of the data sets in a format that can be further sliced and diced using our proprietary algorithms and models. It thereby brings offline and online data together to enable business users to make insightful decisions to move their businesses forward.

For example, an organization selling laptops or mobile devices that captures the correct 1% of its prospects can generate an additional 3% in increased revenues. It can do so by applying a tried and true process/methodology (as illustrated in Figure 3), followed by a digital analytics center of excellence to merge offline and online data and build predictive models to optimize customer targeting.

Thus, identifying the most valuable customers using online and offline data allows companies to more accurately identify those who are transaction minded and can help boost their revenues. A data-driven optimized strategy is the key, and that is possible only with offline and online data integration.

Footnotes

1 http://www.ipaydna.biz/Online-sales-witness-16.1-percent-growth-year-over-year-n-43.htm

2 http://www.fico.com/en/FIResourcesLibrary/Best_Buy_Success_2271CS_EN.pdf

3 http://www.thinkwithgoogle.com/insights/library/studies/the-zero-moment-of-truth-macro-study/

4 http://en.wikipedia.org/wiki/Web_analytics

5 http://eMarketer

About the Author

Ashish Saxena is the Leader of the Digital Analytics CoE within Cognizant's Enterprise Analytics Practice. He has over 15 years of experience in e-commerce, multichannel retail, digital and advanced analytics space. He also holds several patents in the e-commerce/mobile space. Ashish can be reached at Ashish.Saxena3@cognizant.com.

About Cognizant's Enterprise Analytics Practice

Cognizant's Enterprise Analytics Practice (EAP) combines business consulting, in-depth domain expertise, predictive analytics and technology services to help clients gain actionable and measurable insights and make smarter decisions that future-proof their businesses. The Practice offers comprehensive solutions and services in the areas of sales operations and management, product management and market research. EAP's expertise spans sales force and marketing effectiveness, incentives management, forecasting, segmentation, multichannel marketing and promotion, alignment, managed markets and digital analytics. With its highly experienced group of consultants, statisticians and industry specialists, EAP prepares companies for the future of analytics through its innovative "Plan, Build and Operate" model and a mature "Global Partnership" model. The result: solutions that are delivered in a flexible, responsive and cost-effective manner www.cognizant.com/enterpriseanalytics.

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World Headquarters
500 Frank W. Burr Blvd.
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233
Fax: +1 201 801 0243
Toll Free: +1 888 937 3277
Email: inquiry@cognizant.com

European Headquarters
1 Kingdom Street
Paddington Central
London W2 6BD
Phone: +44 (0) 20 7297 7600
Fax: +44 (0) 20 7121 0102
Email: infouk@cognizant.com

India Operations Headquarters
#5/535, Old Mahabalipuram Road
Okkiyam Pettai, Thoraipakkam
Chennai, 600 096 India
Phone: +91 (0) 44 4209 6000
Fax: +91 (0) 44 4209 6060
Email: inquiryindia@cognizant.com