IBM Global Business Services
Executive Report

Business Analytics and Optimization

IBM Institute for Business Value

Customer analytics pay off

Driving top-line growth by bringing science to the art of marketing

IBM Institute for Business Value

IBM Global Business Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior executives around critical public and private sector issues. This executive report is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Global Business Services to provide analysis and viewpoints that help companies realize business value. You may contact the authors or send an e-mail to *iibv@us.ibm.com* for more information. Additional studies from the IBM Institute for Business Value can be found at *ibm.com/iibv*

By Dr. Marc Teerlink and Dr. Michael Haydock

Businesses today have a plethora of customer data available from an increasing number of sources. While most organizations certainly appreciate the potential benefits such data can reap, many face difficulties effectively turning information into actionable insights. However, an effective customer analytics strategy can help drive top-line growth, avoid unnecessary costs and increase customer satisfaction. To help organizations in their pursuit for deeper customer insight, we have identified four stages of organizational capabilities and associated customer analytics strategies.

Every day consumers and enterprises create 2.5 quintillion bytes of data. In fact, 90 percent of data in the world today has been created in the last two years.[1] This data comes from everywhere: sensors used to gather climate information, posts to social media sites, digital pictures and videos posted online, point of sale (POS) data, transaction records of online purchases, e-mail content and cell phone GPS signals – just to name a few. Thanks to affordable Internet-enabled devices and cloud services, the world has gone from connected to hyper-connected, generating more customer-related data than ever and doing it in shorter and shorter time frames.[2]

Today, most business executives understand the value of collecting customer-related data. However, many struggle with the challenges of leveraging the insights from this data to create smart, relevant and proactive pathways back to the customer. They are unsure how to effectively use their customer data to make decisions that turn insights into sales growth. Business analytics makes extensive use of data, statistical and quantitative analysis, explanatory and predictive modeling and fact-based management to drive smarter decision making in today's complex environments.[3]

In this IBM Institute for Business Value perspective, we combine expertise gained through years of experience with quantified research and case studies to provide our point of view on some of the more effective customer analytics strategies. Organizations can deploy these strategies as a competitive differentiator and as an engine for sales growth.

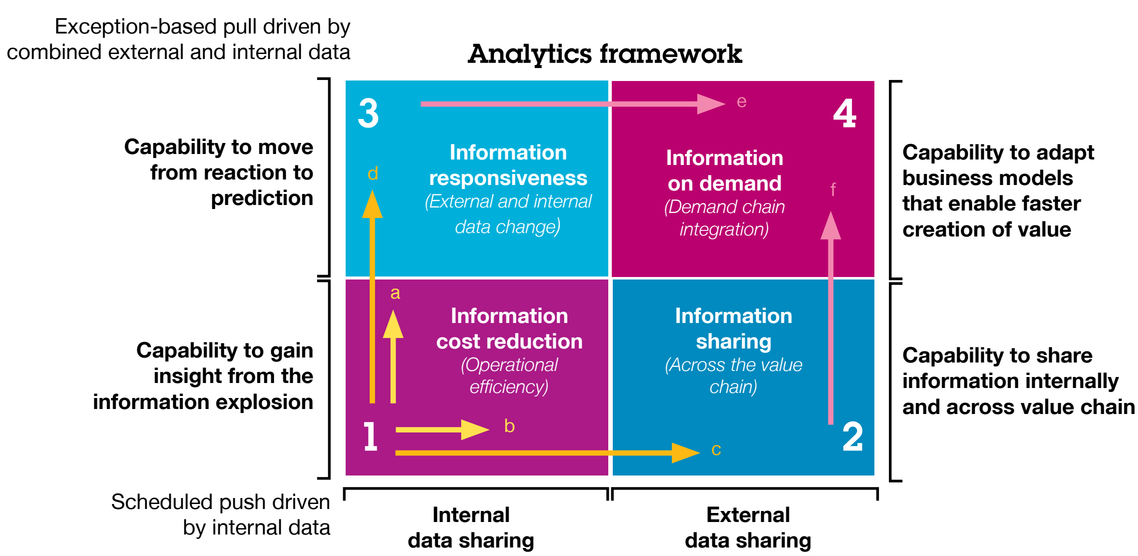
For this perspective, we employ a conceptual framework that describes four stages of organizational capabilities and how they are enabled by four customer analytics strategies (see Sidebar: Navigating the stages of the analytics framework).

Navigating the stages of the analytics framework

To create a path for growth through the framework, companies will have to navigate the different stages (see Figure 1). Experience has taught us that – typically – leaders and innovators intuitively understand that they should only "bite off what they can chew."

From a starting position in the lower-left quadrant (1), most organizations choose to drive strategic change and transformation by making a move to the lower-right quadrant (2) or the upper-left quadrant (3). We have not observed any company successfully master both capabilities and analytics strategies with a move from the lower left (1) to the upper right (4). Apparently, the complexity and required culture change are too demanding.

In Figure 1, cost reduction strategies are characterized by the a and b arrows. Leading companies seek to move beyond the boundaries of the one quadrant, improving their effectiveness as characterized by arrows c and d. Companies then must determine whether to "stay" where they are, as their most optimum position in the framework, or define what additional benefits they will gain from moving to the upper-right quadrant. Some companies will then position themselves to move toward the upper right quadrant as characterized by arrows e and f. Again, we don't believe it's possible to successfully move from the operational efficiency quadrant (1) directly to the demand chain integration quadrant (4).



Source: Teerlink, Marc. "Turning Data into Dollars, Consumerism and Beyond." Ongoing research in cooperation with leading U.S. and European business schools. 1995-2011.

Figure 1: Analytics strategies that successfully enabled the realization of growth-driving organizational capabilities.

1 The capability to gain insight from the information explosion and develop a deeper understanding of the customer

Until recently, most companies focused their analytics capability to gain insight on cost reduction and Web browsing efficiency. This meant they weren't necessarily focused on driving growth through analytics but, rather, were focused on initiatives like reductions of redundant reporting, data simplification, data base consolidation and other efforts aimed at creating leaner information platforms. In such cases, efforts at making a company's Web site more efficient are not directed at consumer personalization, but at eliminating pages in an attempt to simplify self-service navigation and redundancy. Such organizations are applying a *customer analytics strategy* to gain *information cost reduction*.

In this first stage of the framework, marketing organizations focus on tactics to better target addressable mail, such as catalogs and direct mail, thereby reducing postal costs while realizing incremental gains in revenue. For those following an information cost reduction analytics strategy, most marketing efforts focus on segmentation efficiency, such as increasing the conversion of a selected group of customers by reduction and removal of messages (for instance, avoiding delivery of identical catalogs to multiple household members), thus lowering the cost of communication. These tactics lower costs through streamlined targeting. Author research reveals average conversion rates ranging from 0.2 percent to 2.9 percent for outbound mass marketing and traditional trade promotion.[4]

Organizations in the first stage of the analytics framework are focused on cost reduction.

Despite the improved cost efficiency this first stage delivers, many business executives might find themselves disappointed in the actual additional revenue growth that analytics provide. Most likely, they will slowly come to realize that the value from analytics is created by the ability to take customer-related data, process and understand it and then share those insights and translate them into activities that an organization wasn't previously doing. This requires an organization to become more adept at processing and using customer data and less overwhelmed by the sheer volume of data. Yet improving analytical sophistication also requires a willingness to change internal processes and move to a culture of *fact-based marketing*. It is critical that organizations recognize the need for a solid information foundation to move into either stage two or stage three of the framework.

Organizations that increase their analytics maturity even a single level are able to better understand and engage customers in a more personalized way. Author research indicates that such firms can begin to experience cumulative average sales conversion rates ranging from 1.9 to 4.8 percent in areas such as loyalty identification, focused targeting and analytics-driven campaign management.[5] A recent IBM benchmarking study found that for each increase in analytic maturity, organizations can potentially increase customer retention by up to 9 percent, capture 2 percent more wallet share and convert an extra 3 percent of inbound contacts into a cross-sell event, while shifting up to an additional 4 percent of their sales orders to more cost-effective channels. These returns were realized regardless of the size of the marketing organization.[6]

2 The capability to share information internally and across the value chain

Twenty-first century customers expect to interact with any business using whichever digital devices and channels they choose at whatever times are convenient for them. The explosive growth rates in smart phones and tablets serve as an indicator of how consumers are gearing up for this shopping and communication preference. These devices are setting the next levels of interaction expectation and sharing experience among customers.

To keep pace, organizations within this second stage of the framework must have a clear customer analytics strategy that enables *information sharing*. To the consumer, it makes sense to browse and gather information in one channel or touch point (e.g., in store or via tablet, catalog or Internet), purchase in a completely different channel (e.g., call center or Internet) and pick up merchandise in yet a third (e.g., retail location). Consumers demonstrating this pattern are broadcasting a clear preference for ease of use, speed and convenience.

Organizations in the second stage of the customer analytics framework create a consistent customer experience over multiple channels and benefit from the following:[7]

- Increased loyalty
- Better cross sell, up sell and wallet share
- Improved net promoter score
- Improved sales conversion rate
- Improved regency, frequency and monetary value.

In addition to what we have observed through our own experiences, we found several cases in which tri-channel buyers spent an average of two and a half times more than single-channel buyers.[8] In a number of cases, we've seen these numbers increase when customer browsing and fulfillment were extended out beyond the retailers' walls to include partner and supplier channels and was especially effective when leveraging other customers' reviews and recommendations. Yet very few firms are confident that they can effectively execute a seamless multichannel strategy.[9]

Author research reveals that the conversion rates for integrated multichannel marketing increased an average of 6.2 to 18.7 percent as compared to the prior stage.[10] Other research indicates the same performance can be observed for business-to-business relationships, where the use of multichannel marketing methods and collaborative trade promotion management lead to a 3 to 5 percent increase in sales and a 1 to 5 percent reduction in trade promotion fund overspend through effective funds allocation management.[11]

The most sophisticated marketing organizations in stage two apply analytics for marketing event optimization, an approach that leverages analytics as a "horizontal control tower" to optimize the organization's various direct marketing events over a given time period over multiple channels.[12] Analytics scoring models, in effect, detect purchase "patterns" the customer has exhibited in the past and then simulate the customer reading each planned promotion, one promotion at a time. In essence, these models attempt to mimic the customer's behavior patterns as if on a shopping spree, one promotion at a time, until all promotions have been read and studied by the "computational" customer. The models judge what the reaction to each promotion might be, and assign a "fit" statistic. This statistic describes how well that particular promotion met that individual customer's needs with respect to the merchandise being offered, the season (or timing) being represented and the type of promotion (or line of business) being presented.

We refer to this method as "horizontal marketing," and it shifts the emphasis from a steady stream of discreet planned promotional events to an optimized customer relationship. A horizontal marketing approach advocates a more balanced communication stream and, therefore, spending approach based on the premise that one-to-one personalized relationships can be developed over time between an individual and a business, across all channels. This analytics procedure evaluates all of the feasible combinations of promotions and customers and optimizes the contact stream from the customer's point of view. That optimal balance is the one combination of communication streams that invests the least amount of money and resources into the predicted set of promotions across channels to optimize the financial outcomes from the customer.[13]

The *customer analytics strategy* of *information sharing* and the horizontal marketing approach better align the focus of a business firm with its customers' needs. Today, many direct marketers focus on optimizing the profitability of a specific promotion, for example, "We need 14 percent ROI and a minimum of US$12 million in sales from the fall general merchandise catalog." Horizontal marketing shifts this focus to what can be done to better serve a customer over time, for example, "We need to provide more outerwear opportunities to customer set 23 via a specialized format." This customer focus can also serve as a natural bridge between marketing and merchandising as they plan their promotion and offer strategies.

Organizations must possess the capability to share information internally and across the value chain to employ a horizontal marketing approach.

Case study

Large U.S. multichannel retailer uses analytics to optimize "the right offer at the right time in the right channel"

Situation: **The number of marketing contacts with customers had increased to unfathomable proportions with some customers receiving as many as 60 catalog mailings per year. In addition, the amount of stored customer data was skyrocketing. Profits and customer satisfaction were at risk with saturation levels reaching as high as 60 percent. Sales lift did not occur as a result of increased mailings.**

Action: **The organization applied an individual customer marketing budget and made a shift from vertical marketing (planned events in the aggregate) to horizontal marketing (more targeted event stream management). The mindset shifted from "finding customers for my products" to "finding the right products for my customers."**

Impact: **As a result of marketing event optimization, the retailer reported an additional US$3.5 million in new profit, a reduction in mailings by more than 7 percent and a steeply increased customer experience satisfaction. Customers responded to less, but more relevant, communication.**

3 The capability to move from reaction to prediction

Advanced analytics organizations know flexibility and agility are key to keeping and expanding their market position. These organizations are shifting tactics toward greater speed and predictive actions, both required to interpret and respond to streaming sentiments and dialogues among consumers. The next customer analytics strategy within the framework is a shift toward enabling *information responsiveness*.

Rather than spend time standardizing data for specific purposes, sophisticated organizations use technology to analyze "raw" data as it streams customers' social commentary, changing moods or POS and sales transactions. To avoid a veritable data deluge, these organizations focus on identifying the questions that – if answered – will impact their business the most. This acts as a filter on data collection and helps an organization avoid the task of collecting all available information and then deciding what to do with it after the interminable wait to standardize and analyze it.

Applications vary among consumer services and consumer package goods companies. Some companies, such as Pepsico, use analytics for a brand (Gatorade) to allow them to monitor consumer behavior patterns in depth.[14] Others listen to the external digital voice of the customer alongside competitors' customers to create proactive insight, both protecting their brand value and driving growth by autonomically streaming these insights into their promotions and campaigns.[15] Author research reveals that companies able to perform real-time external data analysis combined with rules-based actions have experienced average conversion rates of 16.9 to 38.2 percent.[16]

Case study

Social media analytics help leading sport shoe producer score at the World Cup

Situation: Sponsorship campaigns for a sport shoe producer were prepared months prior to large events by external ad agencies. By the time the impact hit the sales reports, it was generally too late to readjust or reprioritize advertisements, and campaign opportunities worth millions of dollars were lost.

Action: The company implemented a shift from reactive marketing to predictive marketing based on how consumers respond to and interact with products. Starting with the 2010 World Cup, the shoe producer planned and executed a new shoe launch augmented by social media analytics. The company analyzed real-time messages across more than 1,200 soccer-specific message boards, blogs and news sites, resulting in over 1.5 million documents analyzed. The effort yielded over 4 million pieces of information that tracked athletes, teams, products and campaign slogans across 17 markets in multiple languages and monitored 300 concepts in near real time.

Impact: By analyzing real-time messages, the company was able to follow how stories evolved over time and better understand the public mood. Achieving deep insight into consumer sentiments and the key drivers of the "social buzz," the marketing team was able to fine-tune its sponsorship activities on an hourly basis and dynamically reprioritize TV advertisement themes and product launch strategies.

"In my experience, when you, as a company, can combine multiple data points such as social chatter, customer experience or NPS [net promoter score] insights, the likelihood of creating successful marketing campaigns that yield higher-than-average returns becomes much stronger. If a company's employees can leverage these data points while they develop products and solutions, their products become more robust, have greater attractiveness to the customers and can become more profitable, all the while delivering on a company's brand promise."

Suhail Khan, Vice President, Head of Customer Experience (NPS) and Market-Driven Innovation, Philips

4 The capability to adapt business models that enable faster creation of value

In the fourth stage of the customer analytics framework, the most successful marketing organizations execute a strategy that enables *information on demand* and an analytics-driven approach called multichannel next-best action (MNBA). This approach combines all the skills developed in earlier stages with in-depth segmentation approaches and leading-edge work in multichannel customer monitoring and real-time action recommendation. This is an advanced-stage approach that creates a two-way dialogue in real time between a company and consumer. This collaborative interaction can improve relevancy of communication while also helping inspire brand loyalty.

This approach enables company and customer to communicate online in real time using the customer preferred channel, providing a personalized guided selling or guided customer-service experience. Using predictive analytics, organizations are able to engage with the customer throughout the buying cycle – from the point of needs identification through the exploration and discovery phase to the purchasing cycle.

For example, with this approach, a company is able to detect and interject as a customer is browsing the company's Web site. Using algorithms embedded in the site to sense the customer mission and sales cycle stage, the company responds with a "treatment" that offers what the customer needs now. For example, a customer's browsing behavior might prompt a price comparison chart to reduce price checking, or a customer who is browsing store locations might prompt an offer for in-store coupons. In addition, mobile applications could provide the opportunity for targeted geography-based text promotions for consumers browsing in stores or walking nearby.

In yet another scenario, call centers could leverage algorithms to better match the personalities and product skills of sales associates with customers before their conversation even starts. In effect, the firm provides a personal shopper – part digital, part human – to help ensure the consumer has an excellent shopping experience.

Author research reveals that companies leading in use of predictive analytics and executing effectively across multiple channels have been able to increase top-line growth up to five times more than their less sophisticated peer group. Those companies able to apply real-time predictive analytics while executing a multichannel next-best action strategy had an average converted response rate of 24.1 to 64.3 percent (cumulative results from all the work that lead up to this approach).[17]

Managing change

Improving analytical sophistication requires a willingness to change internal processes and adopt a culture of fact-based marketing. Organizations need to recognize that this change goes beyond simply implementing new tools.

Analytics-driven transformation is about reprocessing behavior and gaining new skills rather than merely restructuring and changing job descriptions. Based on our experience, successful companies achieve momentum by focusing on the questions that need answering rather than the data or platform. They drive change through a top-down approach in which managers "lead by example." These companies appoint leaders who rely on fact-based decisions and can meet the challenges of grafting new practices onto old roots, while eliminating inconsistencies. Many companies also appoint a board-mandated champion who can listen to both the front line and customers to unearth difficulties, contradictions and dilemmas inherent in the change effort.

An analytics-driven transformation isn't a one-step trip; on the contrary, it is an ongoing journey with a series of destinations – each a staging post for the next. Along such a journey, many questions will emerge. Companies must be prepared to make the numerous changes – both in processes and corporate culture – that are required.

Ready for the pay off?

We know from other recent IBM Institute for Business Value research that top performers are three times more likely to be sophisticated users of data and analytics than their lower-performing peers.[18] Yet another study found that companies guided by data-driven decision making achieved higher productivity and output than expected given their other investments and information technology usage.[19]

In our experience, one of the most important success attributes for such organizations is their mindset to differentiate themselves through a deep understanding of their customers. These organizations typically have strong executive sponsorship for their chosen customer analytics strategies with a top-down mandate to build the organizational capabilities we've described. These organizations treat information as a business asset with business managers accountable for customer data and customer communication.

There are several key questions we believe you should ask as you begin – or continue – your journey toward customer analytics-driven growth. Designed to help you assess your current organizational capabilities and compare them with those described in this paper, these questions can help you set priorities, create strategies and build a roadmap toward success.

Source: Teerlink, Marc. "Turning Data into Dollars, Consumerism and Beyond." Ongoing research in cooperation with leading U.S. and European business schools. 1995-2011.

Figure 2: **Governance checklist for customer analytics initiatives.**

Key questions to assess current organizational capabilities:

1. Do you understand what drives your target consumer's purchasing behavior?
2. Do you understand in what areas you are being commoditized?
3. How do you communicate information with your customers and how do you measure the effectiveness of your communications?
4. What is your strategy for protecting your brand(s) in the marketplace?
5. How well can you integrate channels and business partners?
6. How well are you geared up to adapt or change your business models?
7. Do you have a roadmap for customer analytics?
8. Within each customer analytics opportunity, do you start with questions, not data?

Once a strategy is in place, the next challenge is successfully executing that strategy. Figure 2 serves as a tool to help companies more reliably determine the value and priority of their customer data-related projects to enable successful execution. Whether you are in stage one of the framework or well beyond, the tool could provide answers to help further propel your organization down the path toward customer analytics-driven growth.

And, remember, it's never too late to start your journey or to readjust your course. In fact, when it comes to leveraging customer analytics to drive top-line growth, just remember this well-known proverb: *The best time to plant a tree was 20 years ago. The second best time is today!*

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IBM Global Services
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
September 2011

GBE03425-USEN-00