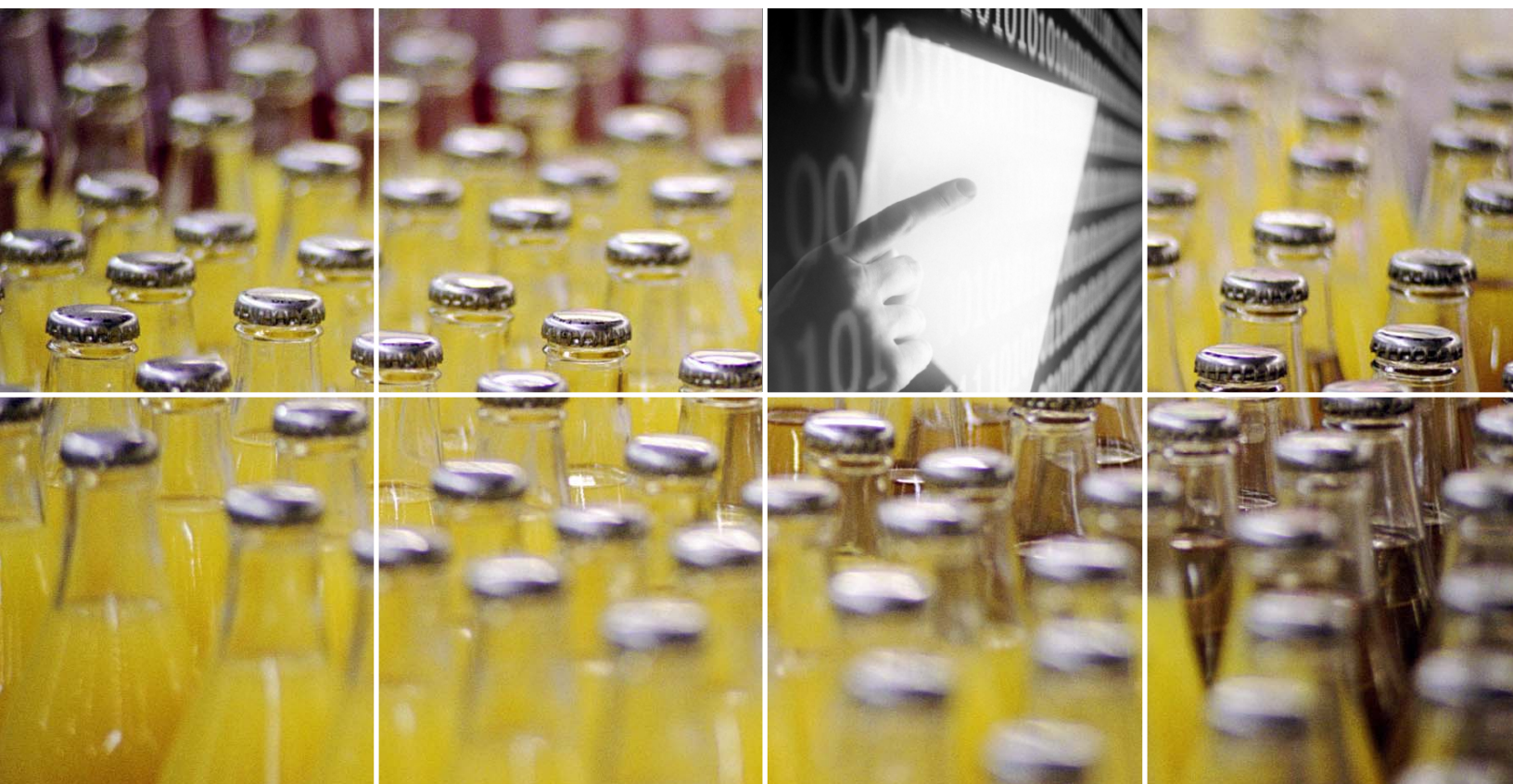


## Integrated data analytics

*Executing with precision*



*An IBM Institute for Business Value executive brief*

IBM Business Consulting Services, through the IBM Institute for Business Value, develops fact-based strategic insights for senior business executives around critical industry-specific and cross-industry issues. This executive brief is based on an in-depth study by the Institute's research team. It is part of an ongoing commitment by IBM Business Consulting 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](mailto:iibv@us.ibm.com) for more information.

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## Introduction

As the consumer marketplace becomes inherently more complex and fragmented, consumer products companies must develop the ability to not only react to environmental shifts but to anticipate them as well. Superior data analytics and insight development will be required for winning companies to execute with accuracy and agility in this rapidly changing world. What data, infrastructure, and analytical techniques will be required to drive comprehensive analyses? How can these analyses be translated into meaningful insights? Consumer products companies will need to take an integrated approach to data analytics, combining a wide range of information to enable the creation of valuable, “right-time” insights.

## Executive summary

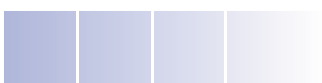
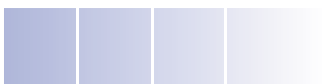
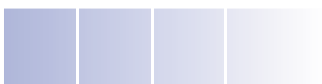
Consumer products companies face an increasingly complex marketplace, characterized by consumer fragmentation and retail polarization between “mass value” players and focused specialists. In this world, the companies that survive and thrive will be those that have a deep understanding of consumer behavior patterns, retailer needs and their own operations.

Today’s consumer products companies need to know what specific products consumers expect to have available to them in what stores for each specific shopping occasion. And, more importantly, they need to be able to execute against those insights in terms of product innovation, supply chain logistics and retail customer management. The fundamental challenge they face is to execute with precision and agility.

To rise to this challenge, consumer products companies must take a critical look at their analytical and insight development capabilities. These capabilities provide the comprehensive, fact-based and focused perspectives that consumer products companies require to make informed business decisions. However, many companies have encountered data, analytical or resource limitations, hampering their ability to apply insights enterprisewide.

To accurately and nimbly execute on business needs, consumer products companies need an integrated approach to data analytics and insight development. This will require them to:

- Seamlessly integrate relevant internal and external data sources and applications
- Automate key analyses for continuous updates to support ongoing reporting and decision-making
- Enable “right-time” decisions through embedded analytics to develop timely insights in response to specific business needs.



While virtually every company has the ability to analyze data, an integrated approach to data analytics helps ensure that all available and relevant data sources are combined from within and outside of the company. Even more importantly, this approach is centered on converting analyses into insights that can be acted upon to differentiate and strengthen the company in the long run.

As consumer products companies embrace this new approach to data analytics and insight development, they will need to evaluate and enhance their data management capabilities, analytical infrastructure, resource skills and organizational commitment to insights. These elements work in concert to deliver unique business perspectives that can be put into action, providing a company with a distinct competitive advantage.

An integrated approach to data analytics and insight development will help drive value across the enterprise. As a result, consumer products companies can realize significant benefits in brand strength, product innovation, marketing execution, trade relationships and supply chain management, to name only a few areas.

However, companies must begin their journey toward integrated data analytics today. By being a first-mover, a company can help ensure its survival and long-term growth in today's complex and shifting marketplace positioning itself as a leader by 2010.

#### **Research overview and methodology**

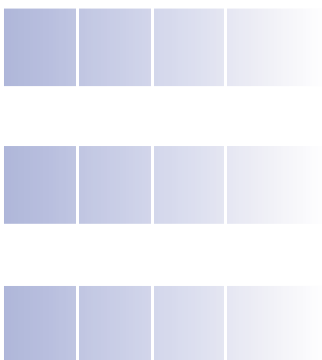
The IBM Institute for Business Value recently conducted a new study to assess the challenges facing consumer products companies in the areas of customer and demand management. Our specific objectives were to:

- Determine what customer management issues consumer products companies are currently focusing on, and what capabilities they believe they will need to develop in the future
- Identify how retailers perceive their trade relationships and supplier salesforces and how they would like to be served by their suppliers in the future
- Understand the evolving requirements related to consumer and shopper insight development.

Interviews were conducted with senior sales or marketing executives at 19 consumer products companies and with executives at several major retailers in the United States and Europe between May and September 2004.<sup>1</sup>

In addition, we engaged the Economist Intelligence Unit to conduct a global survey of 109 retailers across all lines of trade on our behalf.<sup>2</sup> Respondents were screened to verify that they were in roles where they managed or helped to manage supplier relationships.

Detailed results of the study are described in the IBM executive brief, "The Strategic Agenda for Consumer Products Customer Management."



### An insight-driven future

I. N. Sight is a customer team member who specializes in trade marketing at CPG Inc., a large, multinational consumer products manufacturer. He smiles as he thinks about his next task – designing shopper-targeted promotions for AlwaysClean laundry detergent at one of BigMart’s underperforming stores. In the past, designing shopper-targeted promotions was much more of an art than a science. However, the new integrated data analytics infrastructure that his company put into place has vastly improved the effectiveness of these promotions.

I. N. Sight opens a customized Web-based workplace, where he indicates that he would like to conduct analyses on purchasing and promotional trends specific to the AlwaysClean brand and its competitors at the underperforming BigMart store. Luckily, due to a special agreement with the retailer, CPG Inc. has been provided access to BigMart’s point-of-sale (POS) and select loyalty card data. I. N. Sight knows that when this data is combined with all the promotional, market segmentation, leading indicator, syndicated and other data that CPG Inc. has in its integrated data store, he will have a robust picture of BigMart’s shopper purchasing patterns.

Once results of his initial queries are displayed, I. N. Sight poses further queries to gain a deeper understanding of the BigMart shoppers. As the results are presented, he sits back in his chair and thinks...

*This new customized workplace is so easy to use compared with the paper reports and spreadsheets I used to have to sift through. The graphical displays are much easier to interpret. I see that there appear to be a number of AlwaysClean shopper segments at this particular BigMart store. One segment seems to represent families of four or more who purchase our larger size liquid and powdered detergent. Based on the data, penetration increases in this segment with AlwaysClean displays at a price point down to US\$5.00. Furthermore, prices lower than US\$5.00 result in much higher units purchased per transaction, which appears to be bulk buying for pantry loading.*

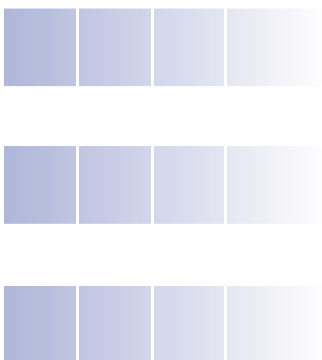
*A second segment represents convenience shoppers. These shoppers typically purchase the lowest-price laundry detergent on Saturday mornings in the nine-load package size. I also see that these shoppers regularly buy detergent in combination with fabric softener. For this segment, a joint promotion on a smaller size of AlwaysClean detergent and fabric softener may be in order. Perhaps I should contact CPG Inc.’s food division, as there may be an opportunity to do a joint promotion with our single-serving breakfast snacks. I know that there is a laundromat in the shopping center attached to this particular BigMart store. From the loyalty card data, it appears that these shoppers are purchasing breakfast foods in the same basket as their detergent, likely to eat breakfast as they do laundry.*

I. N. Sight looks at the data for the additional shopper segments and develops more insights. When he is ready to design segment-specific promotions, he thinks...

*It’s truly helpful that this customized workplace can conduct much of the analysis for me and dynamically suggest and optimize promotional ideas. I can easily take the ideas presented by the workplace and weave them into my own plans, continuously tweaking the promotion design for optimal sales results. Using the predictive modeling capability built into the workplace, I can easily identify the impact of various “what-if” scenarios on promotion-based sales.*

I.N. Sight shares his analyses with his counterparts at BigMart and works with them to further shape and improve the promotion design. Once necessary changes have been made to optimize potential promotional performance, I. N. Sight is ready to present the promotions to CPG Inc. and BigMart for approval and rollout.

Within a month, I. N. Sight knows that his promotions are a success. AlwaysClean sales have increased by at least 8 percent across all shopper segments at the formerly underperforming BigMart store. Looking at the results, I. N. Sight can’t believe how much easier it has become to make quick, accurate and beneficial decisions as a result of CPG Inc.’s integrated data analytics capabilities.



## ***A challenging environment***

Today's marketplace has become extremely complex, with consumer products companies struggling to gain insight into consumer and customer needs and to execute their business practices with precision and agility. Increasingly, companies are turning to data analytics as a tool to drive deeper, "right-time" insights to enable them to quickly and intelligently respond to changing market demands. Unfortunately, the way that many companies are conducting analytics and developing insights today often yields results that are inconsistent in quality or limited to certain parts of the organization.

**"What data is captured and integrated is critical to the types of analyses that can be performed and insights that can be developed."**

*– Director, Customer Business Development<sup>3</sup>*

**"We need to develop the infrastructure necessary to successfully analyze a significant amount of data and convert it into meaningful insights."**

*– Senior Customer Business Manager<sup>4</sup>*

**"Our [insight development group] needs to build the skills and capabilities necessary to really understand the shopper."**

*– Chief Customer Officer<sup>5</sup>*

The issues that companies face begin at the very source – with data. Given the explosion of data available in the marketplace, consumer products companies are faced with an array of data formats and new data integration and management requirements. While the amount of available data is expanding, consumer products companies still struggle with gaining access to retailer data, which provides a level of granularity not found elsewhere.

The analytical infrastructure and techniques employed by consumer products companies often lack the sophistication required in today's complex world. For example, many companies do not have the infrastructure to understand the interrelationships between data sets, which would enable them to create new "meta-data" facts on which to base analyses. Moreover, analytics may not be embedded into business processes, requiring resources to search out the analyses needed to make key decisions rather than having that information pushed to them.

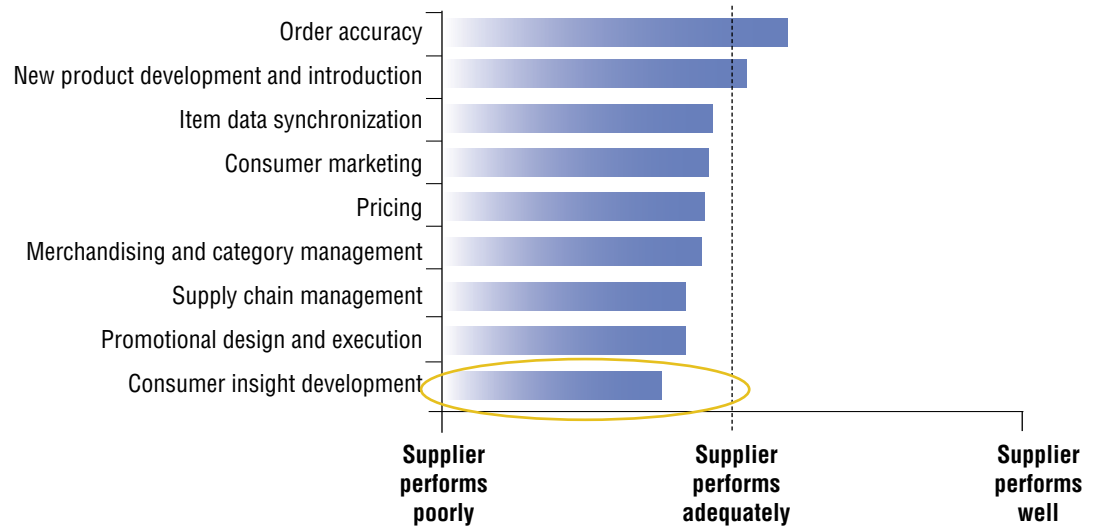
Finally, the insights developed by consumer products companies may lack depth and often are not communicated throughout the organization or acted upon. The ability to develop and retain resources that can create unique, differentiated insights based on data analytics is critical. Even when companies are successful at developing value-adding insights, the organizational structure may limit how those insights are integrated across the enterprise and pushed to market.

The lack of sophisticated analytical and insight development capabilities has led to both internal and external dissatisfaction. Without the right data, technological infrastructure and skilled resources, consumer products companies are unable to develop the differentiated insights necessary to support key internal operational decisions.



Thus, companies are experiencing pain points across the value chain, including low new product success rates, poor alignment of supply with demand, deficient consumer acquisition and retention, and suboptimal trade marketing and customer management strategies. Externally, many consumer products companies are falling short of retailer expectations, in part due to inadequate analytics and insight development (see Figure 1). In particular, retailers generally are least satisfied with their suppliers' abilities to generate consumer insights.<sup>6</sup>

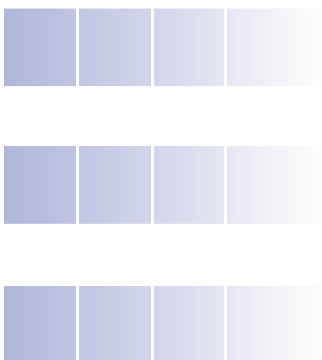
**Figure 1. Retailer satisfaction with supplier performance by functional area.**



Source: IBM Retail Merchandising and Supplier Management Survey, 2004.

### ***A new approach: Integrated data analytics***

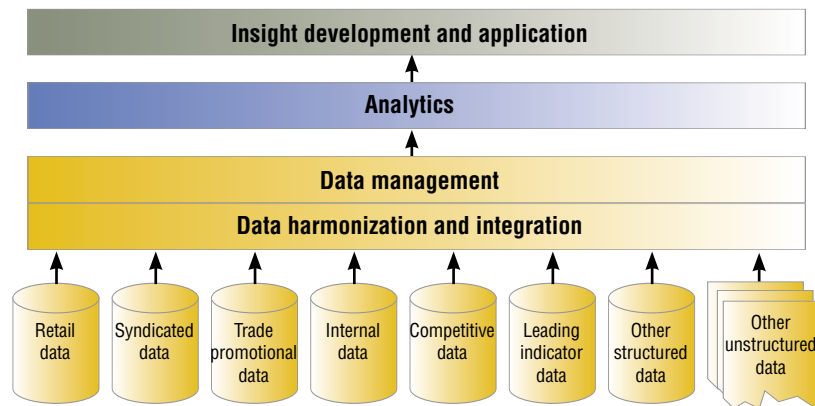
Consumer products companies have reached a critical juncture in the way they manage, analyze and draw insights from data that could have a significant impact on their long-term growth. Growing marketplace complexity has necessitated a depth of business intelligence that will enable companies to act with absolute focus and flexibility. The companies that persevere through 2010 and beyond will be those that not only *respond to* marketplace shifts based on the implications of all available data, but those that *anticipate* them.



Traditionally, consumer products companies have taken a relatively narrow view of data analytics and insight development. Data sources and applications are siloed, with analyses and insights often limited to individual departments. Analytics tend to be based on manual queries and have not been embedded into business processes. Lack of timely information has led to insights that are based on a historical, rather than realtime, view of the marketplace.

In the future, consumer products companies that want to improve their marketplace agility should take an integrated approach to data analytics and insight development (see Figure 2). This will require new data harmonization and management capabilities to integrate all available and relevant internal and external data sources. Analytics need to become automated and embedded into business processes to continuously drive fact-based decision-making based on subtle changes in the market environment. Realtime information availability will enable “right-time” insight development to support timely decision-making.

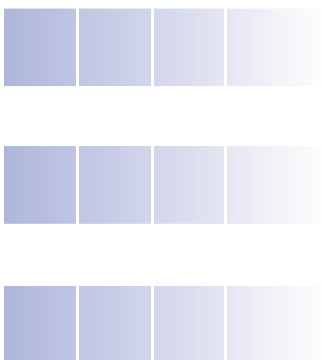
**Figure 2. Integrated data analytics and insight development.**



Source: IBM Institute for Business Value analysis, 2005.

To take this new approach, consumer products companies will need to revisit their current analytical and insight development capabilities. In particular, they will need to respond to three key mandates:

- Integrate all relevant data sources to support decision-making
- Drive superior analytics across the enterprise
- Become an insight-driven organization.



By developing both the infrastructure and organizational capabilities to drive useful insights from an integrated set of data, companies will bring clarity to business decisions.

### *Integrating data*

Data is a currency for the consumer products industry, serving as the foundation from which all value-generating insights are based. However, while data is widely available, companies continue to struggle with how to integrate and manage that data in preparation for analysis and insight development. Specifically, consumer products companies are facing three key challenges related to data management and integration:

- Inconsistent data formats
- Limited access to retailer data
- Inadequate data integration infrastructure.

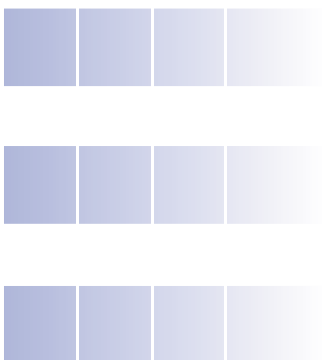
#### **Inconsistent data formats**

Historically, consumer products companies have relied primarily on syndicated data sources that provide data in standardized formats, to understand general purchasing trends. But today, these companies need to develop a more granular understanding of shopper behavior patterns and market dynamics. Luckily, the amount of data available to companies has increased tremendously, including enterprise data, radio frequency identification (RFID) data, Web data, unstructured data (such as e-mails and text documents) and, in some cases, POS or loyalty card data direct from the retailer. Together, these sources represent the key to unlocking a better understanding of the shopper and the market. The challenge, however, is that these sources exist in a wide variety of formats and are difficult, if not impossible, to analyze together.

To effectively integrate a variety of internal and external data sources, consumer products companies should both align enterprise data and promote the development and adoption of data standards. From an internal perspective, enterprise data management capabilities provide the people, processes and infrastructure that drive internal data consistency, process integration and the accuracy of business information within the enterprise. Whenever an original source of data is changed, enterprise data management capabilities help ensure that the change is replicated across the organization.

**“Currently available data is often too complex to manage. This is due to the number of different data formats and the lack of capabilities to manage that data.”**

*– Corporate Director,  
Marketing & Sales<sup>7</sup>*



From an external perspective, the development and adoption of data standards will enable companies to integrate sources from various partners in the same format. The Global Data Synchronization Network (GDSN) has already made vast strides in establishing data standards for product classifications and item attributes, among others. The TDLinX retail coding structure has also been instrumental in the industry, providing a standard for retail hierarchies. The industry will need to continue to promote the standards these bodies have created, while investigating new areas in which to establish standards to facilitate greater efficiency related to data analysis.

For unstructured data, which could be either internal or external to the enterprise, text processing technologies can be used to derive relevant attributes from the data for analysis. This information can then be integrated with structured data in a mixed data model, enabling a company to understand relationships between key pieces of data and establish new meta-data facts for analysis. In the future, the industry may consider promoting standards for unstructured data as well so it can be easily shared industrywide.

**“In general, retailers aren’t willing to share shopper information with suppliers for fear of losing competitive advantage.”**

– Chief Customer Officer<sup>9</sup>

**“We do not share shopper data we collect with our suppliers. We view shopper data as a competitive advantage.”**

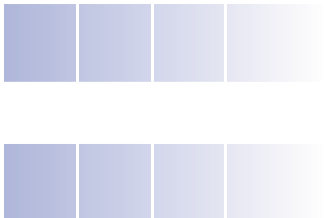
– Director of Merchandising Operations, Retailer<sup>10</sup>

### **Limited access to retailer data**

While the amount of data to which consumer products companies have access has grown tremendously in recent years, retailer data has generally remained out of reach. This has been a cause for concern for many consumer products companies, as retailers have direct interaction with the shopper and are collecting valuable information on what consumers purchase, when and with what other products.

In our recent study on consumer products customer management, we found that 95 percent of retailers and a comparable number of consumer products companies believed that it was important or very important to develop insights jointly.<sup>8</sup> However, trust remains a huge barrier to the willingness of retailers to share their information. In general, retailers seem to believe that consumer products companies will use the information to the detriment of the retailer.

Trust barriers will be difficult to overcome. But consumer products companies may find success in gaining access to retail POS or loyalty card data by forming mutually beneficial relationships with their top two or three retail partners. This will require identifying those partners that have the technological sophistication to electronically share data and the value potential to make data sharing worthwhile. In exchange for access to retail data, consumer products companies can expect to provide their partners with account-specific, differentiating value-added services, such as account-specific innovation, merchandising assistance, shopper-targeted promotions or scan-based trading.



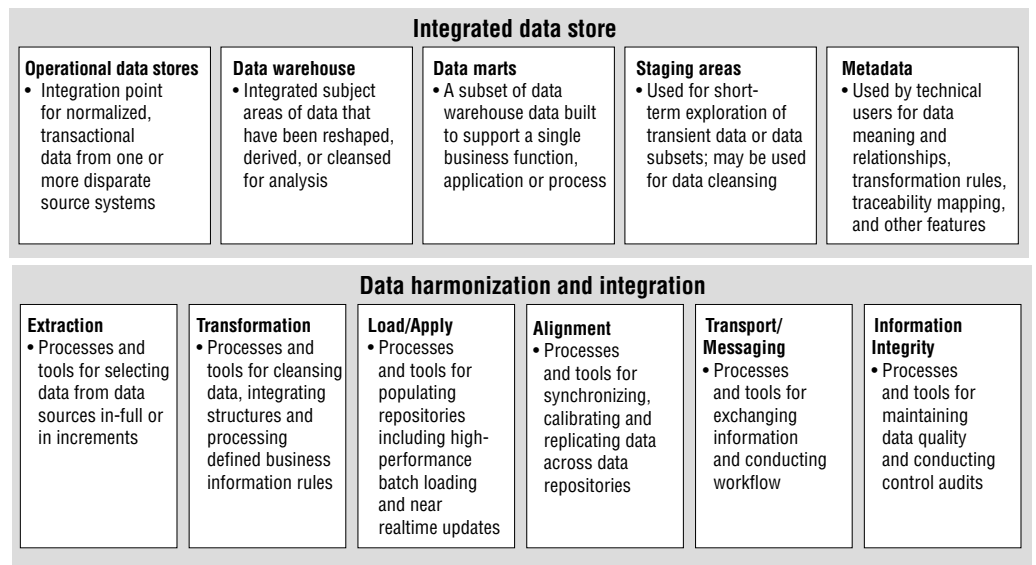
“To be more effective at developing and using insights, we need to address data management issues.”  
 – Head of Global Sales<sup>12</sup>

### Inadequate data integration infrastructure

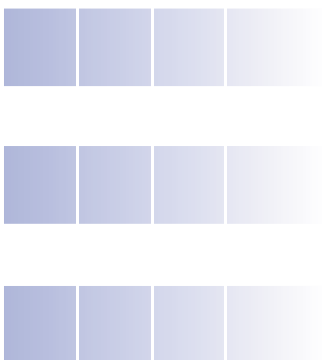
While consumer products companies would like to integrate all available internal and external data to support holistic analyses, they often lack the infrastructure to *harmonize* (make data compatible for analysis), or *manage* that data. To date, data analytics has been siloed in many cases due to the complex nature of integrating inter-enterprise and intra-enterprise data. Where companies are trying to integrate data, they are spending 80 percent of the time on integration versus only 20 percent of the time developing insights.<sup>11</sup>

Moving forward, consumer products companies should consider building a host of capabilities to normalize and manage data for ongoing or “right-time” analyses (see Figure 3). Data harmonization and integration capabilities extract, clean and aggregate data from disparate sources for population into an integrated data store. The integrated data store combines multiple data management capabilities that are scalable, proven and supportable. These two elements represent the foundation of an integrated data analytics solution, combining data in a way that supports informed and comprehensive analytics.

**Figure 3. Integrated data management capabilities.**



Source: IBM Business Consulting Services analysis, 2005.



### **Integrating data for more granular insights<sup>13</sup>**

Welch's, a US\$579 million company that produces over 400 fruit-based products, understands the importance of data integration. Five years ago, Welch's realized that it had an enormous amount of information sitting in spreadsheets throughout the company and that much of its data was not integrated. When this information was entered into financial or forecasting systems, the company had little ability to track where the data originated from.

Today, Welch's wants to be recognized as a best-in-class company in the consumer segments and customer formats in which it competes. To enable this vision, Welch's implemented a system it calls 4-Sight, which focuses on marketing and sales functionality. The purpose of 4-Sight is to integrate information on trade promotions, projected impact on volume, spending, budgets and financial position at a given point in time and determine the impact on production planning and product shipments. According to George Jackman, director of customer marketing at Welch's, "We will know at any point in time, with more granular detail than ever before, what we are spending, what it is doing for us and what it means in terms of production."

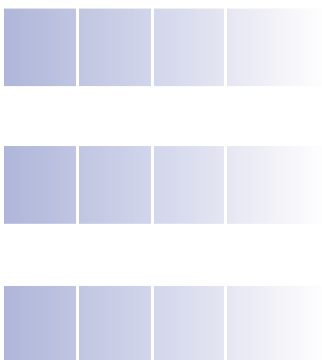
In the past, Welch's relied primarily on syndicated data to understand sales patterns. However, when unexpected changes to demand occurred, the company would set in motion a fairly manual and administrative process to gather information to determine why. According to Jackman, "Now that information will just be there. We will be able to slice through the information and understand it."

Welch's intends to decrease its forecast error rate by half with the 4-Sight system, driving cost savings in raw materials, finished goods and production efficiency. "Now," says Jackman, "we've got information by week, customer and SKU being statistically forecast using an intelligent analytic system to provide the granularity and robustness of information that, at the end of the day, we need to figure out what to produce. We're re-inventing the entire demand planning process to create one number and to align the entire organization with one streamlined process."

### ***Driving superior analytics***

Analytical infrastructure and techniques represent perhaps the most critical aspects of data analytics and insight development – converting data into meaningful implications. Yet analytics conducted today often lack a comprehensive view of all relevant data. In addition, analytics are typically used to react to marketplace shifts rather than to proactively identify shifts before they occur. Three principal challenges exist related to analytics:

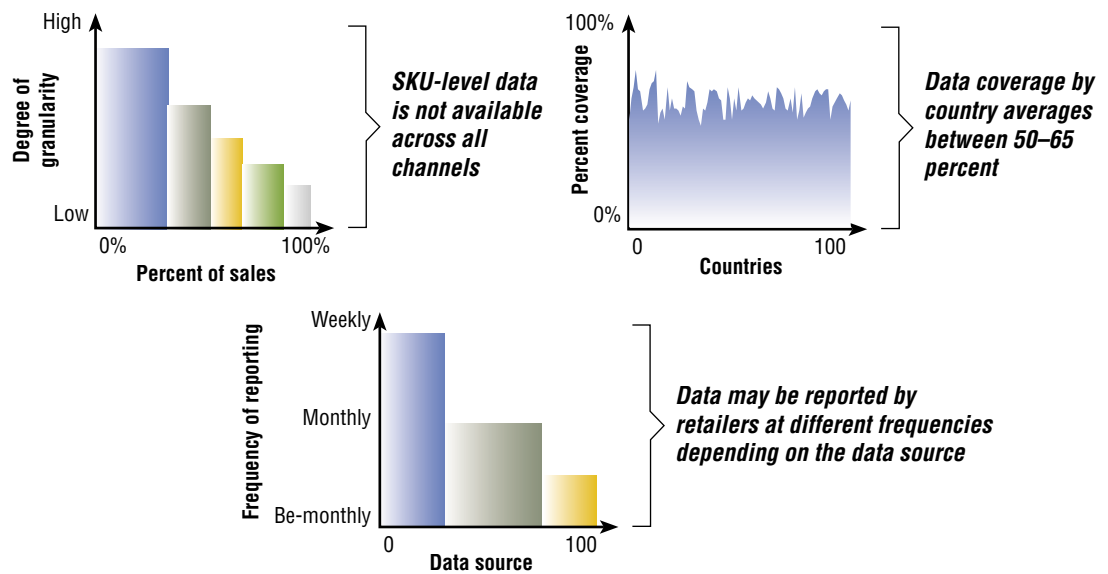
- Data gaps
- Standardized approaches to analytics
- Untimely information delivery.



### Data gaps

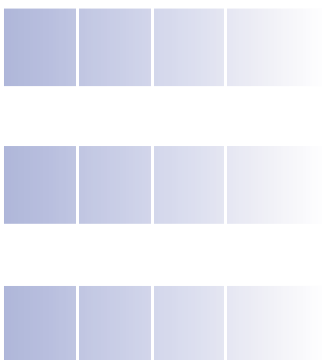
Even after data has been harmonized and integrated, it may not be sufficiently prepared for analysis. In many cases, gaps in data may exist as a result of lack of granularity, inadequate coverage or inconsistent reporting periods (see Figure 4). For example, SKU-level data is not available across all channels. Data coverage by country averages between only 50 and 65 percent.<sup>14</sup> With regard to the data to which companies do have access, there often is little understanding of the inter-relationship of disparate data sets. Without looking at data in different combinations, consumer products companies may be missing insights that can be gained by combining one data source with another.

**Figure 4. Examples of current data gaps.**



Source: IBM Business Consulting Services.

In the future, leading consumer products companies will use advanced statistical modeling to bridge data gaps and enhance data for analysis. Statistical methods and predictive modeling can be used to approximate values for gaps in data granularity, coverage or reporting to supplement analyses. Extraction tools and advanced statistical analyses can be applied to an integrated data store to enrich data for analysis. These tools will create data insights and new meta-data facts from integrated data – for example, identifying advertising and promotion effectiveness



**“We need new technologies and skills...more scientific analytical approaches. We need to analyze data and determine how to add value to the business.”**  
 – Head of Global Sales <sup>16</sup>

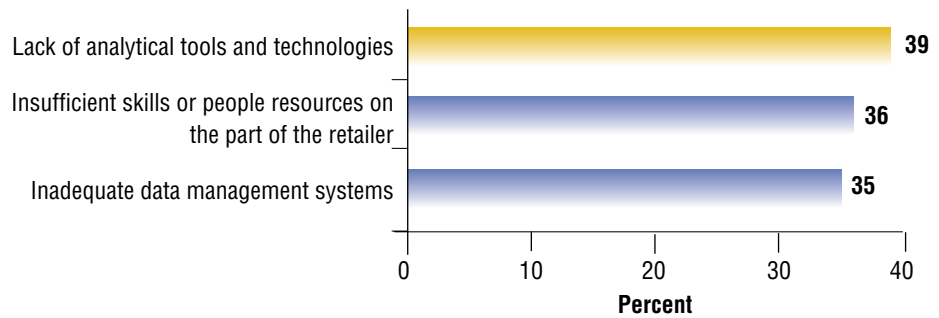
factors for targeted consumer groups, or determining category volume contribution factors by product at a consumer or store cluster level. Enhanced data can be fed back into an integrated data store to enable the creation of even more granular meta-data facts over time.

**Standardized approaches to analytics**

The ability of consumer products companies to conduct sophisticated analytics varies across the industry. However, in general, many companies are continuing to use fairly standardized approaches, focusing on reporting and scorecarding. While these techniques are extremely valuable to the organization, given the way data is managed today, the presented results may be lacking. Moreover, analytics largely have not been embedded into business processes and thus do not provide consumer products companies with a realtime view of information.

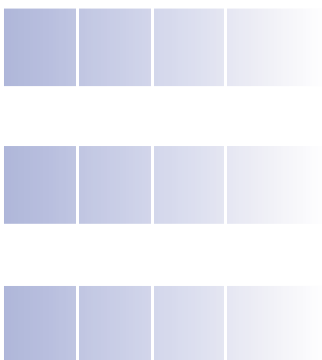
Current approaches to analytics are hindering greater data sharing with retailers as well. According to the recent IBM Retail Merchandising and Supplier Management survey, retailers cited a lack of analytical tools and technologies as the number one obstacle to developing consumer insights with suppliers (see Figure 5).<sup>15</sup>

**Figure 5. Top obstacles to developing consumer insights with suppliers.**



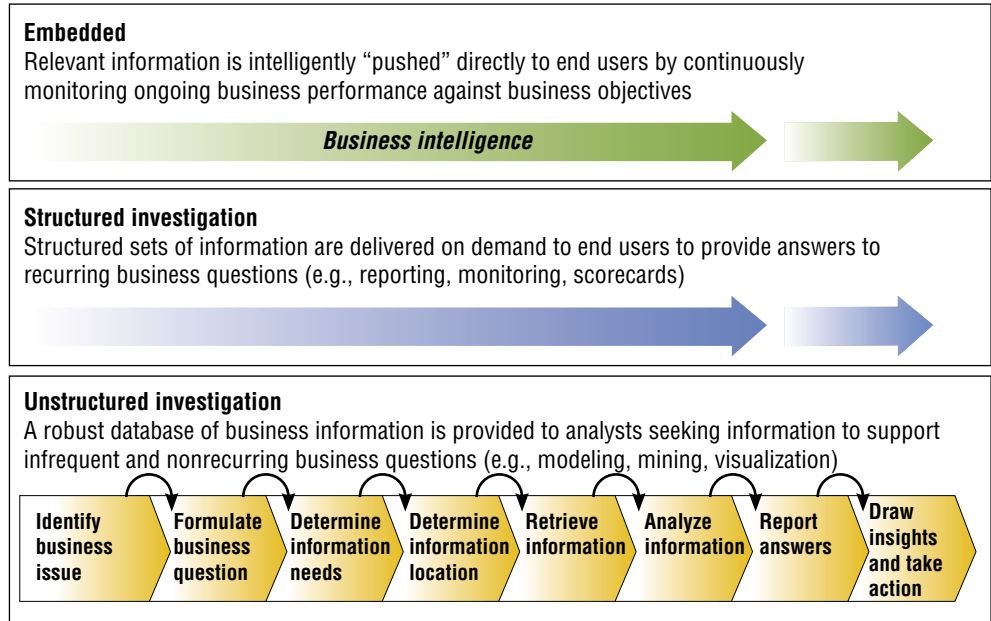
Source: IBM Retail Merchandising and Supplier Management Survey, 2004.

Consumer products companies need to embed analytics into business processes based on an integrated data set. There are three main approaches to analytics: embedded, structured investigation and unstructured investigation (see Figure 6). To date, most companies have focused on structured and unstructured approaches, using reporting, scorecard analysis, data mining and, in some cases, predictive modeling and visualization techniques to better understand business performance.

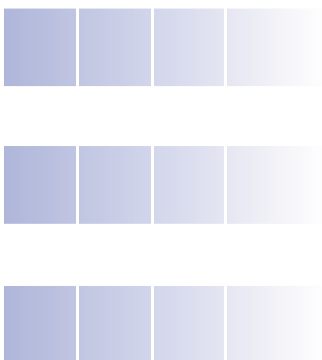


For some business needs, companies will continue to rely on these approaches, determining which analytical techniques to use with which business applications to optimize value. However, embedded analytics will become more important in the future, proactively pushing analyses into applications or business processes based on pre-defined models in real time. Embedded analytics can enable companies to make well-informed, “right-time” decisions to achieve continuous improvement.

**Figure 6. Three main approaches to analytics.**



Source: IBM Business Consulting Services analysis, 2005.



### Advanced analytical techniques – a financial services example<sup>17</sup>

HSBC Bank USA, which serves over 1.4 million retail banking customers, understands the importance of sophisticated analytical techniques. With over US\$35 billion in assets, HSBC is focused on maintaining high customer acquisition and retention rates while keeping operations profitable. The bank's goals include expanding relationships with current customers, keeping marketing costs low to maintain margins and moving to market quickly with new intelligence.

In the past, HSBC often used lifestyle segmentation information purchased from outside market research companies as a basis for product promotions to new and existing customers. However, the bank came to realize that it already had much more valuable information at its disposal. According to Joe Somma, HSBC Bank USA's manager of customer acquisition and research, "We realized that we already had much more specific and potentially valuable information on the buying habits and needs of our 1.4 million customers already locked in our database. It was just a matter of mining the data and analyzing the patterns to learn more about who needs what and when."

HSBC introduced an analytics technology that enabled it to mine customer data and create predictive models to discover cross-selling and "rollover" opportunities. The technology enabled the bank to focus on the best prospects for each product, leading to a sales increase of 50 percent and marketing cost reduction of 30 percent. According to Somma, "Predictive analysis helps us contact the right people at the right time with the right offer."

**"Automated analytics need to be developed and rolled out to enable [our resources] to be smarter."**

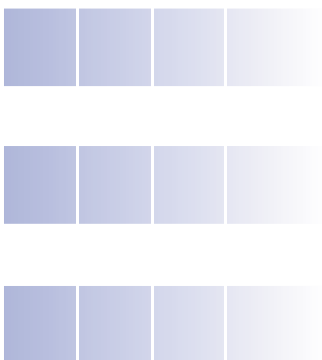
*– Vice President of Retail Planning and Category Management<sup>18</sup>*

### Untimely information delivery

Today, many consumer products companies are basing their analyses on historical information due to delayed access to information. Historical analysis allows companies to conduct basic reporting and simple comparisons. For instance, most companies can easily understand whether their sales are trending up or down and identify their best performing store by week, cluster or territory. In some cases, historical analysis is even being used to help more sophisticated companies optimize prices, promotions or merchandising.

In the future, consumer products companies need to take a predictive rather than historical view. Embedded analytics will be a critical enabler, pushing realtime information to resources to enable "right-time" decisions and, in some cases, to predict market shifts before they occur. The key will be to have the technological and analytical infrastructure that can quickly integrate and analyze disparate data sources to provide realtime visibility into business performance.

Customized user interfaces can help resources interpret data more effectively as it is delivered in real time. These interfaces may include Web browsers, portals or business application interfaces that provide consolidated, customized views of information based on role, function or preference. Security protocols will limit access to sensitive information.



**“To more effectively develop and use insights, we need to address both organizational and infrastructure issues. We need ‘translators’ to bridge the gap between functional perspectives and greater ‘line of sight.’”**  
– Head of Global Sales<sup>19</sup>

## ***Becoming an insight-driven organization***

The true value of data and analytics is realized through the development of unique and differentiated insights. While analytics can provide a basic understanding of market dynamics, insights can translate that information into competitive advantage. However, companies continue to struggle with two key aspects of insight development:

- Lack of resources with the right skills to develop insights
- Insufficient application of insights across the business.

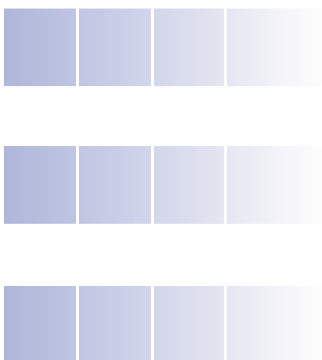
### **Lack of resources with the right skills to develop insights**

Many consumer products companies do not have a broad pool of resources with the right skills to convert analytics into insights and understand how those insights impact the business. The resources who analyze data are often distinct from those who draw insights from the data, and neither of those groups drives insights into the business. Many companies strive to develop resources who have a perfect balance of analytical and creative muscle, and can apply insights with a clear understanding of the business and economic ramifications. This is a complicated task given resource constraints and the number of responsibilities that many people in an organization must manage.

One option is to create a networked organization, whereby individuals develop a very focused skill set, yet can easily team with others to help ensure a perfect balance of analytical, creative and business skills. This allows resources to focus on those activities in which they are most strong, while leveraging other parts of the organization, or even outside partners, to conduct additional aspects of insight development and application. The key to a networked organization is facility of communication and collaboration, enabling analytical, creative and business skills to reside in a tightly interlocked team, rather than disparate individuals.

### **Insufficient application of insights across the business**

Consumer products companies often lack the cultural and organizational commitment to apply insights across the business. On average, they spend only 0.6 percent of revenues on consumer and shopper insight development versus best-in-class companies, which spend 0.7 percent of revenues or more.<sup>20</sup> Going forward, companies need to optimize the return on investment from insight development by creating insight-driven organizations. This will necessitate a transformational change in organizational behavior and business practices.



**“We need to be shopper-driven. We need to use shopper insights to improve the way products are developed, categories are managed and marketing is designed. We need to understand why the shopper is choosing one store over another and how they are making their purchasing decisions.”**  
– Chief Customer Officer<sup>21</sup>

Making changes to an organization is tremendously complex. Based on IBM experience with clients, we have identified two potential methods to influence organizational behavior to help a company become more insight driven:

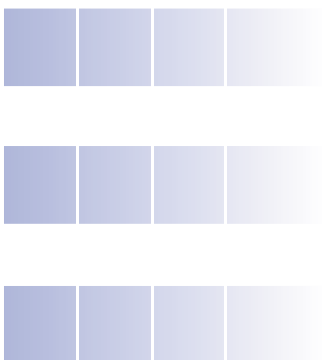
- *Social network analysis (SNA)* – SNA can shift abstract ideas and interactions between employees into true social capital and knowledge sharing, making them concrete and measurable for the organization. This method promotes and facilitates collaboration and knowledge sharing by identifying disconnects in social networks. Over time, SNA can be used to create a more cohesive organization and change cultural values to promote innovation and insight application.
- *Business practices alignment (BPA)* – BPA provides a framework for reconciling different perspectives and taking action to focus the organization on a desired outcome (for example, insight development and application). BPA can address the source of conflict between employees who advocate alternative positions regarding insight usage. By taking a BPA approach, companies can objectively identify the systematic changes that are needed in the organization to become insight-driven so the appropriate enablers can be put in place to create, support and sustain an insight-driven enterprise. This will also let senior executives clearly convey expectations to employees regarding the use of insights across all business practices.

Due to variations in culture across and even within companies, the specific steps that organizations take to become insight-driven likely will differ. Even when using SNA or BPA, the way in which companies implement these methods in the organization will depend on their current cultural environments.

#### **Retailer insight development – an emerging challenge**

Consumer products companies are swiftly coming to realize that insight development is an area where they need to be best-in-class. Recently, retailers have begun to recognize the value of their data, developing insights of their own to support merchandising decisions, promotional design and private label development. The value that suppliers have typically brought to the retailer has centered on a deep understanding of the consumer. As retailers begin to use their shopper data to develop insights on their own, suppliers risk losing even more influence with their retail partners.

Tesco, based in the UK and one of the world’s largest retailers, is a prime example of a retailer that is successfully developing insights on its own. Tesco initiated its Clubcard program in cooperation with its partner, dunnhumby, in 1995, collecting information on every item purchased by over 10 million Clubcard members.<sup>22</sup> Using this information, Tesco has developed over 5,000 customer “needs” segments.<sup>23</sup>



**“Retailers know so much more about the consumer than they currently make use of, for instance through loyalty programs. It’s just a time bomb if and when they start exploiting it.”**

– *Corporate Director, Marketing & Sales*<sup>34</sup>

Each quarter, Tesco sends out over 150,000 variations of a magazine with segment-specific content combined with six highly targeted coupons to each Clubcard member.<sup>24,25</sup> Four of these coupons are for products that are already purchased by the customer, with two for products that the customer is considered likely to purchase.<sup>26</sup> As a result, Tesco is seeing coupon redemption rates of 90 percent.<sup>27</sup>

Tesco has expanded its use of Clubcard data to draw additional insights. For instance, the retailer has looked at the data of its price-sensitive customers to identify which products they purchase that are not purchased by other customers. Tesco then lowers prices on products purchased only by those shoppers, rather than trying to compete on price across all product categories. The targeted price cuts enable Tesco to attract customers away from competitors and capture additional volume to support the price reductions.<sup>28</sup> Tesco has also used insights driven from its Clubcard data to influence its private label program, leading to the introduction of its Tesco Finest brand.<sup>29</sup> More recently, Tesco has used its customer knowledge to build new businesses, including Tesco Personal Finance and its online travel service.<sup>30</sup>

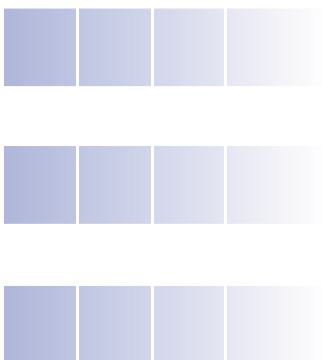
The benefits Tesco has achieved are substantial. The company realizes over 85 percent of its revenue and 62 percent of its sales through the card, which is used by over one-third of U.K. households.<sup>31</sup> The program has enabled Tesco to generate more than £100 million in incremental sales each year and to increase its market capitalization from £5 billion to £15 billion in less than a decade.<sup>32, 33</sup>

### *Driving value through integrated data analytics*

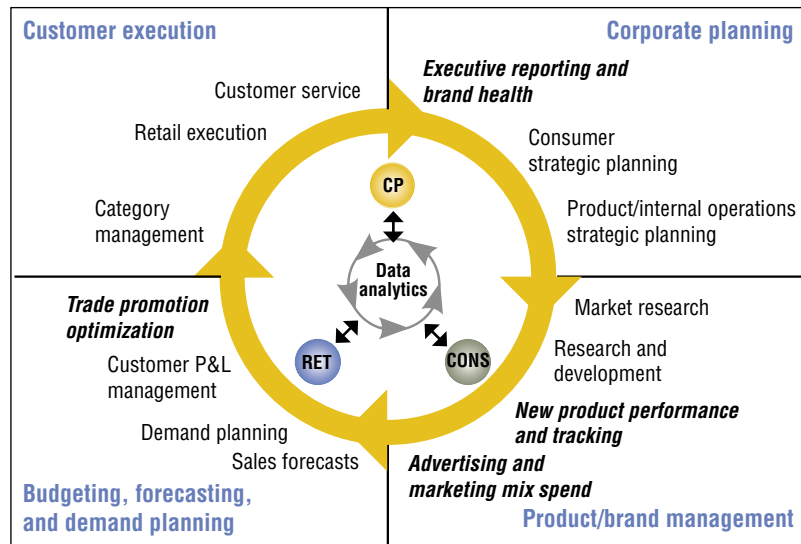
The challenges to instituting an integrated approach to data analytics and insight development are significant. However, once they are overcome, the benefits are substantial. In IBM experience, consumer products companies have cited four priority areas for the rollout of integrated data analytics where they expect to see the greatest benefit:

- Executive reporting and brand health
- New product performance and tracking
- Advertising and marketing mix spend
- Trade promotion optimization.

These areas are shown in Figure 7.



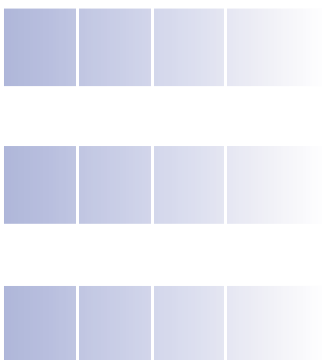
**Figure 7. Key areas of benefit to consumer products companies from data analytics.**



Source: IBM Business Consulting Services analysis, 2005.

IBM developed a business case to better understand the benefits that consumer products companies can realize from having an integrated data analytics solution in these four priority areas. We identified a number of key benefits in each area:

- *Executive reporting and brand health* – Data analytics and insights can enable companies to quickly identify emerging trends in sales and market share, making possible improved decision-making and increased sales. Efficiencies in data delivery and analysis set the stage for reductions in overhead and IT expenses generally associated with reporting.
- *New product performance and tracking* – New product success rates are poised to rise as companies develop a better understanding of what new products are needed where and when. It is anticipated that expenses will be reduced as well, as launch activities are adjusted in real time based on better tracking capabilities.
- *Advertising and marketing mix spend* – Companies will enhance their ability to improve allocation decisions across the entire product and brand portfolio based on the insights driven by a data analytics solution. Due to a better understanding of the consumer, companies can boost their ability to better target advertising and marketing spend to achieve a lift in sales.



- *Trade promotion optimization* – Integrated data analytics and insight development are designed to improve a company’s ability to allocate funds by brand or account down to the store level, creating more targeted trade tactics. It is anticipated that benefits will include an improvement in trade funds return on investment (ROI) as well as reduced deductions.

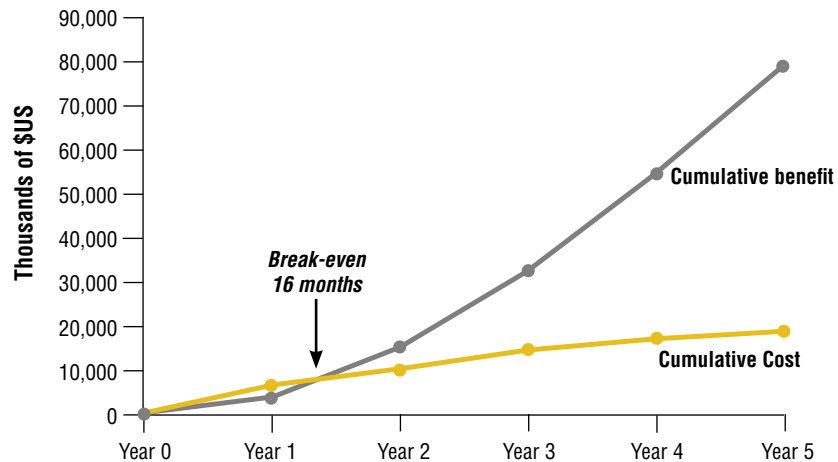
The costs involved in our modeled solution include those for data storage, software licenses and maintenance, data and application servers, data harmonization services, and post-implementation costs for ongoing hosting and maintenance.

**Key business case assumptions:**

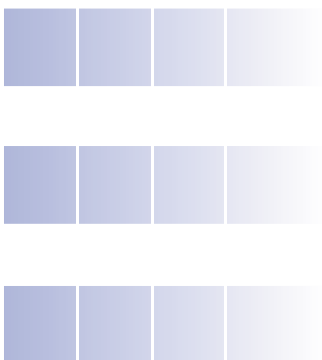
- Consumer products company with US\$5 billion in revenue
- Only benefits from four priority areas considered: executive reporting and brand health, new product performance and tracking, advertising and marketing mix spend and trade promotion optimization
- Data analytics solution addresses 20 product categories sold in both North America and Europe with 6 different data source types
- Three-year implementation required, with ongoing maintenance costs after the third year
- Outsourced data analytics solution.

With a five-year cost of US\$19 million, we believe an integrated data analytics solution could reach a break-even point within approximately 16 months (see Figure 8). Cumulative benefits achieved in the four priority areas would reach nearly US\$79 million within five years. The value from integrated data analytics will continue to accrue as the solution is expanded to serve other key areas of the business.

**Figure 8. Integrated data analytics solution break-even analysis.**



Source: IBM Institute for Business Value analysis, 2005.



## *Preparing now for future advantage*

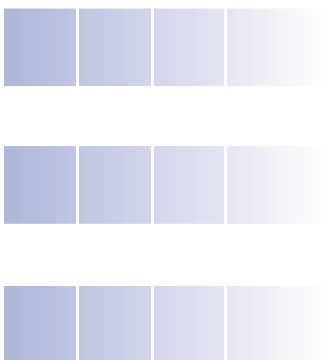
The market environment will only become more complex in the future. The ability to react to market shifts with swiftness and precision will be paramount for consumer products companies moving forward. For many companies, this will require fundamental changes in how they conduct analytics and apply insights across their organizations. Integrated data analytics and insight development will help provide consumer products companies with a comprehensive view of the competitive environment and a better understanding of how to react to and predict market shifts.

Companies must prepare themselves for this integrated approach today by focusing on three core areas:

- *Data management* – Evaluate the ability of the company to easily manage, integrate and cleanse data from a diverse range of sources. Promote the development and adoption of global standards across the industry. Identify key strategic partners with which to establish new relationships based on a fair trade of account-specific services for retail data.
- *Analytical infrastructure* – Determine what analytical techniques are most widely used and whether they are providing the required level of depth and precision. Assess how quickly analytics are conducted and communicated across the business. Evaluate the ease of access to relevant information and analyses.
- *Insight development and application* – Measure the company's ability to develop relevant insights to drive valuable innovation into the business. Evaluate how insights are developed and shared among separate departments within the company. Determine what role insights play in every business decision.

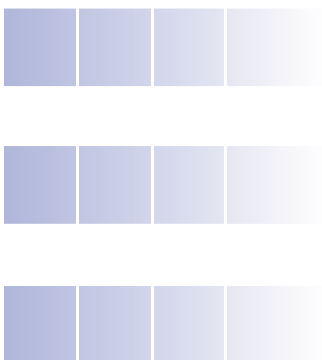
Consumer products companies must first carefully assess their current situation and perform a gap analysis to determine what capabilities they should build and strengthen. A clear strategic roadmap should outline how and when new data management and analytical infrastructure are rolled out. By building data integration tools and embedded analytics, companies will help ensure that they have the infrastructure in place to drive sophisticated analyses into the organization.

At the same time, consumer products companies must make a concerted effort to develop an insight-driven culture that is adept at applying insights across business activities. A prudent balance of analytical muscle and creative mindset will help provide consumer products companies with the competitive edge that they will require in an increasingly complex world.



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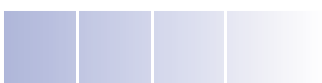
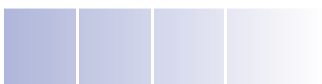
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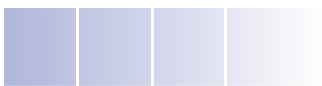
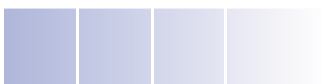


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