Executive Summary
In the ever-evolving digital era, companies are inundated by unprecedented amounts of data generated internally, as well as externally. Importantly, organizations have come to realize that this data holds the key to solving many problems inside their four walls, and beyond. This understanding, coupled with advancements in analytics technology, is pushing companies to derive insights from raw data and boost decision-making across their organizations in ways that drive business performance and competitive advantage. As the U.S. economy struggles out of the recession, consumer goods (CG) industry players are under increasing pressure to extract further efficiencies. Factors such as rising input costs have significantly affected margins, and for a variety of reasons, CG companies have not raised prices to fully compensate for these increased costs.

The recession was officially declared over in June 2009 by the National Bureau of Economic Research, but this pronouncement was not accompanied by improved market conditions for CG players. Despite consumption exceeding pre-recession levels during 2011, high unemployment and repeated aftershocks have conspired to create anxiety over the future.

Meanwhile, the recession introduced important changes in consumer behavior. Consumers are now more careful about selecting products that deliver maximum value for the money, and green goods are gaining in popularity across age groups, with the millennial generation leading the way. Consumers have begun relying on their smartphones and mobile access to the Web and social networks to help them research product attributes and prices. Social media's growing influence on consumer buying behavior is forcing companies to venture into the terrain of integrating social and traditional channels. Companies are also realizing they need to innovate to remain competitive.

The rise in social and mobile technologies has also caused an explosion of data, which if properly leveraged can help CG companies understand consumer behavior and drive innovation, as well as guide companies to begin strategically thinking about extracting much-needed efficiencies from operations and alleviating margin pressures. For starters, companies need to build an infrastructure for collecting and analyzing the huge data volumes generated by social and mobile sources and creating a single version of the truth across various departments that spans structured and unstructured formats.
Going forward, we believe CG players will benefit by putting analytics at the core of their endeavors to:

- Engage with customers at the right place and time to enhance brand awareness.
- Identify niches that can be targeted with specific products.
- Innovate to meet evolving consumer needs.
- Use data to identify areas of inefficiencies and improve performance.
- Harness the power of cloud computing to enhance internal analytics capabilities.

**Economic Forces**

Weak economic growth presents the biggest challenge for CG manufacturers. Even as the heavily medicated economy struggles to get back on its feet, new shocks, such as renewed fears of a double-dip recession, have spread a cloud of doubt over future growth.

Persistently high unemployment, combined with wage gains that have remained below the inflation rate, have negatively impacted consumer spending. Growing commodity prices have added to manufacturers’ woes (see Figure 1). Importantly, industry players have found it increasingly difficult to pass on these price increases to consumers. According to McKinsey & Co., commodity prices increased by 40% between 2002 and 2007, but manufacturers passed on only 15% of this to consumers, resulting in a 75% contraction in the sector’s margins.

The value of shipments has increased over the past year (see Figure 2, next page), but long-term profitability remains a concern.

Confronted with this scenario, CG manufacturers have taken to emerging markets in their search for growth and are focusing on creating efficiencies to combat margin pressures. In domestic and foreign markets alike, manufacturers are seeking insights into customer behavior to understand their evolving needs. There is also a concerted effort to create efficiencies in the supply chain. CG companies have caught onto the idea of big data supply chains capturing insights from across the organization to reduce latency and optimize inventory.

**Customer Behavior Shifts**

One of the notable impacts of the U.S. financial crisis was the dramatic shift in consumer buying behavior. The household savings rate has trended up over the past few years and is expected to reach 10%, according to some estimates. The recession forced consumers to look for more value and purchase lower priced products. However, despite overall consumer expenditure returning to pre-recession levels, the demand for value has remained. Daily spending, as reported by consumers, remains below 2008 levels (see Figure 3, page 4).

Adjusting to this change is of prime importance to CG companies. Not surprisingly, responding...
to this situation ranks high on the agenda of CG CEOs, including the need to develop products that consistently deliver value at lower prices. Such a situation is bound to put further pressure on margins.

Meanwhile, millennials are taking a whole new approach to the way they search, compare and buy products. These young consumers use technology to meet their need for buying the most suitable products. They are tech-savvy, active on social networks and likely to keep their options open as far as brand loyalty is concerned. The mobile phone has played a catalytic role in the rise of this tech-savvy consumption behavior. Growing adoption of smartphones, coupled with increased use of the Internet on these devices, has meant that information critical to shopping is available on demand. No wonder holiday season sales through mobile devices more than doubled in 2011 over the previous year.¹

For CG companies, this is a critical development. Future growth will depend, to a great extent, on how well they exploit the customer engagement opportunities that accompany the rise of these new channels.

**Leveraging Data**
The problem of creating efficiencies in a troubled economy while meeting evolving consumer demands has no single solution. CG companies are realizing they will have to innovate their way out of this sticky situation (see Figure 4, next page).

The ever-increasing volumes of data, generated internally and from external sources, has emerged as an important driver toward this goal. More than ever, CG companies are looking at the data generated on a daily basis in the supply chain and at the retailer’s end to flesh out useful insights.

CG companies have always strived to understand customer needs. As the digital shopping era evolves, they are working even harder to gain new insights into what customers want by engaging with them everywhere, such as at the point-of-sale in the physical and virtual worlds. Working closely with retailers is essential to achieving these insights, and it also helps create efficiencies across several areas. Adoption of downstream data reporting, supported by technologies such as demand signal repositories (DSRs), has increased over the years as retailers have begun to realize the benefits of sharing data with suppliers. For suppliers, the ability to better forecast demand means they can adapt their procurement strategies accordingly.

Mobile devices such as tablets are gaining traction within CG companies, many of whom believe mobility boosts productivity across the spectrum of their operations. Access to consolidated data on the move saves time and

**Monthly Value of Shipments in CG Industry**
Shipment values are steadily increasing for CG manufacturers.

U.S. Consumer Spending
Self-reported daily spending is rising but not to pre-recession levels.

Based on Gallup Daily tracking of the amount Americans say they spent the day before at stores, restaurants, gas stations and online, excluding the purchase of cars and homes, and payments on normal household bills.

**Source:** Gallup

Figure 3

enables faster decision-making on the manufacturing floor and in the field. A booming market for applications that boost productivity is also playing its part.

Companies that have taken a lead in this area are planning for the long term and are putting in place the necessary infrastructure, which includes the ability to capture a single version of the truth, analyze it and share insights across the organization.

Where Improved Analytics Can Help
There is data, and then there is data that improves decision-making. The latter results from filtering key bits of information to derive insights, using advanced analytics. This is what CG manufacturers are striving to achieve. Analytics is by no means new to the industry, but the breadth of its application is widening, driven mainly by the increased availability of data on everything from supply chains, to customers (see Figure 5, next page). Companies are improving supply chains,

### Innovation High on the CEO Agenda

Q: To what extent do you agree or disagree with the following statements regarding your company’s innovation over the next three years?

<table>
<thead>
<tr>
<th></th>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
<th>Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our innovation will lead to significant new revenue opportunities.</td>
<td>35</td>
<td>18</td>
<td>25</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>Our innovation will lead to operational efficiencies that provide us with a competitive advantage.</td>
<td>12</td>
<td>11</td>
<td>46</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>An important part of our innovation strategy is to develop products or services that are environmentally-friendly.</td>
<td>7</td>
<td>11</td>
<td>22</td>
<td>50</td>
<td>33</td>
</tr>
<tr>
<td>We expect the majority of our innovations to be co-developed with partners outside our organization.</td>
<td>7</td>
<td>11</td>
<td>22</td>
<td>50</td>
<td>33</td>
</tr>
</tbody>
</table>

Respondent base: 1,201 chief executives in 69 countries (153 CG companies)

Note: ‘Neither agree nor disagree’ and ‘Don’t know/refused’ excluded.

**Source:** "14th Annual Global CEO Survey 2011," PwC

Figure 4
Playing to the New Rules of Customer Engagement

An increasingly complex business environment has rendered many of the industry’s historical practices obsolete. Take advertising, for example. An ad campaign on television, newspapers and outdoor billboards was once considered to be enough to generate customer interest. Today, however, new channels to reach customers need to be integrated into the overall marketing and promotional strategic mix. For instance, a television ad campaign could be preceded by a social media campaign on Facebook that is carefully crafted to get people talking about upcoming products.

The rules of customer engagement have changed with the rise of digital media. Today’s multichannel customer spends a good deal of time on the Internet, and not just using a wired connection. The mobile Internet, accessed via tablet devices and smartphones, has increased significantly just in the last two years. Shoppers accessing the Internet through wireless means increased 51% in 2010, according to a survey by the Pew Research Center. These customers are looking for value, and they know their options are not limited to one or two stores, either physical or online.

Multichannel communication is, therefore, the new normal for spreading brand messages.
This calls not only for an integrated media strategy but also one that strives to create a consistent experience for consumers as they navigate these channels. Not surprisingly, companies are realigning their promotional strategies accordingly, as they work to reach customers along the path to purchase—from online searches, to in-store ads, coupons and apps. Also known as shopper marketing, this area is expected to witness increased spending by CG companies (see Figure 6).

Perhaps the biggest game changer is social media. Companies have struggled to master this medium, with more and more jumping on the social bandwagon, starting from a simple Facebook fan page and growing to a full-blown social media strategy. Analytics tools are key to the success of these efforts. Customers use social media to express their thoughts about products and services they have used, and sentiment analysis tools allow companies to analyze this data to know what customers are thinking about their products. Similarly, these tools can be used to measure the response to a new product or service the company is planning to launch.

Some companies have used this media very intelligently. An example is the campaign for the new body wash from Old Spice, a brand owned by Procter & Gamble, that combined Facebook, Twitter and YouTube. Starting off with simple advertisements starring the former NFL player Isaiah Mustafa, the campaign sought feedback from social media users and created personalized videos in response. These videos were such a big hit with viewers that as many as 187 of them were made. By the time the campaign was finished, it had surpassed 16 million views, exceeding President Barack Obama’s election victory speech. The media research agency Nielsen reported in July 2010 that Old Spice body wash sales rose 55% for the previous three months and a whopping 107% over the previous month.

With increasingly complex and fragmented media, companies need to make effective, fact-based decisions, and this is where the digital age opportunity lies. There is no dearth of data—companies generate huge amounts of customer data on a daily basis that go beyond purchase transactions, into areas such as perceptions of products and services. The trick is to distill key insights from this data using advanced analytics. Today’s analytics tools allow companies to track everything from channel performance to customer behavior. Product performance can be tracked dynamically, to identify potentially successful brands that can be promoted through advertisements and deals.

**Product Innovation**

At a time when customer preferences are radically changing, the need for innovation is hyper-critical. Even as tough economic conditions push customers to seek value in all purchases, concerns over the environmental and health

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**Expected Growth in Advertising and Promotions Mix**

CG companies will increasingly turn to “shopper marketing” to gain visibility along the purchase path.  

<table>
<thead>
<tr>
<th>Category</th>
<th>Increase %</th>
<th>Decrease %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shopper Marketing</td>
<td>55</td>
<td>28</td>
</tr>
<tr>
<td>Digital Media</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td>Consumer Promotions</td>
<td>28</td>
<td>3, 5, 10</td>
</tr>
<tr>
<td>Traditional Media</td>
<td>-13, -18</td>
<td>9, 16</td>
</tr>
<tr>
<td>Trade Promotions</td>
<td>-7, -24</td>
<td>10</td>
</tr>
</tbody>
</table>

**Average annual increase or decrease over the next three years:**
- Increase >5%
- Increase 0-5%
- Decrease 0-5%
- Decrease >5%


Figure 6
impacts of products are emerging; meanwhile, CG companies are sourcing products globally (which adds complexity to product safety requirements) and are struggling to meet green and sustainability mandates (whether internally driven or enforced through regulations). According to a survey by NBCUniversal, 68% of respondents said it was worth paying more for green goods.

The food and beverages sector, for instance, is dealing with rising health consciousness and increased need for convenience foods. Carbonated drinks sales have declined steadily over the past few years as consumers move toward non-carbonated health drinks, which grew at 7% in 2010. Consumers also want pre-packaged foods that offer greater nutrition and higher quality. With population growth in the developed world expected to remain slow, manufacturers will have to differentiate in order to stay ahead, and product innovation will be key to this.

Understanding the different segments of customers will be useful for companies. For example, the aging baby boomer generation’s preferences have changed. Companies can identify these changes and create products accordingly. Such efforts could mean getting closely involved with customers or partners to drive innovation. Data analytics will be important to drive decisions in this scenario. Analytics tools can also help predict the performance of products based on past data combined with “what if” scenarios, thus helping companies choose the best possible alternatives.

For example, analyzing the purchasing behavior of customers according to age, income levels and preferences can help companies identify how trends are evolving. This will provide clarity around which products and pricing models would result in a winning strategy.

Creating Efficiencies
At a time when margins are under pressure, companies are bound to look inward for opportunities to cut costs. CG companies are identifying areas where processes can be improved. The plethora of internal data about many business processes holds the key to creating efficiencies. These insights can be drawn by applying analytics tools to the data collected from various departments to identify anomalies in internal operations that can then be rectified.

Today’s globally aligned business models introduce complexities that need to be dealt with on a dynamic basis. Companies that have not updated their business models risk losing ground rapidly. Traditional supply chain architectures, for example, need a complete overhaul. Much of the inefficiencies stem from the fact that data remains stored in silos, and spreadsheets are pervasive. Overhauling data architectures across the organization will enable operational efficiencies to be derived.

Improved Sustainability Initiatives
Sustainability has moved to the top of the corporate agenda across industries over

Drivers for Sustainability Initiatives
CG companies name branding as a top reason for pursuing sustainability programs.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand</td>
<td>60%</td>
</tr>
<tr>
<td>Costs</td>
<td>55%</td>
</tr>
<tr>
<td>Regulation</td>
<td>48%</td>
</tr>
<tr>
<td>Customers</td>
<td>47%</td>
</tr>
<tr>
<td>Risk</td>
<td>45%</td>
</tr>
<tr>
<td>Competition</td>
<td>42%</td>
</tr>
<tr>
<td>Product differentiation</td>
<td>39%</td>
</tr>
<tr>
<td>Profitability</td>
<td>38%</td>
</tr>
<tr>
<td>Shareholders/Investors</td>
<td>37%</td>
</tr>
<tr>
<td>Employees</td>
<td>36%</td>
</tr>
<tr>
<td>Other</td>
<td>35%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>34%</td>
</tr>
</tbody>
</table>

Response base: 378 senior executives from North America, Asia Pacific, Europe, Middle East, Africa, Latin America
Figure 7
the past few years, and consumer goods companies are no different. Regulations and customer awareness have played a vital part in this. However, the top driver across industries is the desire to promote brand awareness (see Figure 7, previous page). Companies are looking to cut resource usage wherever possible. For example, several CG manufacturers have reduced their consumption of water in manufacturing. As this trend evolves, sustainability reporting is growing in importance to stakeholders; in fact, in a KPMG survey, the number of companies producing such reports increased from just 6% in 2000 to 36% in 2010, with an additional 22% planning to produce reports in two years.

Sustainability initiatives are also seen as a source for innovation and efficiencies. Companies that have taken the lead here assign high importance to sustainability reporting based on what they want to improve within their internal processes. Yet, the quality and quantity of sustainability data reported varies highly across consumer market sectors.

For sustainability initiatives to deliver value, it is important that proper metrics are instituted to measure and analyze the results. In this regard, adhering to industry benchmarks and reporting standards will be helpful, although such standards are largely a work in progress. As metrics emerge, CG companies will need systems that enable accurate and near-real-time reporting of this data, as well as analytics tools that can turn raw data into insights to continuously improve progress made against sustainability goals through better decision-making.

**Data Management and Other Challenges**

Data management is central to any successful analytics implementation. Employing real-time analytics involves collecting the right data—that is, data that is relevant in a given context. Data management across the CG value chain, however, remains plagued by age-old architectures, siloed storage and manual intervention. Old approaches like the use of spreadsheets to hold business-critical data hinder data sharing between departments; instead, a single version of the truth needs to be created to inform decision-making.

Similar efforts are being made to collaborate with retailers on using downstream data, although there is no enterprise-wide approach to collect, share and analyze this data (see Figure 8). As a result, different departments pursue their own connections with retailers to generate data. There even seems to be little consensus between departments over the responsibility for a downstream data initiative, as a 2010 study by

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**The State of Data Management**

Q: How standardized is the approach you are taking to downstream data management?

- Looking at a corporate strategy, but do not have one in place yet: 34%
- No corporate-level strategy; each customer team decides on the approach they take: 29%
- Made a decision on a corporate strategy and currently implementing it across teams: 22%
- The same tool is in place across all teams today: 15%

Response base: More than 100 midsize CG suppliers and retailers


Figure 8
CGT/RIS\textsuperscript{10} found. While 82% of respondents believed it was a sales initiative, 77% said it was a supply chain initiative. This dichotomy could result in data inconsistencies between departments, which in turn will negatively impact decisions made down the road.

Overcoming this hurdle is, therefore, crucial for companies, and the decisions that drive the move toward a single version of the truth must be made by organizational leadership. Departmental buy-in needs to be generated to share crucial data. This will most certainly involve a dramatic cultural shift, which makes the role of leaders even more important.

**Analytics as a Service**

Creating a culture of decision-making based on insights drawn from data shared across the organization will not be an easy task. But given the ever-growing complexity of the business environment, this transformation to a data-driven culture is essential, and the benefits will be worth the effort. Companies that see themselves as highly competitive tend to have a higher analytics orientation than their peers.\textsuperscript{11} Organizations that empower themselves with an analytics competency have a better chance of success.

Access to an analytics talent pool and a cost-effective delivery model is an equally important requirement, and consumer goods companies should consider associating with partners that can provide these capabilities. Advances in cloud computing have created opportunities to reduce hardware, software and talent-related costs through business process as a service\textsuperscript{12} (BPaaS). BPaaS helps save critical Cap-Ex by leveraging cloud computing, with its consumption-based fee structure and hosted computing model. It is our view that companies that benefit from this scenario will do the following:

- Create a data management infrastructure that integrates existing data silos.
- Develop a single version of the truth to drive improved organization-wide decision-making.
- Design a strategy to harness the potential of big data to drive efficiencies and innovation.
- Partner with vendors that can help cut Cap-Ex by providing a complete solution that encompasses analytics technology and talent aspects.

**Footnotes**


\textsuperscript{2} The Pew Research Center defines millennials as the generation that was born after 1980 – the first generation to come of age in the new millennium.


\textsuperscript{6} “Green in the Economy II,” NBC Universal, 2011.


\textsuperscript{8} “Beyond Green: The Triple Play of Sustainability,” Cognizant Technology Solutions, March 2011.

References


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