Transistor by transistor, the electronics industry is literally changing the world. Consider the following: today's fastest computers can now achieve 10 quadrillion operations a second; by 2015, there will be more than seven billion mobile devices in the world, both consuming and generating massive amounts of data. And right now, there are more than one billion transistors for each person on the planet.

With innovations like these, it's no surprise that the electronics industry outspends all other industries in research and development. Despite an impressive track record of pioneering technology, however, today's electronics industry is itself in a state of disruption. Product life cycles are compressing, emphasizing the need to create innovative products and services faster and cheaper than ever before. Competitive pressures are at an all-time high, with aggressive new entrants and a continuing need to contain operational costs. And though profit margins for some electronics segments, including network equipment and medical devices, remain relatively high, most others are under heavy margin pressure.

Together, these trends are driving electronics companies to find new growth opportunities. Many believe that the best way to do that — perhaps the only way to do that — is to transform their business models by getting ever closer to their customers. In fact, a recent IBM® study showed that 94 percent of global electronics industry CEOs identified customer intimacy as the number-one priority over the next five years. CEOs realize that innovative products and services are only successful when those products and services deliver on customer needs.
At IBM, we believe that the best route to this customer intimacy is through the data that the electronics devices and equipment create and collect. With billions of people connected by nearly a trillion devices, this data represents a wealth of untapped resources that electronics companies are just starting to understand. However, as revealed in the IBM 2011 CMO Study, a vast majority of electronics companies are unprepared to manage the impact of all this data and make use of social media as a strategic business tool. Now is the time for electronics companies to convert data into insights, and to create the new products and services that will continue to change the world.

Courting the Customer
In the 21st Century, innovation for its own sake is not enough. The key to success is not just bringing new products to the market, but enhancing business-to-business interactions and peoples’ lives. Greater customer intimacy means a shift in the traditional relationships between buyers and sellers. It becomes one of partnership—a mutually beneficial feedback loop in which companies use customer insight to innovate, and customers become active participants in the business.

Insight resulting from analysis of data can be used to redefine product development and customer experiences. Investing in an array of capabilities that create deeper insights and promote smarter products and services can pay off in terms of faster and higher returns. Most electronics companies have already invested in some form of customer information and product lifecycle management. While investing in these individual capabilities can produce good returns, an end-to-end approach offers systemic benefits that will yield exponential returns. For example, the value of customer data can be greatly enhanced through investments in analytics that drive deeper insights. Tying these insights to product development can shorten time-to-market and produce offerings that are more aligned with customer needs.

To this end, a four-phase roadmap, with each phase building on the one before, can help improve an electronics company’s cumulative cash flow and innovation capabilities. At IBM, we call this the C.O.R.E model:7

- **Capture the data** (collect, integrate and standardize data to make it more useful)
- **Optimize insights** (apply analytics to the data to yield deep customer and operational insight)
- **Revamp development** (increase credibility in the marketplace through introduction of more intuitive and relevant products and services)
- **Enhance the experience** (extend the value of products through value-added services)

Capture the data
The first step is focused on gathering as much useful and relevant information as possible, whether it is from product usage, mining social media or tracking customer interactions with service personnel. All relevant sources of data should be tapped. Amazon.com is a great example of why robust data collection is important. Its intelligent recommendation engine, informed by public user feedback, uses buying and viewing histories to increase sales. The result has been a surge of demand for e-books, revolutionizing the way people shop for, purchase and read books.

Optimize Insights
In the second step, companies analyze the data they captured to spot hidden trends, predict outcomes and lend certainty to decision making. It is a critical capability, because it creates a basis for action—something that raw data alone cannot provide. Analytics can help reveal the most intelligent and profitable course of action based on answers hidden within the data. As an example, officials of a leading telecom company monitored social media, call records and other subscriber data in real time. They then analyzed the data to predict churn and move proactively to increase customer retention, resulting in a quick 10-percent return on investment.
Smarter Electronics
Point of view

Revamp development
Insights from analyzing data must be used to transform how products and services are created and managed. The ability to achieve rapid time-to-market with intuitive and, even more importantly, relevant offerings is a major factor in market credibility. Investments in revamping development focus on making the company more efficient by injecting automation and integration into the product development process. Enhanced collaboration is a key outcome of these investments, helping team members across different disciplines become more effective by sharing insights and information throughout the development chain.

Enhance the experience
Today’s consumers respond to direct, continuous and high-touch connections to trusted brands. Offering real-time, pervasive service execution, device and subscriber management are critical drivers for brand preference and customer loyalty. Adding new services does more than boost product sales; it also provides opportunities to interact, partner and gather information to enhance experiences. Electronics companies such as Ericsson (in network management) and Ricoh (in document management) are shifting their business models from products to services. Ericsson now offers managed services that help companies design, build and manage entire network infrastructures. Once mainly known as a copier and printer manufacturer, Ricoh now offers professional services to help companies manage document-intensive business processes.

Conclusion
The idea of creating experiences that matter lies at the heart of competitiveness in today’s electronics industry. It’s actually not a new concept. Decades ago, companies like Kodak and Polaroid understood that they were really in the business of creating memories, not just selling cameras and film. However, they were surpassed by other electronics companies that focused on delivering differentiated experiences. Today, the focus on the customer experience has grown to the point where it practically overshadows the products themselves. That context is essential when considering new ways to innovate and generate revenue. The key technology lever is to apply analytics to data, resulting in new insights to drive innovation.

Ultimately, however, the electronics industry will need leaders that accept the challenge to transform their companies and the industry at large. As an electronics company, IBM has not only helped to support such a transformation for other companies but has undergone the same transformation itself. Years ago, IBM remixed its portfolio toward services and software, investing in solutions that foster communications with clients. These shifts not only saved IBM from the grips of commoditization, they also positioned the company for the services economy of the 21st century. That same transformation is what’s required for other electronics companies today.

For more information
For more on how to build a smarter electronics industry, please visit http://www-935.ibm.com/services/us/gbs/industries/electronics/.