The Future of Applications in Consumer Goods
Three Strategies for Winning in the Digital Era
EXECUTIVE SUMMARY

Consumer goods companies are facing significant challenges as they move into the digital future. Although technologies, competition and consumer expectations are evolving at hyperspeed, business applications are slow and struggling to keep up. As companies become digital and software-driven businesses, three new strategies for application development are becoming increasingly important.

Driving growth

Consumer companies are feeling extraordinary pressure, with challenges coming from numerous directions. Historically, many companies have enjoyed rapid growth thanks to expansion opportunities, consolidation in emerging markets, and globalization of brands in the same categories.

Today, however, achieving incremental growth is challenging, with targets in the low to mid-single digits; some companies are actually reducing long-term sales targets. Cost productivity is also hard to find, with many companies making the leap to transformational programs like operating model transformation and zero-based budgeting.

Growth potential is at risk due to several factors: expansion in emerging markets is slowing; first-time consumers are proving difficult to reach in challenging markets; and competition is intensifying in developed markets.

Focusing on core brands is more important than ever, and companies are increasing investments in advertising and new product innovation. At the same time, M&A activity—as well as divestitures—continues at a rapid pace as companies build scale, enter new categories and scoop up leading brands; conversely, other companies are divesting brands or splitting up.
Pressure on application development: New digital imperatives

In this marketplace environment, several digital imperatives are emerging for consumer goods companies:

- **Scalable, resilient and efficient core.** Underpin core operations with an in-memory platform to support increased data volumes, and modularize the ERP to support the non-stop business. Centralize functions to maintain efficiency in parallel with expansion while leveraging a hybrid infrastructure.

- **Modular and flexible architecture.** Decouple front-end and supply chain capabilities to serve consumers. Create internal efficiencies while increasing customer satisfaction, with the agility to more quickly and cost-effectively adjust processes around consumer needs.

- **Networked and extended ecosystem.** Develop a system of interaction to enable partners, employees, customers and suppliers to interact more effectively with the business. Focus on core competencies and leverage out-tasking and crowdsourcing to increase competitiveness and decrease cost to serve.

- **Digital consumer engagement capabilities.** Reach, understand and engage with the consumer in new ways. Develop capabilities around consumer listening and targeting, while executing more effectively by managing channels and touch points.

- **Data-driven insights to action.** As the amount of data generated continues to proliferate and sources continue to increase, develop an architecture to monetize the asset. Embed analytics in the process, while also developing advanced prescriptive and predictive capabilities.

The road to these digital capabilities is a bumpy one for many consumer goods companies because of their application environment. Many companies are trying to compete in the world of social, mobile, analytics and cloud with applications that were designed for another era. Monolithic applications are often built from the ground up—slow to implement and slow to change.

To seize the digital opportunity, consumer goods companies need to fundamentally rethink how applications should be built and deployed.

Three strategies are especially important:

**LIQUID**
Developing applications that are more modular or component based and API driven, enabling quick composition of functional applications.

**INTELLIGENT**
Embedding software intelligence in applications to manage growing volume, velocity and complexity, and to maximize the business value of internal and external data—including that from the physical world.

**CONNECTED**
Creating applications capable of connecting with other applications both inside and outside the enterprise boundary of the CPG company.
To compete with agility and speed, companies can no longer focus only on complex, lengthy and expensive coding of applications, or monolithic systems built from the ground up. What’s needed is a new way to build software—one that is faster, flexible and more “liquid.”

Modular architectures

Liquid applications require enterprises to create application architectures that are modular, featuring reusable components sourced internally or externally. One of the key components is emerging software platforms, including platforms as a service, which provide well-defined technical architectures along with standards, governance and reusable code. Platforms facilitate more rapid creation and assembly of liquid business solutions, as applications are increasingly assembled from prebuilt components.

With a platform approach, companies can engage consumers while also opening their platform to other innovators. For example, Samsung’s Placedge is a scalable platform that provides users with dynamic, location-based information and enables partners to create targeted and dynamic marketing campaigns. The mobile marketing platform connects consumers with the places around them. Users can experience rich, dynamic content related to their location, and retailers can engage their customers with interactive, mobile campaigns to deliver the right content at the exact location and time of decision.

McCormick, the flavors company, launched a platform called “FlavorPrint.” It’s a “Netflix-like” program where consumers enter information about their taste preferences. The application then generates the individual’s “flavor print” (similar to a fingerprint, only about taste). The application then suggests recipes that fit the person’s preferences.

Another example of the power of platforms comes from a global consumer goods and services company. The company is in the process of implementing a multichannel commerce solution based on SAP® applications. The new single, streamlined, interactive platform will help the company offer a seamless, more personalized and complete customer experience and allow the company to benefit from agile, flexible, streamlined and consistent technology and processes to support local market needs.

Next-generation integration techniques

Liquid applications must be underpinned by a liquid architecture that has important, new characteristics. Investment in flexible, standardized, open integration services provides the ability to efficiently connect applications and information across the company. Orchestration and business process management services allow applications to be configured and continuously tuned to meet the needs of the business. And APIs provide the glue to enable reusable components to be accessed from within a company as well as by external customers and business partners.

In some cases, SaaS solutions provide the platforms that deliver liquidity in the application environment. For example, a large multinational food and beverage company was facing challenges in engaging with its consumers across multiple channels and geographies. Fragmented systems made it difficult to handle customer queries because it was impossible to obtain a 360-degree view of all a customer’s touch points. This systems environment was having a negative effect on brand loyalty; indeed, a negative campaign had emerged on one major social media channel.

The company went through a large-scale digital transformation and selected Salesforce.com as its technology platform. Accenture partnered with the company on this journey, helping to create a unified customer engagement platform leveraging Service Cloud. The system has now been rolled out across more than three dozen markets. Multiple contact points across channels—rather than only the call center—are now digitally enabled. The solution also integrates Salesforce.com Marketing Cloud (Radian 6/Buddy Media) with Service Cloud for social listening. This enables agents/marketing teams to react to consumer posts in social platforms and immediately take corrective steps if necessary.
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To manage growing volume, velocity and complexity, and to maximize the business value of internal and external data, companies need to embed software intelligence everywhere. Software intelligence is made possible by increased processing power, advances in data science, and innovations in natural language processing, machine learning and cognitive computing. Thanks to these advancements, software can be taught to automate decision making through rule-based algorithms, and evolve and innovate on its own through advanced learning techniques.

By automating routine tasks, intelligent applications offload complexity and supplement human effort through technologies such as auto-correction and robotics. Intelligent automation improves productivity by doing more work in a fraction of the time with more accuracy.

Intelligent applications offer three critical capabilities—intelligent automation, integrated analytics and self-governance.

Integrated analytics create systems that can analyze and comprehend independently, embedding intelligence in the processes themselves and radically improving both business and IT performance. Netflix, for example, is able to understand what customers are watching and when they are starting and stopping programs, and then use predictive analytics to optimize content recommendations based on usage.

Beyond that, intelligent applications can be taught to act as digital agents and to learn and govern themselves autonomously—revolutionizing customer service, IT management and business innovation. As software intelligence grows in sophistication, most applications will learn to evolve and adapt, altering their behavior and extending their capabilities based on experience.

Consider the Nest thermostat that learns a homeowner’s habits and preferences to eventually program itself. Or Luna, which has developed a mattress cover that turns a regular bed into a smart bed. This auto-learning product can intelligently manage the temperature of the bed, track a person’s sleep habits, and integrate with a smart home.

Another innovation comes from SKE Labs which has developed the NEO Smart Jar, a smart container that helps people better understand what’s in their pantries. Using Bluetooth technology and responsive sensors, the jar tracks the weight and nutritional content of food being stored, and knows just how long ingredients will last before going bad. NEO lets customers know about supplies, and even provides recipe suggestions based on all ingredients stored within the NEO system. If a customer needs to replenish something, NEO helps stock shelves via online shopping.

These kinds of advances will help businesses adapt quickly to specific customer needs and preferences and help IT adapt to dynamic business needs, by applying intelligence to data feeds from both the physical and digital worlds.

Intelligent Applications
Case study: P&G

P&G’s Business Sphere analytics-based environment allows the company to harmonize data quickly, operationalize analytics and reinforce an analytics mindset so that the company reacts to insights faster and “speeds the pace of business.” Business Sphere combines an immersive, data visualization environment with an integrated dynamic technical architecture and facilitated discussion frameworks. According to former CEO Bob MacDonald, it is a key component of P&G’s effort to “move business intelligence from the periphery of operations to the center of how business gets done.”
To manage growing volume, velocity and complexity, and to maximize the business value of internal and external data, companies need to embed software intelligence everywhere.
Connectivity in the age of the software-driven business is about more than application integration. It’s about creating new competitive frontiers using software. To grow revenue and defend their market position, businesses must open new dimensions of application connectivity—with business partner and customer ecosystems, as well as with the rapidly growing Internet of Things—that are essential to delivering new services.

Connected applications are required to dynamically interface with business partner and customer ecosystems in today’s highly networked, digital business environment. When properly designed and managed, an ecosystem multiplies the power of all the participants, leading to combinations of functionality—and revenue opportunities—that would previously have been difficult to achieve.

Enterprises need multiphase strategies to build and nurture an ecosystem. Start—and learn—with your internal developers and business functions, and then create a broader ecosystem that includes external entities such as business partners and customers. Drugstore company Walgreens has developed a health ecosystem around its Prescription Refill API that companies like CloudMetRx use to offer mobile refill capabilities within their solutions. As a result of its health ecosystem strategy, Walgreens now refills a prescription every second on average.1 Software-driven businesses will need new skills and approaches in ecosystem management—not only in the leadership ranks but also deeper into the organization. Both business and IT staff should be thinking about with which partners the company wants to work.

Innovative connected applications are arising to take advantage of the Internet of Things. Companies are using these connections to offer new services, reshape experiences, and enter new markets by creating digital ecosystems. Home Depot, for example, is looking to shape the way people live through an emerging connected home market. The company is working with manufacturers to ensure all of the connected home products it sells are compatible with the Wink connected home system. In doing so, Home Depot is creating its own connected home ecosystem, with a wide range of services that are easy to install.

Tapping into a broader ecosystem can drive innovation and competitive advantage. Consider “Amazon Dash,” a push-button device linked to smartphones that enables consumers to more easily order products from consumer goods companies like Procter & Gamble, Clorox, Kraft and Kimberly-Clark. Orders are then delivered to the person’s home within a few days. Applications that effectively connect systems between Amazon and consumer goods companies are essential to the success of Dash. Over time, Amazon intends to enhance Dash with intelligence—in the form of predictive analytics—so that consumers do not even need to order for themselves but will be sent new products at intervals based on usage patterns.

Connected applications can also help to create a more satisfying consumer experience. For instance, Coca-Cola Amatil increased sales by 12 percent after retrofitting vending machines with touchscreens, video cameras, and Microsoft Kinect technology to create a fresh, personalized vending experience. But driving sales is only one way to benefit from this new access to the consumer: the data created by these connected vending machines is enabling the Southeast Asian beverage company to make better decisions about cooler placement, restocking, and more.

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CONCLUSION

Taking the lead

Today, the business of applications is changing how companies operate and grow. No longer a supporting capability, applications are a driver of strategy and competitive differentiation. They can enable entirely new services for new markets. The future of applications is an exciting one for companies that are willing to develop a new operating model for software development and then fundamentally change the way they build software.

Liquid applications will become increasingly essential to consumer goods companies as every consumer becomes a digital consumer in every market, and as personalized experiences—not just personalized products—need to be delivered across channels. Monolithic applications that are slow to change will no longer be able to meet companies’ needs, especially in a volatile environment with new competitors and new business models.

A new generation of intelligent applications is also necessary as consumer goods companies move from a mindset where business intelligence is a reporting factory for events in the past, to a mindset and capability of turning predictive insights into action. With intelligent applications, analytics becomes embedded in the process. As the amount of data generated by a consumer goods company continues to proliferate and sources increase, it is vital to develop an intelligent architecture to monetize the asset.

Finally, connected applications will become increasingly essential because the need to grow at speed in new markets requires the ability to effectively leverage a partner ecosystem. Creating connected applications also necessitates the creation of entirely new methods for managing the Internet of Things.

Both IT and business leaders must understand what it means to be a software-driven business. They need to understand how software can spur growth, shape new markets and reach new customers. And, they must work together closely to orchestrate new business solutions.

NOTE

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