Adobe Gets Personal With Customers

With in-memory computing and predictive analytics tools, the high-tech company is anticipating customer needs and developing more personalized programs.

BY JOE MULLICH

Throughout high-tech, long-time business models are falling by the wayside as products become digitized, customer demands rise and the need for speed increases. Few companies know this better than Adobe Systems, best known for its desktop publishing and graphics editing programs Acrobat and Photoshop, as well as a wide array of products made for creative and marketing professionals.

Adobe Systems at a Glance

▶ **Founded:** 1982

▶ **Corporate headquarters:** San Jose, Calif.

▶ **Revenue:** $4.06 billion, fiscal 2013

▶ **Employees:** More than 11,000 worldwide

▶ **Products:** Software for creative and marketing professionals

www.adobe.com

Source: Adobe Systems

Over the past few years, Adobe's business model has fundamentally changed. Instead of selling boxed software, its business is now driven by cloud-based subscriptions. And instead of products being released every 18 months, new offerings and upgrades are a constant. The company's customer interactions—once periodic and performed through resellers or partners—are now continuous and occur across multiple channels, including social media, display ads, e-mail, the call center, direct sales and the Web (see Figure 1, "Changes to Adobe's Business Model").

These shifts have transformed the types of customer, product and sales data to which Adobe has access. Whereas customer information used to be limited to name, address and billing information, Adobe now collects data on how customers use its products, and in what context. Used correctly, such data can lead to a better understanding of customer behavior and even future needs.

The problem was, while each of its engagement channels provided customer insights, the views were fractured and channel-specific. Adobe needed to gain a more holistic view of customers, as well as real-time insights into their behavior to deliver a highly personalized, engaging experience. It had also become essential for the company to quickly obtain up-to-the-moment business performance information so that workers could quickly find

FIGURE 1 **Changes to Adobe's Business Model**

The company's business model has fundamentally changed.

	Past	**Present**
Offerings	Sold by the box	Sold by the subscription
Distribution	Sold through partners	Sold directly
Product releases	18-month cycles	Continuously updated
Customer interactions	Periodic	Ongoing relationship

Source: Adobe Systems

the exact data they needed rather than sorting through data dumps. To accomplish both of these goals, Adobe needed to enable cross-functional collaboration, integrate silos of data, deliver one version of performance metrics, react to customer signals in milliseconds and enable data-driven action.

According to Prasad Bhandarkar, director of Adobe Information Services, these goals were accomplished by leveraging in-memory computing,[1] which rapidly aggregates and analyzes vast amounts of numerous types of data. The use of in-memory computing and analytics tools is the centerpiece of the company's vision of "revolutionizing the way Adobe engages with information," Bhandarkar said.

1. Prasad Bhandarkar spoke at a recent Webinar.

A Fractured Data Environment

Adobe's Photoshop software is currently installed on 600 million desktops, and 90 percent of the world's creators use the graphics program. The company also offers Creative Cloud, which enables access to Adobe applications, and Adobe Marketing Cloud, which provides analytics and other marketing tools.

Adobe faced many of the issues common to technology businesses grappling with this new age of producing and marketing software. Although the company could see how a customer responded to a specific marketing initiative, for instance, it could not easily combine that information with that customer's e-mail messages and social media sentiment. A recent study found that most marketers do not have a holistic view across channels (see Figure 2, "Channel Quagmire").

Further, performance reports were often inaccurate and inconsistent. Analytics was highly fragmented across the company, with different groups producing different numbers. And because executives relied on IT to query data, they had to wait for results. The time delay was increasingly unacceptable for an Internet-based business in which second-by-second customer activity can influence marketing and sales efforts.
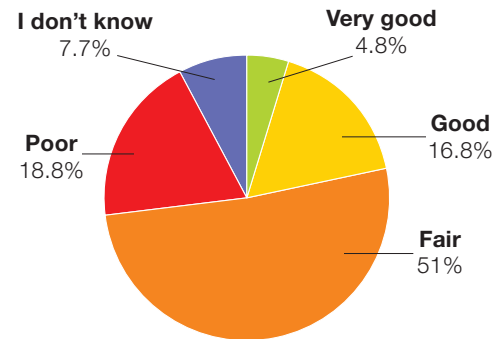
Developing a Dashboard

A key piece of Adobe's data strategy is Adobe Dash, a business intelligence platform that connects data across multiple sources in real time. Because traditional databases cannot aggregate data on the fly, the company turned to in-memory computing. Adobe had used in-memory computing in the past to analyze large data sets to stem software piracy,[3] and the effort had quickly uncovered enough information about software misuse to suggest that the technology offered significant revenue opportunities. Adobe Dash offers several benefits:

- **Trust.** Business performance KPIs are now timely, accurate and undisputed. With a single set of KPIs, Adobe can now work from a single version of the truth.
- **Speed.** Business leaders now have direct

Adobe's Business Challenges

▸ Transforming into a cloud business

▸ Using real-time data to tailor personalized customer experiences

▸ Creating company-wide performance KPIs and holistic customer views

▸ Enabling consistent messaging across numerous marketing channels

▸ Aggregating structured and unstructured data from multiple sources

2. The CMO Club and Visual IQ. "Building Bridges to the Promised Land: Big Data, Attribution & Omni-Channel—A CMO Perspective." 2014 http://goo.gl/DaItYQ
3. SAP. "Adobe: HANA Customer Testimonial Video." http://goo.gl/LD5Yxx
4. Stodder, David. "Data Visualization and Discovery for Better Business Decisions." TDWI Research, 2013. http://goo.gl/xBYyLi

FIGURE 2 Channel Quagmire

Respondents were asked, "How would you rate your ability to quantify the impact of one channel's performance on another (e.g., online display advertising's impact on search marketing)?"

I don't know 7.7%
Very good 4.8%
Poor 18.8%
Good 16.8%
Fair 51%

*Total does not equal 100% due to rounding
Source: The CMO Club[2]

and dynamic access to data. Real-time data acquisition puts instant decision-making at the fingertips of people throughout the organization.

- **Versatility.** The platform enables employees to visualize data using a wide variety of charts and graphs, so they can make connections in the data more easily and share their insights readily throughout the enterprise.

To ensure that the dashboard optimizes decision-making, the team drew inspiration for its visualization techniques from the Louvre in Paris. "There is art and poetry to make this work," Bhandarkar said. Users now get answers and insights rather than tables and numbers, enabling them to discover something new about the business every time they use the system.

Presenting data effectively is a key component of real-time analytics. In a 2013 study by TDWI Research, respondents named several business benefits of data visualization technologies, including improved operational efficiency (77 percent), faster response to business change (62 percent) and the ability to identify new business opportunities (59 percent).[4]

New Business Insights

With the ability to quickly aggregate information from all channels via in-memory computing, Adobe

FIGURE 3 — Preference for Personalization

Consumers increasingly expect personalized interactions.

(Percent of respondents)

Would trust businesses more if they explained how they are using personal information to improve their online experience

77%

Get frustrated with Web sites that display content, offers, ads, promotions, etc., that have nothing to do with their interests

74%

Are OK with providing personal information on a Web site as long as it is for their benefit and being used in responsible ways

57%

Source: Janrain/Harris Interactive, 2013

Adobe's IT Solutions

▶ Fully integrated and real-time customer profiles across channels

▶ Easy-to-use dashboard with a variety of visualization tools

▶ In-memory computing for instantaneous data aggregation and analysis

can now provide more personalized customer interactions and a consistent experience across channels. For instance, when customers click on e-mails or display ads, the company can create an identity composite for them, and tailor the message based on that information, as opposed to providing them with generic messaging. Such personalization aligns with customer preferences; in a recent study, consumers said they prized personalized marketing that catered to their interests (see Figure 3, "Preference for Personalization").

On the business performance side, when Adobe employees have questions about order management and booking, they can slice and dice data in many ways—such as by financial quarter or certain geographies—and receive an answer in three seconds. "That capability never existed before," Bhandarkar said. "As our business changed to a subscription model, it's become even more important for us to know on a day-to-day basis what customers are doing inside the product." With Adobe's in-memory system, an order that was booked five seconds before shows up in the aggregated numbers.

Additionally, Adobe can quickly analyze customer acquisition and usage patterns to optimize

promotions. In the past, it was necessary to wait 24 hours to ascertain a promotion's impact. With in-memory computing, that data is available within minutes, enabling Adobe to tweak the promotion immediately to improve results. Knowing what is happening with promotions within a 15-minute window is far more powerful than having a one-day delay, and the agility for executive decision-making is game changing, according to the company.

The best forward-looking measure for any cloud business is how actively customers are using the product. For example, if a customer's usage of the Marketing Cloud or Creative Cloud starts to decrease a few months before the annual subscription ends, that is a clear warning sign, and the sooner that Adobe can see this trend happening and respond to it, the better chance it has of retaining customers.

Adobe executives can easily see everything in the digital pipeline, including top customer issues, and for further information, they can drill-down on the fly. The company plans to enable this capability on mobile devices in the future, as well. In fiscal 2013, Adobe saw an uptick for its efforts. Creative Cloud subscriptions grew by 1.1 million, and subscriptions to Document Services doubled to more than 1.6 million. Adobe Marketing Cloud achieved a record $1.02 billion in annual revenue, representing 26 percent year-over-year growth.

Using in-memory computing, data visualization and advanced analytics, Adobe is able to fully operate as a cloud-based company. It can see a complete and updated view of customers across channels, personalize customer interactions and make profitable business decisions based on in-the-moment data. By leveraging real-time big data analytics, high-tech companies such as Adobe are laying the foundation needed to compete today and in the future. ●

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RESEARCH SERVICES

High-tech companies need a modern and agile business platform that supports rapid innovation and provides a new set of capabilities to implement new business models and product introductions.

Unleashing the Innovation Potential of High-Tech Companies

High-tech companies across the globe face many challenges as new competitors emerge and customer expectations rise. With rapid changes in technology and the market, it is very difficult for these companies to stay ahead of the curve and grow. The mandate today is to innovate quickly, operate in real time and bring relevant offerings to the market faster than ever before. Reza Soudagar, senior director, database and technology for industries at SAP, and Dirk Wenzel, head of high-tech marketing at SAP, discuss the transformation that high-tech companies must make to respond to these critical changes.

Q: What is the most important challenge for SAP's high-tech customers today?
High-tech companies are pressured to bring more innovations to the market faster and meet ever-changing customer demands—and this is across the board, from chip designers to hardware manufacturers to software companies. This adds a tremendous amount of complexity to their businesses, which means they need to stay much closer to their customers and make sure they deliver the right innovations at the right time. At the same time, high-tech companies need full visibility and control across their business functions in real time. In short, they have to transform into lean and effective "innovation" machines.

Q: Which emerging technologies can play a role in this transformation?
High-tech companies need a modern and agile business platform that supports rapid innovation and provides a new set of capabilities to implement new business models and product introductions. For instance, we see a strong trend to evolve from selling widgets to selling end-to-end solutions and, in some cases, delivering these on a subscription-based model or through the cloud. Many companies' current business applications make this a very complex or even impossible task.

We believe that the SAP HANA Platform is the perfect foundation for high-tech companies, as it enables them to immediately modernize their SAP Business Suite while taking advantage of some of the most innovative applications that SAP has purpose-built for these firms. Furthermore, with the power of in-memory computing and the SAP HANA Platform, they can get real-time insight into their business and truly unlock the value of their "big data."

Q: Why is this technology critical for success?
Today, we are digitally connected, socially networked and better informed. Customers live their lives "in the moment," updating their relationship status, interacting with their friends and sharing their likes, dislikes and opinions in real time, through the power of their mobile devices. They are literally changing the rules of engagement and, through that, becoming more empowered. It's easy to think about this only in a business-to-consumer context, but these experiences are setting expectations for how business-to-business commerce works, as well. And when we add the aspect of machine-to-machine communications into the mix, the result is an enormous amount of information. When companies unlock the value of this information—as Adobe is doing—they can truly transform their business.

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