FROM THE EDITORS OF



KEYS TO SUCCESS IN B2B E-COMMERCE

+ How pharmaceutical companies are tackling B2B e-commerce









INTRODUCTION

It's no secret that consumers shop online in big numbers. What's not so well known is that when corporate procurement agents go back to work on Monday morning they increasingly continue to shop online for the materials, products and services their companies need. Forrester Research estimates U.S. business-to-business e-commerce sales will hit \$855 billion in 2016—more than double the likely business-to-consumer online volume of around \$400 billion—and exceed \$1 trillion by 2019. Global projections are even more impressive: Frost & Sullivan projects worldwide B2B e-commerce sales will hit \$6.1 trillion by 2020.

That's creating big opportunities—and challenges—for the manufacturers, distributors, wholesalers and retailers that sell to businesses and large enterprise customers. B2B e-commerce is more complex than its B2C cousin. Products must meet rigid specifications, there are often negotiated prices, many companies sell highly regulated products, and purchasing organizations often want procurement data to flow seamlessly into their approval workflows and accounting systems.

At the same time, B2B e-commerce executives are learning from consumer-facing e-commerce. They're building in many features common on leading e-retail sites, such as personalized recommendations, videos, 360-degree product views, free-shipping offers, up-selling and cross-selling suggestions and areas of the site devoted to deals.

The pharmaceutical industry is among the most heavily regulated, and these companies' e-commerce sites must take added steps to make sure only authorized buyers are making purchases, as well as to protect proprietary customer information. They also must provide lots of content about complex products, which can cause web pages to load slowly if the proper performance technology is not deployed. The final section of this report will describe how several pharmaceutical companies are navigating these challenges.





The main body of this report will address how companies are using technology to address the challenges of B2B e-commerce. It is based on a summer 2016 survey of 107 B2B e-commerce executives and follow-up interviews by the editors of *B2BecNews* with more than a dozen executives with responsibility for B2B e-commerce websites.

\$1 TRILLION PROJECTED 2019 U.S. B2B E-COMMERCE VOLUME.



What we found is that success in B2B e-commerce depends in large measure on providing buyers with the detailed information they need to make purchasing decisions. That can take many forms, including videos, technical data, images, case studies and product configurators. Companies that provide such contentrich sites also must ensure that they are easy to navigate and use, that they load quickly despite the large amount of data required to display video and imagery, and that they remain secure. The last point is particularly important given that B2B e-commerce sites often display proprietary product and pricing data that must be kept from the prying eyes of competitors.



Success in B2B e-commerce depends on providing the detailed information buyers need to make purchasing decisions.

WHY THEY SELL ONLINE

Companies are investing in B2B e-commerce—69% of survey respondents expect more spending on e-commerce technology in the next three years while only 4% project less investment. In large part that's because they know their customers want to research and buy online. In a 2015 survey conducted by Forrester and *Internet Retailer*, 59% of business buyers said they'd prefer to research online without relying on a sales representative.

In addition, our survey shows many companies see their e-commerce sites as a way to increase sales, especially from new customers. Reaching potential customers researching their products was the top answer when survey respondents were asked about the value of e-commerce to their companies, scoring 3.98 on a 5-point scale.



The second-highest score, 3.73, went to "providing 24/7 convenience for customers who can't reach us during business hours," which is especially important for companies selling internationally.



Reaching new customers is the main benefit of e-commerce, survey respondents say.

Manufacturers, wholesalers, distributors and retailers also are turning to e-commerce because purchases made via self-service websites are less expensive than those made through sales representatives or other traditional sales channels. The No. 3 answer was moving customers away from buying through more expensive channels, such as by calling sales reps. That's part of the motivation for investing in e-commerce for Tech Data Corp., a distributor of computer hardware, software and related services. With a typical 3-4% profit margin on a \$45 toner cartridge "it's not worth picking up the phone to take that order," says David Spindler, director of e-business. Through a self-service channel like e-commerce, even sales of low-margin products become profitable.

OF BUSINESS BUYERS PREFER TO DO THEIR OWN RESEARCH ONLINE, WITHOUT THE HELP OF A SELLER'S SALES REP.



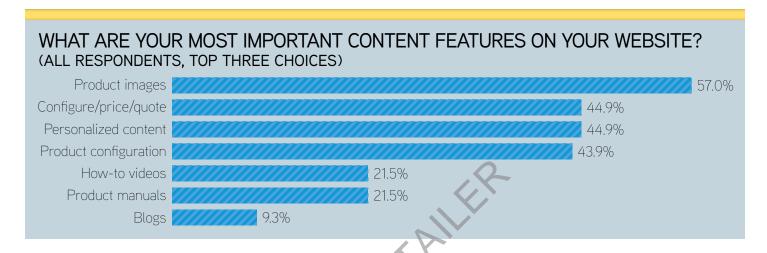
TECHNOLOGY PRIORITIES: THE KEY ROLE OF CONTENT

Information is far more important on most B2B sites than on B2C sites. While consumers typically buy discretionary items online and often choose based on taste, companies must buy items that will work in their business. That means finding the right part for a broken machine or products that meet rigid specifications or that comply with government regulations.

It is therefore essential that B2B sellers provide detailed, accurate and up-to-date content. And B2B sellers recognize that: In our survey, 92.6% of respondents called online content important, including 26.2% who deemed it "very important."



What kind of content is most important? Product images easily took the top spot, followed by personalized content and configure/price/quote functionality that allows a customer to specify exactly what is needed and get a price quote.



When considering the weight given to personalized content, this often means displaying products a logged-in customer is authorized to buy and the prices his company has negotiated. And personalization gets even more complex when a company sells a wide array of products internationally. For example, U.K.-based electronics distributor Premier Farnell operates 46 e-commerce sites around the world, selling 4 million SKUs. For each website, it tailors content not only based on language but also on what products can legally be sold in the customer's country, the device the customer is using, negotiated prices and other preferences he has selected.

COMPANY SPOTLIGHT | PREMIER FARNELL

ADDRESSING COMPLEXITY WITH TECHNOLOGY

Every day Premier Farnell's 46 e-commerce sites around the world register a total of 13 million page views, while the electronics distributor updates its online inventory 1.2 million times. When the company moved to a new e-commerce platform in 2015, its biggest challenge was to ensure that each customer was seeing the content best suited to his needs, says Chris Angus, head of e-commerce domain architecture.

Presenting content in the right language is a big task in itself, but Premier Farnell takes many other factors into account when determining the right



material to display. Is the visitor on a smartphone or a desktop? Has he logged into an account that includes preferences for what he sees and negotiated pricing? Must the information be tailored to local laws or customs?

"You end up with about 5,000 different combinations, and that would lead to massive amounts of duplicated content," Angus says.

The solution Premier Farnell came up with is to provide descriptions for each piece of content in the form of meta-data. For example, staffers describe a particular log-in page as suitable for a German visitor because it conforms to local laws, while another version would be served to a visitor from South Korea.

The e-commerce platform recognizes the customer context—such as the device he's on, preferred language, country and whether he's logged on—and based on the meta-data chooses the right version of a piece of content to display. "By combining content with context we have been able to support multiple devices, countries and languages and different elements that make content vary over 46 global websites without having to replicate that process 46 times." Angus says.

Premier Farnell, best known in North America as Newark element 14, also took another step to optimize site performance. It assigns different applications "control of the glass" (what the customer sees on a website) on different pages. Heavily transactional pages are controlled by the e-commerce software, but pages with lots of content or that vary based on user behavior are controlled by the content management system.

While moving to a new e-commerce platform in 2015, Premier Farnell also made a change that lets it show Google and other search engines more data about each product, says Matt Clark, an e-commerce veteran at such technology direct-marketing companies as Dell Inc. and PCM Inc. who is now Premier Farnell's head of global e-commerce and digital marketing.

The old system limited each product identifier to 40 characters—often not enough for a search engine crawler to decide if the product was a good match for what a buyer might be searching for, Clark says. The new system allows for descriptions of up to 100 characters, making it more likely search engines will accurately identify each item and display Premier Farnell's products more prominently in internet searches.



Newark.com is one of 46 e-commerce sites operated by Premier Farnell. The distributor's e-commerce platform allows for one change to apply across all sites, and tailors content based on the customer's device, language, country, and log-in status.



THE ROAD TO RICH CONTENT

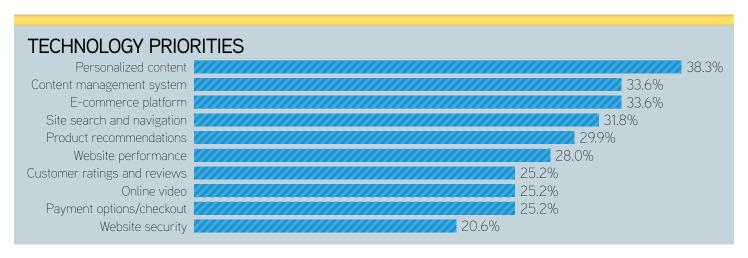
In addition to personalization, a new e-commerce technology platform and content management system tied for the second spot at 33.6% of respondents indicating these as priorities. That points to the importance of overall e-commerce functionality and being able to store and update many forms of content for display on the website. Increasingly, executives are upgrading their systems via the software-as-a-service (SaaS) route, leasing software that vendors host. 51% of executives at large companies surveyed by Forrester in late 2015 favored SaaS for commerce technology, citing speed of deployment, lower cost and ease of maintenance.

PERCENTAGE OF COMPANIES THAT CONSIDER PERSONALIZED CONTENT AMONG THE MOST IMPORTANT FEATURES OF THEIR B2B SITES.



Arrow Electronics is an example of a distributor that has built rich content and functionality into its website in recent years, aiming particularly to win the loyalty of engineers designing prototypes of new products—figuring they will come back to buy when products go into full-scale production.

Arrow offers a live video feature on Arrow.com so that 300 of its engineers, each with a specialty, can work with client engineers seeking help. The Arrow engineer can show product photos and datasheets, even take over his partner's computer to manipulate a design, and the two can work together to create a bill of materials that describes what's needed to create the product. That can be saved to the client's account—and called up to create a purchase order when the client company decides to put the product into production.





Also high on the list of priorities in our survey was site search and navigation, cited by 31.8% of respondents. Making it easy for a customer to search becomes more difficult when a company offers lots of products. Arrow, for example, stocks 700,000 products, but that translates into 7 million SKUs available on Arrow.com as many electronic components can be programmed or bundled in various ways.

COMPANY SPOTLIGHT | ARROW ELECTRONICS

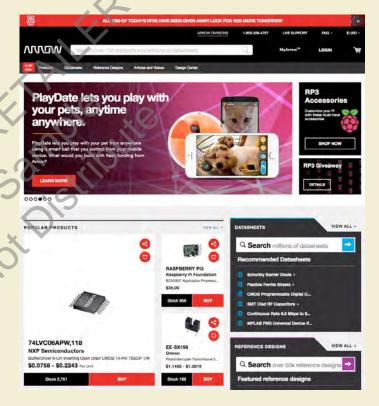
CUSTOMIZED CONTEXTUAL COMMERCE: HOW ARROW TARGETS B2B CUSTOMERS

B2B e-commerce is a lot more complicated than B2C, says Matt Anderson, chief digital officer at Arrow Electronics a distributor that booked \$23.3 billion in total sales in 2015. Anderson, who gained experience in retail e-commerce as a consultant for apparel retailer Gilt Groupe, says B2B presents several challenges that retailers don't face online. Among them are complex product catalogs and obstacles to targeting customized content effectively to online business customers.

Like many distributors selling online, Arrow manages a vast catalog, as Arrow.com offers 700,000 SKUs. But in Arrow's case it's not just the number of products, it's also the fact that they can be configured in multiple ways, bringing the total number of options to 7 million. For example, a customer may buy an off-the-shelf microprocessor and want it programmed, or may want a connector

tailored for a particular airplane. "Sometimes we do value-added products that aren't made until they're ordered," Anderson says.

The e-commerce technology must be able to configure products and ensure they can be built, insert customer-specific pricing that may vary depending on how the order is placed and the quantity, allow for added services and keep track of available inventory. That's a tall order, and an illustration of the kind of technology challenge facing large distributors with big catalogs as they move into e-commerce.



Many of Arrow Electronics'
700,000 SKUs can be
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available inventory.



But even more complex is personalization, because complex B2B projects may involve many individuals at a client company.

Arrow's focus since moving into e-commerce has been on the engineers who design new products, Anderson says. The idea, he says, is that if you help the engineer design a successful prototype, he will be inclined to come back to you for components when the product goes into production.

But getting the business when the customer's company launches full-scale production presents challenges that retailers don't face. For example, an Arrow engineer may work with a client to develop a prototype, but then that design may go to contract manufacturers in several regions that redesign it to fit their production capacities, then send it back to the customer for procuring the materials needed for large-scale production.

Ideally, Anderson says, Arrow's e-commerce technology would be able to follow the project as it moves beyond the individual engineer who worked on the prototype to procurement agents. "You have so many actors involved in a complicated B2B transaction that the buying decision may have moved to another desk," he says. "We're trying to bring together engineering and procurement," Anderson says. That, he says, is still a work in progress.

CONTINUING EDUCATION

Even smaller catalogs present challenges when the products are complex and highly specialized. For example, National Instruments, a manufacturer of test equipment, only offers 4,000 of its 58,000 products online, but many products are available in various models and software in several versions.



Recognizing new customers were struggling to find products, a manufacturer created a separate section of its site for those doing research.

After user testing showed many new customers struggled to find what they wanted, National Instruments redesigned its website in 2016 to create a separate "Innovation" path designed for those seeking to learn about its products. That section of the site is loaded with educational material, including case studies, implementation photos and videos.



The rich content that many B2B sites offer can slow down website load speed, as videos and photos require transmitting far more data than does text. What's more, B2B sites often have to make repeated calls to host servers as a customer configures a product, getting his company's negotiated price, checking that the item is on the company's approved product list and accessing related products to recommend. All that can slow down the site's page-load speed and cause frustrated visitors to leave. This is a problem that global content delivery networks and website accelerators can address by caching content on local servers and then delivering it quickly when anyone within the server's region requests it. That prevents the round-trip to the site's host web server than can slow down page load times.

There's more than avoiding customer frustration at stake: Slow-loading pages can make it less likely new customers find a B2B e-commerce site. That's because Google takes page load time into account in ranking websites, so a slow site can reduce a company's visibility in Google search results.

Little wonder that among the top technology spending priorities for the year ahead is website performance, cited by 28.0% of respondents.

MOBILE TECHNOLOGY

Mobile likely is not the highest priority in the business world, as most procurement agents are sitting in front of PCs on their desks when placing orders. In our survey, 32.7% of respondents said less than 10% of their website traffic comes from mobile devices and only 6.5% said more than 40% of their traffic is mobile

PERCENTAGE OF B2B COMPANIES SURVEYED THAT TAKE ORDERS THROUGH A MOBILE WEBSITE OR APP.



But not all business buyers are sitting behind desks, and some forward-thinking B2B companies are differentiating themselves from competitors by catering to customers on the move. For example, W.W. Grainger Inc., a distributor of industrial supplies, has sophisticated mobile apps designed to make it easy for customers to buy from construction sites or the factory floor. For example, a Grainger customer in one of many buildings in a factory complex can use a mobile app that identifies via GPS the building he's in and automatically brings up a list of products he might need to order for that location.



It's one of many examples of mobile initiatives at Grainger, which has recruited e-commerce executives from such consumer-oriented retailers as Williams-Sonoma and auto parts merchant JC Whitney. Another mobile feature allows a customer to maintain separate buying lists for various facilities, select items from different lists and check out through a single shopping cart. That's similar to the initiatives by retailers like Gap and 1-800-Flowers that operate several brands and allow a shopper to put items from several websites into a single shopping cart and complete the purchase with a single checkout.



'Because we're using a third party to help, we don't have to keep track of the advances in different models coming out.'

The location-based lists complement other user-friendly search features Grainger has developed. If a motor fails on a manufacturing customer's assembly line, for instance, a buyer could use Grainger's MotorMatch product guide on a desktop or mobile device to search in multiple ways—such as by model or item number, type of industrial use, voltage or horsepower—to find the right replacement motor.

Some Grainger features address problems that could confront a do-it-yourselfer consumer as well as a business customer. For example, if someone is trying to identify the replacement part he needs to make a repair, he can use his phone to photograph the part and send it to Grainger. A Grainger specialist will identify the part and send back a link to the product page where the customer can buy the item.

Grainger is far from the only B2B company upgrading its mobile services. Building supplies distributor Ferguson Enterprises offers a mobile site with all the features of its desktop site, including being able to request quotes and locate products in store aisles. It also offers an app that lets contractors scan the bar code of items in their warehouse or truck to quickly create purchase orders they can upload to Ferguson.com.

As companies selling to businesses increasingly engage with mobile customers, they encounter new technology challenges and seek vendors able to help. For example, distributor Premier Farnell, which uses a content delivery network (CDN) primarily to keep its 46 global e-commerce sites loading quickly, appreciates that the CDN also can recognize the device a website visitor is



using—including the model of smartphone and tablet—and send that customer a version of the website suited for that specific device.

"Because we're using a third party to help with that determination we don't have to keep track of the advances in different models coming out," says e-commerce chief Chris Angus. He views that as a significant benefit.

SECURITY CONCERNS

The companies surveyed put a high priority on both website performance and site security, particularly given the proprietary pricing and product information their sites often contain. Among all respondents, the No. 1 priority was making sure the website is always available followed by pages loading quickly. The next highest priority was security—including warding off distributed denial of service (DDoS) attacks that can slow a website and prevent legitimate customers from accessing it.



There's cause for concern. In its most recent *State of the Internet/Security* report, Akamai reported an increase of more than 125% in DDoS attacks in the first quarter of 2016, compared with a year earlier, and a 137.5% increase in high-volume attacks, those that exceeded 100 gigabits per second. An attack that blocks access to a B2B e-commerce site can become costly quickly, as B2B orders often are for large amounts of money.

The extent of the threat became clear in October 2016 when criminals marshaled millions of internet-connected devices to effectively shut down



a major provider of the DNS-routing service that lets internet users reach the websites they seek. That slowed or shut down many websites and service providers, including Shopify, a SaaS provider of e-commerce software whose clients' online sites could not be accessed by some shoppers. Attacks like that point to the need for B2B e-commerce sites to deploy security technology that can repel cyberattacks and to negotiate contracts with service providers that provide compensation in the event they fall victim to attack.

125% INCREASE IN DDoS ATTACKS IN THE FIRST QUARTER OF 2016, ACCORDING TO AKAMAI'S STATE OF THE INTERNET/SECURITY REPORT.



In addition, companies contracting with vendors of SaaS e-commerce software should have their own security professionals inspect these vendors' security technology and practices to ensure they can meet contractual obligations regarding website security and scalability, as Forrester Research advises in its October 2016 report, "Strategies for Managing a SaaS Negotiation."

Given the growth in cyberattacks and extensive media coverage to intrusions, such as the one that exposed data from 500 million Yahoo users, it's no surprise that many B2B e-commerce executives worry about website security. Nearly all survey respondents said they are concerned about security—with 52.4% saying they're "somewhat concerned" and 35.2% "very concerned."



'B2B e-commerce executives worry that bots will slow down their sites and that competitors will capture proprietary data.'

Asked specifically how worried they are about "bots," whether deployed by competitors or partners, and how to distinguish them from "good" search engine crawlers, 79.5% say they are somewhat or very concerned. Among those who explained their answer, some pointed to not wanting bots to slow down their websites and others to being concerned that competitors would use website crawlers to obtain proprietary information.

Highly regulated businesses have to take additional security measures, beyond blocking malicious bots and spam, and fending off DDoS attacks. For example,



Evolving Nutrition, a distributor of "nutraceuticals" (food products with claimed health benefits) sells to licensed health professionals and only shows prices to those who have been vetted and given accounts.

Zoetis Inc., a developer and manufacturer of pharmaceuticals for veterinarians and agricultural businesses, won't allow a registered customer to change the ship-to address online; the customer must call in to confirm his identity, says Imran Haque, head of U.S. digital strategy and multichannel marketing for Zoetis. Fraud-prevention technology also can analyze large quantities of data and use that information to flag orders that seem suspicious. For example, at Zoetis, bulk orders also get extra scrutiny. "If a customer typically orders one vial a month and now suddenly orders a thousand it will trigger a call from our customer service to the vet to make sure it's him placing the order," Haque says.



'If a customer typically orders one vial a month and now suddenly orders a thousand it will trigger a call.'

HOW PHARMACEUTICAL COMPANIES ARE TACKLING B2B E-COMMERCE

Security and complexity are two themes that come up repeatedly when speaking with the directors of e-commerce sites that sell pharmaceuticals.

As an example of the concerns about security, a website visitor can't even see the pharmaceutical products available at GeriatricMedical.com without providing proof that they're licensed to make such purchases. In another example of tight web security, Zoetis Inc., the developer and manufacturer of pharmaceuticals for veterinarians and agricultural businesses mentioned earlier, won't allow a registered customer to change the ship-to address online; the customer must call in to confirm his identify, says Imran Haque, head of digital strategy and multichannel marketing. Bulk orders also get extra scrutiny. "If a customer typically orders one vial a month and now suddenly orders a thousand it will trigger a call from our customer service to the vet to make sure it's him placing the order," Haque says.

Government regulations impose a variety of requirements on e-commerce sites that don't exist in other industries. For example, Evolving Nutrition,



the distributor of nutritional supplements cited earlier, must track product lot numbers and expirations, in accordance with U.S. Food and Drug Administration regulations, says CEO TJ Abbinanti.

Pharmaceutical companies also must be aware of the varying regulations from one country to the next. GlaxoSmithKline (GSK), which sells vaccines and pharmaceuticals, enables qualified healthcare providers to order vaccines on GSKDirect.com, but only in the United States. They can also use the site to register for contract pricing for vaccines and pharmaceutical products. But GSK's customers can only order pharmaceutical products through the company's authorized wholesalers and distributors.



Johnson & Johnson is adding online content in local languages so that fewer customers will have to call customer service.

Other pharmaceutical suppliers also require sales through distributors in certain instances. American Type Culture Collection, commonly known as ATCC, ships orders placed on ATCC.com to U.S. customers. But in Europe and several other countries, such online orders would be illegal, and the company routes orders to authorized distributors.

Johnson & Johnson, the big U.S.-based manufacturer of medical devices, overthe-counter items and pharmaceuticals, is building out its e-commerce sites around the world in part to better engage business customers not familiar with the Electronic Data Interchange (EDI) systems that big U.S. customers like Wal-Mart use. For customers in Latin America, e-commerce will make it easier to order from the 200,000 SKUs J&J offers online, according to Stacy Cashman, director of the company's E-capability/E-commerce Global Program. J&J also is seeking to provide more content in local languages so that fewer customers will have to call customer service.

Pharmaceutical sites must provide lots of information about their complex products, including Safety Data Sheets that describe how to handle materials and first-aid treatments in case of emergency. Dosage information typically is a requirement for sites selling medicines.

Because they sell complex products that frequently are not widely available, many North American manufacturers and distributors are expanding their



online sales around the world. Zoetis, for example, has about 10 global e-commerce sites as well as another four dozen or so websites that are purely informational. The company plans to move to a new e-commerce platform next year that, among other things, will be tailored to serve customers ordering from mobile devices.

Zoetis already has added live chat to its website to make it easier for online visitors to get questions answered and added a website feature that lets customers see past statements and invoices. The site also is designed to serve various types of customers, making it easy for those who want to purchase a previously ordered product while enriching search results with images to help those doing research.

The combination of regulatory limits on who can order online and the storage of confidential data on customer orders and pricing makes security a top priority. And the rich content available on many pharmaceutical e-commerce sites puts a premium on ensuring fast website performance.

TAKFAWAYS

Clearly, B2B e-commerce presents big challenges, and offers big potential rewards. Here are four takeaways from this study:

Companies that sell to businesses are drawing on the lessons from consumer-facing e-commerce to develop websites with appealing, sophisticated features and moving more technology to the cloud to cut costs and time to market.

Images and video are central to engaging business buyers and must be part of an advanced e-commerce site, even while those assets are managed intelligently so as to ensure good service to mobile customers.

Personalization exponentially increases complexity and calls for solutions that minimize the impact on back-end software systems to provide the right mix of content to customers, quickly and securely.

Integrated security is critically important to remain competitive and preserve and grow brand equity across an increasingly complex threat landscape.