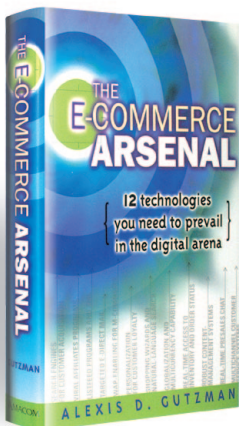




Executive Book Summaries®



by Alexis D. Gutzman

CONTENTS

Search Engines

Pages 2, 3

Viral Marketing

Page 3

Aggregators

Pages 3, 4

Targeted Direct Mail

Page 4

Wireless Application

Page 4

Personalized Sites

Page 5

Shopping Wizards

Page 5

Internationalized Sites

Page 6

Real-Time Inventory Access

Page 6

Content Management

Pages 6, 7

Real-Time Presales Chat

Page 7

Multichannel Support

Pages 7, 8

Alternate Payment Options

Page 8

12 Technologies You Need to Prevail in the Digital Arena

THE E-COMMERCE ARSENAL

THE SUMMARY IN BRIEF

The e-commerce industry shakeout has helped identify the truly innovative and solid e-businesses—those that make best use of the best Internet technologies available. These top-performing companies aren't only technologically savvy; they also remember that retail, whether online or off-line, is a human activity. Using the right mix of personalization or customization, marketing and promotions is still the right strategy; the Web has only increased the pace at which you need to implement technological upgrades to enhance these marketing methods online.

Unrelenting advances in technology ensure that online shopping will continue to get faster and cheaper. The key is to use the correct technology to focus on the three main objectives of any retail establishment, be it online or off-line:

- ✓ Attracting customers.
- ✓ Making shopping easier.
- ✓ Offering superior customer service.

The 12 “must-have” technologies introduced in these pages will help you achieve all three of these goals. For example, you'll learn about:

- **Viral Affiliates Programs** with Web partners who link your site to theirs, enabling their customers to pay you a visit with a click of the mouse.
- **Listfeed Programs** that gets your products into the inventory of buying clubs, product review sites and price comparison engines.
- **WAP-Enabling** that allows WAP (wireless application protocol) surfers to find your site — a key technology as more and more Web customers will be logging on via wireless devices.

✓ **Shopping Wizards** — electronic store clerks can make recommendations based on what you tell them.

Turn the page to access the complete e-commerce “arsenal” that you will need to succeed in the age of the Internet.



Place Your Web Site High In the Search Engines

Search engines locate links to sites relating to the keywords used by the viewer. For example, if a viewer typed in “piano,” the search engine would locate links to sites of piano stores, piano music stores, piano concerts, piano tuners and even Piano Pizza. Once the link is located, the search engine will index all the content and make it available to the viewer in a “directory.” If you want customers to find you, you must be included among the top 15 to 30 listings (depending on how many listings are shown per screen) in a directory.

The best way to submit your site’s Uniform Resource Locator, or URL, is by going to the home page of a search engine or directory and following their rules for submission. Be aware, though, that most search engines restrict the number of pages per each URL that can be submitted every 24 hours. Directories usually only accept a site’s home page.

Ranking Criteria

Search engines search either by content or by popularity. In selecting which listings to rank first, for instance, one engine might rank its results by the number of links it finds to a site elsewhere on the Web, or just list all the ones relevant to the keyword used. Increasing the “link popularity” of your site is thus a good strategy for giving your site a higher ranking in these types of popularity-based search engines. One way to do this is to “inbreed” your site by putting links on all the pages in your site, thus linking them to all the other pages in it.

One of the most important things to remember is that you want qualified *buyers* coming to your site, not just browsers. You can make your site search engine more friendly to such buyers by choosing more selective keywords. For instance, using the keyword “Pentium III” for your site, rather than “computer,” is more likely to be included in a list requested by shoppers who already have an idea of which kind of computer they want to buy and are therefore closer to making a purchase.

Some search engines use a paid-listing model. Sites bid each month for keywords. The sites that bid the most that month will always be listed above other sites;

then the other nonpaying sites are listed in order of relevancy. For a fee, Yahoo! offers a Business Express service, which guarantees that your site will be visited within seven business days.

“Shadow” Sites

Another strategy to place your site higher on the listing is to build two sites—one designed for human use and one designed for search engine use. Agent-detection algorithms allow you to create such dual (or “shadow”) sites. Keep this shadow site rich in text and light on images, because search engines don’t see images, only words that they index. Avoid CGI (common gateway interface) parameters since most spiders (special electronic agents that find and index sites) don’t follow them. Instead, use a flatter design, keeping all the products you want mentioned on the same level.

Monitoring rankings and traffic

If your site is getting a lot of traffic because it is ranked highly, but you’re not seeing enough sales, you may not be using the most precise keywords. You need to pay attention to the introductory paragraph that is included with your listing. Each search engine uses different rules for what viewers see. Some, for instance, only show the first 100 words of the introductory paragraph you submit. You may need to write a different descriptive paragraph for each search engine that selects your site.

There are many commercially available software packages for monitoring search engine rankings. Or you can outsource this service. Web positioning companies charge a fee to get your site listed and will usually maintain the site; remember, however, that the real value

(continued on page 3)

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Place Your Web Site High in the Search Engines

(continued from page 2)

is getting listed where it counts. Being listed in 700 search engines won't help you much if they are obscure ones. By paying for traffic generated, you are charged only when someone clicks onto your site (although that person won't necessarily purchase anything).

The best scenario is to balance traffic reports from your Web positioning company with your own internal records. You also want to keep track of the conversion rate (browsers converting to buyers) on your site so you can calculate your true acquisition costs. ■

Word-of-Mouth Marketing For the Digital Age

Viral marketing is a new term for electronic word-of-mouth referrals. Some merchants offer existing online customers some sort of savings or reward if they refer a friend who ends up buying from them as well. It works on trust—people will be more likely to open an e-mail about a sales promotion if a friend sent it.

Another way for e-commerce merchants to encourage word of mouth marketing is to set up **affiliate programs**. Affiliates — each with their own Web site or sites — register with a merchant and are assigned an identification number. Each affiliate places links on its site or sites to the merchant's site.

The benefit of this method of customer acquisition is that the merchant only pays for buyers, not browsers. Because of the unique identification numbers, the merchant can then track where traffic — and buyers — are coming from. Commissions are paid only for those visits that result in a purchase.

Another benefit for the merchant is the increased

The Open Directory Project and Natural Language Directories

To help alleviate the difficulty some sites had in getting listed in directories, the Open Directory Project (www.dmoz.org) will share its listing with search engines such as AltaVista, InfoSpace, Lycos, Netscape and others.

Natural language directories use the human element to make searching easier. One such directory, Ask Jeeves, uses human editors to review the answers given to queries typed in by users, to check that they are relevant.

exposure of its products. Anyone viewing any affiliate Web site is only one click away from a purchase.

The downside is that ideally, you only want to pay the acquisition cost of a customer once; by its nature, an affiliate program pays the affiliate every time the customer buys through that site.

Customer loyalty programs offer rewards to customers who are likely to make frequent purchases. They add an incentive for someone to shop at your site. ■

Partner with Aggregators

Online merchants used to believe that the only key to success was to attract customers to their own sites. Today, merchants recognize that you can't depend on customers coming to you; you have to find a way to go to the customer.

One of the best ways of going to the customer is to make your inventory available to **aggregators**. Aggregators, such as buying clubs, product review sites and price comparison engines, allow your entire inventory to be available to almost any browser or buyer.

When partnering with aggregators, you need to evaluate the cost of participation, the compatibility of an aggregator's site with your software, and the amount of traffic generated at a particular site.

Usually there is no start-up fee; payments are made on a per-click basis. In other words, you would pay a set amount (for example, \$.50) every time a customer clicks on your product. This is known as the clickthrough rate. Of course, a prospect who wants to know more about your product will not necessarily buy. The conversion rate — the number of prospects who become paying customers — will also factor into the negotiation with the aggregator.

Often, you can agree with the aggregator on a certain payment structure for the first three months to give you time to collect data on conversion rates; then negotiate a clickthrough rate based on the data you've collected.

Listfeeds

Most aggregator sites accept your *listfeed* — a file of your inventory — daily and then format it for their own sites. The trick is finding a good match between how you have organized your inventory and how the aggregator structures its data. You don't want to have to re-categorize your entire inventory! The larger aggregators — those that have been in existence longer — can usu-

E-Commerce Tip:
Avoid any aggregator that does not offer real-time order transmission, or that does not allow you to run a check on the payment information.

(continued on page 4)

Partner with Aggregators

(continued from page 3)

ally accommodate most merchants.

Some aggregators also offer universal shopping carts—in which the customer can buy from you and other merchants directly on the aggregator's site. Once the aggregator notifies you of the purchase, you proceed to handle the fulfillment of the order. If you participate in this feature, you may be required to support electronic commerce markup language (ECML) and to allow the aggregator to update your database securely over the Web. ■

Use Targeted Electronic Direct Mail

Merchants who use **targeted EDM** (electronic direct mail) are tapping into the most cost-effective method for bringing one-time or other previous customers back to their site. You already have shopping and buying information from these customers, so you can easily tailor an e-mail message that would interest them. E-mail allows you to build and maintain a relationship with the customer, which in turn helps create customer loyalty. However, direct e-mail will fail if it is not narrowed specifically to the individual or not promoted aggressively.

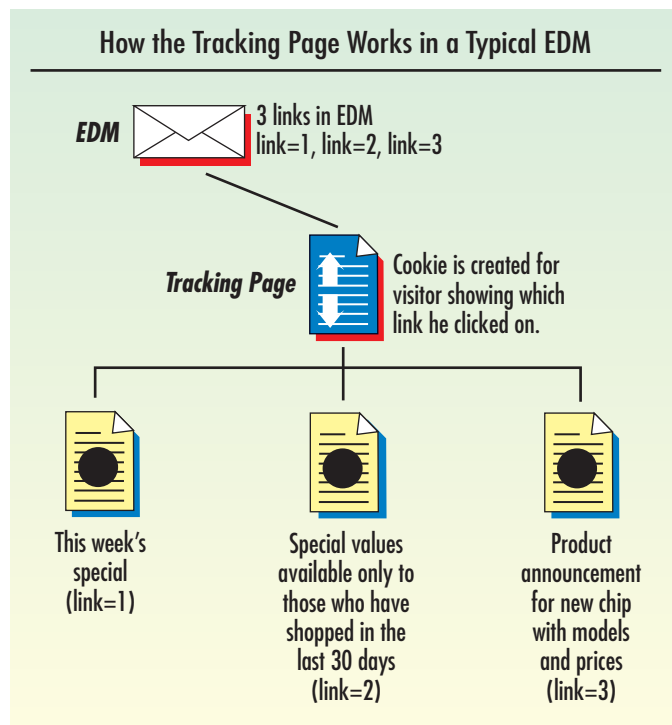
Use Cookies

Targeted EDM can yield valuable marketing data. You can use tracking technology (known as *cookies*) that lets you know which link each customer is clicking onto. This way you can be sure you are sending the most effective message to each customer. Because of the enormous technical knowledge and constant tweaking of content that is required, outsourcing this task can be well worth the cost — unless you have time to be constantly updating and rewriting content for as many as 2 million e-mails that need to be delivered in a 12-hour window! ■

Be Prepared to Connect With Consumers On the Go

It is estimated that within five years, most Web visitors could be logging on via wireless devices. To get in on wireless commerce — also known as mobile commerce or m-commerce — prepare to have a **WAP-compliant** Web site. WAP is the acronym for wireless application protocol, a set of protocols and languages that will allow any WAP-enabled wireless device to communicate with any service provider.

Currently, WAP is popular in Europe due to the high cost of local telephone calls. If you plan to market to European countries, WAP is where you want to be. Also,



be aware that the successor to WAP, Third Generation Mobile Systems, is under development in Europe by the International Telecommunication Union (ITU).

WAP Navigation

Because of the much smaller screen size of wireless, handheld devices, WAP users want simple navigation tools that rely on lists with *drill down capability*. In other words, users scroll down a list and choose one option that gives them another, more targeted list from which they choose an option, and so forth. The users thus drill down the site until they reach the specific information they want.

To help WAP-surfers find your site, try to have your site included as a menu item on the service provider's main menu. These positions are auctioned to the highest bidder.

The most effective way for you to go mobile is to work with a wireless aggregator. The biggest benefit of this is that aggregators only make money when you make a sale, and that drives them to get traffic to your site.

Click-to-Voice

Because cell phones dominate the wireless market, voice is a good option to utilize, especially since it can help to close sales. You can either list your customer service phone number on your site, or use a click-to-voice option. To do this, you need to add a button on each WAP-enabled Web page. The advantage to using button links is that the customer won't be put on hold, and the customer service rep who answers a link will already have all the transaction information so far. ■

PART II: MAKING BUYING EASIER

Make Your Site Personal

There are two ways to personalize your Web site:

1. **Expediting checkout for customers** (for example, by storing their credit card information);
2. **Learning about their interests and what they're most likely to buy.**

If you've ever bought a book through Amazon and then gone back to the site, you'll see a good example of personalization. Based on your previous purchase, Amazon will have other recommendations in the same category for you. The beauty of this type of personalization is its transparency to the customer.

Two dominant methods for analyzing and applying customer preferences for personalization are **recommendation engines** and **click stream analysis**.

Recommendation Engines

Recommendation engines review purchases in your database and make real-time recommendations as to what you should be showing to certain customers. These engines use analytics and *collaborative filtering* techniques.

By clustering customers on the basis of their purchase histories and then factoring in demographics, collaborative filtering identifies what purchases usually lead to other product purchases. Collaborative filtering also allows engines to make recommendations for even new visitors, based on what they are currently viewing.

Click Stream Analysis

Real-time **click stream analysis** shows you what customers have already looked at in their current visit so you can make instant decisions about what to show them next. Amazon's Web site shows what click stream analysis can do.

Once you have information on the customer, use it. Don't have golf and tennis items appear on the site when a customer who told you she enjoys gardening and museums clicks on. ■

Install Search Tools to Help Buyers Find What They Want

One bad online shopping experience can keep a shopper away from the Internet for months, hurting all online merchants. To create a better shopping experience, one that more often leads to a purchase, online merchants can use four technologies: **shopping wizards**, **in-context search tools**, **natural language search tools** and **knowledgebases**.

Shopping Wizards

A shopping wizard is no more than a decision tree. This format is excellent for gift buyers. The customer fills in information about the gift recipient, occasion for the gift and the price range. The shopping wizard then makes recommendations based on this information, and can be programmed to ask progressively more detailed questions. If you decide to create a shopping wizard, make sure that all of the products included are kept up to date.

In-Context Search Tools

Actually just a refinement of the shopping wizard, this in-context search tools let the customer use natural language (i.e., "I need a cordless lawn mower") rather than computer syntax. The in-context search tool then continues to narrow down its range of questions (American or foreign made? How much charging time?).

Natural Language Search Tool

This tool helps integrate your vocabulary with that of your customers. For instance, someone who signs up for

Financial services is one area that has benefited greatly from natural-language search tools.

a subscription might not know that your computer system instead uses the term "membership." Thus, when they search for "subscription," and get no results, you've probably lost a customer.

Financial services is one area that has benefited greatly from natural-language search tools, since it attracts customers with varying degrees of knowledge of financial terms. Companies that provide natural language search tools can also identify the most frequently asked questions so your site can have answers already posted.

Knowledgebases

For customers who are technically savvy, a knowledgebase (a compilation of questions and answers about products and services) is a good solution. These can be built in-house and updated dynamically from questions that come into the customer service center via e-mail, chat or phone calls.

One prominent example of a knowledgebase is the one used by 3Com. It includes very specific, technical questions and is generally the fastest way for users of its networking products to get answers to these more-or-less routine questions. If their questions can't be answered completely via the knowledgebase, then the 800 number support staff will already know where to begin troubleshooting when they receive a call. ■

Adapt Your Site For Global Customers

The United States is no longer the dominant origin of shoppers represented online. If you plan to compete in the e-commerce arena, your site will need to accept currencies other than just the dollar.

You might be surprised to find that an estimated 30 to 40 percent of your traffic could already be coming from overseas. Your network administrator can locate these browsers and trace their click streams, which usually end at the page that says you only ship to the United States. If these customers are already clicking through your site, why not sell to them as well? Some ways to make your site more internationally friendly include “**internationalizing** your architecture” by:

- **posting shipping policies on the home page or at least near the front;**
- **formatting the site to accept states and provinces outside the United States, postal codes that also include letters, and phone number fields that can accommodate a variety of formats;**
- **using a database that can recognize double-ASCII characters — which is what Japanese and Chinese characters use — and one that can sort a particular field by a specific language;**
- **including fewer graphics to decrease the download time.**

Multicurrency Capability

By asking shoppers early in their visit which currency they’d like to use, your site could then convert to that currency and carry it through to the check-out process. A merchant bank or credit card processing software provider can provide real-time currency feeds. ■

Give Customers Real-Time Inventory Access

Online merchants are generous about product information — before and after a sale. Online customers can view photos of products and read product descriptions before purchasing, and have come to expect timely order confirmation e-mails. But if customers have questions or concerns at the time of purchase (for example, they want to see if the item is in stock) and either have to wait or have to disconnect and call a toll-free number, they might abandon the sale.

If you handle your own inventory, build in an “in stock” button on each product page, thus giving customers **real-time inventory access**. If you use a distributor to handle your inventory or to process your fulfillment, find one who can provide real-time data, or at

least make sure you can get frequent updates.

Order Confirmation: An Opportunity

The ubiquitous order confirmation e-mail is perhaps the most overlooked opportunity to build a relationship with the customer. Unlike other marketing e-mail, which may not even be opened, customers want to read about their order confirmation. So while they’re checking on the status of an already-placed order, you could be helping create future sales. In addition to the order confirmation basics, for instance, this e-mail could include a promotion for a discount on the next order.

One final note: Whatever information a customer has input online should also be available to that merchant’s phone-in customer service center or in-store personnel to allow for seamless and transparent customer service at any portal. ■

Content Management Systems: Keep All Information Current

All **content management systems** (CMS) are not created equal. These software packages — which keep content, prices and specials current on your site — have evolved from simple homegrown affairs to complex systems that now need to integrate your order-management system, business intelligence software, inventory-management software, enterprise resource planning software, customer database software and personalization software.

To achieve this level of customization you need to involve your technical people in the negotiating process with any CMS vendor, because they’ll know the right questions to ask regarding system compatibility.

Basic Features

Because of the importance of CMS to your business success, your system should include all of the following basic features:

- **Content independent of presentation.** You want your customers to be able to read your site, whether they’re accessing it via a desktop browser or a mobile device. You also want your content creators to only have to provide data items once and then have the CMS use logic and templates to place the correct item in the correct place at the correct time.
- **Content stored in nonproprietary format.** This allows for easier migration to future upgrades or new systems.
- **Where the content originates — from marketing staff, freelancers or merchandisers — is irrelevant to the CMS.**
- **Uses a browser rather than proprietary software**

(continued on page 7)

Content Management Systems: Keep All Information Current

(continued from page 6)

for better accessibility, version control and compatibility.

- **Uses an intuitive interface** for the myriad stages of the content approval process.
- **Is able to take content live**, without requiring the system to shut down.
- **Manages version control by content creation/approval date and time, by author/approver and by type of content.**
- **Uses templates to manage content**, which makes it easier to build pages and to navigate through them.
- **Uses a personalization engine** that can change what the visitor sees on the page, depending on variables.
- **Enables you to create complex business rules** to manage what products display with other products.

Best of Breed Features

In addition to the basics listed in the article at left, here are some CMS features that can add extra value to your site:

- Enables inputting from desktop applications such as Word, Excel and PowerPoint. This can save time and thus increase productivity.
- WAP-enabled: Europeans are already using mobile devices and the trend is growing in the United States and Asia as well.
- Ease of integration with existing business systems.
- Harvests content from other sites.
- **Enables seamless connection to your payment-processing network.**
- **Provides easy access to metrics data.** ■

PART III: IMPROVING CUSTOMER SERVICE

Can We Talk? Real-Time Presales Chat and Other Online Customer Support

The majority of online customers contact customer service while waiting for an order that has already been placed. Only a very slim margin admitted to contacting customer service before purchasing. In a bricks-and-mortar store, customers can get help from a live salesperson before purchasing. Online, they may feel that dialing an 800 number or sending an e-mail is too inconvenient, and abandon the sale.

Such a live, in-store salesperson is often able to upsell other products and thus increase a sale. The way to do this online is via **real-time chat** using a tool on the merchant site and some sort of instant messaging service. Customers don't need any additional software to access this service.

When a customer clicks on to a live chat button, the customer service representative (CSR) types in a response and his or her name appears in a dialog box on the customer's screen. If the CSR is busy with other customers, a message will inform the customer of that fact. Hot keys allow the representative to quickly respond to commonly asked questions, allowing them to handle about six customers at a time.

Look for live chat programs that allow the CSR to push Web pages to customers so they can see the products they are talking about. It's also helpful if the CSR can monitor the customer as he or she moves about the site.

Using Community to Drive Sales

To date, one of the most successful online shopping sites is Amazon, which was also — not coincidentally — the first site to offer a sense of community to the online shopping experience by adding customer reviews. Lands' End now offers a "Shop with a Friend," which allows two shoppers at different locations to hook up at its site, evaluate the same pages and products and talk to each other in real time. ■

Multichannel Customer Support: Integrate Online And Offline Customer Service

Surveys of online shoppers continue to show that good customer service is the number one reason a one-time customer will become a repeat, loyal shopper. At the same time, the Web has turned retail from a product-centered business to a customer-centric one. A core strength of this refigured industry is customer support at all levels and among all channels. As more and more e-businesses link up with existing stores (and vice versa), customer support needs to follow. The **integration of online and offline customer service** should include:

- **Enabling in-store clerks to find out which offers were made by e-mail to customers, as well as to which offers the customer has already responded favorably.**

(continued on page 8)

Multichannel Customer Support: Integrate Online and Offline Customer Service

(continued from page 7)

- Installing kiosks in offline stores so that customers can order products that may be out of stock in a particular store.
- Making coupons available via wireless devices when customers sign up at bricks-and-mortar stores.
- Enabling in-store clerks to call up an online shopper's history. ■

The Importance of Alternate Payment Systems

One important enhancement to your site should be noted for its importance — and protection — for you rather than the customer: **alternate payment systems**. About 35 percent of all attempted sales transactions (either on- or off-line) are fraudulent. Merchant protection from carrying the costs of fraudulent use of online credit cards is an area that needs improvement, and alternate payment systems attempt to address this problem.

The most important way to protect yourself is to use a payment system that supports nonrepudiation — in other words, if the wrong person uses the credit card, you are not held liable.

Hardware-based nonrepudiation uses smart-card technology, in which a chip resides in the computer. Scanners can read and act on the installed chip.

Encrypted-cookie-based nonrepudiation uses trusted third-party vendors, who collect a customer's identity and payment information and then store it on the computer of the shopper (in an encrypted cookie). *Secure certificate nonrepudiation* depends on customers installing software on their computers, much as merchants who install a secure-sockets layer for transmitting encrypted data.

Other Alternatives

Besides supporting nonrepudiation, the best alternative payment systems are truly alternative — they are independent of traditional credit card networks, and do not require merchants to have a merchant account.

Some of the current alternatives to credit cards for use online include:

Same-As-Cash. Purchasers must go to a physical store location and buy a card that will contain whatever amount they determine. Usually these cards are then activated at the vendor's Web site (the customer supplies a password) and the money on the card can be used with any merchant in the network.

Stored-Value Accounts Online. Customers create an

The most important way to protect yourself is to use a payment system that supports nonrepudiation — in other words, if the wrong person uses the credit card, you are not held liable.

account online at a vendor's site. It can be funded by a credit card number, checking or savings account information, or check or money order. Customers also have a password; when the specified amount is spent, the customer must authorize the transfer of additional money or send an additional check or money order.

Self-Recharging Accounts. Customers create accounts that are funded initially with a credit card or ACH transfer; when the original amount is spent, the same amount is then automatically recharged.

Hardware-Based Stored-Value Accounts. The idea here is simple: accounts are funded in the usual ways (see above), but work only from the computers on which the chip or card reader is installed. Until the major hardware vendors begin to implement these technologies on consumer electronics, this method is not very practical.

Phone Bill Payment. Shoppers need to access the merchant's site with a dial-up connection. At the check-out process, the customer clicks on a button to indicate he or she wants to have his or her phone account charged. The vendor completes a download that connects to a 900 number and then that phone call creates the entry on the phone bill; the customer is then connected back to the ISP and to the merchant's order confirmation page. This method is popular where credit card penetration is low.

Micropayments. Merchants store a "token" from a payment processor confirming that payment was made. This method allows you not to have to store any payment information from your customers. Or, you can give the payment processor access to your servers, and they can then accept payment from your customers. ■

A Baker's Dozen

Readers might note that alternate payment systems is the thirteenth technology featured in this summary. Author Alexis Gutzman explains that while writing *The E-Commerce Arsenal*, she did not anticipate the degree to which merchants' needs for payment alternatives would be met by alternative payment systems providers. New developments in this field convinced her to add an epilogue on this topic to her original text.