Multisite Commerce

Proven Principles for Overcoming the Business, Organizational, and Technical Challenges

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Preface

Many years ago, my wife suggested that we take a summer vacation by renting a cottage on the east coast of the United States, somewhere close to the ocean. So I started looking for a cottage to rent, trying various searches such as "cottage to rent Georgia" and "vacation homes Carolina."

As I was going through this process, I noticed that quite a few sites returned by Yahoo! and Google seemed to belong to the same company. Although the home pages were different, and the marketing text and messages were completely different, all these related sites tended to offer the same set of cottages, and the overall site flow and the look-up process was the same.

I concluded that this company probably set up a dozen sites to increase its footprint on the Internet. In other words, the company wanted to make sure that its sites were easy to find and showed up on search results more often than the competitors' sites. If this was the intent, then certainly it worked. I found it quite time consuming to find other companies offering cottages for rent on the east coast because I was stumbling onto this company with every other search result.

Because I had been involved in the business of commerce Web sites, I was very much intrigued by this company's approach. Presumably, it found that creating and maintaining multiple sites was worth the extra expense and administrative overhead due to the extra revenue that the sites generated.

In the end, I did rent a cottage from one of this company's ubiquitous sites. And certainly we had no complaints. The cottage was lovely, in a beautiful neighborhood, and we had a wonderful vacation.

Very soon after this experience, I took the position of solution architect at IBM's® WebSphere® Commerce product. It just so happened that several of IBM's customers were realizing that they had set up many sites, and their expenses were going through the roof. Other customers had only a few sites but were looking for a way to grow their business and to set up many additional sites.

The vacation home rental company that I had dealt with had what you might consider to be an unusual business model. The companies that I encountered while working at IBM had different business models; the common factor was that all of them really needed many sites, and all of them needed to find an efficient way of creating and managing all the sites.

For a number of years, one of my main preoccupations in developing the product became making sure that it could be used by such customers. We quickly evolved the concept of a multisite commerce platform, which would be the basis of a large company's electronic commerce sites.

The fundamental premise of this platform was that there is a pattern to the commerce industry. Certainly, business can develop infinite variations, and each company has its own personality and its own culture. Every company had its reasons for the creation of multiple sites and a business case regarding why this was necessary. However, we observed commonalites among the many companies that we worked with. In other words, we observed several patterns of multisite commerce that could be used to classify most of the situations.

We therefore developed a set of methodologies and technologies to apply to these typical patterns. The idea was that a generic platform, which encapsulates a set of common patterns, could be used as the basis of development of a company's solution. In other words, although we couldn't create an exact solution for every company's needs, we could create a product that provided the basis for such a solution. A company could use this as a foundation for its commerce business, saving tremendous money and effort by making use of the multisite infrastructure that we had encapsulated in the product.

Our experience also showed that technology is not the only obstacle to multisite commerce. Developing a single platform to be used by many divisions of a large company was as much of a political and organizational problem as it was a technical challenge.

Getting the entire company to agree to a unified set of business processes is not an easy task. Furthermore, managing this large project that spans the entire company—and dealing with a multitude of constantly changing requirements—was even difficult for the most experienced project managers. Many times we saw this effort fail, due to insufficient or incorrect governance of the project, technology problems, or in some cases, sheer incompetence of the implementation team. Again, a set of patterns emerged that were the best management practices for companies that succeed in the undertaking to create a multisite commerce infrastructure.

Goals of the Book

I have realized that multisite commerce can be seen as a discipline in its own right. Much literature has been published about the field of electronic commerce, addressing the business and technical challenges of creating online commerce sites. However, I have not seen much information or many publications about the issues and challenges encountered when dealing with multiple sites. Yet my experience has shown that this field has challenges and peculiarities that are sufficiently unique to distinguish it from the general study of online commerce.

I have therefore set out to record the typical patterns that I have encountered and to share the ideas that I have accumulated about achieving success with multisite commerce.

My goals with writing this book are two-fold. The first goal is to help readers learn the typical patterns of multisite commerce. This includes the business situations in which multiple commerce sites are necessary, as well as the business and technical requirements for effectively managing multiple sites. My second goal is to propose a broad framework that makes the creation and management of multiple sites easier.

My hope is that this book will help with the understanding of issues involved in multisite commerce and will also help large organizations achieve success in their multisite business strategy.

Structure of the Book

Normally, there are three different groups involved in a company, and they rarely understand each other's perspective. One group is the business managers and executives; their main concern is with profit and loss, that is, the success of their business. The second group is project managers, who are mostly worried about making sure that their project completes on time and within budget. Finally, there are the technical experts, who get excited about cool technologies and innovative ideas.

I wanted to make sure that the challenges and ideas of multisite commerce can be understood by all these groups of people. After all, each one is necessary to ensuring the company's success! I therefore structured the book to have three parts, with each part addressing issues most relevant to one of these groups.

Part I presents the business perspective. The fundamental questions it tries to answer are

Why do I need multiple sites?

Why is multisite commerce so hard?

What does it take to have multiple sites?

How can multisite commerce be made cheaper and easier?

What's a multisite commerce platform?

Part II deals with the issues of implementation of multisite commerce from a project management point of view. It discusses the project of creating a multisite commerce platform and deploying the various sites on it. The typical questions that Part II is meant to answer are

How does a project to create a multisite platform form?

What are the traps and landmines that the project may encounter?

How do we maximize the chances of success?

How do we go about collecting requirements and dealing with contentions?

Who must be involved and who do we need to hire to maximize the chances of success?

How do we deal with changes and unexpected delays?

Part III looks at the problems posed by multisite commerce from a technical point of view. It discusses a number of technical ideas that make a shared commerce platform feasible. This part answers such questions as

Is a multisite platform really possible?

To what degree can the sites that share the same platform retain their own personality?

What kind of technology is necessary to implement this platform?

What is data sharing architecture?

The book starts by presenting a set of typical scenarios in which multiple sites are necessary for a company's success in its commerce business. These scenarios are then used throughout the book for examples and for justification of the ideas presented. The last chapter of the book presents technical architecture patterns that could be used as the basis for implementing a platform for each typical scenario.

My hope is that you will be able to identify with these patterns and will be able to benefit from the discussion by applying the concepts to your particular scenario.

Business variation has no end, and I did focus the book on only the most common situations. It is therefore quite possible that your own business situation is entirely different and does not fit into any of these patterns.

If, after reading Chapter, 1 you feel that your own situation does not fall into any of the patterns, I still hope this book can be useful to you. My experience has shown that many of these ideas are broadly applicable to many different situations. I therefore feel that, with a little bit of imagination and thought, you will still find the ideas useful and applicable to your own scenario.

Who Should Read the Book

The ideas of this book are probably most applicable to large companies and organizations. The reason is that the political and management challenges faced by a large corporation are inherently very different from the environment in a relatively small company.

First, a large company has many different parts that tend to work independently of each other. The creation of a new platform to serve all the sites is therefore fraught with countless challenges in working with all the players involved in this project. This issue of multiple players is simply not present in smaller companies, where everyone knows each other.

Second, a large company typically requires more sites than a small company. Therefore, an expensive multisite infrastructure would be more likely to be beneficial to a large company than to a small company.

Finally, a large company may be more willing to own its commerce infrastructure. Many of the ideas presented in this book, especially the technical suggestions, assume that the company owns the multisite platform instead of outsourcing it to third parties.

This then is the rule of thumb of the applicability of this book: If a company is willing to own its commerce infrastructure, it will find this book useful. If, however, it would rather outsource the commerce sites to a third-party provider, this book will have limited use.

I can think of four groups of readers who may find this book useful. The first group is made up of the company leaders who are responsible for the creation and implementation of a company's multisite strategy. Such people may be business and business managers, IT executives, project managers, or technical architects.

The second group of readers is composed of other people who participate in multisite projects. They could include business analysts, programmers and testers, line of business personnel, or IT consultants.

I am hoping that this book may find interest by those in academia as well. There has been much research done in the area of electronic commerce; however, I feel that insufficient attention has been paid to the need for multiple sites. This book can therefore serve as an introduction to the discipline of multisite commerce.

Finally, this book may be of interest to anyone who is interested in the world of commerce and technology. This book discusses quite a few business situations and scenarios, and presents several ideas that have not been widely discussed in the past. If you are interested in learning about the workings of companies and their commerce strategies, this book is for you.

How to Use the Book

I suggest that everyone should read Part I of this book. In the chapters in Part I, I set out the basic problem and the key concepts that you must look at to understand multisite commerce.

Having read Part I, you can proceed to either Part II or Part III, depending on your interest. If you are most interested in the project management and organizational aspects of this problem, you will find Part II more relevant to your needs. If, however, your interests lie in the area of technology, and your main desire is to understand how a multisite platform would work, you should read Part III.

However, I would like to add one observation. Even if your interests do not lie with technology, you may find that Part III is still useful to read. With such a large project, it is important that everyone really has the same basic understanding of what has to be done.

I have therefore tried to write Part III in a way that is understandable even to relatively nontechnical readers. As long as you have a basic understanding of what a commerce Web site looks like, you should be able to follow the discussion of the data sharing ideas in Part III. I suggest that, after you read the concepts and see how they are put together into architecture patterns in the last chapter, you will be better able to appreciate the overall structure of the multisite project.

Introduction

In the world of large companies that sell through brick-and-mortar stores, having multiple locations is usually critical to the success of those businesses. The expectation is that if a store is successful in one location, presumably a similar store will be just as successful in another location, thereby increasing overall revenue and profit.

With online commerce, similar considerations apply, and it is common that a company may want to create multiple sites to increase its revenue. Thanks to the creativity of human enterprise and the diversity of business ideas, there is no end to scenarios that cause companies to create multiple commerce sites. We have seen companies create sites targeted to different countries, sites dedicated for business customers, and sites dedicated to particular consumers.

If you view the site of Ritz Interactive, Inc., at www.ritzinteractive.com, you will find that this company owns a number of brands, such as Ritz Camera, Wolf Camera, CameraWorld, Boaters World, and so on. Each of these brands has its own site and its own customer base.

The Jones Apparel Group (www.jonesapparel.com) owns a number of different brands, such as AK Anne Klein, Nine West, Jones New York, and many others. Each brand in turn has its own commerce site for presenting its products to consumers, such as www.anneklein.com, www.ninewest.com, and www.jny.com.

Sony's consumer site is branded under the name Sony Style. You will find Sony Style sites for many countries, such as the United States at www.sonystyle.com, Canada at www.sonystyle.ca, and France at www.sonystyle.fr.

Staples Inc. has a site for consumers at www.staples.com and a site for business customers at www.stapleslink.com.

There is no end to these examples. In today's corporate world, having multiple online commerce sites is no less important than having multiple branches of a retail outlet.

This prevalent concept of creating multiple sites carries with it significant benefits, but also significant costs. Experience shows that the challenges and opportunities of multiple sites are in many ways different from the traditional challenges of creating a single commerce site.

If a company has already set up a single commerce site and now wants to create additional sites, its past experience is often not sufficient to help it through the challenges of this process. The creation of multiple sites presents new problems on the level of business and project management, as well as with the underlying technology.

This book is therefore an exploration of the needs and challenges of multiple sites. In addition, the book offers approaches that may help companies achieve their multisite commerce vision.

Multisite Commerce Scenarios

Key Concepts:

Create multiple sites to fill essential needs of an online business

Create multiple sites for different scenarios; several typical scenarios have emerged

Customize such aspects as presentation, products catalog, pricing, marketing, and inventory of each site

Observe that there are similarities among the different multisite scenarios

We begin our exploration of multisite commerce by investigating situations in which multiple commerce sites are necessary. From a business point of view, such scenarios must be viewed based on how critical multiple sites are to a company. In some cases, having multiple sites can help a company improve its profits but is not critical to the business. On the other hand, in many situations multiple sites are an essential part of a company's commerce business.

For example, let's imagine a company that has a profitable business selling kites. From a marketing point of view, the company might generate additional revenue if it created sites targeted to different kinds of needs. For example, it could create a site dedicated to kites suitable for children, or a site for stunt kites dedicated to the enthusiasts in this field. However, each additional site would require additional effort to administer it, such as designing the site, creating the content, and deciding which products it should have. Each site would also carry some cost. From the company's point of view, it is not clear that the benefits outweigh the expenses. Perhaps the company's owners are perfectly happy with their current business, and are not interested in the additional costs and complexities, even if they could generate some extra income from extra sites. Therefore, in this situation we would say that multisite commerce is either not necessary or at least is not essential to the company's online business.

By contrast, in many business scenarios, multiple sites are critical to successful online commerce. For example, let's say a company sells to both businesses and individual shoppers.

Often the requirements of business purchasing are completely different from consumer shopping. The checkout process, the presentation of products, and even the registration of customers are all different in business-to-business situations (B2B), compared to business-to-consumer (B2C). If a company insists on having a single site dedicated to both B2B and B2C markets, it is most probable that either the consumers or the business customers, or both, will be faced with what they view as an imperfect and difficult-to-use site. At the same time, presumably the competition is not sleeping and is likely to create dedicated sites that make online shopping and business purchasing as convenient as possible for all its customers. In this case, the company that insists on a single site will likely lose its customers to the competition. Therefore, having multiple sites must become an essential part of the online commerce strategy of this company.

Thanks to the creativity of human enterprise and the diversity of business ideas, there is no end to scenarios that cause companies to create multiple commerce sites. It would therefore be impossible to give an exhaustive list of all possible situations with multiple sites. However, in the past several years, several common situations have emerged that involve the creation of multiple commerce sites. In this chapter, we describe such common scenarios, focusing on the situations in which having multiple sites is particularly important to the business.

Multiple Geographies

In today's global economy, many companies sell in several countries, and frequently a multinational seller can have presence worldwide. Selling in more than one country presents challenges that are difficult to meet with a single site because each country has unique market conditions, culture, and regulations. These country-specific conditions can affect not only the choice of products and the pricing, but also other aspects such as the presentation of the site and advertising.

To give an example of this scenario, consider the well-known Swedish home products retailer IKEA (www.ikea.com). This global retailer created sites for several dozen countries in different parts of the world. Each country site is designed so that the language, currency, advertising, and even products all correspond to the country's needs.

To appreciate the difficulties of serving multiple countries with a single site, we need to explore this scenario in more detail and look at some of the typical aspects that distinguish country sites from each other.

Pricing

Let's say that a seller wants to have worldwide presence. Even if the products sold in all the countries are the same, chances are that prices will be different. Price difference cannot be accounted for by simply looking at currency fluctuations. For example, if the USA price is $19.99, and the conversion rate to Canadian dollars is $1US = $1.22280CAN, by simple conversion the price would end up at $24.44. However, it is unlikely that in Canada the product will be priced that way, since this converted price looks uneven, ending with 44 cents rather than the usual 99 cents. Also, the business would probably want some stability in pricing so that it does not change with every currency fluctuation. The price also needs to reflect local costs. In this case, the Canadian price might be $25.99, to make sure that the price is both stable and profitable in the Canadian market.

Another factor that affects pricing is local competition. In our example, if this same product has more competition in Great Britain, the price there might be significantly lower than in the USA. So if the conversion rate is $1US=£0.5, the British price might be £8.89, which is less than you would expect by simply looking at conversion rates.

Another interesting complexity can arise due to differences in rounding rules. For example, in South Korea the smallest common denomination of coins in circulation is 10 won, so rounding is usually be done in increments of 10. This is different from North America and Europe, where rounding is done to the nearest cent, which is one-hundredth of the currency unit such as the dollar or the euro.

> Pricing of the same products is likely to vary for different countries. This is due to local competition and market conditions, local costs, and currency fluctuations.

Taxes

In the United States, there is no federal sales tax (yet), but there are taxes imposed by individual states and by counties. With 50 states and thousands of counties, tax rules are quite complex and vary by such factors as where the product is shipped from, where it is going, and what kind of product it is. In some cases there are additional fees, which are similar to taxes, imposed by local governments, such as recycling or disposal fees. Fundamentally, however, taxes and fees can be calculated and shown as an additional charge on top of the base price of the product.

In Canada, taxes are imposed by the national and provincial governments and are also calculated as an additional charge for the product. Regulations require that each type of tax be shown separately. Depending on province, the price of each item must show either the combined added tax, or spell out the provincial and federal sales taxes separately.

All this is different from Europe, where the VAT tax is often figured into the price of the product. In other words, the price displayed to the customer already includes the tax, and customers are not explicitly informed as to the amount of the tax charged. Another variation is the case in which taxes are not shown initially, but at the end of checkout they are shown on the final order submission page.

Shipping

Typically on a site, buyers choose the shipping method that they want to use for the items they buy. Depending on the item and the shipping method, the buyers might need to pay different shipping charges.

Several shipping companies operate worldwide, such as UPS and Federal Express. Many shipping providers are unique to their locations, such as each country's national postal service. For example, if you purchase from a USA-based site, you might be prompted to select either UPS or the U.S. Postal Service as the shipping provider. If you purchase from the same company's Canadian site, the shipping options might also include UPS, in addition to Canada Post and Purolator.

A seller might have a warehouse in one country that serves many other countries. In this case, the shipping provider would not depend on the country of the site, but only on the location of the warehouse. To make this situation more complicated, some providers might also drop-ship their orders directly from their suppliers, while some locations allow B2B customers to pick up items directly from the warehouse using their own trucks.

In other words, shipping rules can be quite complicated and are specific to the geography where the selling company operates.

Even for the same products and the same shipping provider, each country can have different shipping charges. For example, if a customer in England orders a product to ship to London, the shipping charges are likely to be different than if a customer orders the same product from the French site to ship to Paris; and this would be true even if UPS delivery is used for both purchases.

> Depending on company policies and arrangements and also depending on whether the seller has a warehouse in the country, the choice of shipping methods is different for each country where the company sells. Similarly, the shipping charges are usually dependent on the location where the sale is made.

In addition, within each country there might be a unique shipping tax that must also be calculated and presented to buyers on the seller's site. Another aspect to consider is customs regulations. For example, the site may need to inform buyers of customs fees or duties that they may be charged, and shipping delays that can occur due to customs procedures.

Language

The most obvious difference in catalog display among different countries is language. In some countries, all information on the site should be shown in a single language, such as French in France or Japanese in Japan. In other countries, however, customers might need to choose their language or preference. Examples of this are Canada, where sites often give a choice of French or English, or Belgium, where Dutch and French are the languages that can be selected.

Even within what is described as a single language, there can be significant variations. In many ways, U.S. English is different from UK English. A news headline such as "Lorry driver forced into car boot" would sound incomprehensible and slightly funny to an American. An English reader, however, would not be amused at all because this is a news story describing the kidnapping of a poor truck driver who was stuffed into the trunk of a car.

Quebec French is distinct from French spoken in France. A classical example of the difference is within the name *Office québécois de la langue française*, which is the Quebec office of the French language. To a Parisian, this name seems incongruent at best, because in France the word *office* does not exist; the English *office* is normally translated as *le bureau*.

Therefore, the text of the site must be localized, not just for the language, but for the locality and culture served by the site.

The product descriptions and other text on the site must be in the language appropriate to the site's customers. Localization must take into account the culture and the region served by the site.

Products

Language is not the only thing that distinguishes product catalogs in different countries. It is common that some products are available only in restricted parts of the world and are not even shown in other countries. For example, Home Depot is unlikely to sell snow blowers in Florida, whereas this product would be important in northern climates.

Product catalog differences can also happen due to companies rolling out products slowly in different parts of the world, where some products are made available in various countries on a different schedule. This difference is typical in the movie industry, for example, in which movies are often released several months apart in different zones around the world.

Variations in products can also be due to local regulations. For example, in some states in the United States, you can legally buy a radar detector that helps speeders avoid being caught by police. In Canada, however, this product is illegal and should not be shown on a commerce site. Similar restrictions can happen for political reasons, in which export regulations do not allow the company to sell certain products in restricted countries.

The products available for sale in each country may vary, depending on the local needs and on each country's regulations.

Page Layout

Aside from product, language, and price differences, often the sites created for different countries can look similar, with identical flow and page layout. However, there are also cultural differences between different parts of the world that can cause country sites to have different layouts. For example, in North America usually the home page of a site fits most of the information on one screen, requiring little scrolling. The tendency is for customers to click on various links to browse through the site to get to the products or the areas they are looking for. On the other hand, in China you often find sites where the home page is long, so customers can find many products by scrolling down the page. Customers can then use the browser search to find the product right on the home page, without having to browse through several pages of the site.

Another consideration for page layout is that it must be designed to suit the written form of the language. For example, most Western European countries can use the same page layout because their alphabets look similar. However, the page layout must be adjusted in China or Japan, where the characters are not alphabetic, and the translations might not fit into the layout designed for use with Latin-based languages that are written left-to-right.

Page layouts may need to differ between countries, due to differences in the local culture and the accepted conventions, as well as due to the specifics of a country's language.

Legal Differences

You should not underestimate the impact of different regulations that countries have on the structure of sites within those countries. We mentioned one impact, which has to do with which products are allowed to be sold in each country. However, a multitude of other legal considerations can affect the sites.

Privacy is one such consideration. Different countries have set up completely different privacy rules, potentially affecting such factors as how the company can make use of customer data for its own advertising. In addition, most sites have a *privacy statement* that must reflect the regulations of the country where the site operates.

For example, in the countries within the European Union, the privacy rules are governed by the EU Directive on Data Protection. This directive governs the storage and processing of personal data, and the liabilities and sanctions that would be invoked if a European company does not comply with the rules.

In the United States, on the other hand, privacy regulations are not nearly as universal with some regulations coming from the federal government and some from individual states. In the United States, more emphasis is on self-regulation, rather than on government-imposed enforcement in Europe.

Companies in the United States that have commerce business in Europe are supposed to become members of the Safe Harbor Framework, which is an agreement reached between the European Union and the United States to make it easier for U.S. companies to do business in Europe without having to deal with the full range of regulations in the Directive.

We thus see that depending on where the company is, and where it deploys its sites, it must comply with a different set of privacy regulations.

Privacy and advertising rules are also related to spam regulations. Frequently, companies would like to use customer profile data to send unsolicited e-mails to customers with advertisements. Depending on regulations, and depending on how the e-mail addresses were collected, such e-mail advertising can be illegal in one jurisdiction but legal elsewhere.

Another important difference is with regard to trade rules, such as shipping rules. In the United States, the Federal Trade Commission (FTC) publishes detailed rules on proper business practices. For example, according to FTC rules, payment for an order can be collected only after the order is shipped. Similarly, there are regulations on when to inform customers if their order is late or if it is being cancelled. In other parts of the world, as in Europe, Japan, or China, these rules can be different.

All these rules constantly change over time, and it is very important for each country's administrators to make sure their sites comply with local regulations.

> A site must comply with the laws and regulations of each country and region that it serves.

Business Opportunities of Country Sites

With all these distinctions between countries, it is difficult to create a single site that can serve the needs of all countries at once. It is much simpler to create multiple sites so that each site is designed to satisfy the unique requirements of each region in the world.

Having distinct sites targeted at different countries is not only easier to implement but can also create opportunities to grow the company's worldwide revenue. It is well known that people in different parts of the world have unique customs and perceptions, and it is unlikely that a single message would be equally appreciated by different cultural groups. Therefore, from a marketing point of view, it is desirable to have marketing messages designed targeted to each country, which can be most effective within each region.

> Selling in more than one country presents challenges that are difficult to meet with a single site because each country has unique aspects such as differences in currency, taxes, shipping, language, products, and legal and cultural variations.
>
> Having a unique site for each country also allows a company to better market its products in the unique environment of that country.

If a single site were to serve multiple countries, you would need to segment the site's customers by country to determine which marketing messages to show them. Doing so is technically complex and is not always possible. For example, it would be difficult to determine the preferred country of a new visitor who has no prior history on the site. On the other hand, having multiple sites makes it natural and easy to create separate marketing messages for different countries.

Independent Brands

In today's corporate world, it is typical for companies to be structured around a number of divisions, in which each division has largely independent operations and is responsible for its own profits. Sometimes, each division is actually a distinct brand. In this case, the kinds of products that the different divisions sell can be similar, but the brands sell merchandise targeted at a specific customer base. An example of this is Williams Sonoma Corporation, with brands such as Williams Sonoma, Pottery Barn, and West Elm. Another well-known example is Gap Inc., whose brands include The Gap, Old Navy, Banana Republic, and Piperlime.

The reason for companies to own multiple brands is that it increases their total market presence because each brand division has its own customers. In addition, each brand is frequently targeted to a particular segment of the market, such as high-end goods or value-priced merchandise.

In some cases, with an aggressive acquisition strategy, a parent company can find itself in the position of owning many dozens of largely independent selling enterprises. Each time a new company is bought, that company becomes yet another division within the structure of the parent company, and in many cases this new division preserves its old brand and operates largely independently from other divisions.

Brand Perception

Although all these sellers are actually part of a single company, from the point of view of customers, they are frequently perceived to be unrelated to each other. For example, customers of Macy's would be confused if typing www.macys.com were to redirect them to www.bloomingdales.com. Even though both of these sellers are owned by the same company, the customers perceive them as being distinct.

Because of this perception, the two sites must behave completely independent of each other. For example, customers would be surprised if, having placed an order on the Macy's site, they could see that order on the Bloomingdale's site. In fact, if any of the personal information that they had on one of the sites were to show up on the other site, these customers would be concerned.

Therefore, having a separate site for each brand is not only beneficial to the business, but is actually necessary simply to avoid customer confusion.

Brand Image

There is another reason for each brand to have a different site: to preserve brand image and identity. Generally, brand image is maintained not only by the different products available for sale, but also by the style of the site and the images presented. A site designed for teenagers would likely use brighter colors and more graphic images than a site designed for mature shoppers. It would be impossible to maintain such brand identity if a single site were to be used for selling the products of all the brands.

Another important reason to maintain separate sites for different brands is that this approach enables the brands to create appropriate advertising and run marketing campaigns that are most suitable for each brand. For example, advertising designed for value-priced merchandise might focus on featuring low-priced offers, whereas advertising designed for high-end products would be more focused on quality and prestige.

Depending on the products sold on each site, the marketing campaigns of each brand might also be timed with different holidays in the year. For example, a back-to-school campaign might not be applicable to jewelry, whereas a site focused on tools might not be running a Mother's day special.

> Customers expect each brand to have a distinct site because in their perception the different brands might not be related to each other.
>
> Each brand needs to have its own unique site designed to fit the brand's image.
>
> The marketing style and approach of each site must also be reflective of the shopping patterns of the brand's customers. Having multiple sites allows having different marketing campaigns for each brand.

Multiple Market Segments

A site designed for business customers looks different from a site designed for consumers. Consumer sites are designed to be easy to use and often encourage catalog browsing to find products.

On the other hand, business buyers are not interested in spending any extended time browsing through a catalog to look for items of interest. Rather, business buyers typically either already know what they need or are interested in finding the products that satisfy their company's needs as quickly as possible. Therefore, it is better for the company to create separate sites for consumers and business customers so that the layout and the flow of each site best suit the needs of the customers.

Other kinds of market segments also can require a targeted site to serve their needs. For example, a company might want to create separate sites for educational institutions or governments, or a site for auto dealers. Even within the consumer segment, it might make sense to create targeted sites for women or for teenagers. We therefore explore some of the common segmentation scenarios to better understand the reasons that cause the need for targeted sites.

B2B and B2C Sites

When people go shopping to a retail outlet, they usually get the impression that the company that owns the store is mostly in the business of selling to consumers like themselves. This impression is created by the environment of the store, which is designed to please the mass consumer market. Frequently, however, retail outlets are only a portion of the parent company's business. The seller can have other operations invisible to consumers, such as sales to small business customers or to governments. Companies know that it is unwise to approach each of these segments in exactly the same way, but rather have long ago learned to treat each market segment differently.

An example of such a seller is Staples Inc., which to a consumer is a large retailer of office products, with thousands of outlets around the world. Staples Inc. has a popular commerce site, Staples.com (www.staples.com), which sells the company's products to shoppers. In addition, Staples Inc. has a large business clientele; in other words, it has many customers who are companies rather than individual shoppers. The Staples Inc. site for its business customers is StaplesLink.com (www.stapleslink.com), which is completely different from the consumer site.

On consumer sites, all shoppers usually see the same products, same prices, and same checkout rules. On the other hand, organizational buyers often negotiate a contract with the seller that covers such terms as discounted pricing, special shipping arrangements, or payment rules. Such contracts can be arranged directly with buyers; alternatively, the buyers might be simply qualified to make use of a standard contract.

Sophisticated B2C sites provide the shoppers with marketing content—for example, informing the shoppers of additional offers, of upcoming promotions, or other events—or simply give product suggestions. Such marketing information can take the form of advertisements, product suggestions, and recommendations, or show related offers and promotions. These marketing and merchandising activities can be valuable to help the shoppers find products and to help the selling company increase sales on its site.

On the other hand, business buyers would have no patience for beautiful advertising that takes half the screen because it detracts from their ability to do business quickly. Therefore, business-to-business sites tend to have little product advertising, but instead focus on advertising additional services. For example, a B2B site might advertise certain shipping arrangements or the ability to download spec sheets for a product line. A B2B site can also inform customers of relevant industry news or regulation changes, such as safety information. Another typical example of marketing content on B2B sites is product recommendations, such as up-sells, cross-sells, and accessories. These recommendations do not take much space on the screen, but they benefit both the buyers and sellers. The buyers get greater awareness of the range of products available that could serve their needs, while the sellers can benefit from increased size of orders.

For a consumer shopping site, a customer is usually a single person referred to as a *shopper*; in rare cases a consumer site might keep track of families or buying groups. Shoppers typically view the products catalog as soon as they access the site, without having to register their profile; in other words, a consumer-oriented site allows “anonymous” shoppers. Registration is usually an option that is presented as a convenience to shoppers, to save their profile for simpler subsequent purchases, to receive notification for special offers promotions, or to be notified of other services made available to registered shoppers. Sometimes shoppers are asked to register before placing an order. But even in this case, fundamentally the site is open to all shoppers, and registration is a simple process that shoppers can perform directly on the site.

On the other hand, for a B2B site, a customer is not a person, but is a company or a buying organization. The buying organization might have many employees or persons who are authorized to purchase on behalf of that customer. Customer registration is often a lengthy process, requiring setting up the account with fulfillment and supply chain systems, and setting up the necessary roles and responsibilities, carrying a credit check, and setting up contractual arrangements.

Consumer shoppers usually have their own profiles that they manage, including their addresses and preferences. On the other hand, all buyers from the same business customer share the same customer profile. They all automatically qualify for the same terms and conditions, have access to their company’s corporate payment instruments, and use the company’s purchase order numbers. Frequently, employees of buying organizations might not even be allowed to create personal profiles, but the company creates an account on their behalf.

In B2C sites, it would be a serious security violation if shoppers could see each other’s orders. However, with B2B sites, multiple persons in the same buying company might have access to each other’s shopping cart and order history. For example, one buyer might create the shopping cart, another might submit it, and a third person in the company might need to approve it.

> The rules governing business purchasing are different from the rules on a consumer retail site. Therefore, business-oriented sites look different from consumer sites, and the business rules and processes on these sites are fundamentally different from the business rules and processes on consumer sites.

With B2C sites, payment is usually done by credit card or an Internet payment provider such as PayPal. With B2B sites, business buyers frequently have arrangements through which they place an order by simply specifying a purchase order (PO) number. In this case, payment settlement is taken care of later, when the selling company bills the buyer. Even when payment is specified as part of checkout, business purchasing might use such payment options as corporate cards, procurement cards, and electronic funds transfer, which are not typical of consumer retail.

We thus see that B2B and B2C sites differ in just about every aspect of their presentation, flow, and business rules. In most cases, therefore, it would be unwise to try to serve both of these market segments with a single site.

Sites Targeted to Industry Segments

Often, companies create separate marketing organizations to sell to different industry segments. For example, SAP is a large vendor of Enterprise Resource Planning (ERP) systems. SAP creates solutions targeted at specific segments, such as Aerospace, Automotive, Banking, and so on. The same is true for many companies that sell software, electronics, telecommunications, or other products. In such situations, it makes sense for companies to create unique sites for different industry segments that they deal with. For example, they can create a site for educational institutions, for governments, or a site for auto dealers.

Within such industries, the buyers tend to have similar terminology, and even similar business processes. Even the product catalog can be structured in a way that is better-suited to customers in a particular industry. For example, a site for medical professionals would feature prominently the products related to their needs, rather than simply showing the global catalog, which contains perhaps hundreds of thousands of products, most of which are not needed within the medical segment.

Having such a targeted site can increase the sales by making products of interest to customers easier to buy. The company's reputation for being easy to do business with can also improve customer loyalty and can attract more customers to the site.

Targeted Sites in Consumer Retail

The improved effectiveness of segment-specific sites can also be powerful in consumer retail. The appearance of a site targeted to a particular market segment can be customized to best appeal to this group of customers. For example, marketing researchers have long known that adolescents and adults respond differently to such aspects as colors, style, and even the layout and flow of a site. Therefore, a site focused on adolescent buyers can be designed to be attractive to this audience. Such an adolescent-oriented site can have a "cool" look-and-feel, with a choice of brighter colors and content of interest to teenagers.

A site directed at women not only focuses on products deemed of interest to women, but also allows the use of advertising that is most effective with the female audience. If a new unidentified shopper visits a generic site, advertisers have no idea who the customer is and cannot create focused advertisements and promotions. However, advertising can be effective if most visitors to the site are known to be women. Such a targeted site can create advertisements or recommendations that are tested to work best with the typical visitors, even if the shoppers are not identified by their profile.

Creating a site targeted at an industry segment or a homogeneous group of customers can be useful to both improve customer loyalty and increase revenue.

Therefore, a site where the presentation is designed for the tastes of a particular market segment would be far more appealing to this group of customers and hence likely to have higher sales than a generic site. Such a targeted site would, therefore, have a better chance to increase the company's revenues and improve customer loyalty.

Product Divisions

Large manufacturers and distributors are sometimes organized in such a way that different divisions are responsible for different product lines. Although the entire company actually has only a single brand, the vast range of products sold by the company is partitioned into distinct independent divisions. For example, the IBM Corporation has distinct divisions responsible for software, storage, servers, semiconductors, and so on. Siemens Group based in Germany has divisions in several different sectors: fossil power, renewable energy, oil and gas divisions within the Energy Sector; imaging, diagnostics, and workflow solutions divisions in the Healthcare Sector, and so on.

Typically, in this scenario different divisions produce completely different products. Frequently, even the customers of the divisions are distinct; in other words, a customer might be interested in products of only one division or only one sector.

Each division has independent operations, and hence each division's business processes can be unique and different from other divisions. For example, some divisions can give their customers the ability to see the quantity of products in the inventory, whereas others do not. Some divisions can allow customers to request made-to-order products, but others do not. The terms of payment, fulfillment rules, and even customer registration procedures can all be completely different among divisions.

While the parent company might try to simplify all the different operations, it is virtually impossible to get the divisions to behave in exactly the same way. For historical reasons, the divisions' business processes and their internal systems are frequently incompatible with each other. It is therefore difficult to impose a change to make these divisions so similar that their needs can be served by a single site.

Often, the incompatibilities among the divisions cannot be blamed entirely on historical mistakes, corporate politics, and legacy systems. Rather, the differences in product lines inherently lead to differences in business procedures and in customer base, such as industrial customers versus small companies. After all, taking Siemens as an example, intuitively it is hard to imagine how a single site could be used both for hospitals to purchase MRI machines and for oil companies to procure equipment for oil platforms! Even though all these products carry the same Siemens brand, the different divisions do require separate sites to best address the requirements of their customers.

Companies have started to realize the proliferation of separate division sites causing confusion for customers who might be looking for products in multiple divisions. Therefore, some large manufacturers have started setting up portals that allow customers to access products in different divisions from a single starting point. In this environment, the company's portal gives customers a global view of all their purchases with the company and a convenient way to find and order products from multiple divisions.

Even within the environment of a portal, the business rules and processes of each division must be respected. Usually each division provides its services to the customers in its own unique way. In many ways, the portal brings together services provided by multiple divisions. For example, different divisions can provide services to view or search for orders, to search for products, and so on. Although the customer sees a single portal rather than multiple sites, from the company's point of view, there is still the need to provide distinct services, depending on the needs of each division.

A large company with a single brand can have many divisions that sell many different products. Differences in the divisions' product lines, business processes, and internal systems make it difficult to serve the needs of all the divisions on a single site.

A company might also set up a portal that presents products from multiple divisions to the customers. With this portal, customers see a single site that serves their needs; but from the company's point of view, there is still the need to provide distinct services, depending on the needs of each division.

Large Enterprise Procurement

A large customer often has specific requirements in how it does purchasing, and such a customer has the purchasing power to ask its supplier to customize its site to match the customer's internal processes. For example, say the seller allows regular business customers to have two kinds of roles, buyer and submitter, where the buyer creates orders, and only the submitter is allowed to submit the orders. Most customers might be willing to live with this setup and adjust their procurement practices so that their purchases with this seller are governed by these two roles.

However, a larger customer might already have instituted other roles, which the seller's B2B site does not provide. For example, the customer might have the role of *browser*, which is a person who can only view the catalog but not create orders, or it might require multiple levels of approval.

The large customer might have products produced exclusively for it, and hence its catalog might need to contain products or configurations of products that are not made available to other customers. In some cases, a large customer can request to make the purchasing site contain a company logo, or even to structure the site to look in accordance with a certain template so that employees using the customer's internal procurement portal do not even realize that they are viewing content from a third-party seller. Another example of a unique requirement is to allow a customer to enter additional justification and financial information with an order in accordance with the buying customer's internal accounting policies.

All these are but a few instances in which large customers might demand that the seller's site be customized to their needs. When competition among sellers is fierce and customer is king,

> Large customers have unique requirements in how they do purchasing, and they often ask their key suppliers to customize their purchasing site to match their internal processes. Creating multiple sites can, therefore, be necessary to accommodate the needs of large customers.

the seller is well advised to respect such demands from large customers. Realistically, if a seller has only a single purchasing site, accommodating the unique requirements of different large customers would be almost impossible.

A selling company's revenue usually depends on the ability to attract customers, and certainly attracting large corporate customers is frequently at the top of a company's agenda. Therefore, if the seller wants to win the business and loyalty of large corporate customers, it makes sense for the seller to create customized sites for such customers. Ideally, every large customer should have its own unique site so that as the customer's buying requirements evolve, the seller can accommodate without impacting other customers. Realistically, however, this approach only makes sense for the biggest customers, which have sufficient economic clout to make a customized site worthwhile.

Common Characteristics of Multiple Site Scenarios

We described some possible scenarios that lead to the need for multiple sites. Each company is unique in its approach to business and in its business processes. Nevertheless, we have collected here enough examples to see several similarities among the characteristics of multisite scenarios:

- Each site must have full control and manageability, the same as if it were the only site of the business. This means that the company, or the division of the company, needs to assign operators or administrators who are responsible for managing the content on the site, such as products or advertising content. The administrators must also manage orders or even provide assistance to customers who use the sites.
- The business needs the capability to quickly and cheaply create new sites. This is important due to possible acquisitions of additional companies that need to have their own sites, but it can also be necessary due to market realities, where a new site is necessary for a geographic location or for a particular segment of customers.
- The business needs the capability to easily shut down sites, temporarily or permanently. Temporary shutdowns are necessary in cases of technical problems, but also individual sites might need to be temporarily taken down for maintenance. Sites can also be shut down permanently, for example, due to company restructuring where divisions are merged or sold.
- The business needs the capability to easily make changes to all the sites or only some sites. For example, a product might need to be introduced in only one country, or an advertising campaign might be relevant to only one customer audience. Similarly, the company might want to change the look and feel of the site of one of the brands, while the other brands remain unchanged.

- It is implicitly expected by the business that all sites operate equally well, in terms of having fast performance even at peak times, having good security, and being reliable.

Summary

Fundamentally, commerce can be seen as simply buying and selling. Companies whose business is to sell products can employ many methods to grow their business. With online commerce, it is common that a company might want to create multiple sites to increase its revenue or to maintain its market share.

We listed several typical situations in which multiple sites are important to the success of the company's business. Table 1.1 summarizes these scenarios and the major differences between sites.

Table 1.1 Summary of Multisite Commerce Scenarios

Multisite Scenario	Examples	Major Differences Between Sites
Country sites	Sites for USA, UK, Germany, Japan, China	Language Products and prices customized to local needs Taxes, shipping, payment Presentation style Local regulations
Brand sites	Upscale brand versus value merchandise brand Brands focused on different products Acquired companies	Products Presentation and site flow Shipping, payment, and other business rules
Market segment sites	B2B and B2C: Sites dedicated to business versus consumer customers B2B sites targeted to industry segments B2C sites targeted to homogeneous group, such as women, men, or adolescents	Presentation and site flow Product selection for each segment Prices adjusted to segment needs Segment-specific content
Product division sites	Company has one brand but many product lines, each managed by a different division	Each division has different products Business rules
Large customer sites	Sites customized to the needs of large customers	Products might be created specifically for the customer Large customers require unique business rules

The scenarios that lead to the need to have multiple sites have common characteristics in the way that the sites are created and managed. For example, in all situations, the company needs to create sites easily, and each site must have full control and manageability, as if it were the only site of the business.

Index

E

J-K-L

M

Q

R