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The Top 10 Technical Considerations for Evaluating E-Commerce Platforms

Introduction

As the e-commerce Websites of more and more businesses come into their own as significant revenue drivers, major retailers are now recognizing their online stores as mission-critical businesses. And as they pay more attention to the online channel, many e-tailers are finding that the current e-commerce platform can no longer support their growth or evolving business needs. E-commerce executives and their IT counterparts are starting to look for more-sophisticated applications that can best meet their current and future needs.

Selecting the right e-commerce application for the long term can be a difficult exercise. It's not easy to base a decision on both current requirements and a vague, undetermined set of future needs that have not yet even hit the planning stages. Plus, at first glance, e-commerce Website functionality seems pretty straightforward and almost commoditized: all e-commerce Websites have product catalogs and offer ways to search for and navigate to desired items, they all have shopping carts, they all offer special promotions like free shipping, and they all offer secure transactions.

But those common, expected features belie a complex set of capabilities required to keep best-in-class Web stores appealing, responsive, and performing well at high transaction volumes over the long term. The difference between e-commerce application capabilities can spell the difference between an e-commerce site's success and failure.

This white paper offers 10 considerations to help guide the selection criteria for your next e-commerce platform—which should be the last e-commerce platform you ever need to buy.

Consideration 1: Scalability

Will the site perform efficiently through traffic peaks and valleys?

Scalability may be one of the most overused terms in IT marketing. Software makers would have you believe that every application ever written was destined to be scalable from inception. But if any application has to be scalable, it is certainly a major e-commerce Website. Sluggish internal applications are annoying, but unresponsive customer-facing applications will frustrate your customers, drive them to your competitors, and kill your online business.

An e-commerce Website is only as good as its ability to handle its peak traffic. As your Website popularity increases, it needs to scale with minimal effort so you can avoid incurring disproportionate infrastructure management costs.

When evaluating e-commerce applications, look for businesses that are similar in size and profile to yours. Ask yourself the following questions:

- What is the peak number of visits (or open sessions) the site has supported?
- How many orders per day does the site take?
- How many page views per visit does each visitor make on average?
- How big or complex is the product catalog, and how many categories, products, and stock-keeping units (SKUs) are in it?
- What is the average response time of the home page and typical detail pages?
- How much hardware, software, and infrastructure are required to handle these volumes?

Consideration 2: The Product Catalog

Will today's catalog schema meet tomorrow's demands?

Your product catalog is the online repository for every item you sell. It has to effectively promote the items you most want to push, and simultaneously help your customers find the items they are looking for. But poorly constructed product catalogs can be rigid and uncompromising, especially if the product attributes you want to store don't naturally align with the definitions set in your e-commerce application. To make an inflexible product catalog accommodate business realities, companies end up misusing data fields, filling irrelevant mandatory data fields with gibberish, duplicating data in multiple places, and inventing esoteric codes to artificially accommodate information the catalog doesn't natively support.

It can be difficult to predict what kind of products you will be selling in the future, and what other applications may need to populate your catalogs. You have to prepare for the unknown. The combination of an inflexible application and short-sighted business planning results in potentially

catastrophic inflexibility. Companies lose the agility needed to quickly adjust offers and promotions and to continually adapt to changing e-commerce business needs.

When evaluating e-commerce applications, understand how flexible the product catalog really is. Ask yourself the following questions:

- Can the catalog represent different types of products with different attributes, and what are the limitations?
- How many product categories and subcategories will the catalog support?
- Can a single product or subcategory exist in multiple categories without data duplication?
- Can different catalogs be defined for purposes other than a business-to-consumer (B2C) store?
- How easy is it to relate accessories and create bundles?

Consideration 3: Business User Control

Will my application directly empower my merchandisers, marketing managers, and other business owners?

Many IT managers long for a world where there are no demanding business users. They long for the end of business requests that seemingly come from left field, or arrive urgently at the last minute. They crave a way to offload day-to-day updates and edits back to the business. Many e-commerce applications require IT resources for daily maintenance, let alone major projects. As a result, your business users are totally disconnected from the daily workings of your e-commerce site. They send their change requests to IT, and IT has no choice but to react. IT has difficulty planning and prioritizing, as they deal with a continual barrage of urgent high-priority updates.

But business users like to take control, and every task that they can safely do themselves means one less task that IT will have to do.

When evaluating e-commerce applications, you must make sure that the application you choose will be technically and architecturally sound with proven capabilities. But also look for tools that your business managers can use themselves. Ask yourself the following questions:

- Can product and category managers control their parts of the catalog?
- Can merchandisers define promotions and discounts on products, orders, and shipments without IT involvement?
- Can a targeted e-mail campaign be sent without IT extracting the customer lists?
- Can executives pull their own standard reports, and even create their own new ones?
- Can business users directly manage critical and constantly changing content such as the home page?
- Can business users do all these activities with the confidence that they won't "break" the Website?

Consideration 4: Search

How easily can customers find what they want, and how easily can I promote the products I want to push based on customer searches?

The search box is often the first tool an e-commerce customer uses. There was a time when expectations of search were pretty low. Today, users expect search to not only find but also guide them to the products they're looking for. A search experience that really works for your customers can significantly increase online revenue. However, your own site search is just one piece of the puzzle. External search engines such as Yahoo! and Google also need to find your products. This causes headaches for site managers with dynamically generated e-commerce pages, because search engine spiders are likely to misinterpret what they find on a dynamically generated page. As we all know from our own online experiences, there is nothing more frustrating to customers than searching for but not finding something that we know is on your site somewhere.

When evaluating e-commerce applications, look for business controls that support a compelling and personal search experience. Ask yourself the following questions:

- How easily can I integrate an e-commerce search experience into my online store?
- What product attributes can customers search on?
- What happens if customers search using terms that are similar to but not the exact words of my product descriptions? What if they make spelling mistakes?
- Can I learn about my customers based on their searches?
- Is the search engine preintegrated and catalog aware?
- Can I present relevant promotions as customers search my site?
- What business control do I have in creating filtering and navigation paths?
- How easily can external search spiders index my dynamic site?

Consideration 5: Agility

How easily can I implement business requests to monitor and respond to an individual Web visitor's behavior?

Imagine this scenario and see if it rings any bells: The marketing team of an electronics e-tailer wants to push high-definition televisions (HDTVs) over the next two weeks. For every Web visitor who looks at more than five HDTVs and for whom they have an e-mail address, they want to send an e-mail presenting the special offers.

IT: Sounds doable with a little coding.

Marketing: Here's a new wrinkle—we want to send the e-mail to anyone viewing the five HDTVs within the two-week period, not in a single session.

IT: That's trickier. We'll need to store and increment a value, which means a database schema change.

Marketing: We don't want a customer to receive more than one e-mail if they look at ten HDTVs.

IT: This is turning into a pretty big effort for a two-week promotion. I'm not sure I can even get the changes complete and tested in two weeks.

Marketing: We want a report on results.

IT: You've got to be kidding me!

Similar dramas are played out in every online business. IT is frustrated that marketers don't appreciate the difficulty of implementing their requests, especially with their tight time frames. But this type of business need is exactly what e-commerce platforms must support. In an ideal world, an e-commerce application would implement these kinds of requests without any page, code, or database changes. A manager would simply describe what to monitor and what should happen when the application finds activity that fits the criteria. The application would take it from there.

When evaluating e-commerce applications, look for a solution that can monitor customer activity on your site, and can then take action based on identified behavior. Ask yourself the following questions:

- What Website behaviors can be easily monitored?
- Is monitoring restricted to a single Web visit, or can it span multiple sessions?
- What automatic actions can I take once I recognize a desired behavior?
- How do I manage business rules and marketing scenarios?
- Most importantly, how much time and resources will be required to implement these activities, and can they be reused?

Consideration 6: Reporting and Analytics

Do I have all the features I need to understand my online business?

Your e-commerce Website stores a treasure trove of information about your customers, their behavior, and their preferences. But businesses typically struggle to figure out how to leverage the business value this data holds. Configuring your site to capture and log all the available information can be an arduous job, especially when the data is coming from a large variety of sources. Furthermore, you may be using the data in different ways over time, and you may need new information to drive specific campaigns. Or, you may want to base campaigns on different behavior from what you've been tracking.

When evaluating e-commerce applications, remember that you can't control what you can't measure. Having rich insight into the running of your online store is critical to your ongoing success. Ask yourself the following questions:

- How does the site capture and store both historic and behavioral data?
- What insights can I get from customers' searches?

- What preintegrated tools extract business intelligence from this data?
- What reports and dashboards offer visibility into my business?
- How easy is it to monitor business metrics like conversion rates and average order sizes?
- Do the reports allow me to drill down to find the data behind the results?
- How easily can I create ad hoc reports to get quick answers to specific questions?
- Can I merge Web data with my non-Web data to see a multichannel view of my business?

Consideration 7: Standards

Is the application built on a standards-based platform?

You've probably seen some nice applications that solve all sorts of business problems, only to later discover that they were coded in a language, database, or framework not supported by the skills of your people. If you adopt the application and train your staff to support it, they'll be concerned about career limitations by tying themselves too closely to this esoteric solution.

E-commerce is no longer a renegade outpost of IT. It's a fundamental, mission-critical organization within a business' systems portfolio. It must run on a standards-based platform that can be supported by standard skill sets across the organization and in the wider marketplace. You'll want the flexibility to go to a broad selection of agencies and systems integrators for development. In today's enterprise applications, the technology playing field has narrowed to either a Java/J2EE or Microsoft .NET architecture. Furthermore, industry analysts such as Gartner strongly recommend that businesses adopt a "buy" rather than a "build" approach when looking for e-commerce applications.

Consideration 8: Integration

How easily can the application integrate with my other systems?

The e-commerce Website, once a standalone silo, is now a highly integrated application that touches many other systems and processes. The team that develops and supports it contains a mix of technical and business professionals who drive an important part of the corporate strategy. As businesses become more imaginative about how they mix their Web channel with other customer touchpoints, clean and easy integration is mandatory. Just about every element of an e-commerce application may be either self-contained or driven by other systems.

When evaluating e-commerce applications, look for modularity, which will let you customize or tweak each individual aspect of the application to meet your unique business requirements. In addition, with a modular solution, you won't compromise the integrity of the rest of your site in the process. Ask yourself the following questions:

- Where does the application store customer data?
- Which system owns the master product catalog?

- Which application owns the current SKU inventory count?
- Which application owns pricing?
- Which application does the financial reporting?
- How are orders communicated and fulfilled, and what happens when things go wrong? How are credit card details authorized, and how is transaction settlement handled?
- How is fraud detection handled?
- How can promotions and discounts be synchronized with the other channels?
- How can the Web application integrate with in-store systems for in-store pickup or returns processing?

Consideration 9: Interoperability

Does the application function within a service-oriented architecture?

Many forward-thinking businesses want their different applications to be able to “play together” so that new composite applications and business processes can be quickly assembled to increase market competitiveness. Service-oriented architecture (SOA) and the ability to wire applications together based upon a Web services backbone will be important elements in improving a business’s ability to respond to changing business conditions. Your e-commerce application may be an integral part of any such architecture. This is true both for the data your e-commerce application stores (such as information on customers, products, and pricing) and for the business processes it supports (such as order placement and inventory updates).

When evaluating e-commerce applications, look for flexible enterprise architectures and think carefully about how the application can interoperate with other systems. Ask yourself the following questions:

- Can the application support business-to-business (B2B) and business-to-business-to-consumer (B2B2C) business processes?
- Can the application support other interactions beyond shopping, such as Web self-service or customer care?
- What information in the e-commerce application is presented through Web services, and how does the application do this?
- Which business processes are available as Web services, so that other applications can easily invoke them?
- How can the application connect to my enterprise SOA, to stay aware of important business events happening elsewhere in my business?

Consideration 10: Synergy

Will the application support business models beyond B2C e-commerce?

IT organizations everywhere are looking for every opportunity to maximize their technology investments across their enterprise. Some are recognizing similarities among the solutions for different business channels, including B2C Websites, different brand sites, small business e-commerce sites, enterprise accounts portals, and channel partner portals. They imagine that it might be easy to consolidate these channels onto a single platform. Although initially your business probably selected an e-commerce application based on its ability to meet the needs of one part of your business, it's a good idea to look at where and how that application could support your other business relationships.

Simple B2C e-commerce applications are built to support individual customers, orders, and credit cards, but business relationships can get much more complicated than that. When your top-tier business accounts buy in volume from you, they don't want to enter a credit card number for every order they place.

When evaluating e-commerce applications, expect that you will eventually want to leverage your e-commerce application investment in other parts of your business. Understand how the application can support those requirements up front. Ask yourself the following questions:

- Can the e-commerce application support customer profiles *and* organizational profiles such as an “account” or a “business”?
- Can hierarchical businesses structures be modeled?
- Can different roles be defined, and permissions set against them?
- Can different contract types, catalogs, price lists, and discounting structures be set up, perhaps for every company I do business with?
- Can the application support tiered and volume discounting structures?
- Can purchase limits and approval processes be easily implemented?
- Can purchases be made against cost centers and purchase orders, as well as be followed up with invoicing?

Conclusion

When so many e-commerce applications appear to share the same set of functions and features at the “checkbox level,” the real differences don't become apparent until you examine the fine print. With a heritage of powering the e-commerce sites of some of the largest businesses in the world, and with best-in-class ratings from leading analysts, Oracle can expertly guide you through the key questions to ask and criteria to consider as you prepare to invest in an e-commerce platform that will help your business succeed in a competitive market.



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