



The Necessity of e-Business in Today's World - An Insight Into ATG eCommerce



WHITE PAPER

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Why eCommerce?

Recent reports have indicated that electronic commerce (eCommerce) customer satisfaction levels have surpassed traditional retail. According to Forrester research (See reference 4 on page 7 to view Forrester report) 58 percent of consumers start their product search on the web and 25 percent of all purchases whether made online, in stores, or via other channels, begin with a visit to a manufacturer web site. Consumers spend more time on the Web than any other media and the experience a consumer has on that site plays a big role in their future purchase decision, whether online or off. Unlike the broadcast and print media of the past, the Web lets you, the consumer product manufacturer (CPM), create an interactive experience, personalized to each of your target consumers. While the Web provides a powerful platform that lets you take control of your brand in a dynamic way, it also opens up new avenues for selling to un-served market segments, capturing additional revenues without compromising your mainstream retail distribution strategy. Online marketing campaigns have been proven not only to grow a retailer's eCommerce sales but also to have the ability to drive increased traffic into retail stores. According to Gartner that 75% of Fortune 1000 companies will increase their investments in eCommerce next year. Eighteen percent of North American and 23% of European enterprises plan new or major upgrades of eCommerce related platform technologies in the near future.

eCommerce Features

Now is an opportunity for consumer product manufacturer (CPM) to engage with the customers directly via the web. CPM will use the best practices for using the web to support all aspects of the consumer buying cycle, from research to selection to purchase. With the exposure provided by eCommerce, below is the list of ways to engage customers directly.

- The web offers a low cost way to reach consumers who are not currently served by retail distribution channels. This enables the vendors to reach customers across nations
- The web page content can be used to drive multi-channel sales. Consumers have started looking for informational content on the web site and make their purchases online; sometimes consumers complete their purchase at retailer's physical store also. The vendor can take advantage of this trend by making their site a destination for all products and brand information a consumer needs to make the decision to buy their product in the store, not their competitor's
- The web site should be designed in such a manner that it should get into consumers' heads and keep their attention. The marketer's ultimate goal is to offer the web visitor the most relevant and gratifying experience
- The vendor should understand the target markets, customers before bringing personalization to the web
- The vendor can personalize the web to a whole new level by customizing the site to each and every individual user, and integrating that personalized site with personalized online marketing campaigns
- The web can make the consumers interaction sparkle. The web makes the marketer's toolkit more powerful than ever. Rich media platforms make it possible for marketers to present their merchandise in a richly-engaging fashion
- The web can be made to recommend automatically for new product suggestions. To do this, the Web site would use the most advanced, sophisticated automated personalization technology that leads to true competitive advantage
- Another advanced personalization technique now coming of age is "Searchandising" - enhancing site search with your Web merchandising strategy. Like the other personalization techniques described above, searchandising helps the seller keep all aspects of the brand relationship and every step of the interaction irrelevant. The seller has to decide on his Unique Selling Point (USP). For the online strategy each brand, product, service needs to be associated to a taxonomy- a set of words, phrases, concepts, which must be, should be aligned with the verbiage used on the web for the particular country, region, language and most importantly for the market segment you are trying to attract - it needs to be localized, customized, personalized to be effective (See reference 2 on page 7 for the MphasiS white paper on Improved Findability). The web site should capture User-written ratings & reviews and user communities have tremendous influence on consumer purchasing. Quotes can be used in advertising, catalogs, and signage. Plus, a well-stated comment from a consumer can often bring tremendous clarity and insight to the marketer. The companies that make user reviews work best are eager to hear customer feedback, and in fact make efforts to get as much buyer participation as possible
- Site should take care of customer retention. A loyal consumer can be hard to acquire, but once earned is an asset worth her/his weight in gold. Research shows that 67 percent of loyal consumers tend to stick with a brand they trust. The lion's share of loyal consumers -- over 60 percent -- will also visit a favored

brand's Web site once a month or more frequently. Acquiring new customers can cost five times more than satisfying and retaining an existing customer.

eCommerce Evaluation

More retailers are now recognizing their online stores as mission critical businesses. eCommerce executives are looking for more sophisticated applications that can best meet their long term requirement. All commerce web sites have product catalogs, offer ways to search for and navigate to desired items. They offer shopping carts, free shipping and secure transactions. Below is a list of ten considerations that helps guide to build the next eCommerce platform.

Scalability: For an eCommerce application to retain the customers successfully it has to be scalable. An eCommerce website is only as good as its ability to handle its peak traffic. When evaluating an eCommerce application, look for businesses that are similar in size and profile like the number of peak visits that site supports, maximum orders per day the site can take, maximum number of pages that user views per visit, complexity of the product catalog, average response time for home and detail pages for display and infrastructure required to handle these volumes. The latest trend in scalability points to XTP. XTP is defined by Gartner as: "an application style aimed at supporting the design, development, deployment, management and maintenance of distributed TP applications characterized by exceptionally demanding performance, scalability, availability, security, manageability and dependability requirements". See point 7 under References section in this paper. If the application is Java/J2EE based we can deploy the application on top of Web Sphere, to achieve high scalability using Extreme Transaction Processing (XTP).

Product Catalog: The challenge will be to find whether today's catalog will be able to meet tomorrow's challenges. A product catalog is an online repository that helps to promote and push the product, help the customers to find the product. Common problems faced are poorly constructed product catalogs, inflexible product catalogs and related issues like filling irrelevant data, duplicating data in multiple places. To overcome this and accommodate products to sell in future and what other applications may need to update the catalogs and to adapt changing eCommerce needs, few things needs to be evaluated. They are whether the catalog can represent different types of product, product category and sub-category the catalog will support, can a single product or single category exist in multiple categories without duplication. The application should easily promote the product and pricing catalog across

different web sites, since the catalog can be shared across sites and managed in one place. Hence all sites can target content based on a common set of data.

Business user tools: These tools must help various users on the vendor side like merchandisers, marketing people, commercial manager, deployment manager/administrator, business owners to do the changes with minimal dependency. Many eCommerce applications require IT resources for daily maintenance, to accommodate all the business changes posed by the business users. When evaluating eCommerce applications, the tool has to be technically and architecturally sound with proven capabilities like enabling the managers, merchandisers, who are pure non technical business users to control the catalog, to define promotions and discounts, to extract customer list, pull their own standard reports, and helps business users to manage critical and constantly changing content by themselves without any assistance from technology team. Merchandising also include marketing executives who work on a day to day basis and do changes to the application like creating marketing campaigns. Business user tools must enable merchants and marketing organizations to increase productivity by taking more direct control of the web store, to speed their reaction to business shifts and perform tactical activities - without relying on IT.

Search: This feature helps users to evaluate and find what they want. Search box is the first tool that an eCommerce user uses. A well designed and effective search page increases the site's revenue. When evaluating an eCommerce application for the search feature, first find how easily the user can integrate an eCommerce search experience into his online store, list of product attributes he can search, and what happens while searching similar terms. Is it possible to learn about customers based on searches? Is the search engine pre-integrated and catalog aware? Is it possible to publish promotions as part of search? Also find how easily external search spiders can index my dynamic site. To ensure that site attracts visitors, application needs to invest in a methodology called Search Engine Optimization (SEO) (See reference 2 on page 7 for the MphasiS white paper on Improved Findability). SEO focuses on leveraging gateways and hubs to drive users to the customer's site.

Agility: Helps to determine how easily business requests are implemented to monitor and respond to an individual web visitor behavior. When evaluating eCommerce application for a particular feature, look for a solution that can monitor customer activity on the website, and can then quickly take action based on identified behavior. The vendor needs to know what website behaviors can be monitored, is it restricted

to single visit or multiple sessions, possible automatic actions that can be taken once a desired behavior is recognized, how business rules and marketing scenarios are managed, and the number of resource required to implement these activities and the re-use factor. Agility is the way by which we can monitor live data based on which we can immediately rollout marketing campaigns, whereas detailed reports are generated normally based on historic data.

Reporting & Analytics: Helps to introspect whether all information are available to understand the online business. eCommerce website stores a veritable treasure trove of information about customers, their behavior, and preferences. When evaluating eCommerce application need to have rich insight into running of online store which is critical to success of the eCommerce site. Features to look for include how does the site capture and store historical and behavioral data, kind of business intelligence extracted from this data, what reports and dashboards offer visibility into my business, how easy to monitor business metrics like conversion rates, does the reports have drill down facility, creating ad-hoc reports.

Standards: eCommerce application must run on a standard-based platform that can be supported by standard skill-sets across organizations and in the wider marketplace.

Integration: eCommerce is part of a big picture. eCommerce has to integrate with surround systems that include Order management and fulfillment, inventory and warehouse management, address verification system, fraud verification system, payment gateways, BI system. It is to be evaluated how easily eCommerce application can be integrated with the above mentioned support systems. A well designed eCommerce application must have a modular architecture and well defined integration points or hooks making it easy to integrate with other surround systems.

Interoperability: Integration deals with fitment with other surround systems. Interoperability encompasses ways of integrating the eCommerce solution with the surround systems. Two widely used approaches are a) messaging based and b) web service based. A well architected eCommerce solution must support both push and pull based interoperability with its surround systems by either of the above mentioned approaches.

Synergy: Need to find whether application support other business models like integrating other eCommerce web sites, enterprise accounts portal and channel partner portal. It should be explored whether the original eCommerce application can support other business relationships. When evaluating eCommerce application it should be found whether hierarchical

business structures can be modeled, can roles and permissions be set, how to setup catalogs, can purchase limit and approval process be easily implemented.

eCommerce Development

The development of an eCommerce application from scratch requires a lot of investment in terms of time and cost. A lot of time has to be spent on understanding the requirements and the discovery and design phase itself can run into months, not to talk about the coding and implementation, leading to a prolonged time to market. The current eCommerce demands are really vast and any application that is developed has to have all the features explained above and the application has to be evaluated based on set of points discussed under the section eCommerce evaluation.

Data collected from public web sites suggest that developing an eCommerce application with basic features like catalog management, merchandising features, campaign management, and shopping cart functionality in Java or Microsoft technology would require at least require two years to design, develop, test and integrate the application. (See reference 8 on page 7). Then there's the matter of finding and keeping experienced staff to build the solution. Plus the organization would have to maintain another million lines of code. A more complex issue here is to determine who will maintain what portion of the code and the huge amount of documentation involved. In the end it has to be ensured that the end product should be agile enough to meet the changing demands. This will lead to one more interesting question whether the firms would prefer to build or to buy eCommerce solutions. The market offers both partial open-source model and full end to end solutions.

Open-Source Solutions

There are number of open-source solutions available for eCommerce like Zen Cart and osCommerce (See reference 5 and 6 on page 7 for Zen Cart and osCommerce) to name a few. But these open-source solutions are partial in the respect that only shopping cart and product catalog features are primarily available. So there are many features like personalization, search, merchandising, customer service module, reports and integration missing and eCommerce application development around these open source packages involve identifying further more open source/commercial packages for addressing the above lacunae. Hence to get a complete end-to-end solution and to reduce the time to market it is better to go for an out of the box complete solution even if it is commercial.

Note

Since no one owns open source packages, the longevity of these open source packages is a question mark. For example, recently an open source framework from Apache, by name Shale has been retired.

End To End Solution

Over the past ten years the eCommerce platform has evolved into much more than just a shopping cart to manage transactions. Forrester evaluated the strengths and weaknesses of top eCommerce platform vendors and found that ATG and IBM lead the pack. According to the data(See Reference 4 provided on page 7) published, it is found that most firms find buying an eCommerce platform and combining the packaged functionality with custom services offers greater benefits in agility and scalability, outweighing the custom fit and control that a build approach provides.

Why ATG?

ATG provides robust and flexible eCommerce capabilities with solid management tools. According to Forrester report (See reference 9 on page 7) ATG continues to be a leader in B2C eCommerce platform solutions as evidenced by more than 180 new customers in the past 12 months. ATG combines a strong and well-rounded eCommerce feature as discussed under features and evaluation of this paper. ATG has a rich ability to integrate into the enterprise and provides strong multichannel capabilities. ATG maintains a strong vision for the product and a clear focus on the B2C eCommerce customer needs, pushing its product forward in a consistent manner.

ATG Commerce Suite

ATG offers the most comprehensive, most scalable, most stable eCommerce solution available today, proven for over a decade in most high-volume, high-transaction environments. ATG offers all the capabilities and flexibility a firm would require meeting their unique requirements - firms can personalize their site with dynamic targeting capabilities to boost conversion rates, order sizes, and customer loyalty. It provides improved search and navigation features.

- **Merchandising and content management:** (See reference 1 provided on page 7 to view the ATG suite features)ATG's business-user friendly interface gives merchandisers direct control of your online store and quickly connects shoppers with items most likely to interest them. Without relying on IT, merchandisers can perform essential functions themselves, ranging from editing product prices and attributes; adding or removing catalog items; updating promotions, coupons, and special offers; to integrating back-end data. ATG helps merchandisers manage your online catalogs, products, promotions, pricing, coupons and special offers to turn shoppers into buyers.
- **Personalization:** ATG enables you to analyze customer's online behavior, gather demographic information, and leverage all available data to present right offers to the right customer at the right time, while automatically adapting to customer's subsequent actions and changing circumstances.
- **Shopping cart:** Shopping carts real objective is to provide value to the customer. Any change made to the shopping cart should increase the benefit for the customer, help them to discover new products, help them find great deals; help them take care of their gift shopping. Another important feature that can be offered is persistent shopping cart. A persistent cart is one a shopper creates in one web session, and can then see again.
- **eCommerce search and advanced searchandising:** ATG's integrated search solution surrounds customers with relevant information, and makes it easy for shoppers to quickly and efficiently navigate your eCommerce site and discover new merchandise. Combined search, merchandising, personalization and security features help you tailor search results and dynamically change the shopping experience for specific segments.
- **e-Mail and Web marketing:** ATG helps you build brand strength and customer loyalty by giving you the tools to develop personalized, multi-stage campaigns those closely integrate your web site with your e-mail. As a result, you can ensure that every campaign is consistent, relevant, and cost effective, while showing

your customers that you understand and respect their preferences.

- **Multivariate testing:** Marketers can easily evaluate ROI by performing multivariate testing. ATG's wizards-based user interface allows you to test Web marketing-based promotions, online products segmentation strategies, and/or overall Web site design and functionality, to make sure your site maximizes results.
- **Automated Recommendations:** ATG offers a powerful, predictive on demand service that enables your Web site to automatically deliver relevant recommendations to every Web site visitor. ATG Recommendations observes visitor behavior and shopping cart content, analyses the catalog, considers other factors such as demographics, buying history or the behavior of other visitors, and then automatically makes product recommendations. No active management on the merchandiser's part is required.
- **Support for user generated content and rich media (Web 2.0):** ATG's targeting capabilities help merchants manage user-generated content, so the most personally relevant postings guide purchase decisions. Community input helps merchants deliver intelligent recommendations and present highly rated products and promotions more prominently.
- **Reporting/Analytics:** ATG uses data mart and reporting capabilities to easily monitor and analyze eCommerce and customer care performance. It combines key data from the ATG environment, such as purchases, searches, escalations, and click-throughs, with behavioral data from Web traffic analysis and available demographic data, such as age, gender, and geography.
- **Business-to-Business (B2B) eCommerce:**
In addition to all its rich B2C eCommerce expertise, ATG offers added capabilities to help you manage relationships and transact business with your indirect channels including distributors, retailers, and online marketplaces. ATG's B2B features include contract-based product catalogs, contract-based pricing, purchase lists, approvals workflow, order restrictions, requisitions, and cost center-based shipping.

Clients

Long standing clients - Best Buy, Procter and Gamble, Nike, Neiman Marcus, AT&T, Target. (Clients who have been with ATG for 7+ years) Recently acquired client (in the last 2 years) - Vodafone, Tesco, Wal-Mart, Future bazaar, NYCO.

Pain points with ATG - Though ATG is a pure Java/JEE solution, it uses component based proprietary API's, which is deemed to be slightly complex. So finding good ATG resources in the job market has always been tough and training resources does consume lot of time, because of the steep learning curve. Also the ATG's licensing cost is on the higher side and hence small and medium sized eCommerce implementations might find the cost to be a deterrent.

Note

Some of the leading retailers in the world have shelved their custom developed eCommerce products, which was developed over years with lots of time and cost in favor ATG eCommerce solution. Time to market ATG eCommerce suite takes only one-tenth of the time required to develop and maintain a custom eCommerce package.

Conclusion

ATG's eCommerce solution is top ranked by the industry's most influential analyst firms. ATG gives marketers, merchandisers, and customer service agents everything they need to attract new online customers; increase conversion rates and average order size; and continually improve customer loyalty. Consumers gain an online shopping experience that quickly connects them with the products that are just right for them, at just the right time.

This document is intended for senior architects, business analyst, eCommerce architects, solution architects, technical leaders, project managers, and CRM.

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