e-Commerce
Custom Solutions for a First-Timer

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Introduction

E-commerce, (“e-Comm”) means many things to many people.  First and foremost, it represents great opportunity.  Many people perceive Internet-based sales in the same way “easterners” saw California in 1849 – the path to easy riches.  Reality shows that it is neither easy, nor a guaranteed path to wealth.  Like most business ventures, it requires planning, hard work, dedication, and resources to make an e-Comm enterprise successful.

This paper, authored by Marathon Consulting, LLC, is intended for the individual or organization seeking three goals:

1. Developing More Knowledge about the e-Comm opportunity and what it takes to succeed
2. Understanding the Technical Complexities of a custom solution and why selling a great product through a website often requires more than meets the eye
3. Avoiding the Risks that often cause unpleasant surprise and failure.

Definition

For the purposes of this whitepaper, Marathon defines e-commerce as follows:

E-Commerce is the practice of selling goods or services over the Internet; it includes all aspects of the sales cycle, including marketing, pricing, order initiation, credit checking, inventory allocation, order fulfillment, and payment collection; it includes both wholesale and retail; the buyer may be the end consumer, or a manufacturer/distributor.

This paper does not address other forms of electronic commerce, such as Electronic Data Interchange (EDI), or the use of facsimile and other electronic devices to communicate sales orders and other sales documents.  EDI is excluded because it does not include the functionality required to reach the buyer and promote the product.  In reality, it is a data transport medium.
The Architecture

Perhaps the most commonly misunderstood aspect of the e-Comm arena is the functional architecture. Some level of technology is needed to meet these functional requirements. The resulting technical architecture is where the complexity of the e-Comm enterprise begins to take shape. An illustration of the functional architecture is included below.

EXHIBIT 1

When these functional requirements are aligned with the technical components needed to successfully complete the sales cycle, the architecture looks like this:

EXHIBIT 2

While differing terminology might cause overlap among the technical components, one can easily see how the complexity multiplies when additional automation is brought into play. Increasing sales volume adds to the importance of the components. More volume also makes the technology selection a series of very important decisions.
One can also see that the typical packaged shopping cart software solution only addresses a small portion of the entire sales cycle, leaving the sales organization to fill the remainder of the functional requirements themselves. Integration of the various technical components can become a significant and costly challenge to many businesses.

**Reaching the Buyer**

E-Comm, like all other forms of commerce, is largely dependent on the seller’s ability to reach the potential buyer, and then motivate that individual to make a purchase. Regardless of how a product or service is promoted, that promotion has to occur in order to make the potential buyer aware that the seller exists. Whether the promotion is limited to word-of-mouth, or done via a million dollar advertising campaign, the seller’s message has to get to the people he or she wants to reach.

Unfortunately, this marketing axiom is often ignored or minimized by many organizations who are trying e-Comm for the first time.

A big reason for downplaying the importance of promotion is that the Internet successes have been so over-sold. The rare, overnight, million-dollar successes are often touted in the media.

However, the reality is far different. The thousands of failed Internet ventures are never reported. They are not news. They do not generate attention because they happen so frequently.

One prevailing opinion is that these failures often occur because of inadequate marketing. If potential buyers do not know the seller exists, they cannot make a purchase from them. If sellers do not develop a cost-effective approach to drawing buyers to their site, sales will never happen. A common approach seen in these failed ventures is the launch of an e-Comm website, loading it with product images and pricing information, and waiting for the sales orders to begin pouring in. Unless the seller is offering a product or service that is so unique and so compelling that its mere arrival in the market is going to generate huge amounts of media coverage, sales will most likely be limited. Unfortunately, most sellers do not enter the market with such a unique product. Therefore, they are likely to be disappointed in their sales.

There are numerous methods for promoting the seller’s online store: traditional advertising in other media, Internet-based advertising, special promotional events, guerilla marketing, and others. The two that are the most
closely related to e-Commerce are Search Engine Optimization (SEO) and Pay-per-Click (PPC sometimes referred to as Search Engine Marketing, or SEM).

The most appealing virtue of these two approaches is their ability to be measured. Once one, or both, of these tools are implemented, the seller has access to several key metrics that provide insight to the relative performance of different tactics. For instance, the seller can easily see how website traffic and sales are affected by different messages and graphics, how shoppers search for their goods or services, how different graphic approaches affect sales, etc. From the author’s viewpoint, no other form of advertising offers this ability to quantify results at this level of detail.

SEO addresses the relative ranking of the seller’s Website as compared to other sites containing similar content. The formula used to compute the rankings and list the sites on a Search Results Page (SRP) in descending order of relevance is comprised of hundreds of variables, uniquely defined by each Search Engine. The variables also differ in nature. Some are related to content. Some are related to site architecture and other characteristics. The overriding goal is to provide the Internet searcher with a list of sites that are most likely to provide meaningful content on the search terms entered. The search terms or phrases are often referred to as “Keywords,” even though they usually contain more than a single “word.” Reliance on site content and structure instead of paid advertising is often referred to as “organic” search.

Because of the nature of the ranking algorithms and the positive impact that SEO can have on the shoppers’ ability to find a Website, SEO sometimes requires the reconstruction of the site, or reconstructions of major portions of the site. For many companies, the benefits overcome the costs of undertaking such a project. For firms launching a new e-Comm Website, the implementation of a well thought-out SEO strategy is mandatory.

When done in accordance with industry best practices, a Website optimized for search performance can provide economic benefit for years. Therefore, investing in SEO is usually seen as a solid long term investment.
Because the full benefit of SEO depends on the search engine provider’s (Google in the majority of cases) timeliness in ranking the site, it sometimes takes weeks or months to observe a measurable improvement in site traffic.

PPC has many of the characteristics of an advertising campaign because of the way a PPC initiative is launched and managed. PPC addresses the practice of bidding for the use of certain keywords in order to place the seller’s Website high on a certain portion of an SRP. Users of Google will usually see a portion of the SRP designated as “Sponsored Links”, or otherwise made to stand out from the main portion of the SRP that displays the results of an “organic” search.

The development of an effective PPC initiative is highly dependent on the research and selection of the Keywords on which the seller wants to bid. The act of selecting and bidding is often referred to as a “Bid Strategy.” This process is the subject of entire books. Therefore, this paper only attempts to familiarize the reader with the concept.

The Bid Strategy requires the seller or a knowledgeable consultant to determine which Keywords are typically used when a shopper is using a search engine to find a firm like the seller’s. It is not unusual to see a list of relevant Keywords contain 1,500 or more phrases. When a seller or more than one seller selects a Keyword, they submit a monetary bid to the search engine provider. The provider then places the highest bidder at the top of the listing, with the lower bidders listed below and in descending order. While site content plays into the ranking to a certain degree, the Bid Price is the priority factor. If a shopper clicks on the seller’s link, the seller pays the per-click Bid Price to the search engine provider.

Many of these Keywords are extremely competitive and bring high bids. Bid prices can range from a few cents to over $10 dollars per click. Money can easily be wasted or misspent without a well thought-out bid strategy. Therefore, the Bid Strategy is best left to the experts.

PPC initiatives are often managed like a traditional advertising campaign in that they run for a specified duration or coincide with a special event. The seller has a great deal of flexibility in regards to how the bid expenditure is managed. Budgets can be established in order to time the expenditures, thereby matching the Internet traffic flow to the seller’s schedule.
In both SEO and PPC, Keyword selection is vitally important. In many cases, firms launching a new e-Comm Website will develop a Keyword strategy as the first step in the process, and then use that knowledge both in the construction of the site and in later PPC campaigns.

Unfortunately, SEO, and to a lesser extent PPC, are subject to abuse through the use of illicit techniques. All of the major search engine providers have published rules defining the techniques which they consider improper. Use of these prohibited techniques can and does result in the seller being “blacklisted” by the search engine. That is, their site will be blocked from appearing on any Search Results Pages provided by that search engine company. This can be devastating to a business.

Another unfortunate consequence of these “blackhat” techniques is that they usually produce a sharp increase in Website traffic relatively quickly. This can lull the seller into a false sense of security. As these techniques are discovered and the site ranking drops, it can be a long and expensive road to return the site to the top of the search engine results page.

These prohibited practices are often behind the common, but mistaken, belief that the optimized Website needs to be constantly updated in order to maintain a high ranking. If approved, best practices have been implemented in the SEO effort, constant maintenance to maintain a high ranking is not needed.

**Presentation**

The ability of the website to present the seller and the merchandise in an effective manner is a key component to success. The site must first represent the seller’s brand in a manner consistent with the seller’s intended message. Written content, graphical images, and usability all contribute to the shopper’s perception of the selling organization. A poorly designed site can deter the shopper from ever reaching the product or pricing information. If the site is difficult to use, the shopper may conclude that the seller’s delivery process is equally weak. Matching the site look and feel to the target market is also critically important. Trying to reach a high-end or exclusive market...
through a site that screams “Bargain Basement” is not likely to succeed.

Usability is an important, often overlooked, aspect of the design process. The following standards should be considered when planning the website.

1. **Efficiency of use/Ease of learning.** The visitor should not have to spend time figuring out how to use the website. A user who has never been to your site should be able to get to their desired results quickly and with little effort. The design should take into consideration common design practices such as menu placement, logo placement, etc.

2. **Low Perceived Workload.** The interface for the website should be easy to use and users should be able to get to their desired results (for example, read an article, find an office location) with little effort. If they are presented with a difficult and frustrating interface, the user will leave the site. Also, each landing page (including the home page) should have well defined calls to actions.

3. **Technical Usability Considerations.** These requirements focus on computer capabilities, as well as audience capabilities.

4. **Use of Flash.** Objects which are intended to be rendered in Flash should not be used for primary site functionality. Flash is not search engine or screen-reader friendly.

5. **Content Legibility.** The site should be designed to be easily readable and optimized for screen readers.

6. **Page Weight.** The website must load quickly. This will not only help with visitor retention, but will also help in the search engine ranking.

7. **Screen Resolution.** The target resolution for the website should be optimized for 1024X768.

8. **Browser Compatibility.** The design should target all major modern browsers (FireFox, Chrome, Internet Explorer 7-8, Safari 3-4) and be consistently tested throughout the implementation process.
Available to Promise

When selling to a broad customer base, the ability to deliver the goods on schedule is vitally important. A critical step in the process is the display of inventory information for the product being sold – Is it In Stock? When Will It Ship? Some sellers will display the Quantity on Hand in order to add credibility. Regardless of the level of detail presented, the information must be correct and timely.

This information depends on the seller’s ability to maintain inventory data on a “Perpetual Inventory” basis: On Hand Count (O/H) minus On Sales Order Count (OSO) equals the quantity that is available to promise - or ship (ATP or ATS).

One scenario that will destroy customer loyalty is the lack of timely ATP information. Assume a customer goes through the order process, provides credit card information and completes the order in the belief that the item will be shipped within a day or two. The buyer then receives an e-mail a day or two later stating that the item is out-of-stock, or on back order. That customer is very unlikely to wait. In most cases, they will find another seller and cancel the original order. The likelihood of them ever visiting the first seller’s site is extremely remote. Therefore, the timeliness of the information is every bit as important as the accuracy of the information.

This market requirement means the seller’s software must be sophisticated enough to maintain and present ATP data. The seller must also define exactly how he or she wants to compute that number and how the information should be presented to the buyer.

Pricing and Payment Collection

Robust shopping cart software will handle finished goods pricing and payment collection in multiple ways. In the retail, B2C environment, item pricing options typically include:

- MSRP
- Line Item Discounting
- Order Volume Discounting
- Membership or Club Pricing
- Coupon-based Discounts
- Gift Card-based Pricing
In the commercial, B2B world, pricing options include:

- MSRP or List
- Percentages “Off List”
- Line Item Discounting
- Order Volume Discounting
- Contract-based pricing

Contract pricing options can be complex and vary from industry to industry. Wholesalers and distributors using e-Comm solutions need to fully understand the pricing options the shopping cart offers and ensure that they meet the needs.

Payment collection is another area in which the robust shopping carts excel. The popular shopping carts will offer Merchant Account Gateways, Credit Card, PayPal, Gift Cards, Coupons, COD, e-Checks, Multiple Currencies, and Customizable or Configurable options.

Little if any customization is required in the pricing and payment collection functions, if the user company has exercised diligence in matching business requirements to the software’s capabilities.

**Downstream Interfaces**

The need for automated downstream interfaces to such software systems as Order Fulfillment, Logistics, Procurement, Accounts Receivable, Cost and Financial Accounting is largely driven by volume. Small numbers of sales transactions and limited numbers of items often allow the seller to handle input to these systems or processes manually. Most Storefront or Shopping Cart software will provide periodic summaries of order activity. These can typically be entered into the downstream systems manually. However, as volume increases, manual processing soon becomes overwhelming and the need for more complex automation arises.

This is an area in which a small startup sales organization might have an advantage over a more established highly automated competitor. This is a result of the natural tendency to leverage the systems that already exist, even if those existing systems do not match the new needs. Retail and wholesale requirements are often quite different. Systems used to manage the pricing or shipping of completely different quantities and transaction sizes are often difficult to adapt to the new requirements. There is huge potential for trying to force a round peg into a square hole – often at great expense.
Small startups are often free to acquire software solutions that are designed for the type of business at hand. This can sometimes be done at far less cost than extensive modifications to the legacy systems.

Therefore, any firm considering an e-Comm initiative should give careful consideration to how this new distribution model will impact existing or future downstream systems.
A Success Story

Perhaps the best way to describe e-Comm is through the telling of a real-life success story. In this case, the e-Comm initiative included most of the challenges that impact any e-Comm launch:

- Time to Market
- Technology Utilization and Integration
- Existing Operational Constraints
- Budget Constraints
- Lack of In-house Experience
- Channel Conflict Resolution

This success story centers on a successful manufacturer/distributor located in Virginia Beach, Virginia. We shall refer to this organization as “The Client.”

Overview

The Client is a leading manufacturer of outdoor recreational products headquartered in Virginia Beach, Virginia. Their innovative and popular brands are sold in over 35,000 store fronts.

In late 2009 the Client made the decision to sell direct to customers over the Internet. They brought in Marathon to develop an e-Comm solution for two of its brands. The project started in the spring of 2010 and the e-Comm Websites had to be launched in eleven (11) weeks in order to capture sales before the 2010 Memorial Day weekend. This meant the full development lifecycle, including Requirements Definition, selection of the shopping cart software, Design, Coding, Testing, and Implementation had to be accomplished in those eleven short weeks.

Marathon prepared the Work Plan, coordinated the activities of all third-party suppliers, staffed the project, and successfully launched both Websites – on time and under budget. Both Websites were also fully integrated into the Client’s ERP system, the Order Fulfillment systems, and the Financial Accounting system. They were constructed using Marathon’s Search Engine Optimization methodology.
Challenges

As noted previously, the application delivery date was very aggressive. This fact was exacerbated by the other challenges.

Planning for the overall sales initiative was in the earliest stages, with many decisions yet to be finalized. Procedural guidelines for such operational areas as Inventory Management, Order Fulfillment, and Accounting had not been defined. Promotional strategies and budgets had not been detailed. Order Fulfillment plans (in-house or outsourced) were still being considered.

Planning, for the IT project was also in its earliest stages. Technical interface requirements for downstream systems such as ERP, Order Fulfillment, and General Ledger had not been identified or defined. Shopping Cart software had not been selected or purchased. Use of the existing ERP system for Inventory Control had not been explored. That system had been in place for years, but it was configured for a wholesale distribution environment—not retail. A new product numbering system had to be designed in order to handle the retail Units-of-Measure.

In-house, e-Comm technical expertise did not exist. While a competent in-house IT Staff existed, they were unfamiliar with the many technical options available in the e-Comm world. This included Web technology as well as specialty areas such as Shopping Cart COTS solutions, Search Engine Optimization (SEO), Pay-per-Click (PPC) advertising campaign definition and execution, and hosting options.

The majority of the items in the two product lines was sourced from Asia, making timely inventory replenishment all but impossible. Available-to-Promise inventory information had to be accurate.

Results

The success of the client e-Comm launch exceeded expectations on all fronts. Both sites were fully tested and operational within the deadline. The project was completed on budget. Site traffic was higher than expected. This was particularly true in the case of the SEO strategy. SEO-based traffic was significantly higher than the traffic resulting from the PPC campaign. Average order value was 200% higher than budget. Total Sales for the season far exceeded the planned goal. Several of these metrics are illustrated in the following tables.
**Site Visits** over the 5-month selling season totaled 211,991 and are shown in Table One. Keep in mind that these sites were virtually dormant prior to the redevelopment, PPC, and SEO efforts.

### TABLE ONE

<table>
<thead>
<tr>
<th>SITE VISITS</th>
<th>TOTAL VISITS</th>
<th>SEO VISITS</th>
<th>PPC VISITS*</th>
<th>OTHER SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>SITE ONE VISITS</td>
<td>181,201</td>
<td>99,510</td>
<td>3,126</td>
<td>78,565</td>
</tr>
<tr>
<td></td>
<td>54.9%</td>
<td>1.7%</td>
<td>43.4%</td>
<td></td>
</tr>
<tr>
<td>SITE TWO VISITS</td>
<td>30,790</td>
<td>16,630</td>
<td>2,069</td>
<td>12,091</td>
</tr>
<tr>
<td></td>
<td>54.0%</td>
<td>6.7%</td>
<td>39.3%</td>
<td></td>
</tr>
<tr>
<td>COMBINED VISITS</td>
<td>211,991</td>
<td>116,140</td>
<td>5,195</td>
<td>90,656</td>
</tr>
<tr>
<td></td>
<td>54.8%</td>
<td>2.5%</td>
<td>42.8%</td>
<td></td>
</tr>
</tbody>
</table>

Note* PPC services were provided by a third-party advertising agency and were not directed by Marathon.

**Dollar Sales Proportions** are shown in Table Two. Prior to the launch, the client was not performing e-Commerce sales.

### TABLE TWO

<table>
<thead>
<tr>
<th>DOLLAR SALES PROPORTIONS</th>
<th>SITE ONE SALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL SALES</td>
<td>SEO SALES</td>
</tr>
<tr>
<td>96.4%</td>
<td>51.5%</td>
</tr>
</tbody>
</table>

| SITE TWO SALES |
| TOTAL SALES | SEO SALES | PPC SALES* | OTHER SOURCES |
| 8.6% | 63.7% | 5.5% | 30.8% |

| COMBINED SALES |
| TOTAL SALES | SEO SALES | PPC SALES* | OTHER SOURCES |
| 100% | 52.5% | 1.00% | 46.50% |

Note* PPC services were provided by a third-party advertising agency and were not directed by Marathon.
The two sites received **1,514,121 page views** over the 5-month sales season: an average of **302,824 page views per month**.

Another telling indicator of the project's success is the number of keywords used to reach the two sites. Prior to the redevelopment effort, only a few hundred keywords were in play. After the launch of the two new sites, **16,885 unique keywords** were used to bring traffic to the client sites.

However, the most important characteristic of the project is its financial performance. **The revenue generated during the 5-month sales season was nearly 100% higher than the total development and implementation cost.**

Another factor making this level of financial performance even more attractive is the fact that nearly one-quarter of the total development and implementation cost was dedicated to business planning. The remaining 75% was directed toward the technical aspects of software acquisition, development, and implementation. For those organizations choosing to undertake their own business planning, the payback periods could be significantly shorter and the ROIs could be significantly higher.

**Lessons Learned**

If considering a first-time e-Commerce initiative, give careful thought to the following.

1. **Determine your need for flexibility and functional growth.** Many off-the-shelf solutions, and specially those offered as a third-party, hosted service, severely limit your options. This can affect everything from the “Look & Feel” of the site, to your ability to add functionality in the future.

2. **Set Measurable Goals.**
   a. Investment Budget
   b. Sales Budget over time
   c. Desired Payback Period
   d. Desired ROI
   e. Ongoing support Budget
3. **Determine how you will bring prospective buyers to your website.**
   Make this a major part of the plan. If you plan to leverage SEO or PPC, get professional help.

4. **Consider launching the initiative with a limited portion of your product line.**
   Taking a “pilot” approach allows the seller to work out the glitches in a less demanding environment.

5. **Then buying the Storefront or Shopping Cart software, obtain assistance from a firm experienced in the selection of packaged software products.**
   Make sure that firm does not sell any software packages and is completely unbiased in their software selection methodology.

6. **If the organization has an in-house IT staff, determine what role they will play in the e-Comm initiative.**
   In many cases, traditional IT departments are unfamiliar with the technologies that will be deployed or the solutions available. Most e-Comm initiatives are too important to be undertaken as an “on-the-job-training” project.

7. **Develop a full understanding of the technical complexities that will impact the success of the e-Comm initiative.**
   Ensure that your planning addresses the need for scalability and the timing of new technology enhancements or extensions. Developing a strong consensus on expectations is highly important. Understanding the required capabilities, implementation timing, and costs will avoid chaos-driven decisions as the initiative unfolds.

8. **Recognize that the nature of an e-Commerce initiative presents the opportunity for both significant gain and spectacular failure.**
   If the initiative is promoted effectively, it will be a high-profile undertaking among an unforgiving audience. Failure can bring harm to a well-established, traditional business. However, if executed properly, the potential gains far out-pace the risks.
Conclusions

1. A well-planned and managed e-Commerce initiative can bring significant financial reward to the organization.

2. Any organization considering an Internet sales-based initiative needs to start the planning early and ensure that expectations are aligned with reality.

3. The organization should plan to acquire outside help from a firm experienced in the e-Commerce marketplace.