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# A Delphi Study to Identify Critical Success Factors for Launching a High-Volume, High Traffic Web Site<sup>1</sup>

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*Although the literature addresses E-commerce success, it does not examine the successfulness of launching of web sites. The goal of this study is to identify critical success factors for launching high-volume, high-traffic web sites. A four-round Web-based Delphi study was conducted to address this question.*

*The pervasive, explosive growth of the Internet has led to a corresponding growth in and emphasis on E-commerce or E-business. E-commerce has evolved to the point where its use is recognized in a multitude of ways. In business-to-business relationships, E-commerce is used to manage supplier relationships, inventory, distribution channels (as well as providing a new channel), and payments. Internally, organizations use E-commerce for internal communication, online documents, and augmentation of productivity (Kalakota and Whinston, 1997).*

*The importance of E-commerce can be illustrated by the dollar amounts involved. For example, one estimate is that E-commerce sales to consumers, just in February 2004 were \$3.4 billion (Roy, 2004). Amazon.com had second-quarter 2004 net income of \$76 million from \$1.4 billion in sales (Murphy, 2004). Online consumer spending for the holiday season of 2003 was \$18.5 billion (Mahmood et. al, 2004). PayPal handles \$17 billion in annual payments, most of which are for transactions on Ebay (Economist, 2004). The importance of participation in E-commerce provides a sound reason to learn more about launching Web sites.*

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**T**his study sought to explore and identify the critical success factors for launching a high-volume, high-traffic Web site. For this study, a successful launch of a high-volume, high-traffic Web site is defined as a launch of a site that is able to manage the high volume and high traffic that the site generates while running smoothly. Managing volume and traffic successfully means that a site is able to manage the number of visitors trying to connect to the site, and that a site is able to support the demands that visitors or users place on the site. Failure to manage traffic or volume would cause a site to crash or become unavailable. A successful launch for this study might be described as a technical success. While this study did not attempt to determine how to attract traffic or volume to a site or how to achieve E-commerce success, several factors relating to both goals were identified as critical success factors in this study implying that these may be necessary for a successful launch.

Companies that launch strong sites that are able to handle high-volume and heavy traffic will have the best chance of achieving E-commerce success. Failure to manage volume and traffic may be one source of potential alienation of site visitors or users; those visitors may choose not to return. The goal of this research is to learn what the critical success factors are for launching a high-volume, high-traffic Web site from people who have been involved in establishing or managing Web sites that successfully manage high volume and heavy traffic.

## **Prior Findings**

Prior works have made some determinations about the requirements or factors for E-commerce success. Although none of these works specifically addressed the success factors of launching a high-volume, high-traffic Web site, there are certain factors that one would expect to find on both lists. It is important for sites to have a goal, plan, or strategy (Slater, 2000). According to Slater (2000) ease of navigation is another important factor to consider in order to avoid frustrating visitors away from a site. Veysey (2000) also found that a poorly organized or difficult to navigate site will lose business. Predicting site volume is an important challenge for potential E-businesses (Fellenstein and Wood, 1999), and planning for customer support and traffic are important for customer retention (Baker and Anderson, 1997). The ability to support anticipated traffic during promotions and special events is one of the biggest challenges a site can face. Scalability becomes important if a site needs to be expanded rapidly after launch (Inc., 2000). Supporting the importance of managing or handling heavy traffic is the fact that several products exist whose primary or sole purpose is to test a Web site's ability to manage traffic under regular and unexpected volumes (Drucker, 2000).

A preliminary model was created based on the literature. This model contains four main categories of factors: functionality factors, organizational factors, infrastructure factors, and security factors. Table 1 identifies the factors, their category, and the works associated with the factors.

**Table 1**  
**Research Factors (Factor, Factor Category, Prior Works)**

Interactivity	Functionality	Chen and Ching, 2002; Kuk and Yeung, 2002; Riggins, 1999; Schonber <i>et al.</i> , 2000; Slater, 2000;
Site complexity	Functionality	Fellenstein and Wood, 1999; Mullen, 2000; Siau and Messersmith, 2002
Organization	Functionality	Savin and Silberg, 2000; Slater, 2000; Veysey, 2000
Ease of Navigation	Functionality	Hannon, 1998; Savin and Silberg, 2000; Slater, 2000; Veysey, 2000
Quick download time	Functionality	Hannon, 1998; Post <i>et al.</i> , 2002
Accuracy of site information	Functionality	Liu and Arnett, 2000
Responsiveness to visitor feedback	Functionality	Riggins, 1999
Freshness of content	Functionality	Head and Hassanein, 2002; Slater, 2000
Flexibility of site	Functionality	Chen and Ching, 2002
Site volume	Infrastructure	Fellenstein and Wood, 1999
Site stability and accessibility	Infrastructure	Fellenstein and Wood, 1999
Scalability of site	Infrastructure	Fellenstein and Wood, 1999; Hannon, 1998; Linthicum, 2000
Integration of hardware, software, and networking	Infrastructure	Fellenstein and Wood, 1999; Siau and Messersmith, 2002; Tabor, 1998
Public awareness of launch/ site	Organizational	Post <i>et al.</i> , 2002; Slater, 2000; Spiteri, 2000
Clearly defined target visitors	Organizational	Savin and Silberg, 2000; Slater, 2000
Clearly defined E-commerce strategy	Organizational	Chen and Ching, 2002; Riggins, 1999
Compatibility of E-commerce strategy and organizational strategies	Organizational	Fellenstein and Wood, 1997; Raghunathan and Madey, 1999
Clearly defined goals for the site	Organizational	Fridgen and Steck, 2002; Slater, 2000

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**Table 1, continued**

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Site support of organizational processes	Organizational	Bennett, 2002; Chen and Ching, 2002; Kalakota and Whinston, 1997; Lamb, 2003; Zwass, 2003
Compatibility of site and organizational IS	Organizational	Fellenstein and Wood, 1999; Siau and Messersmith, 2002
Organizational flexibility	Organizational	Chen and Ching, 2002; Lorack, 2000; Oliver, 2000
Site management	Organizational	Fellenstein and Wood, 1999; Slater, 2000
Protection of source code from unauthorized outsiders	Security	Kalakota and Whinston, 1997
Well-planned privacy policy	Security	Head and Hassanein, 2002; Kalakota and Whinston, 1997; Post <i>et al.</i> , 2002
Transaction security	Security	Head and Hassanein, 2002; Kalakota and Whinston, 1997
Data security	Security	Kalakota and Whinston, 1997; Srivastava and Mock, 1999/2000
Data management	Security	Fellenstein and Wood, 1999
Visitor confidence in site security	Security	Head and Hassanein, 2002; Kalakota and Whinston, 1997; Tabor, 1998

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## Methodology

In order to address the question at hand, “What are the critical success factors for launching a high-volume, high-traffic Web site?,” the Delphi Method was used. A conventional, four-round Delphi study was conducted. This method was selected because of its usefulness in generating a consensus from expert opinion. More information about the Delphi method or its use in information systems research can be found in Dalkey (1969), Delbecq *et al.* (1975), Linstone and Turoff (1975), Millar (1984), Sackman (1974), and Turoff and Hiltz (2000).

In considering possible ways to collect data for determining the critical factors, it became clear that asking those who have launched or managed such sites was the most feasible means to accomplish this goal. It would be impossible to collect most of the relevant data without asking for the participation of people from various organizations. The benefit of asking those who have launched or managed such successful sites is in learning what those persons responsible for the site believe are the most important, most challenging, or most crucial issues. The Delphi Method provides the opportunity to benefit from the learning experiences of the experts who participate. Although the Delphi Method is often used for forecasting, it is also a means of collecting expert opinions and seeking consensus among experts (Fischer, 1978; Hill and Fowles, 1975). A review of the MIS literature provides many

examples of researchers using Delphi studies to address similar questions. For example, Branchau and Janz (1996), Branchau and Weatherbe (1987), Dickson *et al.* (1984), and Neiderman, Branchau, & Weatherbe (1984) used the method to identify key issues at various points in time.

Prior to the actual study two pilot studies were conducted. An instrument development pilot study was done to develop the first round questionnaire. This pilot study involved three participants who were interviewed using an initial set of questions. The interviews generated comments that included anticipated factors and some additional relevant factors. The original set of questions was adjusted based on the feedback provided.

Also, a general pilot study was conducted prior to the actual study for the purpose of identifying potential challenges that might arise during the actual data collection. This pilot study consisted of four rounds similar to those of the actual study. The general pilot study included a group of five participants who have professional experience as senior technology officers or were graduate students in MIS. The two pilot studies provided opportunities to improve the first questionnaire and to test the actual data collection Web site. The findings in both pilot studies supported the research model (shown in Figure 1). After the pilot studies were conducted, the actual study commenced.

**Table 2**  
**Information about Participants**

Gender	29% Female, 71% Male
Geographic Locations	AZ, CA, CO, IN, MS, PA, TX, VA, WA
For-profit vs. Not-for-profit	57% For-profit, 43% Not-for-profit

## Participants

In identifying which sites to attempt to contact for participation, consideration was given to sites receiving media coverage as well as sites that must manage heavy traffic and heavy volume. Successful sites were sites recognized as a “top” or “best” site, not because of the designation but because such sites must manage their traffic and volume. Other sites must routinely and successfully manage high-volume and high-traffic; such sites were also considered successes for the same reason.

After identifying sites, the organizations were contacted to request the participation of an appropriate person within the organization. Many participants are senior officers within their organizations such as Chief Technology Officers, Chief Information Officers, or Vice Presidents. In some instances, the appropriate person was the person with responsibility for managing the Web site. The identity of each participant, the identity of the organization, and the identity of the responses were kept in strict confidence. Feedback was provided via the iterations of the study.

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Although 64 people originally agreed to participate, the initial group of participants was composed of 24 people. This group of expert participants created the list of factors, evaluated the factors, and determined which factors are most critical via their responses.

The Delphi rounds are described next. For each round, participants were asked to complete a survey, the responses were analyzed. Iterative feedback was provided via the questionnaires following each round except the last.

## **Round One**

The first round consisted of participants completing a questionnaire with 16 open-ended questions. The goal of the first round was to generate comments to create the initial list of possible factors. When the set of first round responses was received, a list of all comments was compiled. Twenty-four panelists completed round one. The responses resulted in the list of 50 factors shown in Appendix 1.

## **Rounds Two and Three**

The second round of the study consisted of a questionnaire asking participants to rate the importance of factors generated by the round-one questionnaire, using a scale from high to low. On the scale, one equaled very important; three was somewhat important; five was not important. Participants could rate a factor as a two or a four, in addition to the choices above. The goal of the second round was to determine the importance of the factors and to start identifying the factors expected to appear on the final list of critical factors. Round two was completed by 17 participants. When the second set of questionnaires was received, the responses were analyzed. Mean and median ratings for each factor were calculated, along with standard deviations and interquartile ranges. The results of round two are shown in Appendix 2.

The third round sought to build consensus from the group on the final list of factors that were deemed most critical. The third questionnaire contained the list of generated factors and used the same scale as round two. Participants were shown their rating for each factor and the mean, round-two rating for each factor. Participants were given an opportunity to make changes to their rating for each factor if they so wished. Fifteen participants completed round three. As in round two, after analysis of response the mean, median, interquartile range, and standard deviation were calculated.

## **Round Four**

Round four was the final round. The goal of round four was to establish consensus for the final set of critical success factors. The fourth questionnaire consisted of a list of factors with mean ratings of two or less (where one represented very important and five represented unimportant) at the end of round three. There were 25 factors on the list. The participants were asked to rank the factors using one

**Table 3**  
**Round Three Results**

<b>Round 3</b>						
<b>Factors</b>	<b>Mean</b>	<b>Median</b>	<b>St. Dev.</b>	<b>IQR</b>	<b>Δ Mean</b>	<b>Rd. 2 Order</b>
Site Stability and Reliability	1.33	1	1.05	0	-1.08	40
Ease of Navigation of Site	1.40	1	0.83	0.5	-0.89	32
Data Security	1.47	1	1.13	0	-0.48	15
Site Organization	1.53	1	0.92	1	-0.06	7
Usefulness of Site to Visitors/Users	1.53	1	1.06	1	-0.41	19
Visitor/User Experience	1.53	1	1.13	0.5	-0.58	26
Clearly Defined Site Goals	1.60	1	1.06	1	-0.58	27
Protection of Site from Unauthorized Outsiders	1.60	1	1.06	1	-0.11	9
Public Awareness of Site	1.60	1	1.06	1	-0.81	39
Connectivity	1.67	1	1.18	1	-0.80	43
Data Management	1.67	1	1.18	1	-0.63	30
Transaction security	1.67	1	1.18	1	-0.75	41
Visitor/User Confidence in Site Security	1.67	1	1.11	1	-1.04	46
Freshness of Content	1.73	1	1.03	1	-0.09	12
Security of Hardware and Facilities	1.73	2	1.03	1	0.15	6
Manage Impact of Any Legal Issues	1.80	1	1.15	1	0.33	3
Site Helps to Identify and Attracts Potential and Existing Customers	1.80	2	0.86	1	-0.55	34
Site is able to support Volume	1.80	2	0.94	1	-0.55	35
Appropriateness of Security Measures for the Site and Cost Effectiveness of Security Measures	1.87	1	1.19	1.5	-0.55	37
Quick Download Times	1.87	1	1.19	1	-0.66	44
Support of Visitor/User Needs	1.87	1	1.25	1	0.10	10
Thorough Testing of Site Before Making It Available to Others	1.87	2	0.83	1	-0.49	36

**Table 3, continued**

Factors	Round 3					
	Mean	Median	St. Dev.	IQR	$\Delta$ Mean	Rd. 2 Order
Site Management	1.93	2	1.03	1	-0.89	47
Clearly Defined Site Strategies	2.00	2	1.00	0.5	-0.47	42
Network Speed	2.00	2	1.00	0.5	-0.06	24
Well-defined Target Audience	2.07	2	1.16	2	0.07	23
Site Support of Organizational Processes	2.13	2	1.19	2	-1.04	50
Well-planned Privacy Policies	2.13	2	1.25	2	-0.45	45
Accessibility of Site	2.20	2	1.47	2	0.38	11
Appeal of Site to Diverse Users	2.20	2	0.94	0.5	0.61	4
Scalability of Site	2.20	2	1.15	1	0.14	25
Control of Site to Avoid Irrelevant or Tangential Growth	2.27	2	1.16	2	-0.03	29
Ease of Transaction Handling	2.27	2	1.16	1.5	0.38	14
Importance of Site within the Organization	2.27	2	1.16	1.5	0.33	16
Involvement of members from throughout the Organization in Site Development	2.27	2	1.28	1	0.33	18
Compatibility of Site and Organizational Information Systems	2.33	2	1.29	2	0.45	13
Cost Effectiveness of Hardware, Software, and Networking Components	2.33	2	1.23	1.5	-0.08	38
Cost of Maintaining Site Availability	2.33	2	1.29	1.5	0.86	2
Compatibility of Site Strategies and Organizational Strategies	2.40	2	1.40	2	0.93	1
Consistency of Site with Other Organizational Materials	2.40	2	1.12	1	-0.72	48
Development Time of Site	2.40	3	1.06	1.5	0.11	31
Flexibility of Site	2.47	2	1.06	1	0.47	21

**Table 3, continued**

Factors	Round 3					
	Mean	Median	St. Dev.	IQR	$\Delta$ Mean	Rd. 2 Order
Organization Maintains Good Relations with any External Suppliers or Service Providers	2.53	2	1.13	1	0.53	22
Site Management of Visitor/ User Traffic	2.53	2	1.46	1.5	-0.58	49
Cost of Processing Transactions	2.60	2	1.06	1	0.60	20
Interactivity of Site	2.60	2	0.91	1	1.01	5
Investment in Site versus Returns/ Cost Effectiveness of Site	2.60	3	1.06	1	0.66	17
Site Takes Advantage of Competitors Strengths/ Weaknesses	3.00	3	1.20	2	1.35	8
Training Available Internally	3.07	3	1.22	1.5	0.77	33
Open Source Software	3.33	4	1.45	2.5	1.16	28

to represent the most important factor and 25 to indicate the least important factor. If a factor had been considered most important by all participants, it would have a mean of one. Interquartile range continues to be included to provide an additional measure of dispersion; median provides an additional measure of central tendency. Fourteen participants completed round four. Statistical analysis determined the final mean and median ranking of each factor, the standard deviations and the interquartile ranges. Responses included many ties. Kendall's Coefficient of Concordance was also calculated at the end of round four. Because Kendall's Coefficient of Concordance is used to measure agreement among rankings it was not used in prior rounds as those involved rating factors.  $W$  ranges from zero to one where one is perfect agreement of rankings and zero is disagreement. Kendall's  $W$  was 0.25 before correcting for ties and 0.28 after correcting for ties. These values indicate that consensus did not occur; the participants did not reach consensus on the ranking of the factors.

## Discussion of Results

When considering the results, it appears that the greatest levels of agreement occurred in rounds two and three. In considering the four rounds, rounds two and three had much smaller measures of dispersion than round four. There were significant changes in the order of the factors at the conclusion of round three. The results of round three were used to identify the 25 most important factors for ranking in round four.

**Table 4**  
**Round Four Results**

<b>Round 4</b>					
<b>Factors</b>	<b>Mean</b>	<b>Median</b>	<b>St Dev</b>	<b>IQR</b>	<b>Rd. 3 Order</b>
Usefulness of Site to Visitors/Users	2.80	1	4.42	2	5
Visitor/User Experience	3.65	4.5	4.00	6.5	6
Site Stability and Reliability	4.15	1.5	7.36	4	1
Site Organization	5.05	7	4.77	6.75	4
Public Awareness of Site	5.15	5.5	6.99	9.5	9
Site is able to Support Volume	5.30	6.5	5.70	6	18
Ease of Navigation of Site	5.40	4.5	5.86	7	2
Connectivity	6.25	4.5	8.82	12.5	10
Support of Visitor/User Needs	6.25	7	7.60	12.5	21
Visitor/User Confidence in Site Security	6.25	9	7.13	12.8	13
Clearly Defined Site Goals	6.40	6	8.91	9.5	7
Data Security	6.40	6	8.22	12.3	3
Clearly Defined Site Strategies	7.10	10	7.98	16.8	24
Protection of Site from Unauthorized Outsiders	7.30	10	7.95	14	8
Transaction Security	8.00	11	8.08	11.8	12
Thorough Testing of Site Before Making It Available to Others	8.15	13.5	8.56	15.5	22
Freshness of Content	8.25	9	7.65	11.3	14
Quick Download Times	9.40	12.5	8.23	16	20
Data Management	9.45	14	8.45	14	11
Network Speed	9.45	16.5	9.27	16.8	25
Site Helps to Identify and Attracts Potential and Existing Customers	9.55	15	7.62	12.3	17
Manage Impact of Any Legal Issues	10.15	17.5	10.37	22.8	16

**Table 4, continued**

Factors	Round 4				
	Mean	Median	St Dev	IQR	Rd. 3 Order
Security of Hardware and Facilities	10.55	17.5	9.45	17.5	15
Site Management	10.75	16.5	8.34	12.5	23
Appropriateness of Security Measures for the Site and Cost Effectiveness of Security Measures	11.00	18	9.37	16	19

The measures of dispersion for the round four rankings are higher than would have been preferred. Although consensus for ranking the most important factors did not occur in round four, consensus in round three indicates that the factors identified as most important when decreasing the list of factors to the critical success factors were agreed by participants. While the order of the rankings of the factors in round four was not agreed, the round three results indicate that consensus was reached as to which factors are the 25 most important.

Most of the factors which were included in the top five of both rounds three and four were functionality factors. If one were to look at the factors in the top 15 of both round three and round four, in addition to the factors in Table 5, those factors would include: Visitor/User Confidence in Site Security, Protection of Site from

**Table 5**  
**Critical Success Factors in the Top 12**  
**of Both Round Three and Round Four**

Factor	Factor Category	Round 3 Order	Round 4 Order
Usefulness of Site to Visitors/Users	Functionality	5	1
Visitor/User Experience	Functionality	6	2
Site Stability and Reliability	Infrastructure	1	3
Site Organization	Functionality	4	4
Public Awareness of Site	Organizational	9	5
Ease of Navigation of Site	Functionality	2	7
Connectivity	Infrastructure	10	8
Clearly Defined Site Goals	Organizational	7	11
Data Security	Security	3	12

**Table 6**  
**Critical Success Factors in Top 12**  
**of Either Round Three or Round Four, But Not Both**

<b>Factor</b>	<b>Factor Category</b>	<b>Round 3 Order</b>	<b>Round 4 Order</b>
Site is Able to Support Volume	Infrastructure	18	6
Support of Visitor/User Needs	Organizational	21	9
Protection of Site from Unauthorized Users	Security	8	14
Transaction Security	Security	12	15
Data Management	Security	11	19

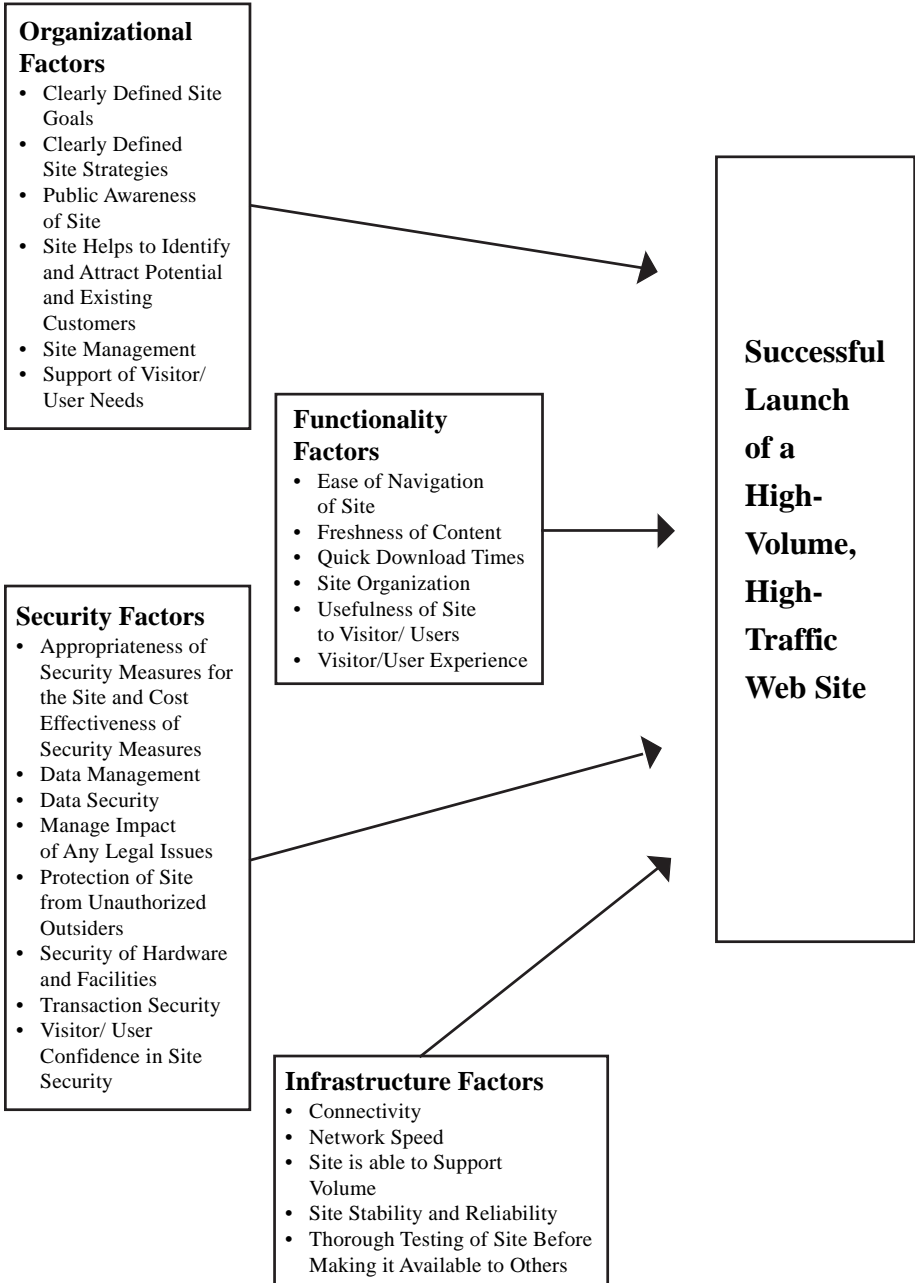
Unauthorized Outsiders, and Transaction Security. All of these factors are security factors. This may suggest that these functionality factors are most important; these security factors may be second in importance. This differs with the factor group means. For each group of factors, the mean ranking (resulting from round four) was calculated. The group mean rankings are: functionality factors = 5.76, infrastructure factors = 6.66, organizational factors = 7.53, and security factors = 8.64.

The last three factors in Table 6 are all security factors. This, when considered in combination with the results of the group mean rankings, may suggest that when developing sites, functionality factors should be addressed first. The security factors might be best addressed after considering the organizational and infrastructure factors – although this should not be interpreted as suggesting that security factors are unimportant. Interestingly, there are more security factors in the top 15 of both lists and in the factors in the top half of one but not both lists than organizational factors or infrastructure factors.

When prioritizing the identified critical success factors, those factors identified in Table 5 ought to be considered first. Those factors in Table 6 would be granted the next greatest level of priority. The remaining critical success factors – those not in Table 5 or 6, but included in the round four rankings – should be addressed after the prior two groups. While the tables above do identify the most important of the critical success factors, all of the critical success factors were given ratings that indicated they were important to a successful launch.

Despite the variety of industries and organizations of the participants, the responses tended to include the same general factors or variations of factors. As was expected, not all questions applied to each participant in round one. However, there were common general concerns. Many responses in round one were similar and consistent with factors identified in the pilot study and from the survey instrument pilot study. Given the mix of participants having not-for-profit and for-profit experience, this suggests that many of the factors generated are important to launching a high-volume, high-traffic Web site regardless of the type of organization.

**Figure 1**  
**Critical Success Factors for Launching**  
**a High-Volume, High-Traffic Web Site**



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According to the participants, some sites have evolved into their current state and were improved over time. This would imply that these factors and results might be relevant to organizations with existing sites in addition to those seeking to launch new sites. A few responses included examples illustrating the relevant goals or values that could be achieved with respect to certain factors. Some of the observed benefits or hoped-for rewards were of a less measurable nature. Among some of the observations by participants are improvements associated with communicating and disseminating information. This not only included the advantage of being able to decrease costs of communication, but also being able to provide information in a timelier manner.

## **Limitations and Key Assumptions**

While the ability to handle volume and traffic is not the only factor that determines if a Web site will be successful, sites must be able to handle volume and traffic if they are to achieve success. While this study did not intend to address how to attract traffic, if a site cannot manage the traffic and volume it generates that failure will drive away visitors. One limitation when considering the results of this study is that the group of participants are a small sample.

Another limitation is the dispersion of rankings in round four. While the factors listed were deemed most important based on the results of round three, the rankings are very diverse. This may be a result of the importance of the factors being ranked given the diverse experiences of participants or the slightness of the degree of difference in rankings.

There are several key assumptions. The most crucial assumption is that the group of experts willingly participated in this research. The second assumption is that participants provided quality answers and fully participated throughout the entire study. The third assumption is that a consensus could be reached on what constitutes the set of critical factors for launching a high-volume, high-traffic Web site.

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1 Excerpted and revised from my dissertation. An earlier version of this paper was presented at the 2005 Kenn-Tenn Conference in Hopkinsville, KY.

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## Appendix 1 Round One Results

### Factors

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Flexibility of Site (including the ability to quickly add additional capabilities and content, ability to personalize visitor experiences to the site)

---

Appeal of Site to Diverse Users (including users with diverse viewing resources, and visually appealing site)

---

Site Management of Visitor/User Traffic

---

Site is able to support Volume

---

Network Speed

---

Compatibility of Site Strategies and Organizational Strategies (including site support of organizational strategies, missions and goals)

---

Visitor/User Experience (site provides a positive experience to visitors, builds rapport and generates goodwill, richness of content, and novelty of site to visitors)

---

Quick Download Times

---

Site Support of Organizational Processes (including sales and marketing processes, and information distribution)

---

Scalability of Site (including clustering capability, and scalability of components)

---

Support of Visitor/User Needs

---

Site Takes Advantage of Competitor Strengths/Weaknesses

---

Site Management (including time required, cost, design management, ease of administrating site, technical support available for hardware and software components, clearly defined policies and responsibilities, and back ups)

---

Clearly Defined Site Strategies

---

Site Helps to Identify and Attracts Potential and Existing Customers (including site collects data about visitors and site usage)

---

Compatibility of Site and Organizational Information Systems (including integration of transaction management)

---

Accessibility of Site (including that the site is accessible to people with disabilities)

---

Appropriateness of Security Measures for the Site and Cost Effectiveness of Security Measures

---

Data Management (including backing up data, well-planned data flows)

---

Clearly Defined Site Goals

---

Connectivity

---

---

## Appendix 1, continued

---

Consistency of Site with Other Organizational Materials

---

Control of Site to Avoid Irrelevant or Tangential Growth

---

Investment in Site versus Returns/ Cost Effectiveness of Site

---

Cost Effectiveness of Hardware, Software, and Networking Components

---

Cost of Maintaining Site Availability

---

Cost of Processing Transactions

---

Usefulness of Site to Visitors/Users (including creating value for visitors, depth and breadth of information provided)

---

Transaction security (including customer screening)

---

Data Security

---

Development Time of Site (including Implementation Schedules)

---

Ease of Navigation of Site

---

Site Organization

---

Ease of Transaction Handling

---

Site Stability and Reliability (including uptime, reliability of hardware/software/networking components, reliability of transaction handling, and failover)

---

Freshness of Content

---

Organization Maintains Good Relations with any External Suppliers or Service Providers (such as hosting services or ISPs)

---

Manage Impact of Any Legal Issues (including complying with any relevant regulations)

---

Importance of Site within the Organization

---

Interactivity of Site

---

Involvement of members from throughout the Organization in Site Development

---

Protection of Site from Unauthorized Outsiders (including monitoring intrusion attempts, preventing attacks)

---

Open Source Software

---

Security of Hardware and Facilities (including physical access to servers)

---

Public Awareness of Site (including ease of finding site with search engines)

---

Thorough Testing of Site Before Making It Available to Others

---

Training Available Internally

---

Visitor/User Confidence in Site Security

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**Appendix 1, continued**

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Well-defined Target Audience

---

Well-planned Privacy Policies

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**Appendix 2**  
**Round Two Results**

Factors	Round 2			
	Mean	Median	St. Dev.	IQR
Compatibility of Site Strategies and Organizational Strategies	1.47	1	1.07	0
Cost of Maintaining Site Availability	1.47	1	1.01	1
Manage Impact of Any Legal Issues	1.47	1	1.01	1
Appeal of Site to Diverse Users	1.59	1	1.00	1
Interactivity of Site	1.59	1	1.00	1
Security of Hardware and Facilities	1.59	1	1.12	1
Site Organization	1.59	1	1.00	1
Site Takes Advantage of Competitor Strengths/Weaknesses	1.65	1	1.11	1
Protection of Site from Unauthorized Outsiders	1.71	1	1.26	1
Support of Visitor/User Needs	1.77	1	1.15	1
Accessibility of Site	1.82	1	1.33	1
Freshness of Content	1.82	1	1.13	1
Compatibility of Site and Organizational Information Systems	1.88	2	1.05	1
Ease of Transaction Handling	1.88	2	0.99	1
Data Security	1.94	2	1.09	1
Importance of Site within the Organization	1.94	2	1.09	1
Investment in Site versus Returns/ Cost Effectiveness of Site	1.94	1	1.34	1
Involvement of members from throughout the Organization in Site Development	1.94	2	1.14	2

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**Appendix 2, continued**

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<b>Factors</b>	<b>Round 2</b>			
	<b>Mean</b>	<b>Median</b>	<b>St. Dev.</b>	<b>IQR</b>
Usefulness of Site to Visitors/Users	1.94	2	0.97	1
Cost of Processing Transactions	2.00	1	1.50	2
Flexibility of Site	2.00	2	1.22	1
Organization Maintains Good Relations with any External Suppliers or Service Providers	2.00	2	1.17	1
Well-defined Target Audience	2.00	2	0.94	1
Network Speed	2.06	2	1.09	2
Scalability of Site	2.06	2	0.90	1
Visitor/User Experience	2.12	2	1.22	2
Clearly Defined Site Goals	2.18	2	1.38	2
Open Source Software	2.18	2	1.24	2
Control of Site to Avoid Irrelevant or Tangential Growth	2.29	2	1.21	2
Data Management	2.29	2	1.10	2
Development Time of Site	2.29	2	1.21	2
Ease of Navigation of Site	2.29	2	1.10	2
Training Available Internally	2.29	2	1.31	2
Site Helps to Identify and Attracts Potential and Existing Customers	2.35	2	1.27	2
Site is able to support Volume	2.35	2	1.00	2
Thorough Testing of Site Before Making It Available to Others	2.35	2	1.11	2
Appropriateness of Security Measures for the Site and Cost Effectiveness of Security Measures	2.41	2	1.06	2
Cost Effectiveness of Hardware, Software, and Networking Components	2.41	2	1.37	2
Public Awareness of Site	2.41	2	1.12	2
Site Stability and Reliability	2.41	2	1.42	2
Transaction security	2.41	2	1.23	2

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**Appendix 2, continued**

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	<b>Round 2</b>			
<b>Factors</b>	<b>Mean</b>	<b>Median</b>	<b>St. Dev.</b>	<b>IQR</b>
Clearly Defined Site Strategies	2.47	2	1.28	2
Connectivity	2.47	3	1.23	2
Quick Download Times	2.53	2	1.07	2
Well-planned Privacy Policies	2.59	2	1.28	2
Visitor/User Confidence in Site Security	2.71	2	1.16	2
Site Management	2.82	3	1.29	2
Consistency of Site with Other Organizational Materials	3.12	3	1.17	3
Site Management of Visitor/ User Traffic	3.12	3	1.32	3
Site Support of Organizational Processes	3.18	3	1.47	3

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