September 2004

Content Management Systems: Experiences, Adoption, and Plans

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Abstract

This report presents the results of a recent survey conducted by Bitpipe that focused on understanding how users of Content Management Systems (CMS) products evaluate the quality and performance of those products. Users were asked to provide ratings of the products they evaluated against a set of 16 attributes that our previous research has indicated are the most important to users. Respondents were also asked to indicate and rate the importance of specific criteria and product characteristics that they used to make their purchase decision. Finally, users provided the level of satisfaction they experienced with CMS products overall and their assessment on the degree of impact that employing the products within their IT infrastructure had on their respective businesses.

The survey also asked questions related to adoption, including respondents' views of where their respective companies sit on an adoption curve for CMS products, current usage levels, and upgrade and adoption plans for 2005.

Where appropriate, results are presented as a function of company size.

Introduction

This report is provided to you as one of the incentives that you earned by taking part in a Bitpipe survey effort. This report will help you gain insight into the real, hands-on experiences of your professional peers in a product area that you specified at the end of the survey is of interest to you.

As part of Bitpipe's ongoing efforts to improve the quality of the products and services it delivers to its audiences and clients, it has established a survey-based research initiative aimed at understanding users' experiences with specific products across a wide range of IT markets. The research is also focused on characterizing the current and future adoption of various technologies and product types and the buying criteria users employ when selecting the products they have purchased.

Market Definition: Content Management Systems (CMS)

Content Management Systems (CMS) are software products that are used to construct, organize, and manage digital content in various forms, and provide a mechanism for storing this information as well. CMS products incorporate a variety of functions, including electronic records management, content archiving, document management, web content management, and the management of other digital assets.

CMS products naturally involve interaction with a variety of parties, each of which is responsible for a portion of the content assets. Documents and other files must be gathered and grouped into logical "collections" that reflect one or more characteristics relevant to the organization. In addition, workers who are in the content "supply chain" need the means to track documents and other assets – this includes changes to documents (taking into account version control issues), and informing workers who are involved with specific content assets when their attention is required. For this reason, state-of-the-art CMS products are increasingly incorporating robust workflow mechanisms that allow workers to organize and keep track of the status of various types of content within their organizations.

A comprehensive CMS product will often be used to manage sources of information that are of significant strategic and competitive value to an organization. Access control, both within and external to an enterprise, is therefore an important function that CMS products must address. Activities such as creating, editing, posting, and deleting content must be carefully controlled, with the goals of ensuring workflow efficiency, and protecting intellectual property and competitive advantage. The effective management of user access – where the definition of "user" can often expand to include communities that reach beyond corporate boundaries – is an essential requirement of CMS products, whether that access is built into the product or supplied via another source.

CMS products can help organizations manage their internal content assets for their own use, and therefore can form the foundation for sophisticated knowledge management systems that workers can use to keep track of business activities, analyze trends, and make strategic and tactical decisions aimed at improving an enterprise's revenue and profit picture. Likewise, CMS products can also help a company inform, and be more responsive to, its customers and business partners, which can contribute to enhancing business efficiency and effectiveness. As with most other solutions, however, the first step is to perform a careful assessment of one's current situation as it relates to content assets, which includes an assessment of future needs as well. Such an assessment should examine the organization's business goals, and how a CMS implementation will be used to achieve those goals. Once that is accomplished, specific

requirements should be outlined via a process that ideally involves all stakeholders, including IT and business functions, as well as others who will actually use the CMS solution.

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Markets Surveyed

The results presented in this report were generated using data obtained from surveying companies with experience using products that fall into one of 10 markets (or product areas). These markets are listed below, along with their respective acronyms:

- Application Performance and Availability Management (APAM)

- Enterprise Information Portals (EIP)

- Business Process Management (BPM)

- Integrated Development Environments (IDE)

- Customer Relationship Management (CRM)

- Enterprise Business Intelligence (EBI)

- Content Management Systems (CMS)

- Database Management Systems (DMS)

- Enterprise Application Suites (EAS)

- Storage Resource Management (SRM)

The markets represent a diverse cross-section of software product areas, and can therefore be used as a type of "proxy" for the overall market for software solutions. Responses of users who provided inputs to our surveys for all of these markets are used for the results in the last section of this report ("Users' Current Usage and Plans for 2005"). All other results are based on responses of users who provided inputs to our survey on CMS products.

CMS Technology Adoption

Survey respondents were asked to provide an indication of where their respective organizations sit on the adoption curve for CMS products. The results of the analysis of adoption rates are shown in Figures 1 and 2, below. Perhaps not surprisingly, the largest percent of CMS users (32.5%) indicate that their company is an Early Majority adopter. The adoption curve reflects the distribution of companies that is typical of IT product adoption in general.
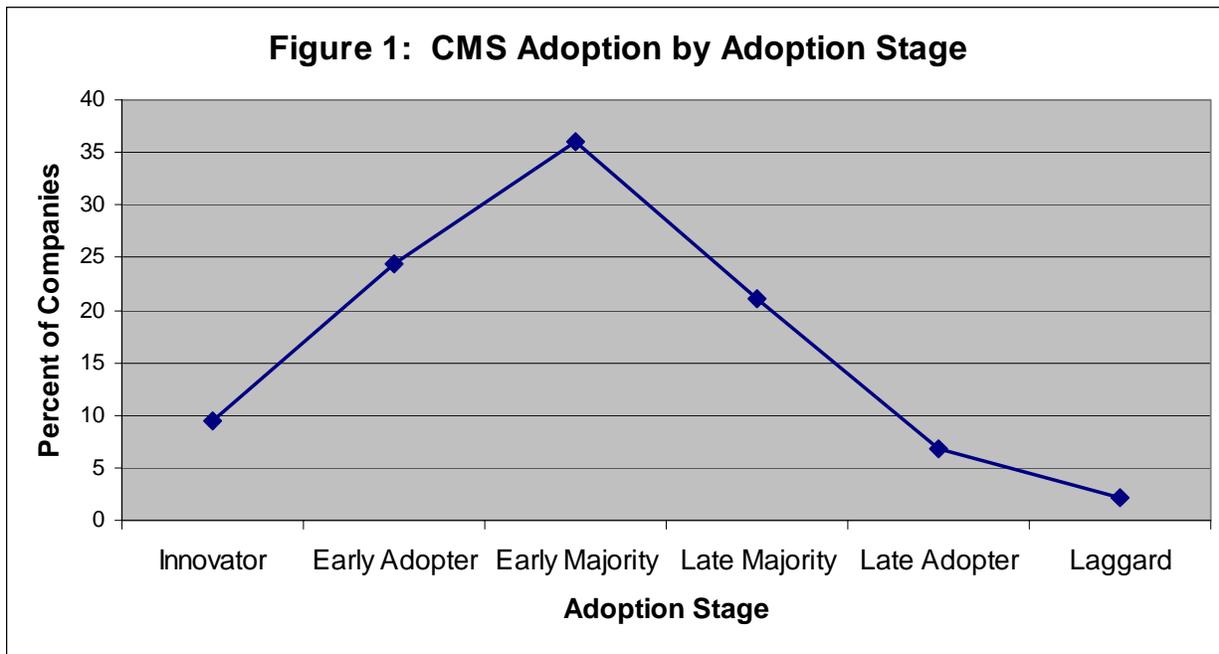
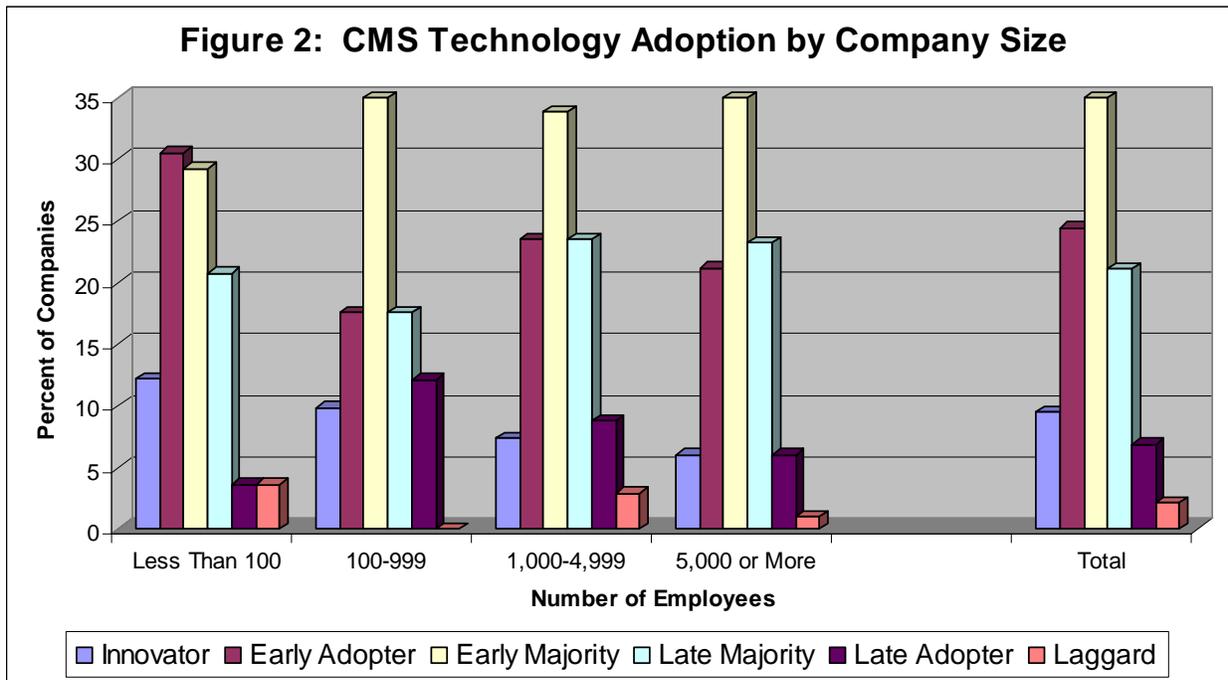**Figure 1: CMS Adoption by Adoption Stage**

How would you position your company along the scale below with respect to Content Management Systems (CMS) Software? [Select only one]
N=500
Source: Bitpipe Software Assessment Study, August 2004

When we examine the same adoption information by company size, however, (see Figure 2), a somewhat different and interesting picture emerges:

- The general adoption curve seems to apply in every case with the exception of a slight variation for companies with between 100 and 999 employees, i.e., the largest percentage of companies indicate they are Early Majority adopters. This is not unusual for IT markets in general, and is an indicator of a balance between the urgency of adopting important solutions such as CMS and a need to move with some level of caution that allows for degrees of product maturity and vendor and user experience. Adoption builds up to the Early Majority level beginning with those who indicate that their companies are

Figure 2: CMS Technology Adoption by Company Size

How would you position your company along the scale below with respect to Content Management Systems (CMS) Software? [Select only one]
N=500
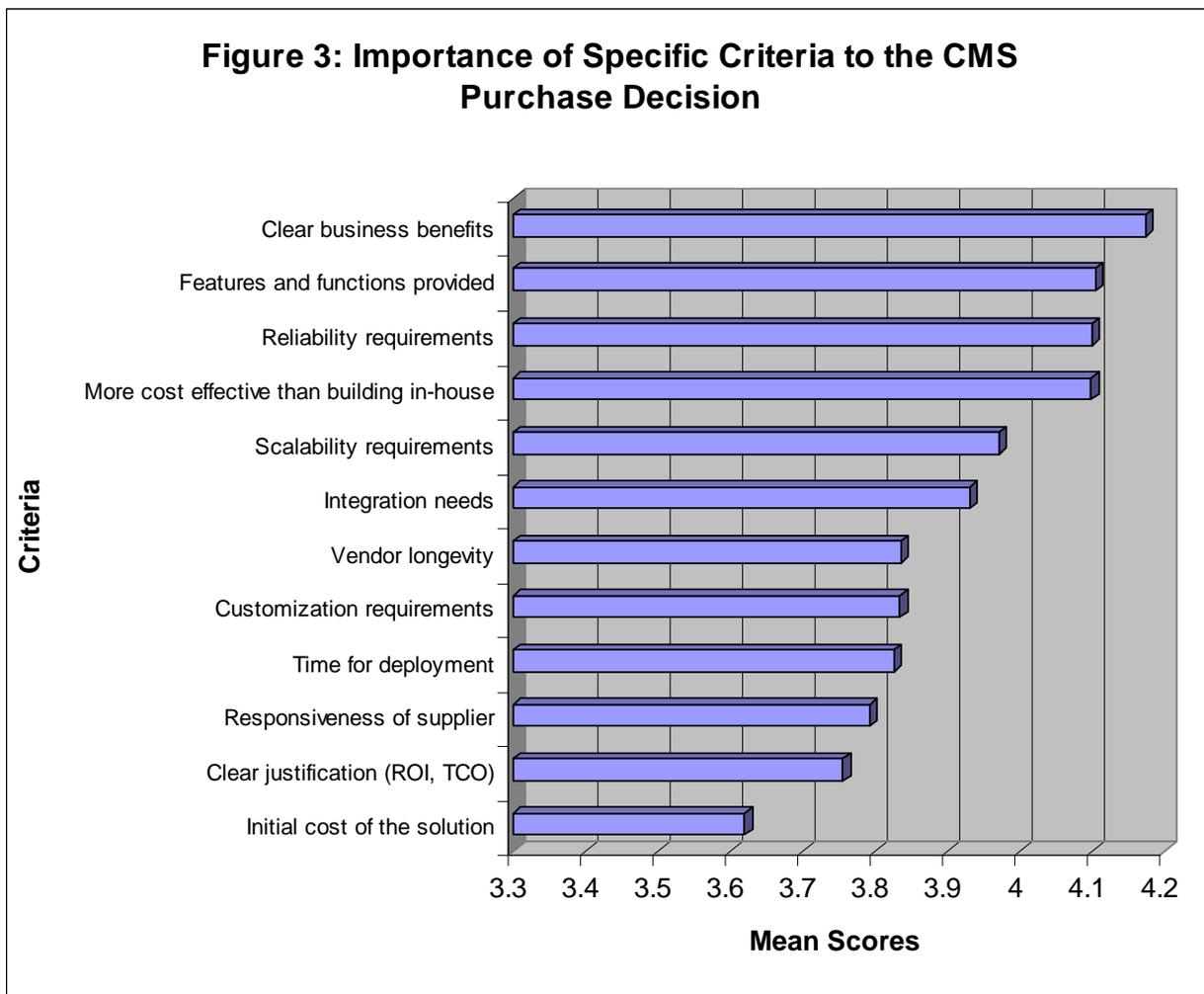Source: Bitpipe Software Assessment Study, August 2004

Innovators and Early Adopters, and tails off through Laggards

• The percentage of CMS product adopters that consider themselves in the Innovator category is greater for smaller companies than for larger ones. This is a potential indication of a more aggressive adoption philosophy that smaller companies can take, perhaps because their IT environments and content asset profiles are simpler and therefore potentially less challenging to manage from the process and tracking perspectives. The complexity of their solutions, and the possible disruption that adoption could cause, would likely be less extreme for smaller companies.

Laggards appear to be a small percentage of CMS users overall, and for each company size range. While we generally see some variability across the markets we examined in this study, this is a fairly typical result. Very few companies on a percentage basis consider themselves laggards. Given the speed with which IT must respond today, they cannot afford to be.

Selecting a CMS Solution

The respondents surveyed were asked to examine a total of 12 purchase criteria and indicate the importance of each with respect to their CMS purchase decision. Their rating for each criterion was on a 5-point scale, where a "1" means "Not at all important", and a "5" means "Extremely important." The results are shown in Figure 3 for CMS respondents overall, and in Figure 4 segmented by company size. The three factors that had the highest mean scale scores were: Clear Business Benefits (with a score of about 4.1), and Features and Functions provided and Reliability Requirements (both with a score of about 4.1). These findings suggest that CMS users place great emphasis on the availability and quality of the solutions they use and the capabilities

Figure 3: Importance of Specific Criteria to the CMS Purchase Decision

How important was each of the following criteria in your company's purchase decision specific to this solution? On a 5 point scale, Where 1 is the lowest score and 5 is the highest score. N=500
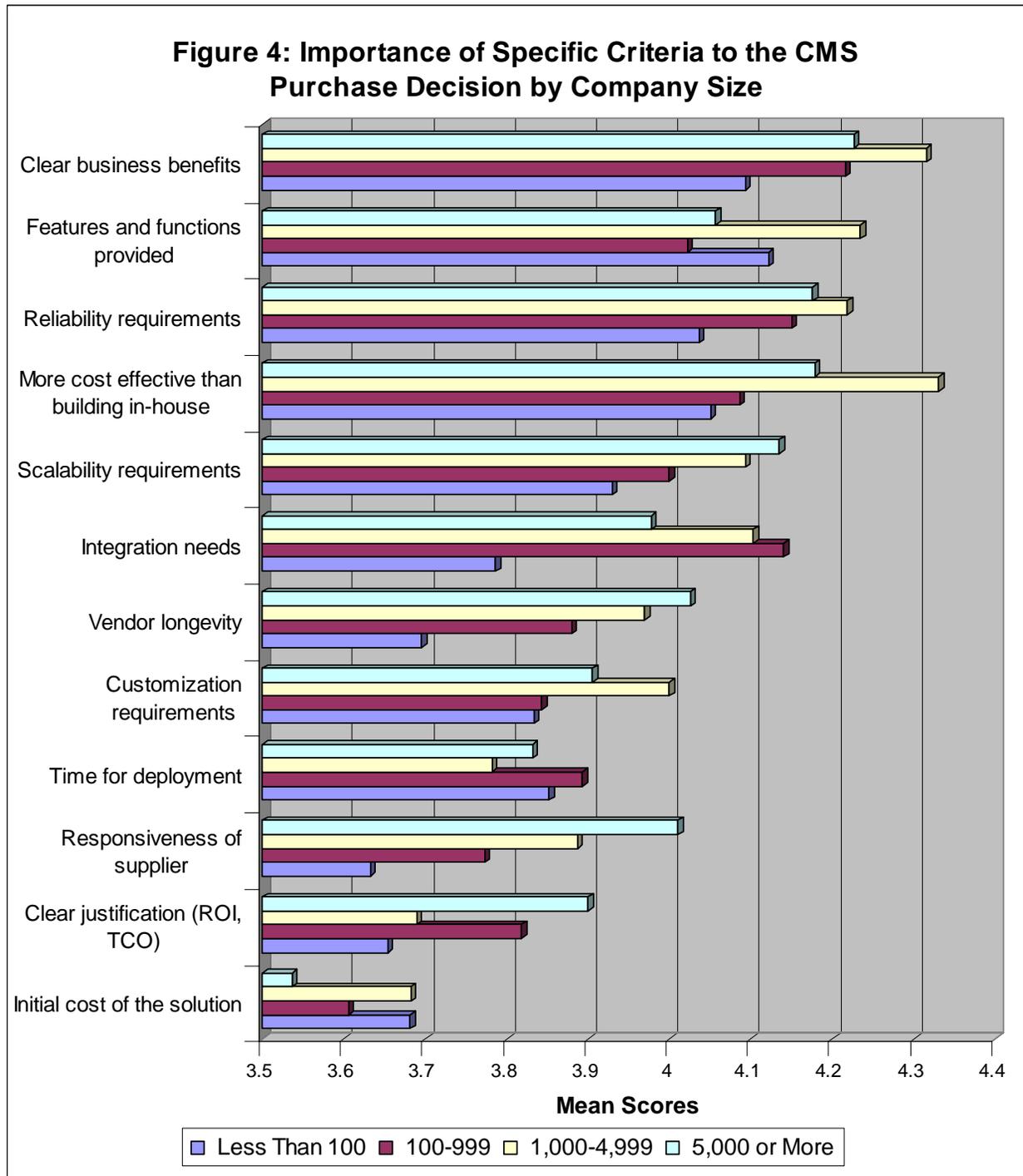Source: Bitpipe Software Assessment Study, August 2004

those solutions exhibit that can help their companies become and stay more competitive. Users also seem to believe that adoption and usage of IT products must be tied to their ability to solve specific business problems. They also indicated that the benefits associated with the use of these products must be demonstrated. What this points to is an increasing need to apply well-defined metrics and models to the task of evaluating the business impact of IT solutions. While this point will be discussed later in this report when we examine satisfaction and business impact, enterprises generally don't apply as much energy to this exercise as they should. This is reflected in the relatively low importance given to the Clear Justification (ROI, TCO) criterion. If you are part of an enterprise that is considering the acquisition of a CMS solution (or virtually any other type of solution, for that matter), you should give this issue careful consideration.

Figure 4 reveals that the scores for the three most important criteria to CMS users described above do vary somewhat by company size. The importance of the clear business benefits criterion appears to grow with increasing company size, although with a bit of a drop-off for very large companies (those with greater than 5,000 employees). There doesn't appear to be a clear pattern of variation across company sizes for the importance of the features and functions provided criterion. Evidently, all companies consider this criterion extremely important to the purchase decision, although probably for different reasons. Smaller companies, for instance, may consider the richness of a product's features and functions important because, in the likely absence of the skills or resources in house to extend their product's functionality, they may tend to look for solutions that are fully functional "out of the box". Larger companies are likely to have more robust functional requirements and therefore assign a high level of importance to a product's meeting those requirements to the greatest degree possible. Reliability appears to be assigned greater importance by large companies than by smaller ones, suggesting a greater sense of "mission-criticality" for larger companies.

Users also attach a high level of importance to a criterion that addresses the solution's cost effective relative to building one in house (4.1 was the mean score here). The importance of this criterion did appear to generally increase with company size, although with a drop-off for very large companies. This trend may reveal the fact that larger companies may have more options available in terms of internal development resources – options which small companies may not enjoy. The tradeoff may therefore be more relevant to larger companies.

Scalability Requirements as a criterion, while not at the top of the list, is nevertheless an important one. The score for those users reporting on CMS solutions was about 4.0, indicating that users are moving forward with the view that what they deploy today may be in place for the long term, and will therefore need to scale over time. Figure 4 reveals the unsurprising result that the importance of scalability as a selection criterion for CMS products increases with company size. These results reinforce the need for enterprises to strive to develop CMS solutions that

Figure 4: Importance of Specific Criteria to the CMS Purchase Decision by Company Size

Legend: Less Than 100 · 100-999 · 1,000-4,999 · 5,000 or More

X-axis: Mean Scores (3.5 to 4.4)

How important was each of the following criteria in your company's purchase decision specific to this solution? On a 5 point scale, Where 1 is the lowest score and 5 is the highest score. N=500

Source: Bitpipe Software Assessment Study, August 2004

permit growth and flexibility over time in terms of the number and complexity of content management processes and workflows, data, information, document, and other content sources, and the communities involved.

Users see the ability to easily integrate their solutions with others application solutions as a fairly high priority (the mean score here is about 3.9). This comes as no surprise, given the nature of IT environments today and the increasing dependence on networks and interoperability. This is especially true for CMS solutions, which involve integrating workflows and processes and a wide variety of content sources. While we see the integrateability of their CMS solutions as important to companies of all sizes, larger companies clearly place greater emphasis on integration as a decision criterion than very small ones. It is interesting to note, however that for companies with more than 100 employees, the importance of this criterion actually decreases slightly. While this decrease is small in magnitude, it may signify a confidence on the part of larger companies that they can handle integration challenges with a combination of vendor resources and their own. Decision-makers need to carefully assess their current and future needs in terms of this important criterion before making a final CMS purchase decision.

Vendor longevity was given a mean score of about 3.8, making it relatively low on the list of purchase criteria for companies overall. It appears to increase in importance as company size grows, which may indicate that large vendors see the duration and quality of the experience a vendor can bring to the table as an indication of its ability to meet those companies' more stringent CMS needs.

Customization requirements received overall mean scores of 3.8 as well. In this case, the importance level does not appear to vary significantly with company size, although it does generally increase. The relatively low ranking for customization as a criterion may indicate that organizations accept that their CMS solutions are going to be difficult to customize regardless of which one they choose, and they therefore are not giving it as much consideration as other criteria.

Time for deployment also received a mean score of about 3.8. Deployment issues represent a significant "pain point" for many organizations, and while respondents did not place this issue at the top of the list of criteria they use to select an EAS solution, we do believe it is a very important one for them. As we will note in a later section of this report, deployment issues represent an important area in which vendors can improve their products, and it is likely that today most companies don't see any vendors performing particularly well here. They may therefore have accepted this as reality, and therefore may be discounting this criteria's importance as a result. There does not appear to be an identifiable trend in terms of variation with company size.

The responsiveness of CMS product suppliers is next on the list in importance (with a mean score of about 3.8). This could be viewed as an indication that, while the building of complex CMS implementations may require companies to leverage assistance and expertise from their CMS, users don't see vendors' response to this need as a particularly high priority. The importance of this criterion does clearly increase with company size, however, which again may be evidence that their CMS requirements are high and reflect a wide breadth of content sources, infrastructure, and access issues.

The ability of the solution to demonstrate a clear business justification, and the initial cost of the solution (with respective mean scores of 3.8 and 3.6) were the least important selection criteria for CMS users. The importance appears to grow with increasing company size in terms of clear business justification, while the importance of the initial cost of a solution becomes less as a company's size increases. While we are certain that justifying a CMS solution from a business perspective is important to all companies, the reality is that, at least to date, companies have not generally done a very good job in building and applying ROI and TCO models that support these justifications. This may explain why this criterion is not one of the highest on the list. We are not surprised that larger companies, who may make a much larger investment in purchasing and implementing a CMS solution, and may leverage these solutions more heavily, put a bit more emphasis on its importance. The fact that larger companies see the initial cost as a somewhat less important component of the overall solution may be an indicator of functionality and timeliness overshadowing cost to a greater degree in their cases.

Respondents were also asked to rank order five factors in terms of their importance to their CMS product purchase. The rankings were logically from 1 to 5, where "1" indicates that the factor was the most important, and "5" that the factor was least important. An overview of the results is presented in Figure 5, where for each of the 5 factors the percent of companies that gave each of the numeric ratings to each factor is shown. Based on the percentage of companies that chose "1" for each factor it's clear that ensuring that a CMS solution has superior functionality and is relatively easy to integrate with other solutions are the most important factors for decisionmakers. These results corroborate to some degree the results shown in Figure 3. Simply put, users of CMS solutions are looking for the robust functionality they require, and need to be sure that the extreme integration requirements for CMS solutions, and the resulting challenges for those creating these solutions, can be handled easily and efficiently.

One result that is initially surprising is the relatively low ranking overall for the factor called "speed of implementation". Intuitively, given the time to market pressures many enterprises experience today to get new solutions up and running, one might guess that this factor would have garnered more first priority ratings than it did. Those considering a CMS solution purchase should note that their peers view functionality and ease of integration as paramount and the
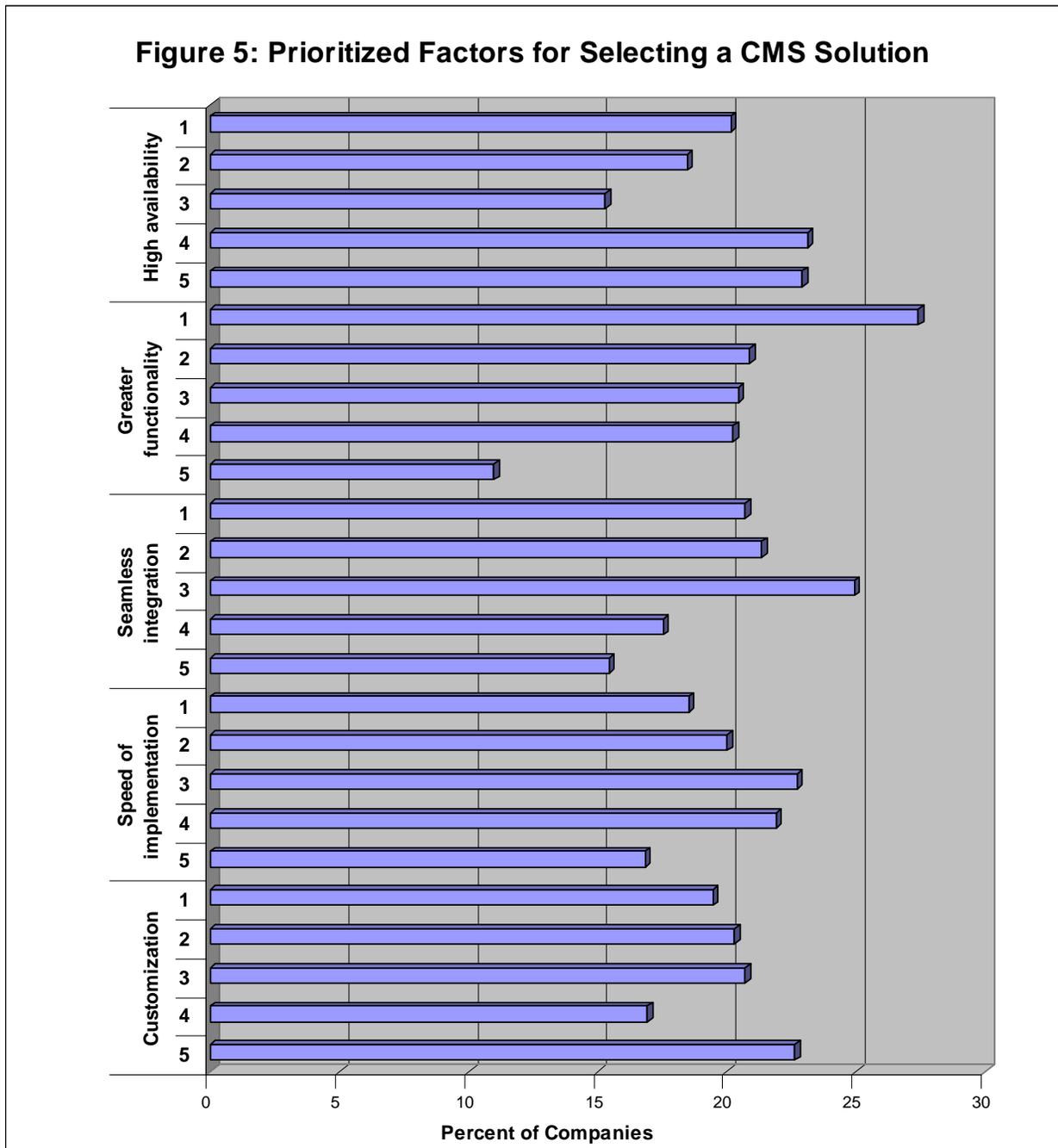
Figure 5: Prioritized Factors for Selecting a CMS Solution

Please tell us which of the following factors was most important to your company, and which was second most important when you purchased the CMS solution, where 1= most important, 2=second most important, and so forth.

N=500

Source: Bitpipe Software Assessment Study, August 2004.

speed with which solutions are implemented, while important, must yield to more important attributes.

A somewhat different, but perhaps more revealing, way to view responses to this question is displayed in Figure 6. Here the mean response value for each factor provided by CMS users is shown for all companies, and segmented by company size. Greater functionality is the most important factor for CMS users. The importance of this factor generally decreases with company size, although it appears to be fairly important for very large companies (those with more than 5,000 employees). For them, the greater relevance of CMS solutions to the more complex environments very large companies possess probably is the likely explanation. We believe small companies, who likely lack the resources to enhance the functionality of the BPM solutions they purchase, are most probably looking for a "shrink wrap" answer to their BPM needs; this raises the importance of functionality for them.

The integration challenge is second highest in importance among the 5 factors examined, and this importance appears to increase with company size and peaks with midsized companies. These companies in particular combine environmental complexity and heterogeneity with less of an ability to deal with them in the context of CMS solution implementation than their larger counterparts. Integration has long been a painful subject for IT managers and developers. Despite the improvements in integration tools and technologies that add both automation and greater levels of abstraction few will argue that all the pain has been eliminated from the integration process. The integration of new solutions with existing applications, operating systems, platforms, and other elements within the IT infrastructure is still of great concern. As the expansiveness and complexity of networks continues to grow and as services-based models for software grow in usage, integration as a necessary step in deploying and maintaining functionality will continue to grow in importance.

Speed of implementation was next in the importance ranking, although very large companies didn't see it as important as did companies of other sizes. It is likely that CMS users see the importance of bringing solutions online as fast as possible, but may also accept the fact that CMS solutions take longer than most other solutions to implement and therefore may be discounting the importance of this factor that we intuitively might believe should be ranked higher. This acceptance may be more the case as environmental complexity increases, making very large companies much less interested in it relative to other factors.

Customization ranked next highest in importance, and while its level of importance varied greatly across company size ranges, it was clearly much less important for very large companies. We believe this reflects the ability of these companies to more easily enhance CMS solutions

using available internal resources, which their smaller counterparts in all probably do not possess, or possess to a much lesser degree.
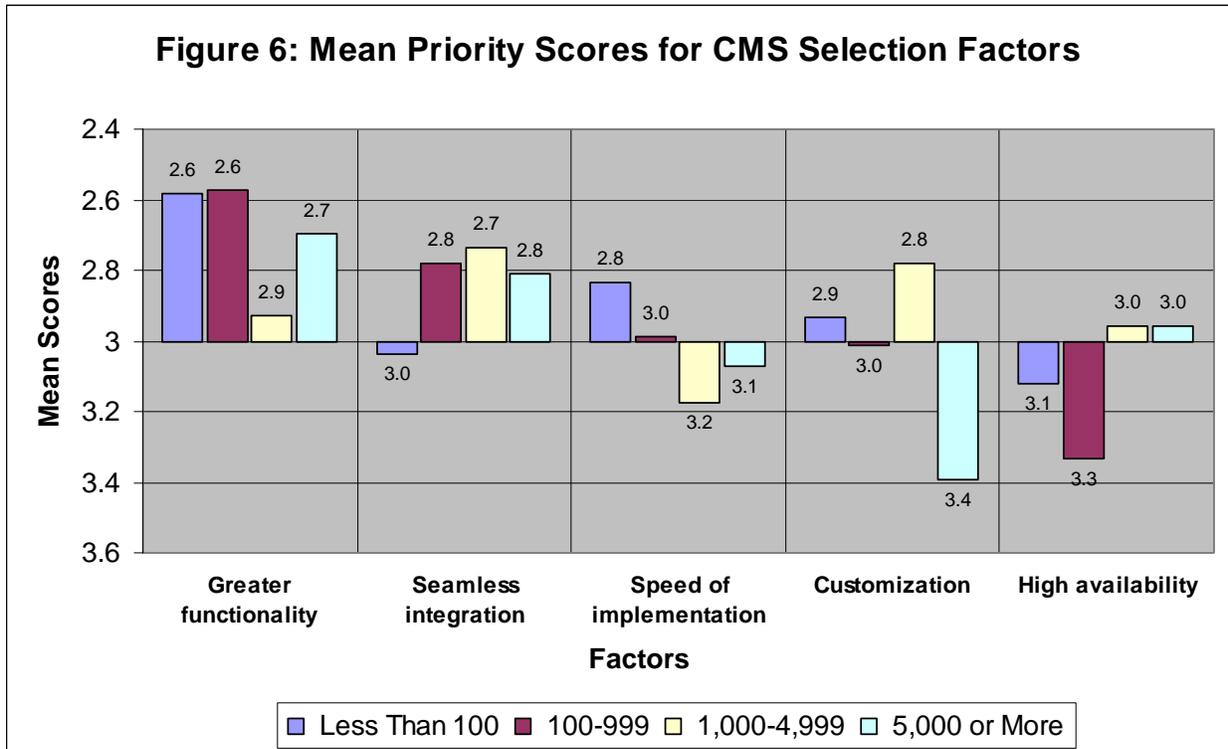
Figure 6: Mean Priority Scores for CMS Selection Factors

Please tell us which of the following factors was most important to your company, and which was second most important when you purchased the CMS solution, where 1=most important, 2=second most important, and so forth.
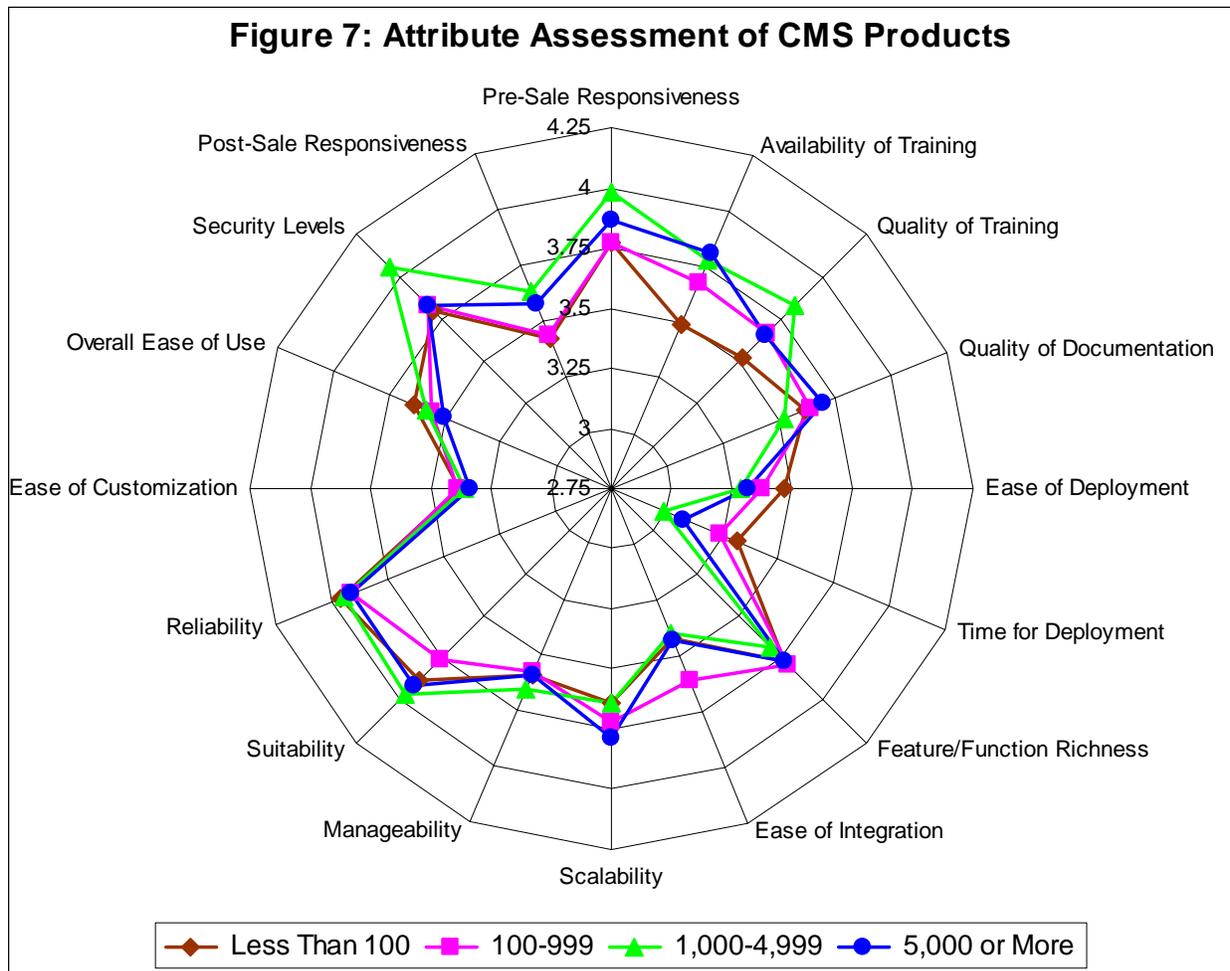N=500
Source: Bitpipe Software Assessment Study, August 2004

High availability was the least important factor. It is logical to assume that companies want their CMS solutions up and running without incident, but for reasons already discussed they consider the ability to meet their functional and integration needs to be more important. The potential exception here are larger companies, who view availability as more important than their smaller counterparts. CMS solutions may be seen as more mission-critical by very large companies, making availability higher on their priority list than for smaller companies.

Attribute Assessments of CMS Products

One of the major goals of the research covered in this report was to measure how IT users rate the product they use within a specific market relative to a number of important vendor and product attributes. There are sixteen distinct attributes that Bitpipe has determined can be used to generate a comprehensive evaluation of how well a specific product meets user needs.

Figure 7: Attribute Assessment of CMS Products

Scores on sixteen evaluation metrics standardized on a 5 Point Scale, Where 1 is the lowest score and 5 is the highest score.
N=500
Source: Bitpipe Software Assessment Study, August 2004

Users were asked to rate the solution with which they had experience against these attributes by assigning an attribute score between 1 and 5, where "5" indicates the best rating possible. A

comparison of the scores CMS users gave overall, as well as by company size, for each of the 16 attributes listed are shown in Figure 7.

Figure 7 clearly shows that users of CMS solutions rate their products and vendors more positively relative to some attributes than for others. It reveals variations of the mean scores that measure these ratings with company size. In order to get a clearer picture of the results, mean attribute scores have been summarized in Table 1.

Table 1: Mean Attribute Scores in Total and By Company Size (CMS)

Company Size (Number of Employees)

	Less Than 100	100-999	1,000-4,999	5,000 or More	Total
Reliability	4.0	3.9	3.9	3.9	3.9
Suitability	3.9	3.8	4.0	3.9	3.9
Security Levels	3.8	3.8	4.0	3.8	3.9
Pre-Sale Responsiveness	3.8	3.8	4.0	3.9	3.8
Feature/Function Richness	3.8	3.8	3.7	3.8	3.8
Scalability	3.6	3.7	3.6	3.8	3.7
Availability of Training	3.5	3.7	3.8	3.8	3.7
Quality of Documentation	3.6	3.6	3.5	3.7	3.6
Quality of Training	3.5	3.7	3.8	3.7	3.6
Manageability	3.6	3.6	3.7	3.6	3.6
Overall Ease of Use	3.6	3.6	3.6	3.5	3.6
Post-Sale Responsiveness	3.4	3.4	3.6	3.6	3.5
Ease of Integration	3.4	3.6	3.4	3.4	3.5
Ease of Deployment	3.5	3.4	3.3	3.3	3.4
Ease of Customization	3.4	3.4	3.4	3.3	3.4
Time for Deployment	3.3	3.2	3.0	3.1	3.2

Scores on sixteen evaluation metrics standardized on a 5 Point Scale, Where 1 is the lowest score and 5 is the highest score.
N=500
Source: Bitpipe Software Assessment Study, August 2004

CMS users gave their highest ratings overall to those attributes that measure the reliability of their solutions (with a mean score of 3.9), the suitability of their solutions to their particular situations (also with a mean score of 3.9), their solutions' security levels (with a mean score of 3.9 as well), and their vendors' pre-sales responsiveness (with a mean score of 3.8). These

ratings varied somewhat by company size. Suitability of products appears to be viewed slightly more positively by very small companies, although variations are small.

The issue of security is an important one for obvious reasons, and is becoming more so as the network-based solutions that enterprises are implementing continue to increasingly expand beyond their corporate walls. Users have given CMS security levels a mean score of 3.9 indicating a fairly high opinion of the products they have used. We expect users' expectations of CMS products to intensify with time, and we therefore expect that the security levels of CMS products will need to improve significantly lest users begin to offer harsher view in their ratings as their requirements become more extreme. Note that this rating did not vary significantly by company size, although companies with between 1,000 and 4,999 employees appear to favor their choices more.

We noted earlier in this report that feature/function richness and overall product functionality were extremely important to users in selecting a CMS product. Its attribute rating of 3.9 overall indicates that vendors are doing a reasonably good job of meeting functionality requirements (although there is clearly room for improvement). Here too, there was very little variation in this rating by company size.

Pre-sales responsiveness was viewed positively by respondents from companies of all sizes, although larger companies appear to see their vendors as being slightly more responsive (given the greater sales dollars involved, it would not be a surprise to see vendors paying more attention to their larger customers). There was a clear contrast, however, between this rating and the corresponding rating for post-sales responsiveness (which had a mean score of 3.5). Users evidently were not as satisfied with vendors' ability or willingness to support them once the sale is made; the severity of this lack of satisfaction appeared to increase with company size. Clearly, whatever extra energy vendors were putting into keeping their larger customers happy prior to the product sale diminished somewhat once the sale was made.

As we noted earlier in the report, IT organizations today are working to develop solutions that will be in place for the long term, and will therefore need to scale as their enterprises grow and resources become more plentiful and diverse. Users were only moderately happy with the scalability capabilities of the CMS products they use (this attribute was given an overall rating of 3.7). There was a slight tendency for very large companies to rate their CMS products higher here, which may also be an indication that they are leveraging vendors and products that are better designed to meet their more rigorous needs. Our expectation is that scalability is an attribute that vendors can address with greater energy as a means of improving their respective competitive positions, since it will grow in importance over time.

Overall, mean scores for availability and quality of training were about 3.7 and 3.6, respectively. Ratings for the training attributes generally appeared to be higher for larger companies than for smaller ones. The fact that large companies found the training they needed to be more easily accessed points to a likely higher level of attention paid by vendors to their larger customers. Enterprises making a CMS product decision need to look at training carefully because of the newness of CMS, and the high level of integration effort required to create CMS solutions.

The quality of documentation, manageability, and overall ease of use attributes all received an overall score of 3.6. Documentation appeared to be rated higher by very large companies, although a pattern was difficult to find. The manageability and overall ease of use attributes varied little with company size. The fact that their CMS solutions are not rated as highly in these three areas as in some others should be of some concern to enterprises. Manageability is perhaps the most significant of the three, since the management of processes, workflows, and content sources are the primary focus of CMS solutions. Ease of use becomes an issue when solutions need to be changed, or new processes need to be brought on line, and a poor showing here can manifest itself in longer "times to market" for new functionality, and higher costs. Documentation quality is tied to some degree to the quality of training, which we have acknowledged can be an important consideration (especially for new CMS implementers). Enterprises should therefore evaluate vendor offerings with these attributes in mind, and in particular, with an eye toward pushing vendors to demonstrate the effectiveness of the management environments that come with their products.

We've seen that integration is a "top of mind" issue for CMS decision-makers, but on a relative basis this attribute received a modest overall mean score (3.5). Despite new enabling technologies (such as Web Services and, of course, XML, which is particularly relevant to CMS implementations), integration is still a difficult task, and often a painful one. We don't expect its importance to diminish, and therefore note this as an important metric for companies to consider in choosing a CMS solution. Making their products easier to integrate is a potential area of competitive advantage for vendors, and it appears as if there is a good deal of room for improvement.

Companies overall rated ease of deployment and ease of customization (overall scores of 3.4), and time for deployment (overall score of 3.2) the lowest among the 16 attributes. It is interesting to look at deployment-related attributes in perspective. Deployment issues have for some time been on users' minds, a likely function of a variety of factors that in part define the reality of IT environments today (including heterogeneous platforms that span vendor offerings). Deployment is often seen as a significant implementation issue that many vendors need to address, and in our experience users view their vendors and their products in many cases as strongly deficient in this area. New buyers would do well to note this, and account for it in their product purchase

strategies moving forward. Since CMS solutions are likely to involve a degree of customization to allow the management of content and processes within a particular customer environment, users' acceptance of the difficulties may have lowered the relative importance of customization as a selection criterion. However, users do express a degree of unhappiness with the products they use in this regard. For all three of these attributes, ratings trend slightly downward as company size increases. Here again, complexity is likely to make users more demanding.

Assessment of Overall Satisfaction and Business Impact

The survey asked respondents to provide responses to outcome measures related to their CMS product and its supplier. Three metrics were employed including overall satisfaction, business impacts, and evidence of a tangible return on investment (ROI) or total cost of ownership (TCO) to assess whether the solution had help to meet the business objectives of a company. The results are shown in Figure 8.

Respondents were first asked to rate their supplier on a 1 to 5 scale, where "1" indicates that they were extremely dissatisfied and 5 indicates that they were extremely satisfied. The mean rating for CMS respondents in total was 3.7. The rating demonstrates that, while satisfaction is at a reasonable level (On this scale a score of "3" is neutral), vendors clearly have room to improve and the potential areas where they can do have been discussed in previous sections of this report. It is interesting to note that satisfaction generally increases with company size, although with a slight decrease for companies with over 5,000 employees. In all likelihood, this reflects the

Figure 8: Satisfaction and Business Impact Assessments by Company Size (CMS Market)
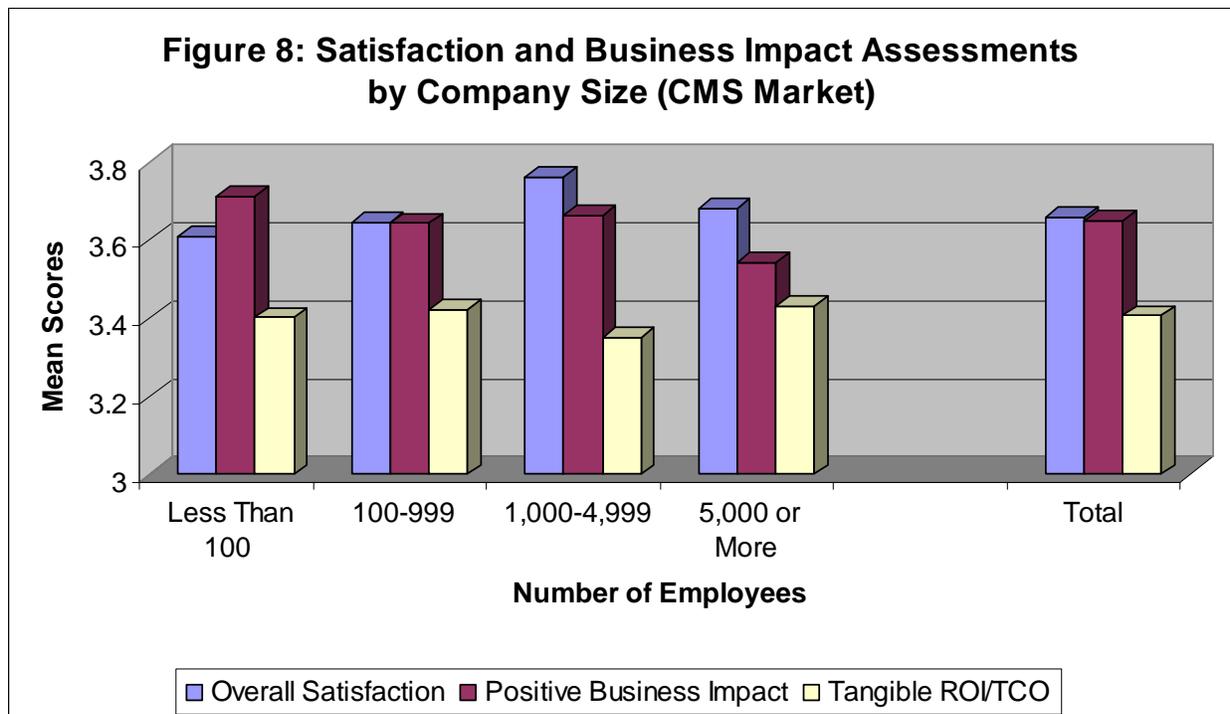
Please rate your overall satisfaction with this supplier. What degree of positive impact did this supplier's product have on your company's business objectives? What, if any, tangible ROI or positive TCO did your company experience?
N=500
Source: Bitpipe Software Assessment Study, August 2004

greater integration, customization, and deployment demands that midsized and large company environments place on products and the vendors that supply them.

Respondents were then asked to assess the degree of positive business impact their suppliers' products had on their respective companies' business objectives on a 1 to 5 scale, where "1" indicates extremely low impact, and "5" indicates extremely high impact. The mean score overall for CMS users was 3.7. While the rating is not overwhelmingly positive, it does show that a degree of business benefit was experienced by companies represented in this study. As the connection between IT resources and services and the enterprise's bottom line become stronger and more direct, a greater emphasis will be placed on business impacts. Users should look for vendors that can enable their enterprise to better leverage its IT for business advantage through products and support. Moreover, vendors need to help companies demonstrate in tangible ways that business impacts have been accomplished. The variation of scores for the positive business impact attribute was similar to that for the satisfaction attribute.

Finally, respondents told us what degree of tangible ROI or TCO their companies experienced through the use of their CMS solutions. The scale used was again 1 to 5, where "1" is no measurable outcome, and "5" is an extremely high positive outcome. The mean scores for this outcome measure were not as high as the other two outcomes (3.4). The impact appears to be fairly uniform, with little variation by company size that can be explained. The lower mean score relative to the other outcomes could be less about the actual results measured, and more about the fact that this outcome is one for which many enterprises generally don't apply a great deal of rigor today (although they should). Therefore, the ratings are not as high as for the other outcomes and in addition it is reasonable to expect that even for a vendor who performs well the outcome for that vendor might not be an easy task for a user to evaluate.

Nevertheless, the use of tangible outcome metrics is growing in importance and users and vendors alike would do well to embrace the use of such metrics. IT departments within enterprises of all sizes will be called on more and more to demonstrate a return on investment. This will include both the potential return as input to the purchase decision (perhaps leveraging documented vendor case studies or project-specific assessments), and after the implementation, as ongoing ROI studies.

Users' Current Usage and Plans for 2005

The final question in this study deals with respondents' current usage of CMS products, and their plans for augmenting their usage in various ways in 2005. Future plans included upgrading to new versions of their products, expanding their usage (a greater number of seats, or servers, or both), or making a new CMS product purchase (meaning that they currently do not employ a CMS solution, or are adding an additional, unique solution). The respondent base for this question was all respondents (i.e., the respondents for all 10 markets as listed earlier in this report) who were asked about a variety of product types, including CMS.

Results from the analysis of the current use and planned purchase activity for 2005 for the total market and by company size, for CMS products is shown in Figure 9. The results indicate that the percent of companies currently using CMS solutions generally increases with company size.

Figure 9: Current CMS Product Usage and Plans for 2005: All Markets Surveyed
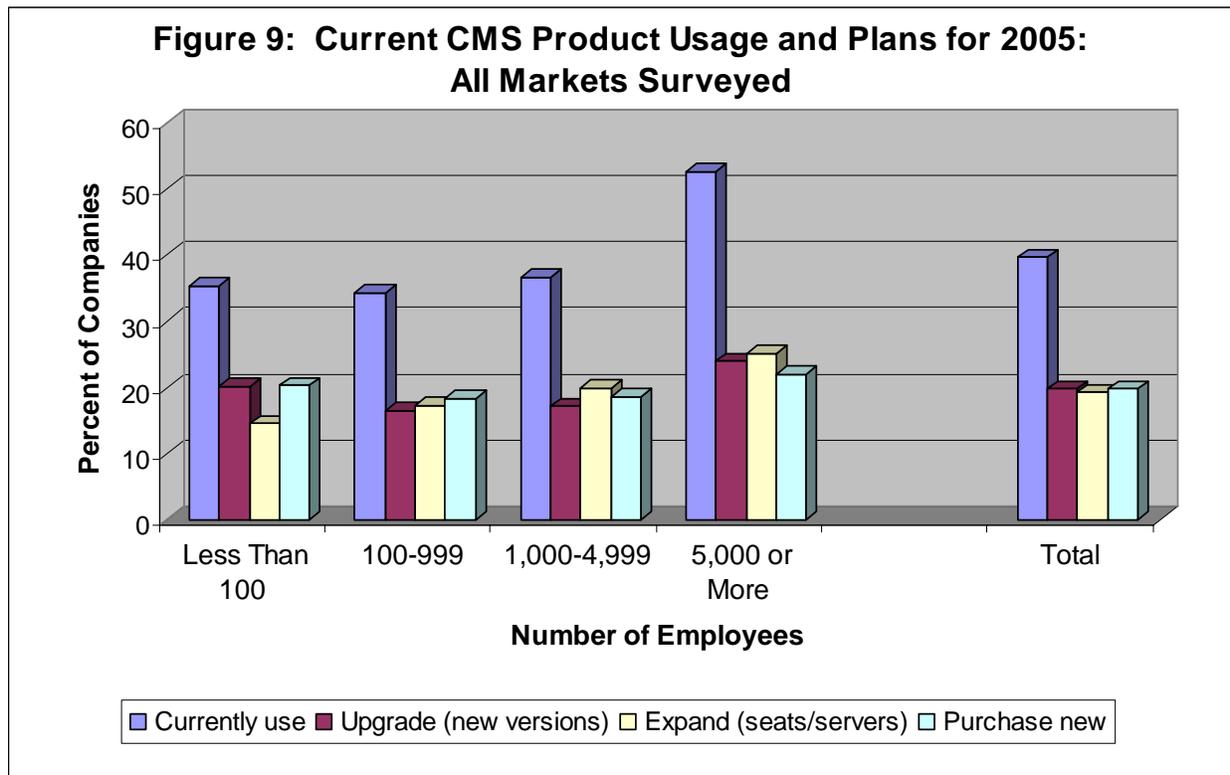
Please tell us which of the following types of software your company currently has in use. Please tell us which of the following types of software your company is planning to upgrade, expand, or purchase new in 2005.
N=5573
Source: Bitpipe Software Assessment Study, August 2004

This finding may reflect that increasing company size implies a larger collection of processes and content and a more complex environment that may increase the need for comprehensive CMS solutions. Plans to upgrade, expand, and purchase new CMS solutions in 2005 as measured by the percent of companies that indicated they will do so is generally greatest for very small and very large companies.

The result for the total market shows that a fairly significant percent (39.7%) of companies are currently using CMS solutions. In addition, 19.8% expect to upgrade those solutions in 2005 with new versions (although in most cases this does not represent new license business for vendors, but may be an indication of continued interest in purchasing maintenance agreements with the vendors with whom they currently work). Respondents further indicated that 19.2% of their companies plan on expanding their use of their current CMS products. While we do not have an indication as to what degree companies will actually increase their use of CMS solutions (i.e., how many seats or servers they use now and how many they will add in 2005), we nevertheless see this result as significant, and one that is likely to grow as the overall economic conditions improvement and as the expected need for CMS solutions drives the increase in usage.

In fact, Figure 9 shows that 19.8% of respondents indicate that they will either add CMS to their solutions portfolio, or add new CMS solutions to the ones they currently use. This percentage is higher than for other markets we studied that are more "mature" (such as Enterprise Application Suites and Database Management Systems), and therefore are a bit more saturated in terms of adoption and usage. The CMS results show significant business activity related to CMS solutions and companies not already thinking about how to leverage this technology would be well advised to put it on their radar.

Summary and Conclusions

The overall adoption profile for CMS products resembles what we might expect to see for IT products in general. Smaller companies appear to be somewhat more aggressive in their adoption of CMS products, perhaps in part because the relatively low complexity of the environments being managed enabled them to purchase these solutions earlier.

The ability to provide clear business benefits, reliability, and the features and functions included in products, appear to be the most important criteria for CMS users. They also put a great deal of emphasis on the reliability of their CMS solutions and the ability to procure these solutions in a more cost-effective way than building them in house.

The performance of CMS products and vendors with respect to the 16 attributes examined, shows that users see their products' reliability, suitability for the job, security levels, and their vendors' pre-sales responsiveness as the areas of best performance.   They were less impressed with the deployment and customization characteristics of their products, and the ease with which their products could be integrated with other IT assets.

CMS users also indicated reasonable overall satisfaction with the products they use. While they also expressed the view that these products provided a reasonably high level of positive business impact on their companies, their assessment of the degree to which a tangible ROI or TCO could be demonstrated was not as positive. This is, at least in part, the result of a lack of attention in many companies to the rigor required to perform such an assessment, a scenario that we see changing with time.

A large percent of the total respondent base indicated that they do plan to upgrade or grow their CMS product usage in 2005. This is consistent with what we see as an increasing need for CMS solutions in the new, more complex, and information-rich network-based environments enterprises will be implementing in greater numbers.

As the industry moves forward toward more services-based implementations, and as the architectures that form the foundation for these implementations (based on an SOA) become more prevalent, we expect some CMS market and product characteristics to change. First, and in response to growing user demands, we expect vendors to increase their rigor in terms of incorporating support for standards (although this is to some extent dependent on the timeline required for those standards to coalesce) – users' views of vendor performance here will likely be reflected in their scores for the ease of integration and scalability attributes, for example. For CMS solutions, standards will predominantly focus on the use of XML as a means of tagging data and information, identifying and locating information and content sources (through a repository-based mechanism such as UDDI), and as a means describing the metadata associated

with a particular piece of content. In fact, metadata creation is considered on of the most important requirements for a content management system. For example, it may be important to capture a document's creator, subject, and keywords, and, at a higher level, these metadata elements will likely need to be managed with the use of keyword indexes, subject taxonomies, and topic maps. XML technology can also be used to support an environment win which content entities (documents probably furnish the most simple examples, but they can take virtually any digital form) can be assembled in real time for a specific purpose. When evaluating CMS solution options, enterprises should look carefully at the degree to which a solution supports these mechanisms, with a realization that a particular enterprise's present requirements may not reflect its future needs. As always, a careful, thorough, and forward-looking requirements assessment is an early task that enterprises must resign themselves to perform. Such as assessment must examine a number of important areas, including:

- the creation of content (which includes the characteristics of the authoring environment, the need for multi-user authoring, reuse capabilities, and the just-discussed metadata creation);

- management issues (including version control, archiving, workflow, security, integration with other systems, and reporting capabilities);

- publication capabilities (which may mean support for templates and stylesheets, the ability to easily incorporate additional functionality into the publishing system, including user interfaces, and support for a variety of publshing formats);

- presentation (including features such as support for multiple browsers, high performance in the form of fast page load time and rendering, and good navigation aids).

Open source is also beginning to appear as a factor in the CMS market. The OpenCms Project is a good example. OpenCms is an open source website content management system, and is free of licensing costs. While open source does generally pose some questions in terms of the quality and reliability of solutions and the degree to which support meets real enterprise needs, open source is nonetheless presenting low cost options in this market and others that can serve to both present enterprises with more varied and less expensive options, and create a competitive "push" to existing vendors that can serve to raise the quality, and lower the price, of their products and support.

CMS solutions today and in the future are highly likely to be incorporated into IT environments in which solutions from different vendors will need to work more effectively together. The days of "islands" of technology tied to specific vendors and their proprietary solutions are rapidly coming to an end. Enterprises will increasingly demand that products offered by CMS vendors balance between a vendor's respective unique value adds and its ability to interoperate in the

new world of services-based implementation and highly distributed functionality. Solutions should be architected for the long-term, and only those vendors that can play in a standards-based world of high interoperability should be seriously considered.

From the market dynamics perspective, there is some degree of consolidation occurring as vendors of related products attempt to incorporate sophisticated content management capabilities into their existing product portfolios (EMC's acquisition of Documentum is an excellent example of such consolidation). We therefore expect to see increased intensity of competitiion between two major vendor types. The first are ISVs, which are generally (although not always) "platform-agnostic".This is in contrast to products from what we call "platform" vendors - those vendors who have built a loyal and expansive installed base of customers around one or more foundational elements. These vendors can often leverage a "default" decision advantage with their customers, a barrier that ISVs must overcome with a combination of superior product features, performance, pricing, and support, or a better solution for a particular type of customer problem. At this point in time, we believe that ISVs have the CMS edge, but the consolidation just described, and the interest and willingness of traditional systems and infrastructure vendors to jump into the fray, may result in a shift as enterprises strive for simplicity and ease of implementation (which often means working with as few vendors as possible, even if some product functionality is sacrificed). When evaluating CMS solution options, enterprises should look carefully at the platform characteristics of their environments. If all or much of it is implemented on a single platform, it may make sense to give "short list" priority to a CMS solution from the vendor of that platform (if in fact they offer one). In some cases, the efficiency achieved in terms of development, deployment, and integration could outweigh the fact that other vendors may offer more robust products from the functional standpoint, or offer a lower price. If heterogeneity reigns, an independent ISV may offer a better overall answer.

Methodology

Bitpipe, Inc. executes IT Assessment Survey research by interviewing users who have hands-on experience with a specific vendor's products and solutions. A set of metrics is used capture ratings and overall experiences with specific a vendor and the vendor's product and/or service. Included are overall outcome measures, used to validate the profile metrics and provide an overview of the vendor's status within their customer base. Bitpipe uses this information to provide an independent view of how users evaluate vendors and products, which is used by IT decision makers as a peer-based assessment of product and vendor performance.

Reports in this series are based on surveys of thousands of enterprise technology consumers. The survey-based research was conducted by Bitpipe was designed to create a highly random sample of technology consumers. Analysis of the data set indicates a normal distribution for IT adoption company size, industry, and geography.

Estimated Sample Sizes

Buyers (enterprises):

Typical Number per Vendor: N = 10-50

Total Per Market: N = 300-500 or more

Suppliers (Vendors):

Typical Number per Market: N = 10 or more (based on the number of vendors in a specific product area)

Where appropriate, composite rating scores and composite outcome scores are calculated based on the arithmetic average of individual attribute scores for a particular vendor. Results are updated on a continual basis and additional research is available to help in the diagnostic process of exploring market dynamics for our customers.

The research and reports based on the results are not vendor-sponsored. Every effort has been made to exclude any systematic bias towards or against any particular vendor, both in data collection and in analysis. This research is best used to determine a good fit between the needs of technology buyers and the vendors that can meet those needs. Bitpipe has employed a multi-dimensional analysis, using both independent and dependent metrics, designed to highlight the relative strengths and weaknesses of products along various measures that explore buyer wants

and needs. Bitpipe generated survey respondents through solicitation of its user base and the in some cases the user that visit partner sites, numbering over 1 million users per month. This sample frame is broadly representative of the universe of enterprises and the results can typically be generalized to the marketplace.

About Bitpipe

Bitpipe, Inc. (**www.bitpipe.com**) is the leading source of in-depth information technology content including white papers, product literature, webcasts, analyst reports and case studies.

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