

# Best Practices in Service-level Management



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# Overview

In August 2000, BMC Software, Sun Microsystems and PricewaterhouseCoopers sponsored a study to develop a baseline of best practices information that could be used for an online assessment tool. The assessment tool can be found at [www.nextslm.org/benchmark](http://www.nextslm.org/benchmark).

In the study, 182 middle and executive management respondents from large organizations (average 7,000 users per site) answered 35 questions regarding their business, Web sites, operations and service-level management (SLM) implementations. They were asked to profile a mission-critical service.

As part of the study, a survey was conducted on the Web. Five thousand information technology managers and executives from large North American organizations were invited, via email, to participate.

The survey tested the impact of 22 factors on user satisfaction. The factors included key measurements of availability and performance, recovery, SLM features (agreements, reporting, measurement, monitoring, and documentation), resource use, and trends in help desk use and software costs. An SLM Rating (scale: 0 to 100) was developed based on the relationships between these factors and user satisfaction.

## Highlights of the Study

The four top-mentioned factors contributing to user satisfaction were: having availability requirements met, having an improving or stable availability trend, having performance requirements met and having short recovery times from unplanned outages. These top factors (of the 22 measured) accounted for close to 30% of the variation in the ratings.

Technical managers had the highest opinion of their performance of SLM tasks and their end users' satisfaction with their service. Technical management respondents were twice as likely as any other group of respondents to rate their service levels in the top 25% of SLM ratings. CIOs and applications managers tended to describe their SLM near the overall average for the ratings, while operations managers tended to rate their operations more critically.

Sixty-one percent of the respondents had service-level agreements in place for the mission-critical service they were profiling. Most of those agreements had goals, objectives, and roles and responsibilities defined; in general, they included specifications of support availability. Penalties for nonperformance or missed objectives (25%) and incentives for exceptional performance (17%) were in place in significantly fewer agreements.

The study shows clear evidence of an evolutionary pattern in SLM. Three groups of respondents exhibit low, medium or high performance in SLM. A key difference between the groups is the performance of the service in meeting basic needs – both the medium- and high-performing groups accomplish this. High performance appears to be contingent both on meeting basic needs and extending service-level management to customer care.

Fifty-six percent of the respondents chose to profile an application they described as a “custom-in-house” application. Their use of custom applications highlights the importance of using SLM tools and processes that extend beyond packaged application boundaries.

## **Key Factors in High Performance**

The underlying infrastructure, customer care and the type of industry and role of information were key factors for high performance of a service.

### **Underlying infrastructure**

A solid infrastructure is critical to any underlying SLM effort. If a service is meeting availability and performance requirements, users are generally satisfied. Meeting availability and meeting performance expectations appear to be conditions that must exist for high levels of user satisfaction. They are the basic requirements (needs) for user satisfaction to be achieved.

## Customer care

Three distinct groups of responses were observed and are classified on the following table as *Stars*, *Solid Performers*, and *Low Performers*.

	<b>Meeting basic user needs?</b>	<b>Providing customer care?</b>	<b>Average SLM rating</b>	<b>User satisfaction</b>	<b>Development status</b>
Stars (48%)	YES	YES	80	Very satisfied	Customer care implemented
Solid Performers (42%)	YES	NO	67	Satisfied to very satisfied	Infrastructure needs and basic user needs satisfied
Low Performers (10%)	NO	YES/NO	48	Neutral to dissatisfied	Early SLM development

The average SLM rating for all respondents was 71. *Stars* did many things right including distinguishing themselves through high-quality communications with their customers and users. Not only did they provide high availability and performance, they also provided a “customer care” approach to SLM in the form of robust service-level agreements, high-quality reporting to their users and formal measurement of user satisfaction.

Customer focus is what separated the *Solid Performers* from the *Stars*. *Solid Performers* (42% of respondents) delivered on users’ basic needs, and their performance on 19 of 22 factors closely followed the *Stars* (48% of respondents). Both groups scored high on availability status and trend, performance status and trend, short recovery times and effectively managed operations.

The primary difference between *Stars* and *Solid Performers* was their implementation of “customer care” service based on three factors:

- Robustness of service-level agreement
- Sophistication of reporting methods to users
- Use of a formal user satisfaction measurement system

*Low Performers* (10% of respondents) did not meet basic requirements, and in general did not have significant SLM implementations – although some elements described above as customer care were present in several members of this group.

We have inferred that the *Low Performers* are just that – not merely respondents discussing low priority services. This is based on our request that respondents “focus on what you consider to be the most mission-critical application(s) group that you service.” As these

are all mission-critical services, we see stages of development in SLM implementation – and clear evidence that meeting basic user needs should be everyone’s first step in the evolution. The elevation of the IT organization to business leadership is achieved from extending consistency and stability into high-quality customer care.

## Industry / Role of information

The type of industry or business the organization was engaged in had a strong correlation to user satisfaction and SLM performance. The role of information in the business was also a key contributor to user satisfaction and SLM performance.

### ***Above-average Performing Industry Sectors:***

- Services
- Health care
- Financial services

### ***Below-average Performing Industry Sectors:***

- Utilities
- Communications
- Government / Education
- Manufacturing
- Distribution

The *Above-average Performing Sectors* consist predominately of high-technology service providers, other professional services providers (such as facilities and logistics services), large-scale health care organizations, health care services organizations and insurance and financial services organizations. These businesses are generally characterized by a high reliance on information. Their information technology organizations are not a business adjunct, but rather a significant part of the core business. They have high SLM ratings (71 to 78 points), and the leading scorers are well on their way to implementing customer care. They are managing their information assets as a business function and are managing their relationships with their end users. Most of the *Stars* are from these sectors.

The *Below-average Performing Sectors* (65 to 70 points) have demonstrated *limited to no* customer care implementation. They are generally meeting basic user needs. These businesses are also dependent on information technology and tend to manage large physical assets. Information technology is more frequently a business adjunct than a core business. Generally, the *Solid Performers* are prevalent in these sectors.

It must be noted that the preceding statements are about tendencies. There are high-performing distributors in terms of SLM and user satisfaction – likewise, there are low-performing services organizations. However, the industry relationships discussed above are generally statistically significant.

# SLM Implementation Insights

The study sponsors have found from their experiences in SLM service engagements that clients tend to follow distinct stages of evolution in SLM. The initial stage is called *foundation monitoring*. It includes metric collection, repository and reporting, threshold management and central-event management. Foundation monitoring is fundamental to serving the basic needs of the user community. This stage is followed by one of two focuses. One focus is on the business impact of SLM and the implementation of real-time SLA notification, SLA reporting, and a service view of system components. The other focus is on the information systems impact of SLM as evidenced by automating collective actions, incident management, and event analysis. In any event, both steps are taken in the drive to the most advanced evolutionary stage called *predictive service assurance*.

Respondents of this study show behaviors that reinforce this evolutionary view of service-level management. It is clear that the basic availability and performance needs of users must be met for user satisfaction to be high. Service-level management, and more specifically its customer care aspects, are a leverage point to a higher level of user satisfaction.

One of the many unresolved points from this baseline study deals with the causative relationship between the issues. That is, if you attack basic availability issues first, and then address customer care, are you any better off than using the converse strategy or a parallel strategy? The research only suggests that there is a hierarchy of needs that must be met for high satisfaction, and that our respondents tend to cluster around “stations” on that “need” hierarchy. There are strong indications that implementations are clustered in their self-assessment of SLM, suggesting that there are stages of SLM development and that success (as measured by user satisfaction) is achieved in steps.

Industry comparisons point to a relationship between user satisfaction, the importance of information to the organization and the steps taken to manage information as a business asset.

## Service-level Benchmark – Key Findings

Over 60% of respondents reported having service-level agreements in place for the particular service for which they reported (see **Figure 1**). Generally, these agreements were broad, including definition of roles and responsibilities, goals, reporting policies and support availability. A significantly smaller percentage reported performance penalties or incentives; about half included procedures for adjusting to changing conditions.

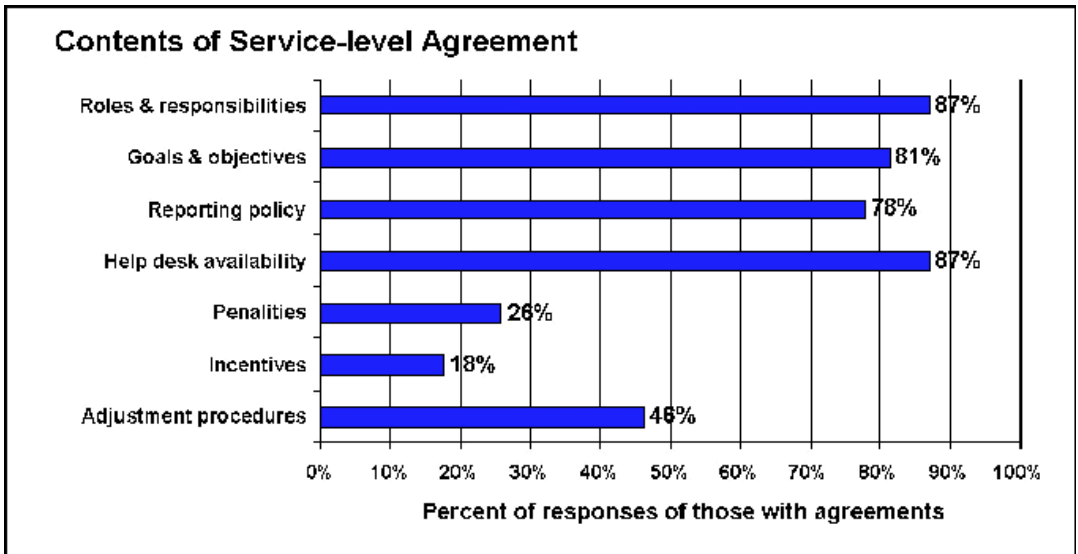


Figure 1

Over half (62%) of the respondents with agreements in place provided reporting based on aggregated indicators of infrastructure or components (see **Figure 2**). Thirty-six percent reported having automated reporting systems that provided customized reports to users. Twenty-two percent of those with agreements did not provide reports to end users.

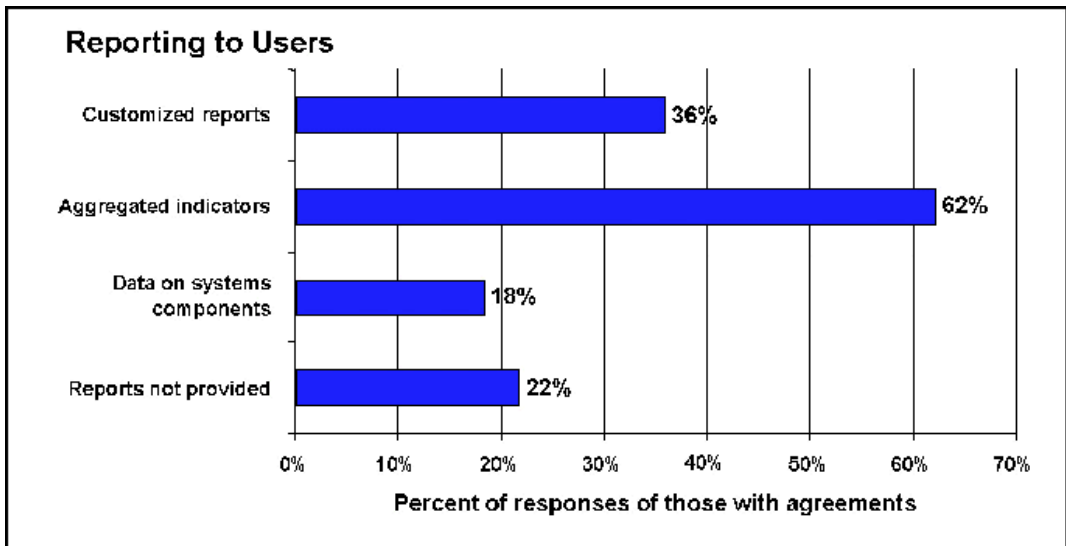


Figure 2

Generally, respondents felt their problem documentation was *somewhat effective* or *very effective* (see **Figure 3**). Only 8% felt their documentation was *ineffective*. Key reasons why documentation was not very effective included lack of sufficient details, ineffective use of documentation, and out-of-date or difficult-to-access documentation.

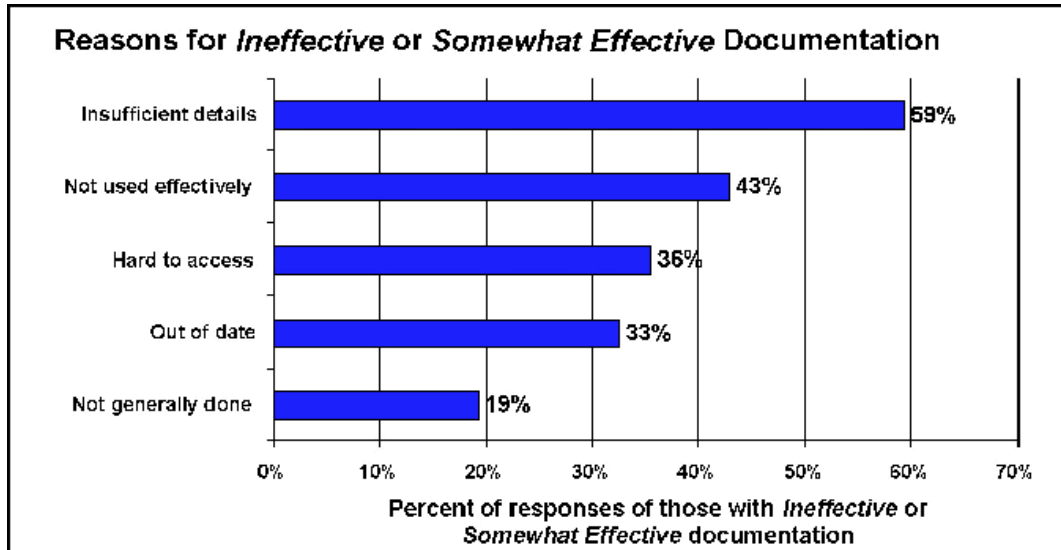


Figure 3

Respondents reported availability as meeting user requirements 92% of the time (see **Figure 4**). Only 5% reported declining availability. Similarly, 87% of the respondents indicated performance as meeting requirements and 11% reported performance as declining. Use of staff resources to support availability and performance issues was relatively low. About half (45% to 55%) of respondents reported less than 20% use of their systems administrators', applications administrators' and database administrators' time to support availability or performance issues. Only 5% of the respondents indicated that 60% of their administrators' time was engaged in availability and performance issues.

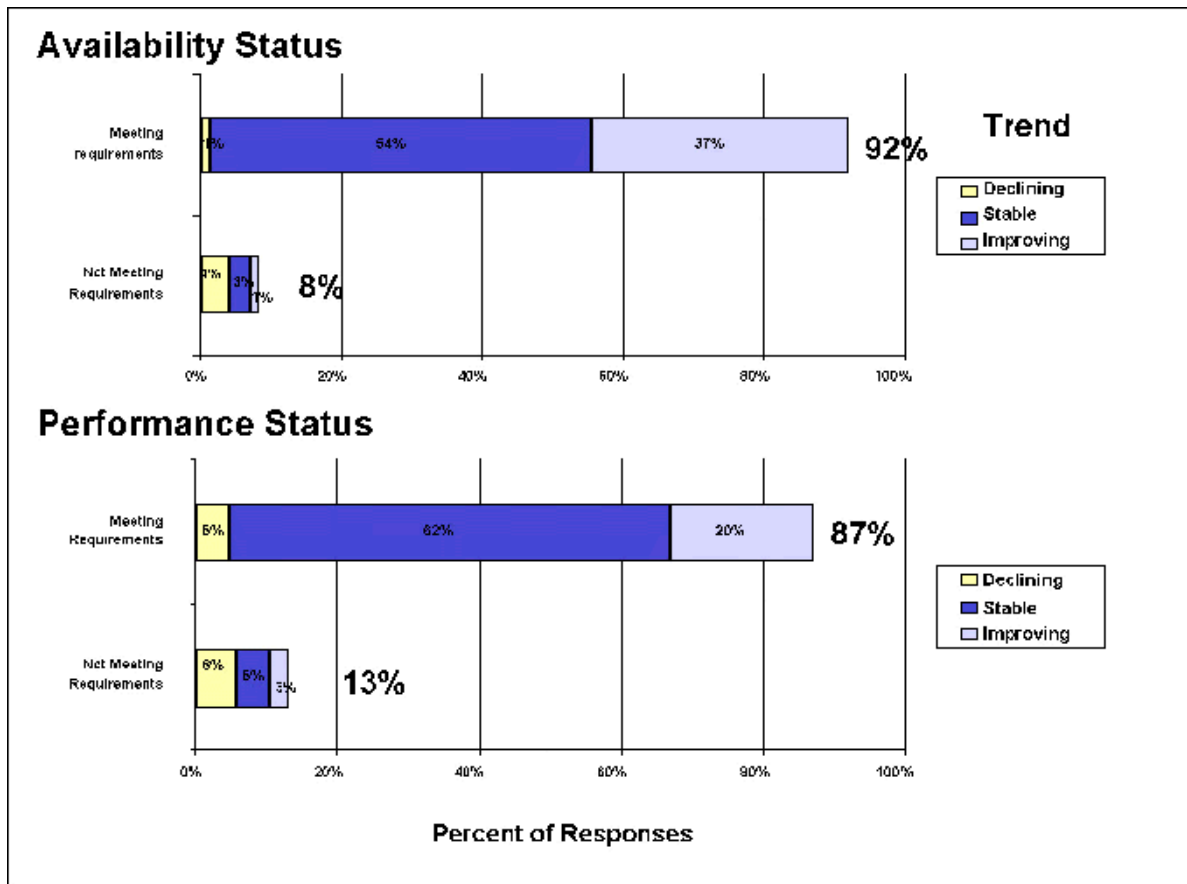


Figure 4

Infrastructure implemented to support high service levels was prevalent (see **Figure 5**). Approximately 70% reported a high-availability server configuration or a Parallel Sysplex, more than 50% mirrored disk and over 42% reported network failover configurations. Only 11% reported no specific high-availability infrastructure features.

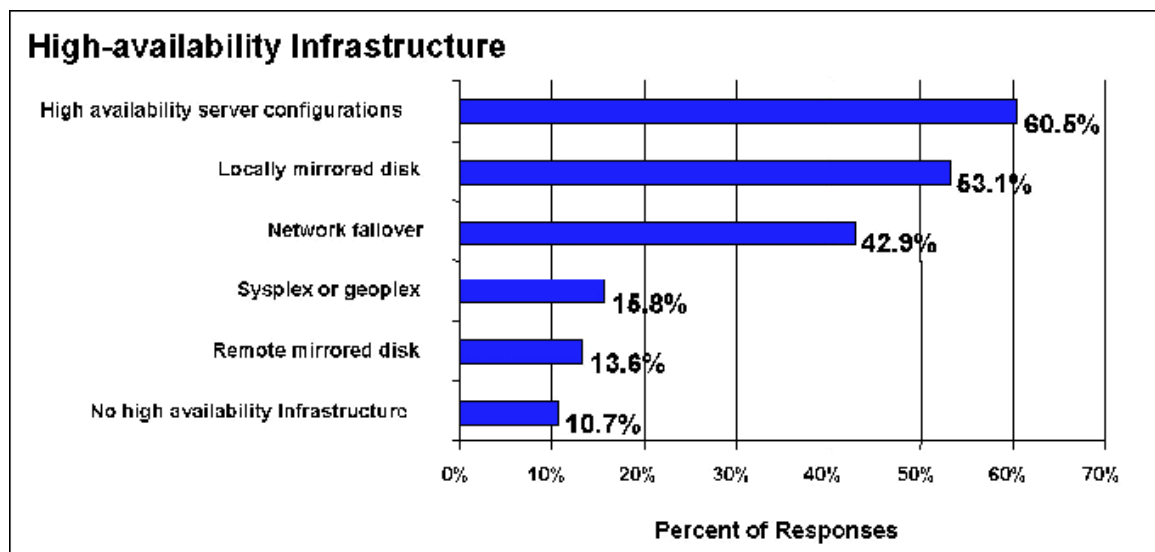


Figure 5

Respondents were very positive about their end users' satisfaction (see **Figure 6**). Only 17% reported neutral or dissatisfied users. In general, user satisfaction was positively related to all elements of sophisticated service-level management. Fifty-six (56%) percent of respondents reported having a formal user satisfaction measurement program. Respondents with formal programs were more likely to report higher user satisfaction than those without a formal measurement program.

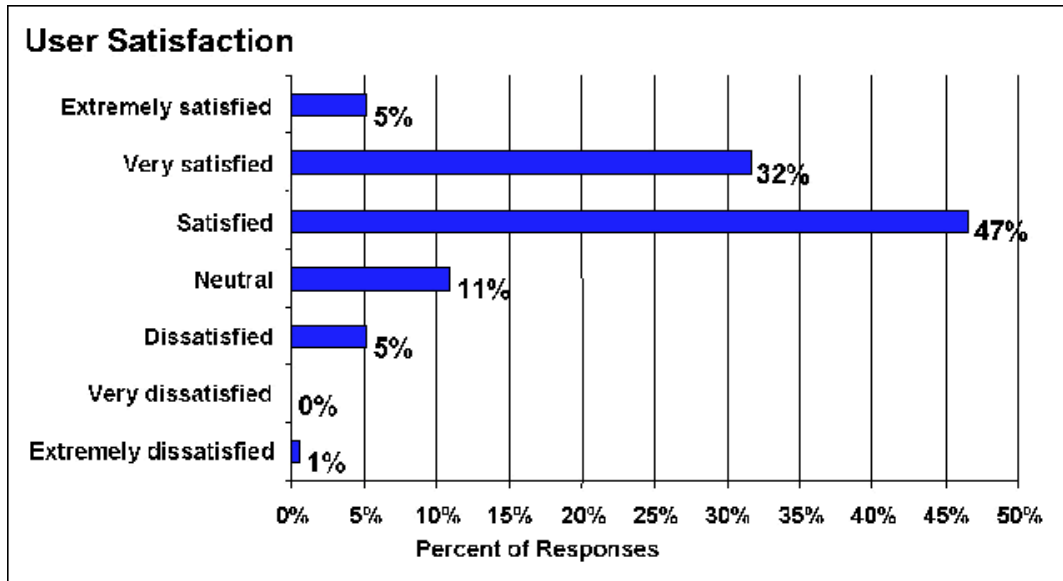


Figure 6

## Respondents and Sites

The 182 respondents came from a broad spectrum of industries – dominated by commercial, financial and services sector organizations (see **Figure 7**).

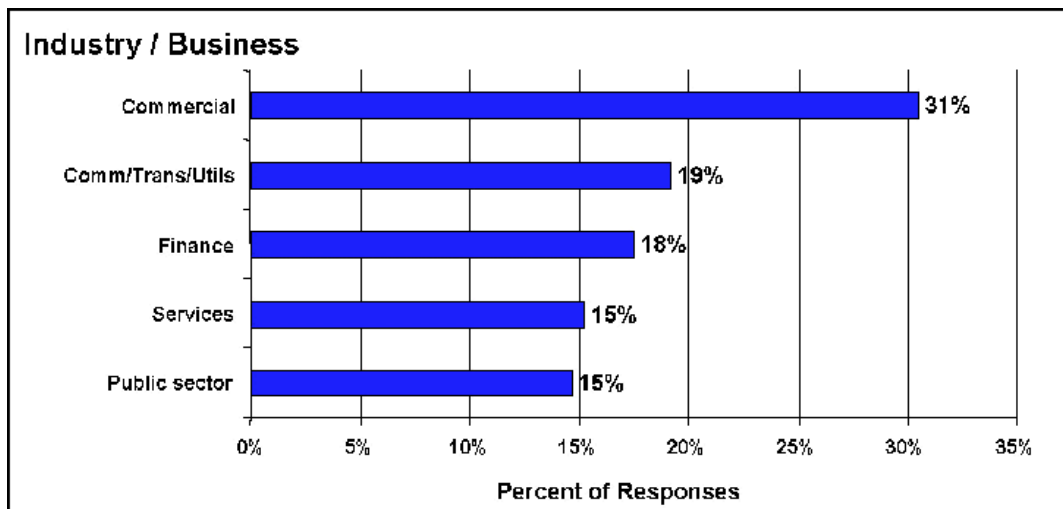


Figure 7

Sixty percent of respondents were from sites with over 20 terabytes of online data. Thirteen percent had over 80 TB (see **Figure 8**).

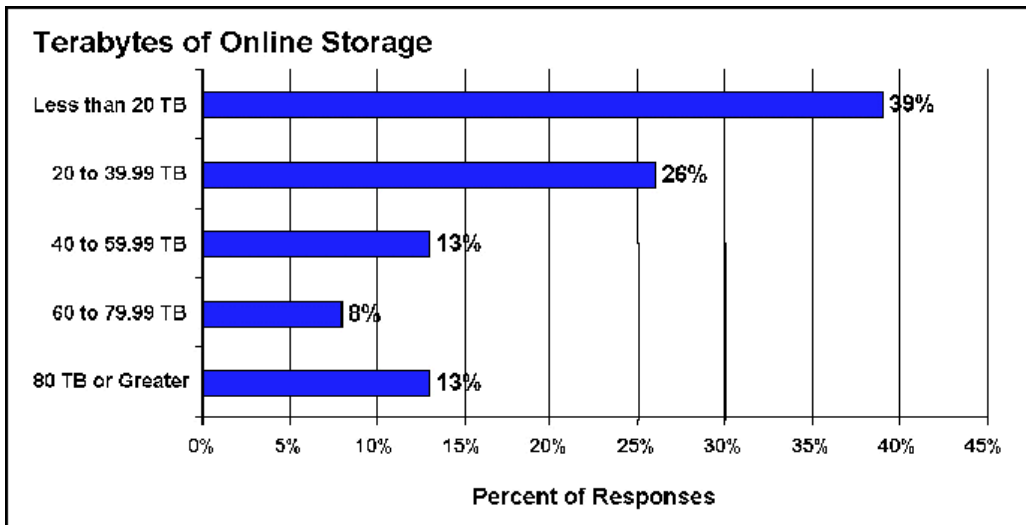


Figure 8

Approximately 50% of the sites had more than 7,000 users, and half of those had more than 15,000 users (see **Figure 9**).

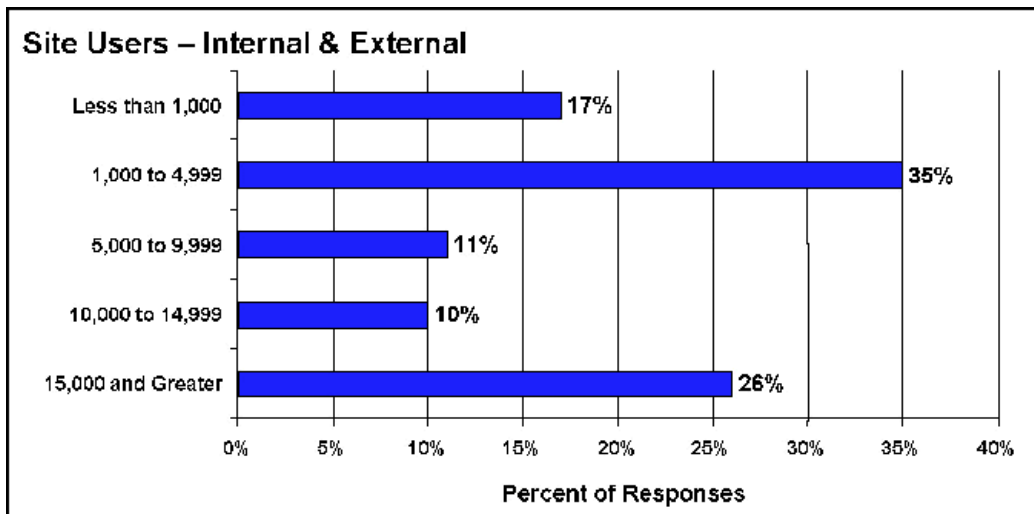


Figure 9

About a third (31%) of the respondents were in technical management roles, 20% were in applications management roles and 15% were IT executives (see **Figure 10**).

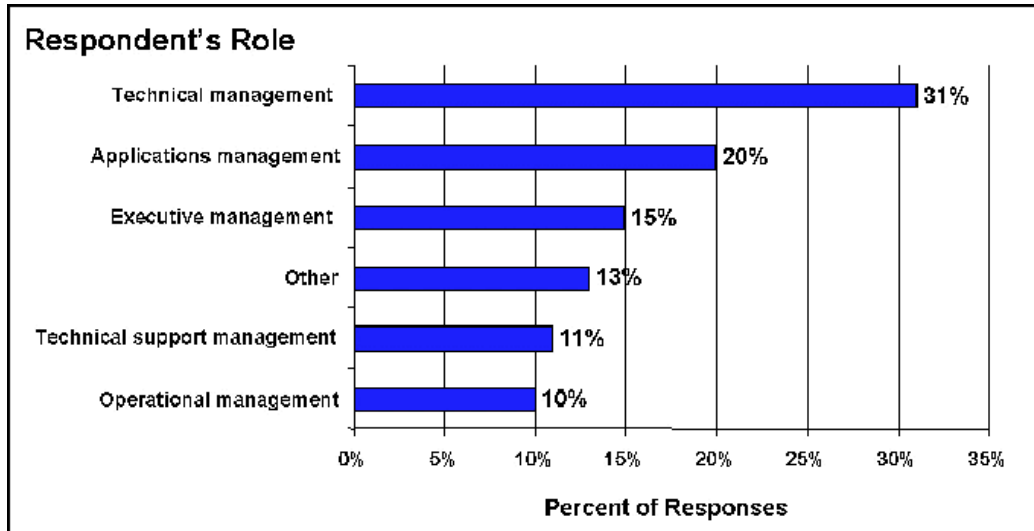


Figure 10

## Methodology

CustomerSat.Com conducted this study using a Web-based approach.

## Conclusion

The sponsors of this study, BMC Software, Sun Microsystems and PricewaterhouseCoopers, have implemented a new site for the SLM community. The [nextslm.org](http://nextslm.org) site contains several articles and white papers addressing SLM issues. You can see how you rate at [www.nextslm.org/benchmark](http://www.nextslm.org/benchmark).

An international survey will soon be done to compare and contrast differences in SLM leadership by geographic region. The survey results will be delivered on this site.

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