Business Value Analysis Market Research Report

Backup and Recovery

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THE ALCHEMY
SOLUTIONS GROUP

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Executive Summary

Business Value Analysis Market Research Reports

The Business Value Analysis Market Research Report (MRR) series plots trends in operational and economic impact as well as procurement decision making in several critical information technology (IT) solution areas. This MRR reviews *Backup and Recovery,* which are essential for protecting data and keeping businesses running efficiently and effectively.

IT organizations need clear markers for valuing investments. The ability to generate business value proof points for proposed backup-and-recovery solutions are therefore critical. This MRR will help create those proof points by answering the following two questions:

- What business drivers compel modern IT organizations to implement backup-and-recovery solutions?

- Following implementation, which areas have generated the greatest total operational and economic impact?

Chart 1.
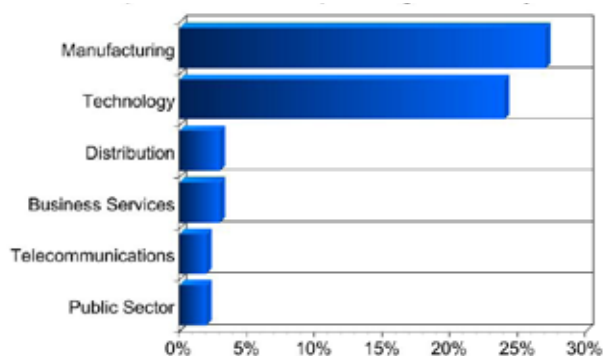### Top Industries Responding to Survey

Chart 2.
Company Size: Percentage of Survey Respondents by Number of Employees


Methodological approach

MRRs draw on two major data sources.

The first principal data source is a recently concluded survey sent to a cross-section of Symantec customers and other organizations representing the following regions: Europe–Middle East–Africa (EMEA); Asia–Pacific–Japan (APJ); and the Americas. The IT organizations were queried about their existing, freshly implemented, or upcoming backup-and-recovery technology solutions. The responses paint a vivid picture of the latest trends in this important IT area.

The second is a large and growing stockpile of recently published Business Value Analysis (BVA)™ studies by The Alchemy Solutions Group. These exhaustive Total Operational and Economic Impact (TOEI)™ research studies analyze an organization's challenges, its chosen technology solutions, the consequent project rollout and IT transformation, and the lessons learned—what worked and why.

The surveyed organizations represent virtually all sectors—from healthcare to education—although they mainly concentrated in manufacturing and technology (**Chart 1**). Organization size varies greatly as well. Slightly more than 40 percent of the firms are large enterprises, employing more than 5,000 people; 15 percent are enterprise size, with between 1,000 and 4,999 employees; the remaining 42 percent are considered small- to mid-size businesses (SMBs), with fewer than 1,000 employees (**Chart 2**).

Chart 3.
**Is IT Required to Create Financial Justification for
Procuring Backup-and-Recovery Solutions?**
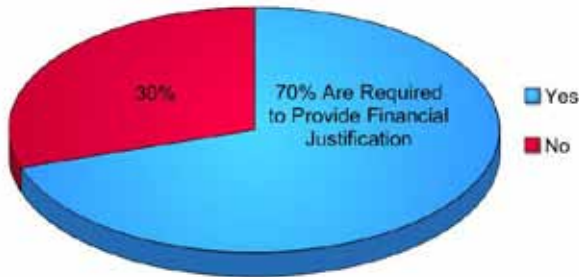
Justification and Validation

IT organizations are no longer isolated in a solely technological role in the work environment and therefore largely embrace business value as a core deliverable. This is certainly true when it comes to backup and recovery.

The survey bears this out. Nearly 70 percent of respondents indicate their IT organizations are required to justify their proposed backup-and-recovery solutions in financial terms (**Chart 3**). (We presume the percentage that actually provide financial justification is even higher. This is because procurement requests are more likely to be granted if the proposed solution can be shown to be economically advantageous to the larger organization. IT organizations should therefore be motivated, even if not strictly required, to financially justify their procurement requests.)

Unfortunately, this imperative is not always matched by readily available internal or external resources that could help IT departments justify their financial analyses. Nearly 40 percent of respondents indicate they are not given access to such resources (**Chart 4**).

An even smaller percentage of respondents had the chance to evaluate their new solution's effectiveness. About 60 percent indicate they were not given the post-deployment opportunity to validate their solution's operational and economic impact (**Chart 5**).

Chart 4.
**Does IT have Access to Resources to Assist with Financial
Justification for Procuring Backup-and-Recovery Solutions?**
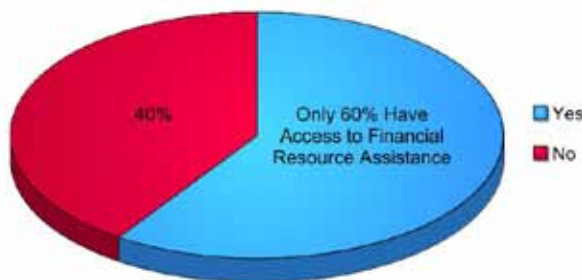
Organizations arguably would make better decisions if they first determine whether a proposed implementation is destined to succeed. IT procurement should be based on solid financial projections, otherwise the enterprise as a whole will not be able to evaluate the impact of a key business investment.

Of the respondents who are given the post-deployment opportunity to validate the backup-and-recovery solution benefits, nearly 80 percent tried to do so. The results are mixed. Almost two-thirds reap 50 percent or less of the anticipated benefit, while the other third reap more than 50 percent of the expected benefit. Only about 15 percent indicate they received 81 percent or more of the anticipated benefit (**Chart 6**, next page).

Chart 5.
**Did IT have the Opportunity to Validate the
Operational and Economic Impact After Deployment?**
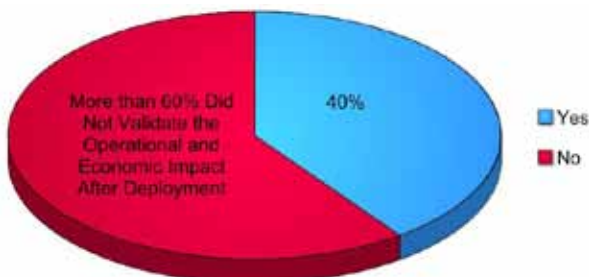
This wide variation could result from the lack of uniformity among return on investment (ROI) calculators, whereby the full operational and economic impact cannot be accurately determined before deployment, making benefit assessments after deployment equally difficult to measure. Organizations that complete the proper operational and economic due diligence at the beginning of the procurement process and incorporate closed-loop feedback after deployment should be able to more accurately measure the expected benefits they receive from backup-and-recovery solutions over time.

Chart 6. For IT Organizations Given the Opportunity, What Percent Benefit was Realized?
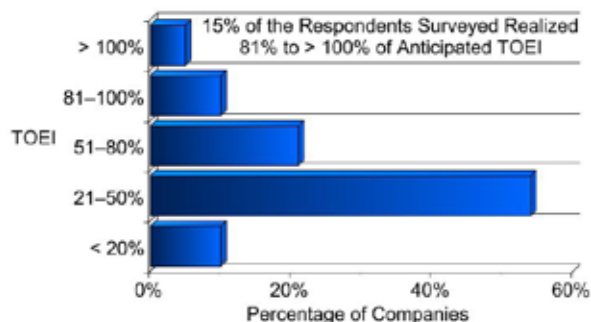
Chart 7.
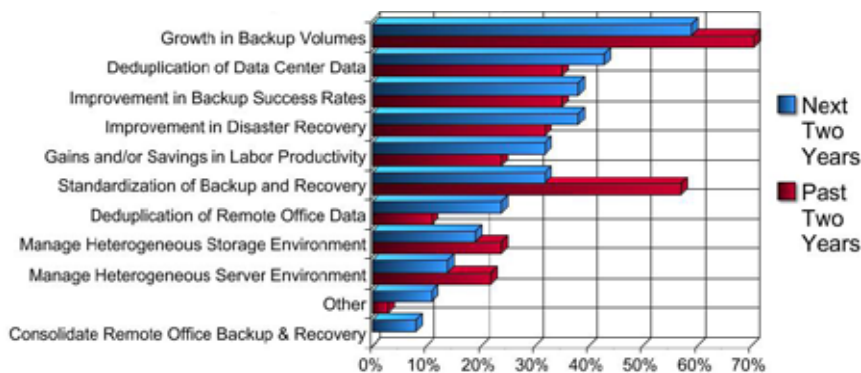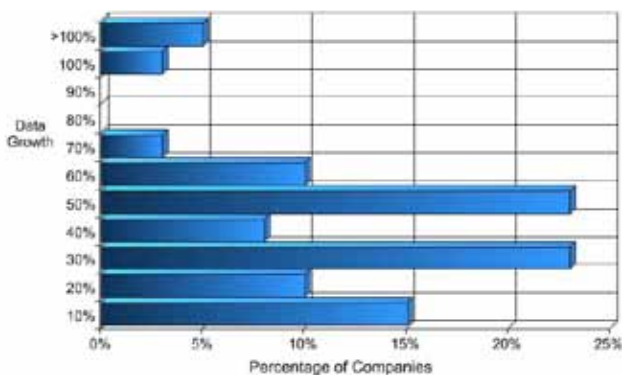**Business Drivers for Backup-and-Recovery Solutions**

Chart 8.
Anticipated Annual Growth in Data Backup Volumes

Trends in Business Drivers

The survey asks Symantec global IT customers and other organizations to select their top three criteria for making backup-and-recovery procurement decisions over the last two years, as well as their criteria for planned procurements over the next two years.

Manage backup volume growth

Over the last two years, the number one reason to deploy a backup-and-recovery solution—cited by more than 70 percent of respondents—was to address the unremitting growth in stored data volume. It is also the number one business driver going forward: nearly 60 percent of respondents indicate the growth in data stores will continue to drive their deployment decisions over the next two years (**Chart 7**).

These trends were largely consistent across organizations of every size.

How fast are data stores growing? Nearly one-quarter of respondents indicate their organization's data backup volume is growing by approximately 50 percent each year. But growth greater than that is relatively rare: only about 20 percent of respondent organizations are experiencing data growth in excess of 50 percent per year. For most respondents—almost 90 percent—annual data growth falls between 10 percent to 60 percent (**Chart 8**). While the variation is great, a clear message emerges: data stores are growing significantly at virtually every organization.

Eliminate data redundancy

Data deduplication, like tiered storage, controls storage costs and enhances operational efficiency. When considering backup-and-recovery issues over the last two years, more than one-third of respondents indicate their solution was driven by a need to deduplicate data stores housed in the enterprise's data centers; another 11 percent of respondents sought to deduplicate data stores in remote offices.

The need to deduplicate storage in data centers becomes the second strongest factor over the next two years, driving purchase decisions for 43 percent of respondents. The importance of remote center data deduplication more than doubles in the two years ahead, from 11 percent to 24 percent of respondents.

All of that growth is fueled by enterprise and large-enterprise companies, whose interest in deduplication as a business driver virtually doubles, from 29 percent (last two years) to 57 percent (next two years).

Taken together, data center and remote office data deduplication forms the number one business driver for backup-and-recovery solutions over the next two years.

Improve backup success rates and disaster recovery

A commitment to improving backup success rates was a significant factor driving back-up-and-recovery procurements over the last two years, cited by more than one-third of respondents. A similar percentage also indicate this factor will be a driver in the upcoming two years. Improving backup success rates was cited as a driver nearly twice as often by SMBs (firms with fewer than 1,000 employees) than by enterprise and large-enterprise companies (firms with more than 1,000 employees). The larger organizations are more satisfied with their success rates than the smaller ones.

Chart 9.
Reported Backup Success Rates
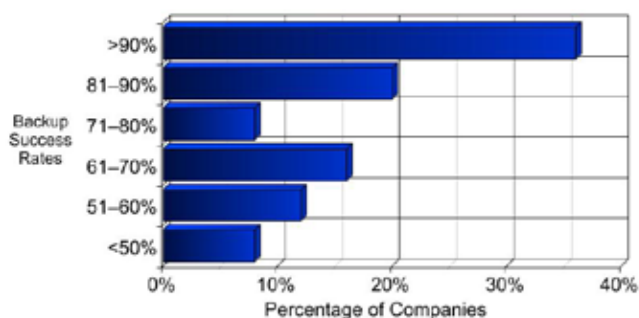
Likewise, more than one-third of respondents invested in a back-up-and-recovery solution in the last two years to improve disaster recovery capabilities. A similar percentage cite disaster recovery as a driver over the next two years.

How are backups faring now? More than one-third of respondents report that their organization exceeds a 90 percent backup success rate. Unfortunately, more than one-third indicate that their backup success rate was no higher than 70 percent (**Chart 9**). Clearly, for many, there is room for improvement.

Drive labor costs down and productivity up

Roughly one-quarter of respondents indicate their backup-and-recovery purchase decisions over the last two years reflected a desire to contain labor costs and boost employee productivity. More than 30 percent of respondents cite these labors goals as driving planned future purchases—among SMBs it rises to 46 percent, perhaps indicating a smaller firm's greater urgency to make the most of its limited resources.

It is interesting to note that relatively few respondents specifically call out labor costs and employee productivity as business drivers. As detailed in the *Trends in Business Value Analysis* section, much if not most of backup-and-recovery business value ultimately derives from labor cost avoidance and enhanced employee productivity.

Chart 10.
Backup-and-Recovery Standardization
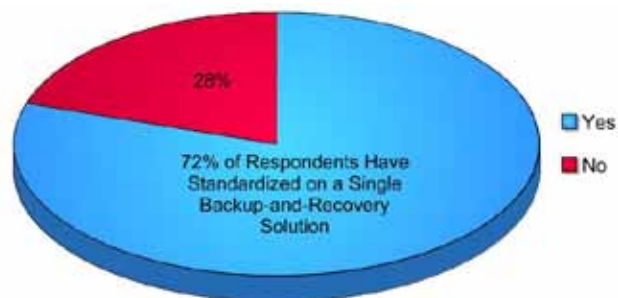
Gain single-solution efficiencies

Over the last two years, the second strongest reason for adopting a backup-and-recovery solution, cited by more than 55 percent of respondents, was to gain single-solution efficiencies. In fact, more than 70 percent of respondents note their organizations are currently standardized on a single backup-and-recovery solution (**Chart 10**). More than half of the firms in this group have standardized in the last two years and another third have standardized within the last three to five years.

Much of this standardization has occurred in firms with more than 1,000 employees. Accordingly, for enterprise and large-enterprise organizations, standardization as a business driver drops from 62 percent (last two years) to 24 percent (next two years)—but for SMBs the percentages hold steady. Overall, only about one-third of respondents expect standardization to drive their immediate backup-and-recovery solution plans.

Efficiently manage heterogeneous environments

Here we combine two survey results. More than 45 percent of respondents indicate they implemented a backup-and-recovery solution in the last two years to better manage the organization's heterogeneous server (22 percent of respondents) and storage (24 percent of respondents) environment. Only about one-third of respondents (14 percent for server, 19 percent for storage) report this factor will drive procurement decisions over the next two years. This suggests IT environments have recently become significantly more homogenous, or the newer backup-and-recovery solutions are doing a better job of handling existing heterogeneity.

Other IT environment specifics

Some survey questions glean backup-and-recovery information around tiered storage and backup administration.

For example, the survey finds that most organizations using tiered storage have four-tiered systems, which store data more or less uniformly across each level. Yet backup administrators at different organizations may handle wildly diverse loads. Nearly one-quarter of respondents indicate they were responsible for fewer than 20 servers, while about 20 percent handle more than 500 servers each (**Chart 11**). Similarly, while just about 15 percent of backup administrators manage fewer than 200 gigabytes (GB) of data, approximately two-thirds manage more than one terabyte (TB) (**Chart 12**).

Chart 11.
Number of Servers Managed by Each Backup Administrator

Chart 12.
Backup Volume Managed by each Backup Administrator

Trends in Business Value Analysis

The better an organization's backup-and-recovery solution, the more secure its data and the greater the efficiencies it derives from its people, processes, and equipment. How and why a backup-and-recovery solution impacts an organization operationally and economically depends, to a significant extent, on the specific challenges inherent in the pre-deployment environment. A review of Business Value Analysis (BVA) studies published by The Alchemy Solutions Group reveals that, overall, companies that implement a backup-and-recovery solution can expect to reduce by 72 percent the time spent managing backups, redoing failed backups, recovering lost backups, and the like. The economic impact includes savings through labor cost avoidance and improved employee productivity.

The following solution areas deliver the strongest, most consistent business value across the broadest range of customer circumstances.

Backup volume scalability

There are many reasons that online data growth continues to explode: services are migrating online, paper documents are being converted to electronic storage, and more comprehensive compliance requirements are demanding longer and more comprehensive retention. In addition, many sectors, such as healthcare and financial services, are either growing (e.g., due to changing demographics) or generating greater transactional volumes (e.g., due to tightened or more complex regulations).

Chart 13.
Growth in Data Backup Volume Managed
Pre- and Post-Solution Deployment

Customer Data From Business Value Analysis Studies
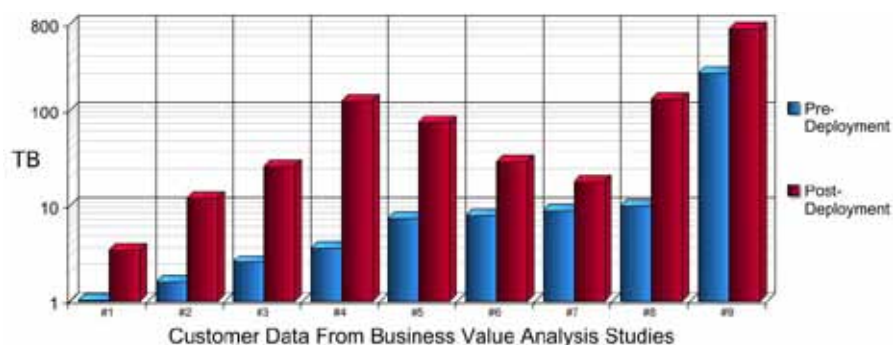
The BVA studies show that once a company's backup-and-recovery solution is in place, the backup administrator's ability to increase his/her load—in terms of the storage amount and the number of servers he/she can handle effectively—improves dramatically. This holds true regardless of the amount of data an organization is storing at the time the solution is deployed, and regardless of the rate of stored data growth over the years (**Chart 13**).

Following implementation of a backup-and-recovery solution, firms in the BVA studies gained, on average, a 320-percent boost in labor productivity over three years. This gain is based on increasing the administrator load from 12.4 TB managed per administrator to 39.9 TB managed per administrator.

As backup-and-recovery solutions enable backup administrators to take on responsibility for additional servers and greater amounts of stored data, organizations are able to back up their growing data volume with no, or minimal, increase in staffing. The actual dollar savings realized by a particular organization depends on the full-time equivalent (FTE) labor costs it avoids paying, year in and year out.

In the BVA studies, companies report hiring as many as 27 fewer full-time backup administrators than would have been required in the absence of their current backup-and-recovery solution. One healthcare facility that grew from 160 servers to 1,320 servers over several years added only two administrators.

Data deduplication

Data deduplication is another strong area of business value identified in the BVA studies. Organizations report, on average, a 40 to 60 percent reduction in required storage space; even greater reductions are reported—such as 4:1, from 8 TB to 2 TB, for remote office deduplication performed by one telecommunications firm. Depending on a company's circumstances, the freed-up storage space is retained to meet future demand, sold off (as entire servers), or otherwise profitably redeployed.

In the BVA studies, the average firm was able to reduce its storage load by 7.2 TB. The cost savings here are principally realized on the hardware/software side—the amount of saved

space multiplied by the cost of that storage—rather than through saved labor costs. However, less required storage also means fewer required FTEs to maintain (back up, recover, troubleshoot, etc.) the system.

Backup success rates

Many organizations appear willing to accept imperfect backup success rates so long as the rates stay above 80 percent or so. In the BVA studies, the majority of firms that took steps to improve backup success rates did so once the rates dipped below this marker. The average company that implemented a backup-and-recovery solution went from a sub-80 percent success rate to 95 percent or better, an improvement of 15 to 20 percentage points. Naturally, the greatest operational and economic impacts were received by those organizations able to improve their success rates by the greatest margin. Companies both improved their backup success rates and, at the same time, backed up larger amounts of data in shorter periods of time.

Chart 14.
Improvement in Backup Success Rates

Customer Data From Business Value Analysis Studies

By improving their backup success rates, firms in the BVA studies saved an average of 888 hours each year (**Chart 14**). Failed backups can be re-run immediately, either incrementally or in full, or added to a later backup; either way incurs additional labor and additional risk. Improved backup success rates generate cost savings through labor cost avoidance and improved labor productivity. That is, the fewer times an organization has to back up its data, the less time employees must devote to this task. The specific savings realized by an organization depend on the costs associated with the FTEs the firm either redeploys or avoids hiring in the first place.

Backup windows

In recent years, more organizations began having greater trouble hitting their targeted backup windows. The problems: too much data to back up and too little downtime in which to perform them. As stored data volume proliferates, the time and the team members required to back it up also expand. Meanwhile, round-the-clock operations—evermore common in a global economy that increasingly rewards, if not demands, 24/7 system availability—are forcing administrators to shrink backup windows to ensure they don't interfere with ongoing mission-critical applications.

As indicated in the BVA studies, companies are meeting these challenges, and deriving exceptional business value, by adopting backup-and-recovery solutions that rein in data volume and cost (through deduplication, compression, etc.); enable and enforce automated, centrally administered policies; and diminish application performance issues. Most of the savings come from reduced labor costs: smaller backup windows that require less manual intervention mean fewer dedicated FTEs, as well as greater productivity for the backup administrators who remain involved in the process.
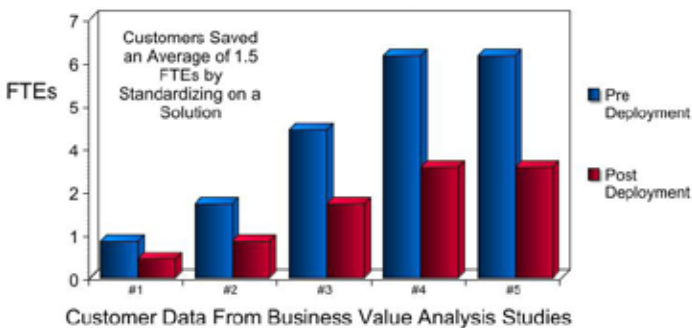
Recovery time objectives

As companies continue to place more essential services and mission- and customer-critical information online, the importance of fast, complete backup recoveries cannot be overstated. Meeting a short recovery time objective (RTO) is essential for maximizing business

continuity and for keeping employees functioning productively. And the tighter the RTO, the fewer IT resources that will be tied up. By achieving much shorter RTOs—a typical server recovery might be reduced from four hours to 15 minutes—and minimizing the overall number of incidents, companies reap exceptional business value through reduced IT labor costs and near-continual employee productivity.

In the BVA studies, the average organization saved 484 hours in IT labor costs each year by enhancing its RTOs. The labor productivity savings that are due to fewer interruptions affecting the overall workforce, though presumably much greater, resisted precise measurement and so are not included here.

Standardization

Decentralized and siloed backup-and-recovery systems are a major drain on IT budgets. Alternatively, a single, centralized solution can limit training expenses, consolidate and reduce licensing costs, simplify systemwide monitoring, and provide greater infrastructure scalability. Perhaps most important, a standardized solution is simpler to maintain and operate, boosting IT productivity and limiting headcount expansion.

Organizations in the BVA studies saved, on average, 1.5 FTEs by standardizing on a single backup-and-recovery solution. Again, the specific savings realized depend on the costs associated with the FTEs the firm either redeploys or avoids hiring in the first place (**Chart 15**).

Chart 15.
Standardizing on a Backup-and-Recovery Solution

Conclusion

What does the future hold for IT investment in backup-and-recovery solutions? The survey results strongly suggest that IT organizations have plenty of compelling reasons to develop new solutions and improve on existing ones. And the Business Value Analysis (BVA) studies published by The Alchemy Solutions Group demonstrate that these solutions save money and time—and are likely to continue to be part of the IT toolbox for years to come.

Business drivers lead to value-rich solutions

The trends in backup-and-recovery business drivers, identified in the survey, map well with the BVA-identified business value trends. That is, backup-and-recovery solutions that effectively address IT business drivers—mainly by boosting labor efficiencies, restricting headcount, and driving down storage volume and costs—will generate exceptional, quantifiable TOEI.

Emerging trends: solution standardization down, deduplication up

Overall, the survey found that the same decision criteria that drove backup-and-recovery purchases in the last two years will drive, to a similar degree, these purchase choices in the next two years. For example, the number one reason to deploy a backup-and-recovery solution over the last two years remains the number one driver over the next two years: addressing the unremitting growth in stored data volume. No surprise there. There were, however, two major exceptions to the consistency of past-to-future trends.

The importance of single-solution standardization over the next two years diminishes relative to the past two years—a result consistent with the survey's finding that most enterprise and large-enterprise firms have already adopted a standardized solution. In fact, for these larger organizations, standardization as a business driver drops from 62 percent (last two years) to 24 percent (next two years). For SMBs, the percentages hold steady.

On the other hand, the importance of data deduplication gained strength going forward—especially among enterprise and large-enterprise organizations, whose interest in deduplication virtually doubles from 29 percent (last two years) to 57 percent (next two years). That growth is strong enough that, taking data center and remote office data deduplication together, deduplication forms the new number one business driver for backup-and-recovery solutions over the next two years.

The savings are in the solution

The BVA studies documented significant savings in several business value areas. These include:

Backup volume scalability: By growing the average backup administrator's load from 12.4 TB to 39.9 TB over three years, organizations enjoyed a 320-percent labor productivity gain.

Deduplication: The average firm was able to reduce its storage load through deduplication by 7.2 TB.

Recovery time objectives: Organizations saved, on average, 484 hours in IT labor costs each year by enhancing RTO.

Standardization: Standardizing on a single backup-and-recovery solution saved organizations, on average, 1.5 FTEs.

In most cases, the specific savings realized depend on the costs associated with the FTEs the firm either redeploys or avoids hiring in the first place.

Financial justification required but limited resources hamper efforts

While nearly 70 percent of survey respondents are required to justify their proposed backup-and-recovery solutions in financial terms, fewer are given the tools to do so—and only a minority are empowered to explore, post-implementation, whether a solution actually succeeds or not.

The survey results suggest that the solution benefits fall short of some IT organization projections. These companies will have to do a better job of matching expectations with results. Two developments will help. One is the use of standardized calculation tools. The other is greater access to resources that will enable these firms to financially justify their procurement requests as well as validate their solution benefits.

The Alchemy Solutions Group
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The Alchemy Solutions Group is a global management consulting and marketing research firm providing program level support to senior IT, sales, marketing, and customer reference professionals in Fortune 1000 companies. Alchemy's Research and Publishing services help clients assess the economic impact of leading technology solutions in the global supply chain.

The Total Operational and Economic Impact (TOEI)™ Research Practice delivers public and private research services that measure a product's positive and potentially negative impact in post-implementation environments. Alchemy's Business Value Analysis (BVA)™ Market Research Report (MRR) is one of the public communication mediums available for this research.

Alchemy leverages deep industry expertise and formal research best practices to help business leaders understand the key attributes of and constraints on corporate performance. TOEI research enables our clients to make decisions based on the operational and economic impact of select products and services, and help support integrated, marketing best practices.

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As MD of The Alchemy Solutions Group, Stanley King is responsible for establishing strategic relationships with executives who are committed to understanding the economic impact that products and services have in the global supply chain. King's international sales and marketing experience and ongoing research efforts provide industry executives with the candid insight required to educate employees, customers, and their extended supply chains. The repurposing of TOEI research has proven valuable in terms of IT procurement, product development, go-to-market planning, enterprise sales, and long-term customer support.

Prior to founding The Alchemy Solutions Group, King served in the software industry for 19 years, specializing in mergers and acquisitions, executive management, field operations, and sales management. With global experience in large technology companies like Oracle and in smaller technology start-ups, King brings a wealth of insight in the support of Research and Publishing efforts at The Alchemy Solutions Group.