

The High Cost of Change for ERP

What Does It Cost
to Keep Up to Date?

A report prepared by
CFO Research Services in
collaboration with Agresso

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The High Cost of Change for ERP

ABOUT THIS REPORT

We collected 157 responses from senior finance executives, representing primarily midsize companies across the United States, in a wide range of industries:

ANNUAL REVENUE

Less than \$100 million	3%
\$100 million to \$250 million	26%
\$250 million to \$500 million	22%
\$500 million to \$1 billion	16%
\$1 billion+	34%

TITLE

Chief financial officer	28%
Director of finance	20%
Controller	17%
VP of finance	17%
EVP or SVP of finance	10%
Treasurer	3%
Other	6%

INDUSTRY

Wholesale/Retail trade	13%
Financial services/Real estate/ Insurance	8%
Business/Professional services	8%
Chemicals/Energy/Utilities	8%
Health care	7%
Auto/Industrial/Manufacturing	7%
Architecture/Engineering/Construction	6%
Transportation/Warehousing	6%
Education	6%
Pharmaceuticals/Biotechnology/ Life sciences	5%
Media/Entertainment/Travel/Leisure	4%
IT services	4%
Hardware/Software/Networking	4%
Food/Beverages/Consumer packaged goods	4%
Aerospace/Defense	4%
Government/Public sector/Nonprofit	3%
Other	3%

Note: Percentages may not total 100%, due to rounding.

Quantifying the cost of change

Businesses of all sizes and in all industries are finding it difficult and costly to continue to update and modify enterprise resource planning (ERP) systems after they have been installed. The initial investment to acquire and implement an ERP system is substantial. But even after the system is up and running, the costs continue to mount as the business evolves, requiring the ERP system to evolve as well to keep pace.

As time goes on, the business processes and components for which a company customized its ERP system at implementation are not necessarily the same processes and components it needs to track today. Companies grow and change, acquiring new business lines and divesting themselves of others. They open new facilities or consolidate operations, add partners or outsource functions, centralize or decentralize the back office. Reporting requirements increase as regulatory bodies heighten oversight and as companies expand across borders. In short, businesses change, and as they do, so do management's information needs.

The question isn't whether a typical ERP solution supports change, but rather, at what cost? How quickly can adjustments be made, and what stresses do such changes place on the organization? To examine these questions, CFO Research Services, in collaboration with Agresso, surveyed senior finance executives about their companies' experiences in modifying their existing ERP systems. Focusing primarily on midsize companies—those with \$100 million to \$1 billion in annual revenues—we gathered information on the continuing costs, time, and effort required to maintain, modify, and update ERP systems post-implementation.

The question isn't whether a typical ERP solution supports change, but rather, at what cost?

What Does It Cost to Keep Up to Date?

Keeping pace with business changes

How much does it cost to keep an ERP system up to date? According to our survey respondents, the answer is: a lot. The cost of ERP does not end with implementation. This research program documents the time and effort many companies are expending on post-implementation modifications in order to adapt their ERP systems to their business needs. Above and beyond the initial cost of implementation, companies are spending considerable amounts to customize the product to their businesses, add modules and functionality, rewrite applications, modify outputs, improve system performance, update the technology, and, in general, upgrade the system so that it keeps pace with changes in the business.

The initial cost of ERP itself is substantial. We first asked senior finance executives to estimate their companies' initial outlay to acquire and implement ERP systems. Nine out of ten respondents (92%) spent a minimum of \$250,000 for the license, service, and first year's maintenance on their current ERP system; half of the respondents spent more than \$1 million. The actual cost to the company of getting the ERP system up and running is even higher; these estimates do not include the internal costs for implementing the system, such as for project planning and management, user training, and IT support.

But most companies also are paying to adapt their ERP systems to their businesses. We found that one of the biggest drivers of change for companies is the need to customize their ERP systems to their business processes. Eight out of ten respondents (80%) report that their companies have customized their ERP systems either moderately or extensively in order to adapt the product to the company's unique business requirements.

We also found that the need to customize ERP systems to individual business requirements adds to the ongoing cost of maintaining the system. In an open-response question, many finance executives commented on the difficulty of applying technology upgrades to a system that has been customized. In one instance, the director of finance for a company in the biotechnology industry advises, "Limit the amount of customization to the actual system code, [as customization] then requires substantially more complexity and cost in the future when any modifications or upgrades are required."

The cost of ERP, then, does not end with the installation—when evaluating ERP systems, companies need to look well beyond their "sticker price." Many companies—of all sizes and in all industries—find it both difficult and costly to continue to update their ERP systems to support change after they have installed them. Our survey reveals the extent of the costs required each year to continue to maintain and modify ERP systems.

When evaluating ERP systems, companies need to look well beyond their "sticker price."

Many of the ongoing modifications to ERP systems are needed to allow the system to keep pace with changes in the business. We asked finance executives what kinds of changes their companies had made to their ERP systems since installation. Three-quarters of the respondents (76%) report that they have added modules or functionality to their ERP systems to enhance their utility. The next most common types of changes are modifications made to integrate or consolidate different systems and applications (67%), followed by rewriting existing ERP applications (61%).

Some respondents' companies have undertaken even more extensive changes to their installed systems. One-third of the respondents (33%) say their companies have reconfigured their entire ERP system, entailing system-wide modification, while 17% report that their companies have reimplemented their existing ERP systems, as the changes required were so extensive that the system vendors had to modify and reinstall the systems.

The High Cost of Change for ERP

Cost and complexity

Changes such as these come at a cost. To gauge the level of that cost, we asked finance executives to estimate how much their companies spent each year to modify their ERP systems post-implementation. Respondents provided estimates for three different components of the total annual cost of maintaining and updating ERP systems:

- **Internal costs**—how much of its own resources (salaries for IT, finance, user training, project management, etc.) a company expends each year on maintaining, updating, and modifying ERP
- **External costs**—the annual cost of third-party services (IT vendors, contractors, etc.) employed to help a company adapt its ERP system
- **Maintenance and support fee**—paid annually to the application vendor

Responses show that a typical company in our survey may spend an average of more than \$1.2 million each year to maintain, modify, and update its ERP system. (See Figure 1.) For each of the three components, 20-30% of respondents estimate annual costs at more than \$500,000 per year. Over half of the respondents estimate internal costs alone at between \$100,000 and \$500,000 each year. More than 40% of respondents estimate costs of between \$100,000 and \$500,000 separately for external costs and for maintenance and support fees.

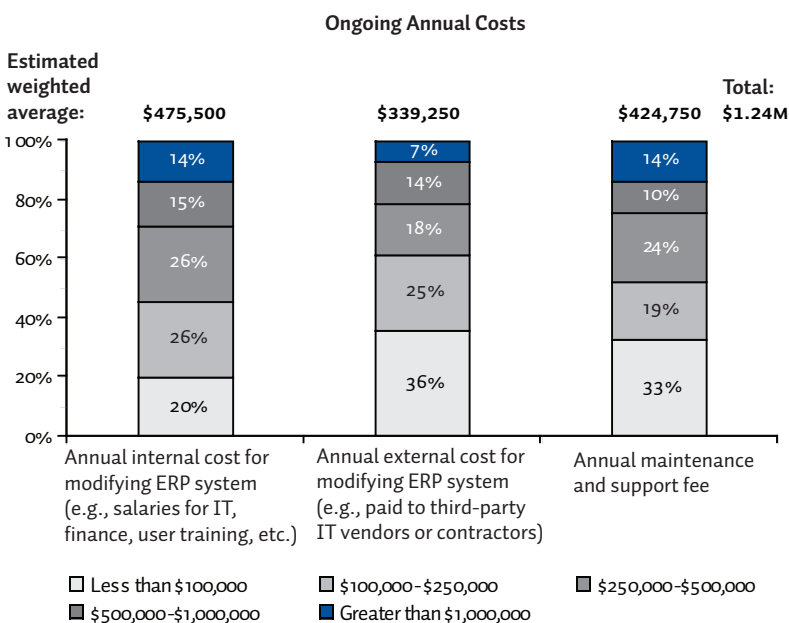
Calculating weighted averages for each component¹ shows that the annual combined cost for internal and external resources needed to make changes to the ERP system can be nearly twice the amount of annual maintenance and support fees a company pays. Survey responses indicate that the largest cost component is for internal resources. Surveyed companies on average spend an estimated \$475,500 annually on internal resources, compared with an average of \$339,250 spent externally. Respondents report an estimated weighted average annual cost of \$424,750 for maintenance and support fees.

We then asked finance executives to tell us what kinds of changes in their businesses called for different levels of change to their ERP systems: substantial, moderate, and minor ERP modifications. Finance executives' replies indicate that new or changed business processes require extensive ERP modifications more often than other factors. (See Figure 2.) Slightly more than 60% of respondents say that their companies have made either moderate or substantial changes to their ERP systems in order to adapt them to changes in business processes. Almost half (49%) of respondents indicate that changes in financial management policies and practices—for example, a change in accounting methods—were responsible for moderate or substantial modifications to their ERP systems.

Other factors—reorganization, mergers and acquisitions, and meeting regulatory requirements—also prompted ERP modifications at some level for 70-80% of respondents. These types of changes in a company may necessitate business and financial management changes as well. These responses show that finance executives recognize the need to continue to modify ERP systems to keep them on pace with many different kinds of changes to the business.

FIGURE 1. MANY MIDSIZE COMPANIES SPEND MORE THAN \$1 MILLION A YEAR TO CONTINUE TO MODIFY AND UPDATE THEIR ERP SYSTEMS.

In your own estimation, what are the ongoing annual costs of maintaining and modifying your ERP system?



Note: Percentages may not total 100%, due to rounding.

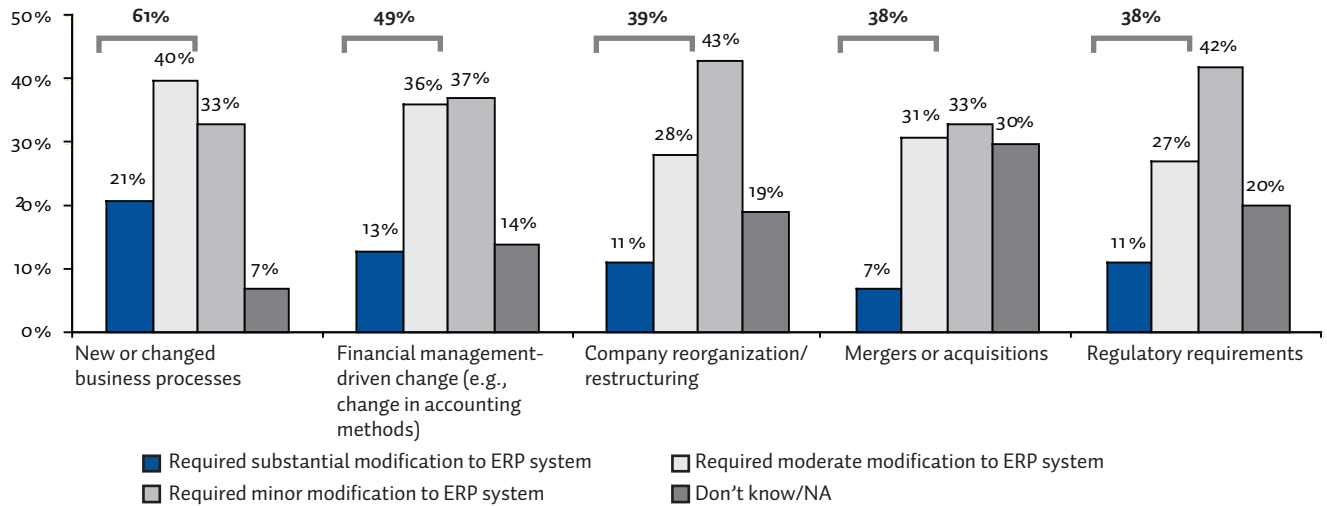
¹We multiplied the midpoint of the ranges shown in Figure 1 by the percentage of respondents selecting that range and totaled the results. For the purpose of estimation, we assumed a cost of \$50,000 for the lowest range and a cost of \$1.5 million for the highest range.

What Does It Cost to Keep Up to Date?

FIGURE 2. A RANGE OF CHANGES IN THE BUSINESS UNDERLIE A CONTINUING NEED TO ADAPT ERP SYSTEMS, BUT NEW OR CHANGED BUSINESS PROCESSES DRIVE COMPANIES TO MAKE MORE-EXTENSIVE MODIFICATIONS THAN DO OTHER FACTORS.

What level of modification have the following factors required your company to make in its ERP system since its installation?

Combined Moderate/Substantial:



Percentage of all respondents

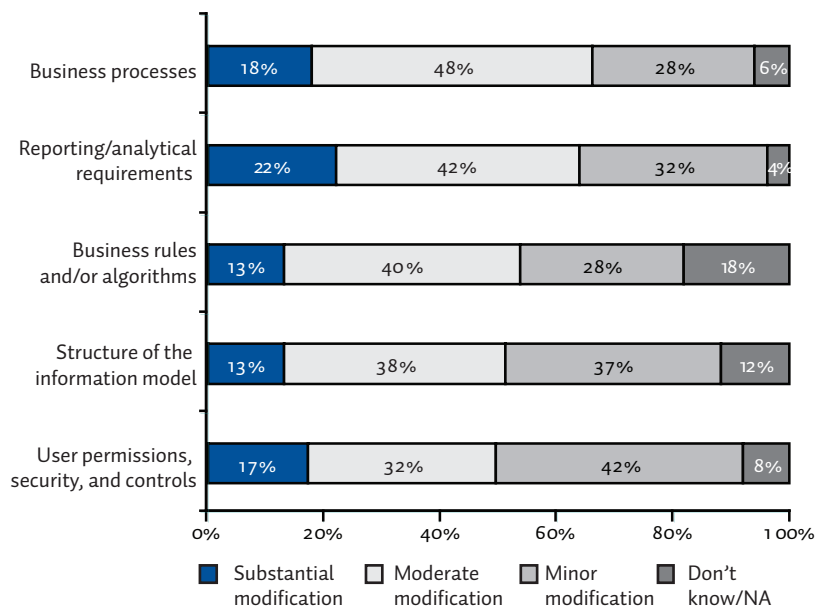
Note: Percentages may not total 100%, due to rounding.

In a separate question, we asked what kinds of changes were being made to different elements of ERP systems. We found that every aspect of ERP was subject to some level of modification. (See Figure 3.) Certain elements—such as user permissions, security, and controls, or the structure of the information model itself—often require only minor modification. Other aspects of ERP relating more directly to end user requirements—such as business processes (the structured steps for executing business activities), and reporting and analytical requirements—are subject to more-extensive modifications more often.

We see, then, that the continuing need to adapt ERP systems to business changes is often a highly complex undertaking. ERP modifications can be major, moderate, or minor, but they are ubiquitous. Even relatively minor business changes can compel alteration in many different dimensions of an ERP system. The result is the need to manage projects involving a multitude of interrelated “moving parts.”

FIGURE 3. ALL ELEMENTS OF THE ERP SYSTEM ARE SUBJECT TO SOME LEVEL OF MODIFICATION.

What level of modification has your company made in each of the following dimensions of its ERP system since its installation?



Percentage of respondents

Note: Percentages may not total 100%, due to rounding.

The High Cost of Change for ERP

Level of effort

The complexity of changing an ERP system is reflected in the level of effort needed to accomplish those changes. Survey results show that, in many cases, companies' ERP change initiatives fall short. Our survey shows that ERP change projects frequently fail to be completed on schedule, with 41% of respondents saying that modifications took longer than planned to complete. (See Figure 4.) Project cost is cited second most frequently as a source of dissatisfaction.

We asked survey respondents to estimate the level of effort, measured in person-days, typically required for their companies to make each of the three levels of change to their ERP systems—substantial, moderate, and minor changes. We found that making even minor modifications could consume several person-days' worth of resources, while major efforts may take three working months or even more to complete.

TABLE 1. ESTIMATED LEVEL OF EFFORT TO MODIFY ERP SYSTEMS (IN PERSON-DAYS)

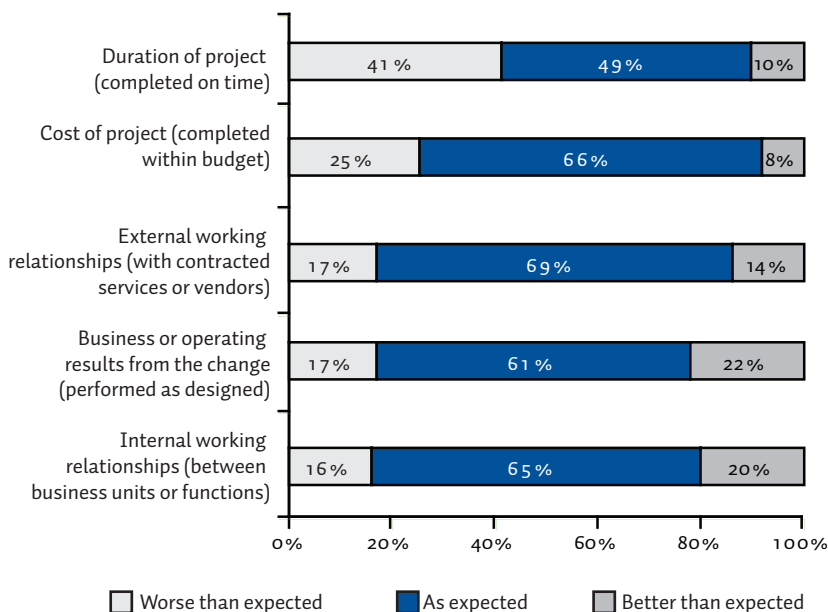
Quartiles	To make substantial modifications	To make moderate modifications	To make minor modifications
25%	16.5 person-days	7 person-days	3 person-days
50% (median)	60 person-days	20 person-days	7 person-days
75%	190 person-days	90 person-days	25 person-days

As shown in Table 1, half of the respondents who provided time estimates say that making substantial modifications takes 60 person-days (approximately three working months) or more of effort. Respondents in the upper quartile put the effort to make substantial modifications at a minimum of 190 person-days.

Half of all respondents say that moderate modifications take more than 20 person-days (approximately one working month) of effort. Even the effort to make minor modifications is not inconsequential. Half of the respondents say that minor modifications require more than 7 person-days; only a third of the respondents think that they can complete minor modifications with less than a full week's worth (5 person-days) of effort.

FIGURE 4. THE TIME TO COMPLETE CHANGE PROJECTS, AND THE COST INVOLVED, ARE THE TWO LARGEST SOURCES OF DISSATISFACTION.

How satisfied have you been with the overall implementation of modifications to your ERP system?



Note: Percentages may not total 100%, due to rounding.

In many cases, companies' ERP change initiatives fall short.

What Does It Cost to Keep Up to Date?

Balancing complexity and value

When deciding whether to change their companies' ERP systems, finance executives must weigh the cost, complexity, and difficulty of modifying these systems against the business benefits their companies would realize from the change. When asked to select the major obstacles to modifying ERP systems, 57% of finance executives in our survey cite the complexity of making these changes, and 52% select the cost of change. (See Figure 5.) Many respondents also cite other challenges—disruption of operational and financial processes (41%), difficulties in coordinating among finance, IT, and business managers (39%), and difficulty in demonstrating the business case for change (39%).

This difficulty in making ERP system change easily, cost effectively, and within a reasonable time is shaping business process decisions—and not for the better. In an open-response question, we asked finance executives to tell us, in their own words, the best ways to reduce or control the cost of change to ERP systems. Much of the advice the respondents have to give is typical of most technology change efforts: plan better, execute better, manage better, and involve end users earlier and more often.

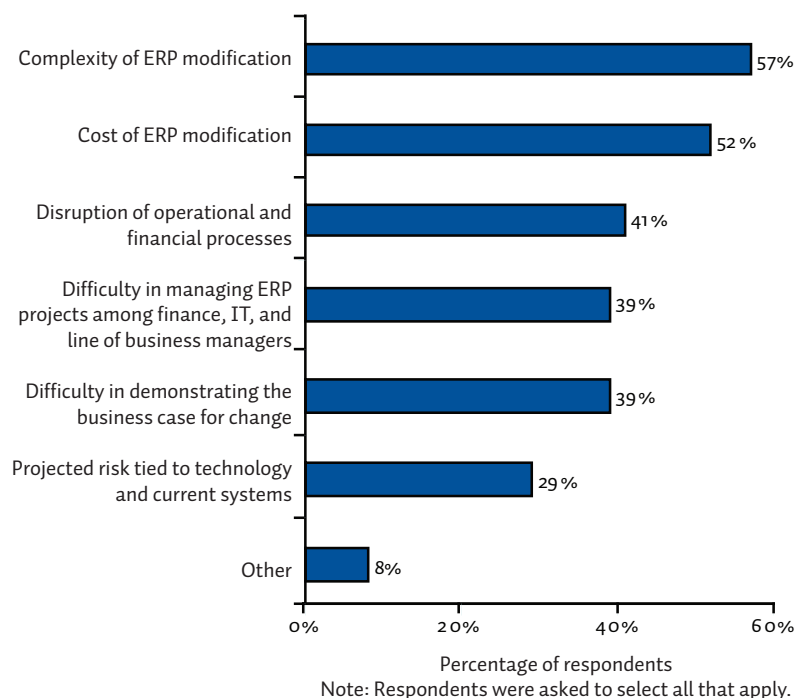
However, a number of finance executives offer a different perspective. These executives indicate that the cost and complexity entailed by changes to a customized ERP application can be prohibitive. From this perspective, the less customization you do, the better off you are. A treasurer in the chemicals/energy industry comments on the level of complexity that customization requires: “[You must] have a *full-blown* strategic plan for installing ERP—mapping *every* current business process to how that process would be conducted within the ERP system.”

Complexity and customization beget cost and increase risk. Some companies choose to adapt their business processes to take better advantage of the built-in capabilities and strengths of the ERP solution they are implementing, rather than undertaking the complex process of adapting the ERP system to their business processes. A director of finance writes, “Our policy is that we will not make custom modifications to the software; we will modify the business process if necessary or create an offline procedure.” Similarly, a CFO from the manufacturing industry advises, “Change your processes to best practices and follow shrink-wrapped solutions.”

A controller from the manufacturing industry states simply, “You need to implement [an ERP system that is] as plain vanilla as possible.”

In evaluating the costs and benefits of an ERP solution, however, finance executives should be able to determine whether a “plain vanilla” solution is actually the optimal solution for their business. In trying times, management often intensifies its focus on the efficiency and cost of business processes. Particularly when economic and financial circumstances seem to change daily, the ease with which a company can adapt its information capabilities to changing circumstances could make a difference in how well it meets challenging performance targets and positions itself for the next growth period. Finance executives emphasize the importance of considering the tradeoffs they may have to make among many critical business requirements when they evaluate the costs and benefits of ERP: flexibility, scope, efficiency, and the resources required to keep the system on pace with a rapidly changing business environment.

FIGURE 5. COMPLEXITY AND COST ARE THE TWO PRIMARY CHALLENGES TO SUCCESSFULLY MODIFYING ERP SYSTEMS.
In your experience, which of the following factors have been major obstacles to successfully modifying your company's ERP system?



Sponsor's Perspective

The VITA Architecture Advantage

Agresso is a \$500M+ mid-market enterprise resource planning (ERP) company and one of the top five providers of ERP solutions for professional services and public sector organizations. Agresso offers a uniquely integrated data/process/delivery architecture called "VITA"™ that is designed specifically for Businesses Living IN Change (BLINC)™ and that has built Agresso's reputation as "The ERP Market's Definition of Agility." VITA allows an unlimited amount of ongoing, post-implementation changes while forgoing the external IT costs and intervention that this research program shows are typically required to modify most installed systems.

Agresso is different—at the fundamental architecture level. Its unique VITA architecture is targeted to dynamic mid-market public sector and professional service organizations. VITA is a reverse-engineered ("data out" versus "data in") architecture that is capturing the interest and attention of both technical and non-technical C-level executives due to its change capabilities. VITA offers a critical business support that has been lacking for decades in modern technology solutions: **post**-implementation agility; the ability for business users to quickly and cost-effectively make unlimited changes to their business operations **AFTER** the Agresso solution is installed.

The implications of the VITA advantage are apparent not only to CIOs, but to CEOs, COOs, and CFOs as well. Bottom-line watchers fully understand the negative financial implications of continually having to swap out technology platforms with other solutions, whereas an Agresso purchase decision insulates the buyer organization from having to continually pay for "the latest" architectural platform. Agresso absorbs the newest technologies, as easily as it absorbed mainframe platform some 25 years ago...and absorbs SOA today.

Making fast corrections, additions, or movements to cost centers—be they related to people, infrastructure, or service/solution-specific—is incredibly easy with Agresso VITA. The graphical "drag

and drop" action and tree structures, which are so everyday familiar to more than a decade of business software users, provide direct access to VITA's data, business processes, and delivery (reporting/analytics). Net/net: functional management can completely bypass the need for IT intervention to create new divisions; collapse, expand, or append workgroups; experiment with the results and then immediately expedite and implement those changes.

These cost center changes completely and automatically incorporate the business processes that accompany the data. Preferred, customized, or any other organizational "uniqueness" baked into established workflows move in lockstep with the reorganized or transferred data. A change made by business managers in any one of those areas flows intelligently and immediately to the changed cost structure—while preserving the trailing history for audit purposes.

The repeated cycle of cost and time savings with change management empowerment at the business management/user level directly hits the bottom line positively AND frees up those critically important IT resources for larger hardware or networking planning and requirements. High-impact, margin-increasing business change capabilities are a key differentiator of the Agresso VITA platform. In simplest terms, everyday business managers become true business leaders.

Conclusion

This CFO research program comes to a clear conclusion: the cost of change is high for many of the currently installed ERP solutions. Agresso offers the mid-size organization a compelling alternative—low-cost change at an installation cost that frequently pays completely for itself in two years. Organizational leaders will be well served by understanding the very real differences of low-cost, fast-performing business change supported by Agresso's VITA architectural platform.

AGRESSO—For Businesses Living IN Change (BLINC)™



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