WHITE PAPER

Modifying and Maintaining ERP Systems: The High Cost of Business Disruption

Sponsored by: Agresso

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IDC OPINION

Today's enterprise resource planning (ERP) systems are challenged to provide the architectural agility necessary to support businesses in a high-change, global environment (e.g., to accommodate merger and acquisition [M&A] activity, new financial or regulatory requirements, organizational restructuring, or new business processes). A recent IDC survey shows that the negative impact of business disruptions attached to ERP modifications is simply too high: a 20.9% decline in stock price, a 14.3% revenue loss due to delayed product launches, and a 16.6% decline in customer satisfaction. Reported losses from survey respondents making ERP changes range from $10 million to over $500 million.

IDC believes that while business change is an inescapable constant, organizations may lack an understanding of the potential cost/impact of business disruption tied to adjusting their ERP system. For ERP buyers in high-change environments, this means that "architectural agility to support ongoing change" may be the single most important buying criterion to minimize change-related revenue loss, business disruption, stock price declines, and lost business opportunities.

In This White Paper

In this white paper, IDC takes a look at the business disruptions caused by the need to make changes to core ERP systems for a variety of business factors. As part of the study, IDC conducted an in-depth survey of 214 line-of-business (LOB) and IT managers and executives to gain insight into the cost impact of the business disruptions caused by these system interruptions and changes.

Situation Overview

In a recent survey on the business impact of ERP system changes, IDC found that businesses making system changes to accommodate a variety of change scenarios caused significant business disruption: a 20.9% decline in stock price, a 17.3% decline in revenue due to a missed or delayed acquisition, and a 16.6% decline in customer satisfaction. Figure 1 shows the mean business decline from disruptions caused by common business change factors.

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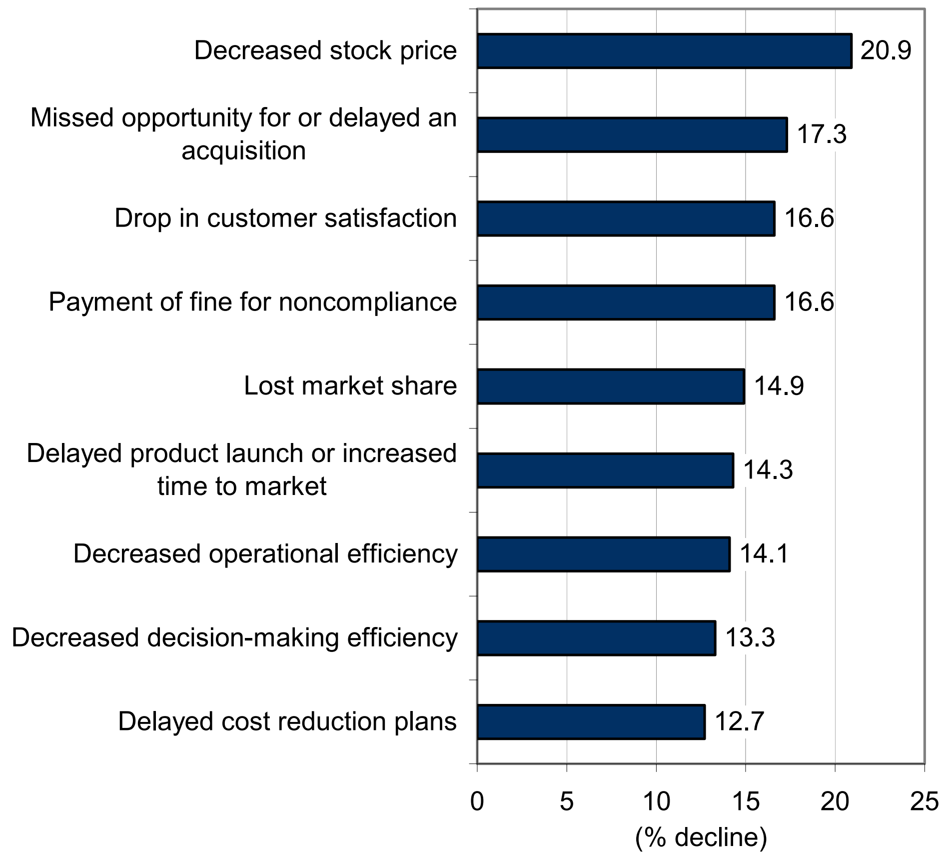
FIGURE 1

ERP Change Impact: Percentage Business Decline Summary



Overall n = 214

Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

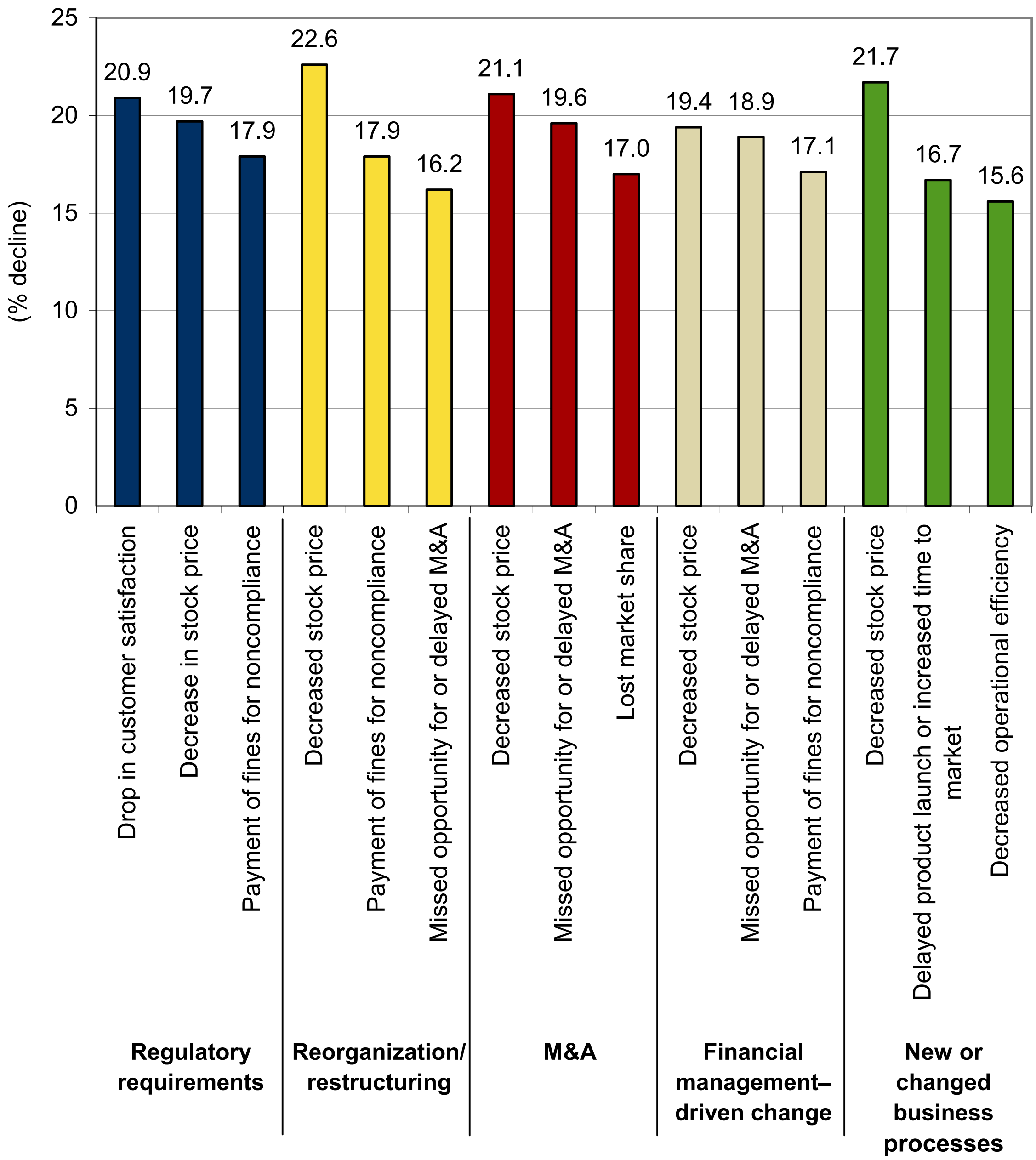
In the words of one survey respondent, "Change to ERP paralyzes the entire organization in moving forward in other areas that can bring more value." For five key business change factors driving business disruptions, we found double-digit declines across a wide range of performance objectives (see Figure 2). The real learnings from the survey are summarized as follows:

In the words of one survey respondent, "Change to ERP paralyzes the entire organization in moving forward in other areas that can bring more value."

- **Change to ERP systems can create high-impact business disruptions.**
- **These business disruptions can cause double-digit business declines.**
- **If businesses had more agile ERP systems, many of the disruptions and subsequent declines could be avoided.**

FIGURE 2

Percentage of Business Declines Due to Disruptions Tied to ERP Change: Top 3 Disruptions



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Business Realities in a Changing World

So if IT system change is risky and can be costly, why is it such a common occurrence? The answer is that some industries (e.g., financial services, oil and gas, state/local/federal governments, health services, environmental services) are more prone to regulatory oversight, industry consolidation, or global economic pressures. For these highly volatile industries, change isn't a matter of choice; it's a requirement of doing business.

For other industries, the competitive aspects of survival demand rapid responses to meet market demand or competitive pressures in industries that live on the cutting edge of change (e.g., high tech, retail). Companies in these industries need to perpetually innovate, modify business strategies, or change their business structures.

Five Key Drivers of System Change and Related Business Disruption Costs

In general, change drivers fell into five areas:

- **Regulatory requirements**
- **Organizational reorganization/restructuring**
- **Mergers and acquisitions**
- **Financial management–driven changes**
- **New or changed business processes**

No matter what the driver for change, the result is most often some sort of business disruption. These business disruptions range from relatively minor to near catastrophic. Generally, the disruptions and the method for measuring the impact of the disruptions are as noted in the following section.

Nine Categories of Disruption Cost Metrics

- **Decreased operational efficiency** caused by delayed, incomplete, or incorrect approvals needed to execute business process(es)
- **Decreased decision-making efficiency** caused by delayed, incomplete, or incorrect organizational information provided
- **Delayed cost reduction plans**
- **Drop in customer satisfaction**
- **Delayed product launch or increased product time to market**
- **Lost market share**
- **Payment of fines for noncompliance**
- **Missed opportunity for or delayed an acquisition**
- **Decreased stock price**

The IDC Business Disruption Survey, November 2009

To examine the business impact and cost of business disruption from changes to ERP systems, IDC conducted an online survey of 214 business executives from both IT and line-of-business roles in November 2009. The respondents ranged from C-level executives to directors and represented North American (mostly U.S.) organizations that actively use one or more ERP systems. See the Appendix for a detailed breakdown of the survey demographics.

From the survey, it's not difficult to understand the increasing rate of change that is impacting almost every business today. From a level of complexity perspective, over 44% of the companies surveyed operate more than one ERP system. It is easy to see how this level of complexity, combined with a business imperative to increase business agility, could cause high-cost business disruptions. **In the words of the survey respondents, these disruptions have caused "delays in initiatives for better operational efficiencies" and "delayed actions on business decisions."**

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Complexity isn't limited just to companies with multiple ERP systems. IDC also found that tailoring or customizing a rigid ERP solution to meet a company's unique business requirements is fraught with peril. Some 32.2% of the respondents reported having to deal with "extensive" customization, and 52.3% reported that "moderate" customization was required. Not having the ability to perform customization changes easily caused significant business disruption.

According to the survey respondents, ERP system change occurs frequently (see Table 1): **It is interesting to note that only 2.8% of companies responding to the survey have *not* made changes to their ERP systems.**

TABLE 1

Frequency of Required System Change

Frequency of Change	% of Respondents
Annually	12.2
Monthly	16.8
Daily or weekly	14.5
As needed	43.0

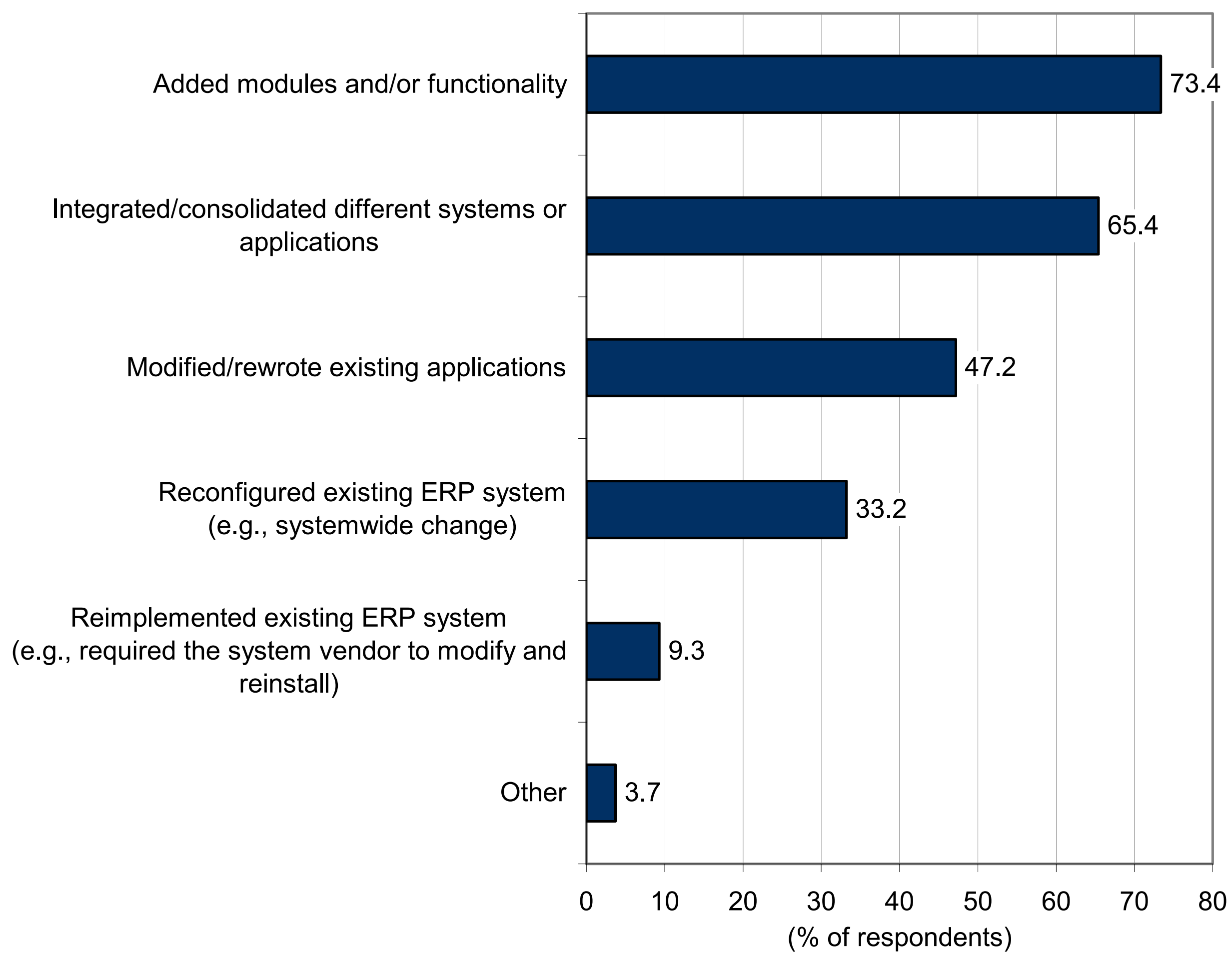
Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

For today's cash-strapped businesses, the frequency of required system change can be devastating. **As one respondent said, "Capital expenditure priorities are shifted into IT from other high-payback projects."** Figure 3 shows the types of changes that respondents reported.

FIGURE 3

Changes to the ERP System

Q. What kinds of changes has your organization made to its ERP system since its installation?



Overall n = 214

Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

Examining Five Key Drivers of System Change and Related Business Disruption Costs

As part of the survey, IDC examined five key drivers of system change and the resulting business disruptions/costs:

1. **Regulatory requirements.** In the current business environment, government regulation has expanded significantly, touching everything from accounting rules to environmental compliance. System changes are often a result of changing regulatory requirements; 38.3% of survey respondents reported moderate to substantial system modifications. These changes had the greatest adverse impact in the areas of customer satisfaction, which survey respondents reported declining 20.9%, and decreased stock price of 19.7% (see Figure 4). From a risk perspective, the potential for noncompliance is high during the system change, and survey respondents reported loss of revenue of 17.9% as a result of fines for noncompliance. **The inherent risks are high when, as one survey respondent observed, there is a common occurrence of "systems not being available for extended periods during changes."**

   Decreased customer satisfaction is costly beyond mere short-term revenue impacts, of course, because long-term damage to brand can adversely affect mid- and long-term revenue and revenue growth. Still, short-term costs can be large; 49% of the survey respondents who had been impacted by regulatory requirement–driven change reported that overall drops in revenue from decreased customer satisfaction could range from $12 million to $296 million, and 10.1% reported even greater impacts of approximately $256 million to $521 million.

Cost of System Changes

From what IDC has observed from the survey, organizations operating in high-change environments would be well served to understand the change capabilities of the ERP systems they select. The ongoing change costs of an ERP system have a much greater impact on the overall return on investment for these types of organizations. Equally important, organizations need to factor in the disruptive effect of making changes to rigid systems needs.

Direct Opinions from IDC's Survey Respondents

- *"Delayed marketing effort and sales activity because of time diverted to developing and honing the ERP system."*
- *"Delayed time entry — possible loss of employee billable time details. Employee dissatisfaction and frustration with changes."*
- *"Delays in cost reduction."*
- *"Overall management information not available on a timely basis, causing incorrect decision making and the inability to align internal staffing needs with project requirements.'*
- *"Lack of accomplishing projects in a timely manner, cost overruns, resource constraints, inability to provide accurate picture of projects and resources."*
- *"Employee morale and productivity declines."*
- *"Impact of data accuracy and available to promise information, resulting in missed shipments and customer satisfaction decline."*

FIGURE 4

Regulatory Requirements

Q. To the best of your knowledge, how much would you estimate these adverse business impacts cost your organization?

Overall n = 214

Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

2. **Organizational reorganization/restructuring.** Organizational changes are common and can be driven by a host of business drivers ranging from mergers and acquisitions to changing product portfolios. These changes often lead to moderate to significant ERP system changes to support the new organizational structure. Financial systems must capture new or changed departmental structures, and human resources systems must capture new reporting structures. Workflows across all ERP systems can require extensive change. Survey respondents who had experienced business disruptions as a result of organizational changes reported a 22.6% decline in stock prices (see Figure 5), while 56% of survey respondents reported moderate to substantial ERP changes resulting from reorganization or restructuring.

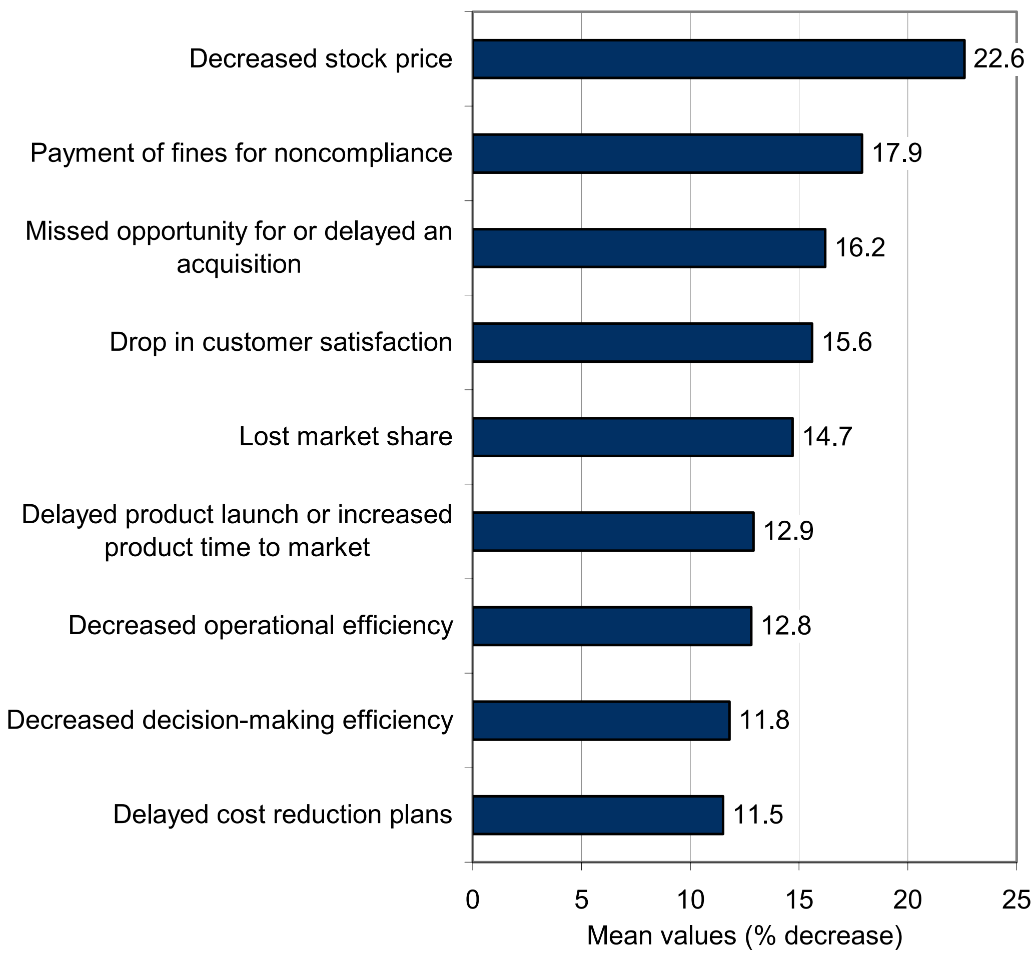
System changes from a restructuring impacted decision-making efficiency and operational efficiency, but they also increased the risk of noncompliance-related fines, as survey respondents reported a 17.9% decline in revenue due to fines. These organizational-driven changes also affect cost reduction plans, as 76.2% of executives reported losses of approximately $10 million to $255 million from delayed cost reduction plans.

Many of the costs from disruptions are interrelated; for example, lower earning due to delayed cost reduction plans might result in lower stock prices. A drop in customer satisfaction might result in lost market share. 60% of the respondents in large enterprises (2,500+ employees) who reported a drop in stock prices as a result of ERP system changes cited losses of approximately $22 million to $527 million.

FIGURE 5

Reorganization/Restructuring

Q. To the best of your knowledge, how much would you estimate these adverse business impacts cost your organization?



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3. **Mergers and acquisitions.** Mergers and acquisitions are one of the most disruptive events for IT and drive far-reaching system changes. Therefore, it's no surprise that survey respondents experiencing disruptions due to M&A-related system changes reported a 21.1% decline in stock prices (see Figure 6). **As one survey respondent noted, "Integration of acquired businesses [especially in different geographical markets] has been slower due to system limitations and the need to bring together disparate ERP platforms, some with language and regional customization in place."** 27% of survey respondents reported substantial modifications and 25.7% reported moderate modifications as a result of M&A.

   M&A can have far-reaching disruptive impacts, from delayed cost reductions to decreased operational and decision-making efficiency to increased product time to market. Increased product time to market is particularly expensive, with 16.7% of executives reporting losses of approximately $265 million to $521 million and 72.2% reporting losses of approximately $10 million to $255 million.

   Depending on the integration strategy and timing, mergers and acquisitions add complexity to financial reporting and can challenge customer and partner management systems. Disruptions in customer relationships could result in drops in customer satisfaction. Survey respondents who had experienced these disruptions reported a 15% drop in customer satisfaction, which is not unusual in M&A activities. During the disruptions, there is also an opportunity risk to management reporting systems, which could lead to missing or delaying other acquisitions. **As one respondent observed, system changes caused "increased time to make strategic and tactical business decisions."** 57.1% of respondents who reported disruptions caused by M&A said that missing or delaying another acquisition could result in losses of approximately $12 million to $296 million.

FIGURE 6

Mergers and Acquisitions

Q. To the best of your knowledge, how much would you estimate these adverse business impacts cost your organization?

Overall n = 214

Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

4. **Financial management–driven change.** Financial management–driven changes, such as changes in accounting methods, can result in fairly significant changes to the financial and reporting/business analytics modules of ERP systems. Risk of fines for noncompliance is high during these types of changes. Survey respondents reported revenue losses of 17.1% as a result of these fines (see Figure 7). The changes themselves can create challenges for financial organizations. **As one respondent reported, challenges include "quarter-end delays, outages/inability to get accurate reports, problems with prorating employee time/cost when doing organizational moves, [and] manual entry when importing from other systems."** 36.9% of respondents reported making moderate modifications to ERP systems to accommodate financial management–driven changes.

Lack of access to needed financial information, delayed reporting, or possibly even erroneous financial information has the potential to create large downstream disruptions. Changes can seriously challenge people. **As one respondent said, system changes resulted in "inaccurate information [and] multiple requirements for reporting to validate information in the systems," and "information flow and reporting consistency has been an ongoing challenge."** Executives rely on accurate and timely financial data to make business decisions as well as meet regulatory and compliance requirements. Even decreased efficiency in decision making has a significant financial impact. As our survey shows, 51.4% of respondents with financial management–driven ERP changes reported losses of approximately $12 million to $296 million.

As one respondent said, system changes resulted in "inaccurate information [and] multiple requirements for reporting to validate information in the systems," and "information flow and reporting consistency has been an ongoing challenge."

Decreased decision-making effectiveness can have diverse negative disruptions, but even higher-risk items can be impacted by changes to financial modules of ERP systems, including decreased stock price, missing M&A opportunities, and payment of fines for missed or incomplete compliance filings and records. Survey respondents who had disruptions reported declines in stock prices of 19.4%. Compliance-driven fines, many of which are related to financial reporting, could pose high risk to executives. 80% of the executives impacted by ERP changes from changes in financial management requirements showed losses of approximately $10 million to $255 million.

FIGURE 7

Financial Management–Driven Change

Q. To the best of your knowledge, how much would you estimate these adverse business impacts cost your organization?

Overall n = 214

Source: IDC's *Business Disruption Survey,* sponsored by Agresso, November 2009

5. **New or changed business processes.** New or modified business processes seem to be a big driver of ERP system changes, with 73.8% of respondents reporting moderate to substantial ERP modifications. Business process changes often have disruptive impacts on product development or launches. Survey respondents reported revenue losses of 16.7% due to delayed product launches or increased time to market (see Figure 8). In the short term, system changes can have the opposite impact of improving efficiency through new processes. **Instead, as one respondent shared, the changes can result in "manual workarounds — manual processes which are inconsistent with agreed business processes, lack of workflow management and consistency, lack of standardized data."**

   As would be expected, the disruptions that result from modifying business processes have a direct and negative bearing on decision-making and operational efficiency. Other impacts can be felt in delayed cost reductions and even decreased customer satisfaction. Loss of customer satisfaction is particularly impactful for smaller companies, with 70% of companies in the 100–999 employee size range reporting revenue impacts of approximately $18 million to $43 million. The impacts are not limited just to the department that is involved in the process change either. **As one respondent shared, "Changes in the system for other parts of the organization have impacted our ability to give the customers of our part of the organization the information they have grown accustomed to receiving, at least until additional changes to the ERP were made."**

Process changes and the resulting disruptions tend to reach across organizations and can be particularly impactful on products and people. Decision-making and operational efficiency are at risk, but areas such as cost reductions and customer satisfaction can also suffer. Delayed cost reductions cost enterprise respondents approximately $21 million to $527 million.

FIGURE 8

New or Changed Business Processes

Q. To the best of your knowledge, how much would you estimate these adverse business impacts cost your organization?

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FUTURE OUTLOOK

The challenging business environment of the past two years has increased the need for businesses to align their technology infrastructure needs more closely with their organizational requirements. For businesses, the ability to handle global competition, new regulations and compliance requirements, and increased pressures to respond quickly to both opportunities and challenges is paramount for survival/growth.

Today's ERP solutions are not giving organizations what they need at best and at worst are negatively impacting businesses' stock prices and customer satisfaction as well as curtailing top-line revenue product/service opportunities. **As one respondent said, "For the past several years, the business challenges have been more internal than external, with the exception of federal regulatory issues related to the pharmaceutical industry. Our major challenge was to adjust our systems to better provide information."**

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With 34.1% of respondents reporting initial ERP license and implementation expenditures of less than or equal to $1 million and 21% reporting $1 million to $2.5 million, **the investments do not seem to deliver the needed business infrastructure.** This does not include ongoing annual maintenance costs and training and business change costs.

But more worrisome **is the high impact that the reported business disruptions cost in lost revenue (17.3% for delayed or missed M&A), stock price declines (20.9%), and decreased customer satisfaction (16.6%).**

CONCLUSION

Today's businesses need enterprise platforms that can be easily configured and changed to adapt to the inevitable business change that is seen in the survey.

It is unacceptable that 51.4% of respondents with financial management–driven ERP changes reported losses of approximately $12 million to $296 million, 72.2% reported losses from delayed product launches of approximately $10 million to $255 million, and 76.2% of executives reported losses of approximately $10 million to $255 million from delayed cost reduction plans — and these are only a few of the many examples of the high costs of business disruptions.

Businesses driven by change need to consider choosing/moving to a system that supports business agility and that minimizes organizational disruption in the process. IDC recommendations for those businesses are:

1. Choose/change to an ERP system that can support business agility and minimize business disruptions

2. Understand the correlation between ROI, business change, and business disruption

Choosing a system that is built with a flexible architecture that supports change — a system such as Agresso, for example — can enable a competitive and agile business strategy while minimizing downstream business disruption risks.

APPENDIX

Table 2 provides a breakdown of survey demographics.

TABLE 2

Survey Demographics

Category	% of Respondents
Organizational level	
C-Level, president, owner	17.8
Executive VP, senior VP	11.2
VP	25.2
Director	45.8
Primary department	
Executive	27.1
IT	13.1
Operations	17.8
Finance	31.8
Other LOB	7.0
Other	3.3
Annual revenue	
<$101M	14.1
$101M–$250M	17.8
$251M–$500M	21.0
$501M–$999M	16.8
$1B–$5B	26.2
>$5B	4.2

TABLE 2

Survey Demographics

Category	% of Respondents
Industry	
Financial services	6.5
Manufacturing	34.6
Retail or wholesale	3.7
Healthcare	5.6
Local or state government	0.9
Telecommunications	4.7
Media and publishing	1.4
Utilities	0.9
Education	4.2
Consumer and recreational services	1.9
Transportation	2.3
Computer or information technology services	16.4
Real estate	0.9
Other business or professional services	4.7
Resource industries	0.9
Construction	1.4
Other	8.9
One or multiple ERP systems	
One	55.6
Multiple	44.4

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