WHITE PAPER

The Financial Impact of ERP Architecture on the Annual Cost of Business Change

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IDC OPINION

Purchasing enterprise resource planning (ERP) systems is a complex process that involves both meeting business functional needs and mitigating the longer-term expense of keeping the system up to date and optimized for supporting critical business changes. In a survey conducted in the spring of 2013, IDC found that the ongoing investment to keep systems in sync with changing business needs and requirements can be substantial, particularly when the systems that must be changed to support the business are built on inflexible architectures. The results of that survey were published in the May 2013 IDC White Paper *Maintaining ERP Systems: The Cost of Change* and included the following key findings:

- Meeting changing business requirements requires moderate to substantial underlying ERP system changes.
- ERP system change issues are not being resolved by newer ERP systems.
- Customizations, often necessary during the implementation of ERP systems, have long-term risks and implications for ongoing system maintenance.
- Many companies choose to suffer with managing more than one ERP system rather than deal with the complexity and costs of consolidation to one system.
- Because of business changes, 15% of the respondents were forced to reimplement the entire ERP system. Of those, 60% had initially spent over $2.5 million.
- The cost of system modifications not only is direct but also includes a substantial amount of lost productivity.
- The average annual cost of maintaining ERP systems and meeting changing business needs is up to $1.2 million, but in the extreme, it can exceed $4.1 million per year.
- The frequency of change and subsequent investment to make the ERP system support the business has become so common that many businesses simply accept that there is no better way to operate the business.

In this follow-on survey, IDC asked the same questions of a sample of Unit4 Business World ERP customers. The surprising results are as follows:

- Meeting changing business requirements requires substantially less system change for the Unit4 ERP customers than for the average ERP customers. Unit4 customers are more likely to report only minor to moderate changes versus moderate to substantial changes.
- Unit4 Business World customers appear to keep the system longer or to have made fewer major ERP shifts in the past one to nine years than their peers.
- The overall initial system costs are reasonably consistent across both populations, but the general ERP customer population needed to do more moderate to substantial customizations to meet implementation needs.
- While all respondents reported making system changes since implementation, the Unit4 Business World users reported changes that are indicative of adding new apps, modules, features, and functions rather than spending time on changes to already implemented software. This is important from an innovation perspective because spending time on keeping existing software current clearly takes away from initiatives related to expansion and growth.
- The general ERP users were four times as likely as Unit4 Business World ERP users to report negative impact on customer experience as a major obstacle to keeping ERP systems current to meet changing business requirements.
- The reported average annual costs of change (internal and external costs) are substantially higher for the general population than for Unit4 Business World customers. Unit4 customers reported spending an average of 55% less on an annual basis.
- IDC believes that the survey shows clearly that beyond fit and value, companies must look for ERP systems that can provide the flexibility to continue to meet business needs with low investment of scarce company resources.

Methodology

IDC developed this white paper based on a survey of 77 executives at Unit4 customers across North America and Europe to gain insight into their company's use and ongoing maintenance of ERP systems. The survey is identical to a survey conducted in the spring of 2013 of 167 executives from the general ERP population (reported in the IDC White Paper *Maintaining ERP Systems: The Cost of Change* published in May 2013). Table 1 presents respondents by company size. Tables 2 and 3 present respondents by job title and industry, respectively.

TABLE 1

Respondents by Company Size (% of Respondents)

Q. What is your company's total revenue for the most recent fiscal year in USD?

Total Revenue	Average ERP	Unit4 ERP
<$100M	15.0	41.6
$100M–249M	25.1	28.6
$250M–499M	15.0	13.0
$500M–999M	20.4	10.4
$1B+	24.6	6.5
n =	167	77

Source: IDC, March 2013 (Average), October 2013 (Unit4)

TABLE 2

Respondents by Job Title (% of Respondents)

Q. Which of the following most closely describes your job title?

Job Title	Average ERP	Unit4 ERP
Other	0.0	50.6
Controller	8.4	18.2
Director/manager of finance	28.7	16.9
Chief financial officer (CFO)	12.6	10.4
CEO, president, managing director	18.6	2.6
EVP/SVP/VP of finance	8.4	1.3
Chief operations officer (COO)	22.8	0.0
Treasurer	0.6	0.0
Consultant	0.0	0.0
n =	167	77

Source: IDC, March 2013 (Average), October 2013 (Unit4)

TABLE 3

Respondents by Industry (% of Respondents)

Q. In what industry does your company earn the majority of its revenue?

Industry	Average ERP	Unit4 ERP
Public sector/nonprofit	4.8	41.6
Education/research	7.2	13.0
Other	0.0	9.1
Business/professional service	10.8	5.2
Healthcare	6.0	5.2
Media/entertainment/travel/leisure	2.4	5.2
Chemicals/energy/utilities	3.0	3.9
Industrial/manufacturing	14.4	3.9
Transportation/warehousing	6.6	3.9
Financial services/real estate/insurance	10.8	2.6
Aerospace/defense	0.0	1.3
Construction	7.8	1.3
Food/beverage/consumer packaged goods	0.6	1.3
High tech	12.6	1.3
Pharmaceuticals/biotechnology/life science	1.2	1.3
Telecommunication	3.0	0.0
Wholesale/retail trade	9.0	0.0
n =	167	77

Source: IDC, March 2013 (Average), October 2013 (Unit4)

SITUATION OVERVIEW

ERP systems are the technology backbone of the modern business, and as such, the process of matching the "right" system to specific business needs is extremely critical. Most companies spend quite a bit of scarce resources (time and money) on defining the business requirements and then evaluating the potential systems for a close functional fit and for the potential up-front (implementation and license) costs. Our general ERP survey from March 2013 showed that these efforts are falling short on one very important issue: They do not account for the adaptability and flexibility of the selected systems to support the ongoing process of keeping the required functionality and features matched to changing business needs and requirements.

If you purchased the system on a perpetual license model and implemented the system, you have ongoing annual maintenance and datacenter operational costs as well as an ongoing investment in people. If a business buys on a subscription model, or hosts the software with a hosting provider, it has ongoing subscription or hosting fees as well as administrative costs. Unfortunately, though, these are not the only ongoing "costs" to operate an ERP system. Companies must respond to business changes such as:

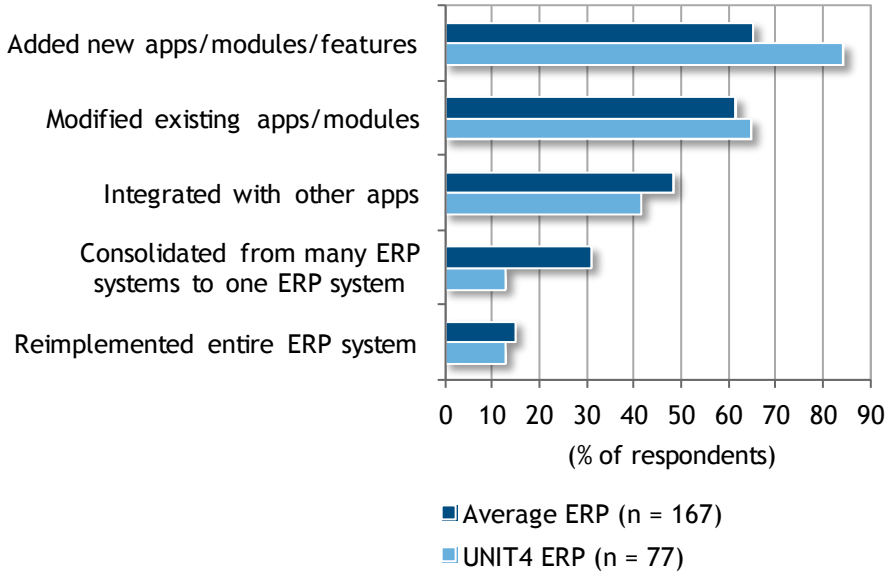
- Regulatory requirement changes
- Company reorganizations and restructuring
- New or modified business processes
- Financial management-driven changes (e.g., meeting new accounting rules)
- Mergers and acquisitions (M&As)

In the initial study, IDC found that in general the vast majority of ERP systems are not designed to be flexible and easily adapted to accommodate system changes driven by business changes. Rather, the systems were designed to provide and automate repeatable business processes, providing important business benefits but at the same time creating system architecture rigidity that plagues ongoing operations. This results in substantial ongoing investment to keep the system current. These business factors impacted both respondent populations equally of course (see Figure 1).

FIGURE 1

Changes Since Initial Implementation

Q. What kind of changes has your company made to its ERP system since the initial implementation was completed?



Source: IDC, March 2013 (Average), October 2013 (Unit4)

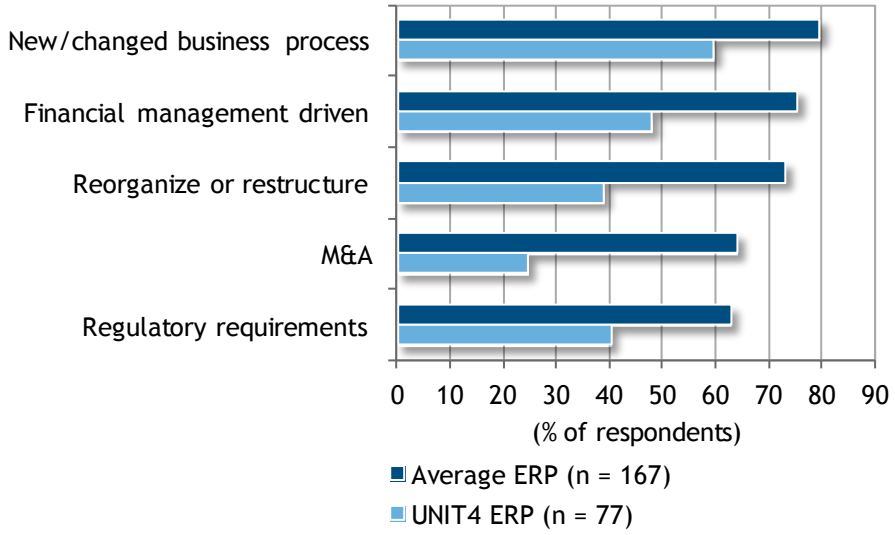
As Figure 1 illustrates, both groups made a substantial number of system changes to meet changing business conditions. While overall change statistics were fairly consistent, there are some interesting differences in the data from each group of respondents. There are some significant differences in the types of changes reported by the Unit4 customers and the general population. The Unit4 customers reported changes that tend to focus on "new" opportunity, not just on "fixing" the existing systems. In other words, a good number of changes by the Unit4 respondents provided the business with new applications, new modules, new features, and new functionality, something that is indicative of business growth and expansion, not just of maintaining the status quo.

So did the Unit4 customers report any differences in the ongoing efforts to meet the business changes? Does the arguably more flexible Unit4 Business World architecture lead to less painful/costly changes to the underlying technical infrastructure to keep pace with organizational flux? Figure 2 compares the moderate to substantial business changes reported by users of the average ERP system versus Unit4 ERP respondents. Keep in mind that the reported changes mentioned previously (refer back to Figure 1) are relatively consistent across the entire set of possible changes, and yet the amount of change is substantially different.

FIGURE 2

Moderate to Substantial ERP System Changes Driven by Business Factors: Average ERP Versus Unit4 ERP

Q. When modifying your company's ERP system for one of the listed business factors, what level of effort was required?



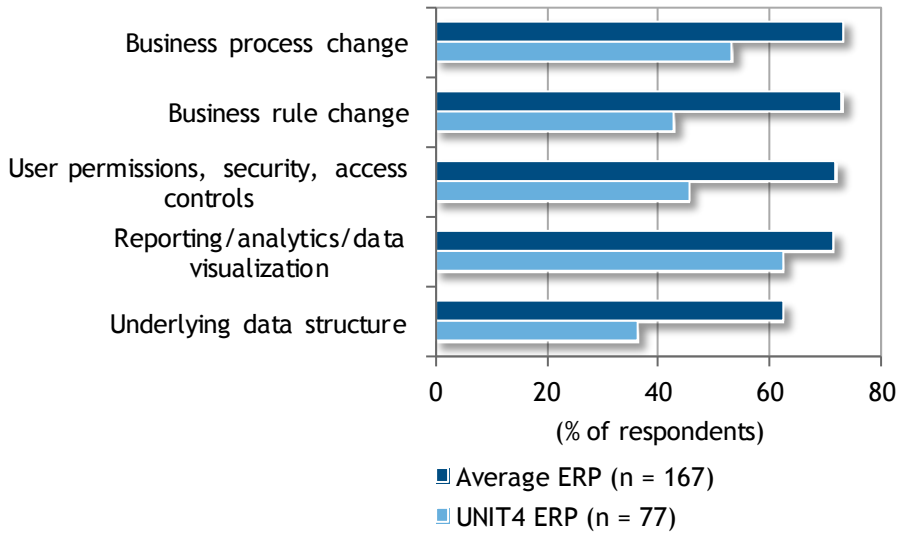
Source: IDC, March 2013 (Average), October 2013 (Unit4)

There's quite a bit of difference between the changes in each group for the business factors themselves, but what about the underlying technology? Figure 3 shows the changes in each group around underlying data structure, business rules, business processes, user permissions, security and access controls, and reporting, analytics, and data visualization.

FIGURE 3

Moderate to Substantial ERP System Changes Driven by Technical Factors: Average ERP Versus Unit4 ERP

Q. When modifying your company's ERP system for one of the listed technical factors, what level of effort was required?



Source: IDC, March 2013 (Average), October 2013 (Unit4)

Figure 3 highlights the underlying system changes necessary to meet new business requirements and is a good indicator of the rigidity of the architecture of many ERP systems. As the figure illustrates, the Unit4 Business World customers reported requiring notably less IT modification, particularly in the underlying data structure and in the related area of analytics and reporting. The implications of this survey data then are that the higher flexibility of the Unit4 architecture more easily accommodates changes that would impact the underlying data structure, an area that is particularly complex and expensive to modify in many systems. The other implication is that the Unit4 approach to reporting and analytics is much more end-user configurable and thus not as susceptible to the need to involve expensive IT resources for making and supporting reports and analytics that provide the information necessary to support important business decisions.

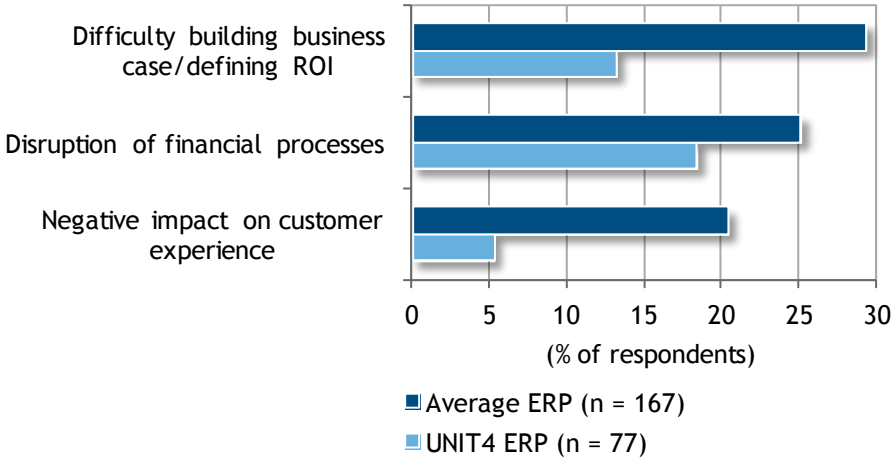
Obstacles to Successful System Modifications

The survey also looked at the major obstacles to making successful system modifications to meet the changing business requirements (see Figure 4). Many categories were included, such as cost and complexity, business disruption, and technology risks. While all respondents met these obstacles to varying degrees, three areas emerged as significantly different between the average ERP user and the Unit4 user.

FIGURE 4

Major Obstacles to Successful System Modifications

Q. In your experience, which, if any, of the following factors have been major obstacles to successfully modifying your company's ERP system?



Source: IDC, March 2013 (Average), October 2013 (Unit4)

ERP change for many companies seems to have challenges both at the onset and through the completion cycle of the needed change. Difficulty in building the business case and defining the return on investment (ROI) is perhaps related to ongoing and past issues that plague some IT project teams as they have tried to keep the ERP systems current. The data implies a level of skepticism in some businesses based on past negative results, with ERP modifications required to meet the changing business needs.

Even more troubling than ROI justification, though, is the potential disruption to financial processes that can be caused by ERP system modifications. The business risk associated with this type of disruption can be very high, delaying and impeding financial close processes and even negatively impacting a far-reaching set of business processes outside of finance such as customer service, partners, and even regulatory compliance.

Negative impact on customer experience, which shows the greatest difference between the two groups, is by far the most troubling of the obstacles. The high level of concern among the general ERP population over the potential of negatively impacting customer experience would most likely indicate a history of negative past change results. In fact, the negative customer experience of the general ERP user population was four times higher than that of the Unit4 Business World customers. In a business environment where customer experience is, by necessity, top of mind for every business, it is likely that the implied negative bottom-line impact of ERP system change is a significant inhibitor to keeping ERP systems current. It is also likely that this type of negative impact has at least lowered customer satisfaction in the past and may even be directly responsible for bottom-line issues for some businesses. In this case, it would seem that system flexibility might even translate into improved end-customer experience for the business.

Costs of Change

In the initial study, IDC discovered that the ongoing cost of maintaining and operating most ERP systems is substantial. Table 4 shows the data from that survey.

TABLE 4

Average Cost of Change by Cost Category: Average ERP ($)

Q. Estimate the ongoing annual costs of maintaining and modifying your company's ERP system.

Category of expense	Average ERP
Internal costs	288,029
External costs	276,542

n = 167

Source: IDC, March 2013

In the second study, IDC collected the same data for the Unit4 ERP customers. Table 5 shows their responses.

TABLE 5

Average Cost of Change by Cost Category: Unit4 ERP ($)

Q. Estimate the ongoing annual costs of maintaining and modifying your company's ERP system.

Category of expense	Unit4 ERP
Internal costs	145,955
External costs	108,064

n = 77

Source: IDC, October 2013

In comparing the internal and external annual costs of change, we found that the average ERP (non-Unit4) customers reported an average of $564,571 of internal and external annual costs. The Unit4 Business World customers reported $254,019, or an annual savings of 55%. In Table 6, the internal and external cost data is broken out by company size and a subset of the data excluding the companies with <$100M is shown in the bottom row. This comparison shows that there is no significant difference in the savings in each size band versus the overall 55%.

TABLE 6

Comparison of Annual Internal and External Cost Data by Company Size

Q. Estimate the ongoing annual costs of maintaining and modifying your company's ERP system.

Company Size	Total Internal + External Costs per Year Average ERP ($)	n =	Total Internal + External Costs per Year Unit4 ERP ($)	n =	Total Savings (%)
<$100M	533,693	25	225,190	32	58
$100M–249M	572,022	42	258,577	22	55
$250M–999M	533,757	59	266,740	18	50
$1B+	618,384	41	373,749	5	40
Total	564,571	167	254,019	77	55
Total excluding <$100M	561,600	142	274,639	45	51

Source: IDC, March 2013 (Average), October 2013 (Unit4)

CONCLUSIONS

Modern ERP systems are a business necessity, delivering process automation and business insight, but the initial study conducted by IDC found that the systems require a high level of both short-term investment and long-term investment. The up-front investment in purchasing and implementing the system is only a small part of the real and ongoing costs. Meeting changing business needs and modifying the ERP systems to enable those changes can require substantial effort and costs. If these costs were a rare occurrence, it might be acceptable to maintain inflexible systems. Unfortunately, though, the original survey shows that meeting business change is an ongoing and regular activity that carries a very high annual average cost of $1 million or more for the average ERP customer. For Unit4 Business World customers, however, the survey painted a very different picture. Organizations for both groups experienced the same business change requirements, but the types of changes, the costs, and the business risks were different for Unit4 customers. Specifically:

- Meeting changing business requirements requires substantially less system change for the Unit4 ERP customers than for the average ERP customers. Unit4 customers are more likely to report only minor to moderate changes versus moderate to substantial changes.

- Unit4 Business World customers appear to keep the system longer or to have made fewer major ERP shifts in the past one to nine years than their peers.
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- The general ERP users were four times as likely as Unit4 ERP users to report negative impact on customer experience as a major obstacle to keeping ERP systems current.
- The reported average annual costs of change (internal and external costs) are substantially higher for the general population than for Unit4 customers. Unit4 customers reported spending an average of 55% less on an annual basis.

Both studies show that when evaluating the costs of an ERP system, organizations must look at more than the up-front implementation and licensing investment. The ongoing maintenance and costs to keep the system in sync with business needs can be substantial and must be a large consideration – ranking close to overall functional fit itself – in the purchase decision. Meeting the business requirements is critical of course, but the system must be flexible and adaptable enough to continue to meet those needs for many years without being a drain on precious resources. Flexibility and adaptability then are key features for evaluating and selecting ERP systems.

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