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Research

Modernizing ERP: How to Make Users Fall in Love With ERP All Over Again

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This research analyzes the state of ERP, examines the risks users face with current ERP strategies and modernization strategies, and proposes solutions for avoiding these risks. IT professionals with responsibility for ERP strategy can use this research to define a vision to make ERP more productive for the enterprise.

Key Findings

- ERP delivers cost advantages to an enterprise over a fragmented business application portfolio primarily by decreasing the costs of assuring process integrity and centralizing information across end-to-end processes.

- ERP's cost advantages are dependent on the ERP supporting a critical proportion of functionality within the enterprise. Below this threshold, the ERP strategy is suboptimal, cumbersome and costly in comparison with a best-of-breed strategy.

- Alternative models of providing enterprise functionality, such as software as a service (SaaS), open source, mashups and business intelligence (BI) applications represent user-led defections from the ERP delivery model because the ERP strategy failed to meet users' requirements. These threaten to decrease the proportion of functionality provided by the ERP below its critical threshold and eliminate the advantages of an ERP strategy.

- Enterprises can maintain the relevance and economies of scale of the ERP application only by making the ERP relevant to more types of users, such as information-driven users, in their everyday activities of driving business change and improvement. Five segments of users, and strategies for maintaining these users in a user-centric ERP strategy, have been identified.

Recommendations

- Appoint a task force to reach out to ERP users and nonusers to document the main challenges they have with ERP and develop strategies in which a modernized ERP can be more responsive to the business — looking at all aspects of the "user experience" from requirements gathering to change request to support to day-to-day use.

- Segment the user base and target the new modes of ERP support for different working styles.

STRATEGIC PLANNING ASSUMPTION(S)

Most enterprises that do not make user-centricity a focus of ERP modernization will fail to modernize their ERP successfully by 2013.

ANALYSIS

Businesses often don't realize that their environment is changing until after the change has already passed them by. The most dramatic example of this is when businesses lose customer segments due to changing customer requirements but ignore the losses until it is too late. A striking example of this is the mid-20th-century U.S. department store, which dominated nonfood retailing in the U.S. These companies admirably focused on their core customers, intensively studying them and changing the business to meet their needs, but simultaneously losing segment after segment to discounters and specialists until there were no "core" customers left. This is why management guru Peter Drucker (see his book "Managing in Times of Great Change") used the department store example as a warning to companies not just to evaluate how well they service their core customers, but also to monitor noncustomers and lost segments for needed changes in the model that the business uses to define how it serves customers. Segment losses should be monitored for signs that the business model itself is failing.

At a different scale, the same thing is happening within the ERP (see Note 1 and Note 2) industry today: It is serving its core users of enterprise-level process thinkers well, but it is becoming increasingly irrelevant to other groups of users, such as information-driven users or people who use Microsoft Office to effect business change. These other groups are defecting to other delivery models like SaaS and personal applications to help them with their everyday needs.

ERP and C-Commerce ERP Delivered Real Business Benefits

The goal of ERP was to centralize systems across sales, manufacturing and finance to re-engineer the corporation and make transaction processing more efficient. With collaborative commerce (c-commerce) ERP (see "ERP Is Dead — Long Live ERP II"), the goal shifted to a broader view of providing horizontal transaction support and master data consistency across the enterprise and to extend the transaction to collaboration trading partners. This led to a strategic decision by enterprises in industries well-served by commercial ERP products to centralize application support within the ERP where possible, and absorb the functionality of previously separated functions such as supply chain management (SCM), product life cycle management (PLM) and CRM through the cycle of assimilation (see "The Transition to ERP II: Meeting the Challenges"), which has been achieved in some ERPs.

This expansive ERP strategy of centralizing transaction support delivers business results because it ensures:

- End-to-end process integrity (see "Introducing Process Integrity: Critical to Business Applications, SOA Compositions and Processes")

- Data consistency across the enterprise

- Reduced support costs through consolidation of skills and systems

- That the enterprise is engaging in best practices and compliance mandates through its assurance of process conformity

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- That best practices are updated through the assimilation of new functionality and upgrade of larger and larger ERP systems

An ERP Strategy Is Dependent on Economies of Scale

ERP only works as an expansive and consolidating strategy when the ERP is serving a critical proportion of functionality within the business. This is because there are economies of scale in process integrity in an ERP which has process integrity built in. That is, the investment in core ERP functions can be thought of as a point of "process integrity leverage" for the company, and, as with all leverage, increasing scale of the leveraged function leads to dramatic returns.

For example, the cost of implementing the ERP version of warehouse management if it is the first module implemented is quite high compared with specialist stand-alone products. This is because the ERP implementation has to populate master data that is unnecessary to this function and turn off process integrity that isn't present in the best-of-breed package. However, this consideration reverses when considering a warehouse management system (WMS) installation within a fully built-out ERP installation, which is far less expensive (assuming the ERP can handle the functionality and that modifications aren't needed) than deploying, integrating and ensuring process integrity with a stand-alone WMS. Furthermore, as more of the ERP core is deployed, it is comparatively less expensive to add additional modules. The economies of scale are nonlinear.

Alternative Models of Delivering Business Functionality Backed by the Promise of SOA Threaten to Undermine Economies of Scale in ERP

A variety of alternative models to the ERP strategy are now appearing on the business application landscape. These alternatives are threats to the economies of scale that have been achieved in ensuring process integrity through the ERP. For example, SaaS enables end users to bypass IT in procuring software functionality to support business processes. Often, IT is brought in after the decision has been made to figure out how to provide process integrity across the SaaS and ERP-supported components of an end-to-end process. The theory advocated by vendors of point solutions is that service-oriented architecture (SOA) will enable users to arbitrarily multisource their application functionality. This theory is wrong because it focuses just on interoperability and not end-to-end process integrity. Although SOA is better than point-to-point integrations without SOA, the ERP strategy is still better than either, because process integrity is provided at the product level rather than at the integration level. Enterprises that abandon the ERP strategy or lose momentum for their ERP modernization projects will face tremendous consequences by 2012 as the costs of integration and heterogeneity skyrocket.

Other delivery models for business functionality place the same pressure on the ERP strategy: open source, business process outsourcing (BPO), personal productivity tools such as Excel or Google Spreadsheets, departmental applications such as SharePoint, user-defined processes accessed through mashups of Really Simple Syndication (RSS) feeds, business process-aware social-networking tools and BI applications. Each time one of these delivery models is selected by users outside of the ERP strategy, this should be seen as the users "voting with their feet" that the ERP isn't meeting their needs. All of these alternative delivery models are growing faster than the ERP market overall. The risk is that fragmentation of business function support through alternative application models will decrease the proportion of business functionality supported by the ERP strategy, which will decrease the scale of ERP operations below its critical threshold to maintain its economies of scale.

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Enterprises Must Make ERP More Relevant to Users' Day-to-Day Work

Any enterprise that is losing customers faces the mandate to be more customer-centric. In ERP's case, it is losing users and must respond in the same way — by becoming more user-centric and relevant to all types of users in the enterprise, rather than just continuing to focus narrowly on enterprise-level process thinkers. All facets of the ERP program must be re-evaluated to become user-centric: technology, support, sourcing and governance practices. We see this expansion of the ERP vision within an enterprise to be relevant to all types of users as well as the absorption of user-centric technologies into the ERP as the next generation of ERP or a "user-centric ERP strategy" (see Figure 1).

Figure 1. Evolution of User-Centric ERP

Technology Concepts	Portals Marketplaces Data Warehouse Web UI Integration Web UI B2B	Tagging Search Integrated BI Facebook Semantics Search ReST Model-Driven Apps. Mashups Process Templates MDM Ajax/RIA RSS/Atom Office
Consolidate Systems of Record	**Incorporate Internet and Collaboration Technologies**	**Incorporate SOA, Web 2.0 and Information Technologies**

Phase	**ERP**	**C-Commerce ERP**	**User-Centric ERP**

Business Concepts	**Incorporate Transactions and Systems of Record for Efficiency**	**Incorporate Industry-Specific End-to-End Processes Enabling Collaboration**	**Incorporate More User Types to Maintain Process Integrity**
	G/L Manufacturing Orders Customer Orders Payroll Purchase Orders	Plan-to-Deliver Procure-to-Pay Hire-to-Retire Order-to-Cash	Enterprise-Level Process Centric Information Centric Community Centric User-Level Process Centric Trading Partner Centric

Source: Gartner (March 2008)

This is happening at a critical juncture in the ERP market for many enterprises, as they embark on their ERP modernization efforts. Many enterprises implemented their current ERP in the run-up to Y2K and are realizing that the time has come to modernize these systems. Gartner's experience with clients in this situation has found this to be an expensive project that requires the support of the entire business, and many people in the enterprise can't see the justification.

We think this is because many modernization efforts are focused primarily on ERP modernization as a technology project, rather than a way to make the ERP user-centric. Upgrading to SOA-

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based model-driven ERP applications (see "Hype Cycle for ERP, 2007") must be the cornerstone of an ERP modernization project, but it isn't sufficient. For example, just getting more process agility isn't valuable to an information-centric user who uses reports and e-mail to change the business. Without a focus on the broader user constituencies, the ERP strategy will fail because use will fall below critical thresholds as these users defect to other business functionality delivery models. Furthermore, these user constituencies are necessary to build the momentum and funding for ERP modernization. Most enterprises that do not make user-centricity a focus of ERP modernization will fail to modernize their ERP successfully by 2013.

Based on the technologies that are gaining traction among end users that we are tracking for the ERP Hype Cycle, Gartner has identified five segments of users in the enterprise, shown in Table 1. We have outlined these user segments as well as the technologies that will be most relevant for inclusion in the ERP to serve these users. Although each individual user won't strictly fall into only one category (some people may be both information and user-level process-driven), we have found that there are gravitational points of the user group within each enterprise.

Table 1. Five User Segments for ERP

User Segment	Technology Enabler in User-Centric ERP	Analysis of Linkage
Enterprise Process-Driven Users	SOA, Business Process Management Suites (BPMS), and Model-Driven ERP	This is the core group of ERP users today. Process-driven change is largely systematic analysis of process and change in the way that the business responds to anticipated conditions. For example, this user might see changes in the way orders are systematically processed as the way to improve the business. This is largely a centralized notion of business change and requires SOA and composition technology to enable large-scale manipulation of enterprise-level business processes.
Information-Driven Users	Closed-Loop Decision Making Enabled by BI Integration Into Applications, Content Management Technologies	Information-driven users focus on using information to instigate activity or changes in the way business is done. These users typically see business change as asking for reports, analyzing where things are going wrong, and calling up the people doing things wrong to tell them to fix this. They lack the systematic context employed by the enterprise-level-driven user. This requires giving users timely information to make changes to the activities of the business. This is primarily of interest in questions about business strategy and large-scale change where the intricacies of process are less important, in situations where the business process is not well-defined (implicit), or where business activity exists in a dual mode of official and de facto. This requires an integration of process and BI tools to the degree that information is incorporated into process design and information is delivered in a process-oriented view.
User-Specific Process-Driven Users	Process of Me Technology, Extreme Self-Service	In some cases, we see change happening at the edge of the enterprise beyond the control of centralized business processes. In these situations, users are creating their own processes to meet their own needs without explicit centralized support of business process engineers and without affecting the corporate process. This requires technology that integrates process into everyday tools such as Office in natural ways and tools that enable users to manipulate processes without explicit centralized control, such as mashup technology.

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User Segment	Technology Enabler in User-Centric ERP	Analysis of Linkage
Community-Driven Users	Web 2.0 Technologies and Metaphors	An emerging style of business activity is a community-driven activity, which is harnessing the activities of individual users into community-based action. Embedded in this is Tim O'Reilly's original notion of Web 2.0 applications, which are applications that get better through the mere use of the applications by individuals in a community. Users that are focused on this style of activity and change will require not just the aesthetics of Web 2.0 technologies to be adopted into applications, but for modern applications to be rethought as models of communities that change the way the business operates and adapts.
Trading Partner-Driven Users	High-Leverage Collaboration, Low-Leverage Multienterprise Technology	The business application market has seen a business-to-business (B2B) phase that fell short of predictions that it would change the business landscape. This is largely because B2B in the late 1990s focused on enabling enterprises that share a strategic interest to invest in technologies that reduce the ongoing cost of transactions between the two entities. It turns out that there are few situations in which enterprises share strategic interests. Today, Gartner sees a new class of technologies, such as multienterprise business process platforms (BPPs), cloud computing and multienterprise collaboration tools that, when properly connected to enterprise activity, put users in charge of multienterprise business interactions and enable them to persuade business counterparts to cooperate rather than command that a transaction take place in a specific way.

Source: Gartner (March 2008)

Although ERP is used by all groups of users, it is today most relevant and valuable to the enterprise-process thinkers, and this is a result of the consolidation phase of ERP. It was the enterprise-level process thinkers who could sponsor the consolidation of systems and processes that were necessary to roll out the ERP and achieve critical mass for the project. Now that the goal has been achieved, the IT organization must turn to building support among other users for ERP by making it relevant.

RECOMMENDED READING

"Hype Cycle for ERP, 2007"

"Predicts 2008: ERP and SCM Applications"

"Research Review for Midmarket ERP"

"Business Managers Need To Care About SOA In ERP"

"Introducing Process Integrity: Critical to Business Applications, SOA Compositions and Processes"

"Achieving Agility: Implement a BPP Model to Support Static and Dynamic Processes"

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Note 1
Research Support

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Note 2
What Is ERP?

ERP is defined as the ability to deliver an integrated suite of business applications. These tools share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, human resources, distribution, manufacturing, service and the supply chain.

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