Best Practices for Applying Pace-Layered Application Strategy to Postmodern ERP

Vendor-centric ERP strategies stifle rather than satisfy business needs. ERP leaders should adopt these best practices to leverage a pace-layered approach to transition to a balanced postmodern ERP strategy.

Key Challenges

- Vendor-centric ERP strategies do not effectively support all business capabilities and compromise agility, flexibility and usability.
- ERP suites are being deconstructed at the same time that domain-specific cloud specialist solutions and services are emerging, presenting organizations with more choice, but greater opportunity to make the wrong decisions.
- Business acquisition of SaaS solutions outside of IT control and sight often adds unnecessary complexity and cost, particularly when integration is ignored or forgotten.

Recommendations

- Use Gartner’s Pace-Layered Application Strategy to develop a detailed view of business capabilities across the three layers and establish the boundaries of ERP.
- Identify business capabilities and specific domain functionality that may be better-enabled by specialist add-on solutions, and where SaaS solutions are already in use in the organization; and develop an application development/composite application capability that uses ERP services.
- Implement transparent, balanced governance and control over your ERP strategy.
Introduction

The footprint of most ERP suites has expanded over the past ten years, to the point that they offer a broad, even bewildering, range of functionality. Tempted by marketing collateral that shows the suite (or suite of suites, such as those from SAP, Oracle and Infor) has all the functionality boxes ticked, coupled with an attractively discounted licensing offer for the entire portfolio, many executives and IT organizations bought holistically into the vendors' solutions. This temptation was understandable because it appeared to offer an integrated solution that simplified the IT landscape. "We're a (insert vendor of choice) shop" is the most commonly heard reply when we ask clients what their ERP strategy is. Forty-seven percent of respondents to a Gartner survey in 2013 told us they have a documented and approved ERP strategy. However, in the majority of our client discussions it seems these strategies haven't been updated to reflect changing business needs or current market trends.

Now, the ERP suite is being deconstructed and replaced by a more federated, loosely coupled ERP environment, in what Gartner calls "postmodern ERP" (see "2015 Strategic Road Map for Postmodern ERP"). Much (or even all) of the required ERP functionality will be sourced as cloud services or via business process outsourcers, and the vendor and product landscape is now more dynamic and confusing than any time since the mid-1990s.

Many organizations find their slavish adherence to a monolithic ERP solution restricts business agility and consumes an ever-increasing share of the IT budget for a questionable return. SaaS solutions are being acquired by business users — often without IT control or knowledge — as a result of their frustrations.

As a result of these ERP market changes and business demands for agility, flexibility and usability, IT organizations are shifting their focus to the new scenarios in the hybrid, on-premises, outsourced and flip (HOOF) model (see Note 1). This is not confined to deploying specialist solutions in areas of differentiation and innovation. System-of-record business capabilities are also moving to cloud solutions and services, as users "reject" the core ERP modules (in areas such as procurement, travel, treasury and human capital management [HCM]). CIOs and ERP leaders need to revisit (or create if they don't have one) their ERP strategy, balancing functional and usability needs against integration, control and delivery ability (see "Postmodern ERP Strategy Is Key to Success With ERP Initiatives"). Gartner's Pace-Layered Application Strategy framework enables the development of a postmodern ERP strategy.

Analysis

Use Gartner's Pace-Layered Application Strategy

The challenge with most ERP initiatives is that a need for some technology is identified (often because an existing application is in urgent need of replacement) and a tactical purchase is made,
which can become the foundation for the gradual spread of a suite throughout the organization. Organizations may (for example) invest in the financial modules from an ERP vendor, and this vendor then becomes the de facto choice for other functional areas and even other suite domain areas due to the perceived integration benefits. The trouble with this approach is that the vendor may be a good fit for core nondifferentiating functionality, but it is less appropriate in areas where the organization has more differentiated needs, and for people-centric system-of-record functionality as well. Business users will no longer put up with the old IT rule, "if it does at least 80% of what we need, we’ll use the ERP module."

For example, a large global services organization purchased its financial modules from an ERP suite vendor (which was a good fit to its needs out of the box), but then decided to customize the suite's manufacturing-oriented order management functionality for its service management and billing. The organization spent over $20 million on customizations, which did not fully meet the business needs and created significant upgrade costs. The organization subsequently calculated it could have built the functionality it needed and integrated it with the ERP financials for less than a quarter of the customization expense. In another example, a global product and service organization has moved all HCM capabilities to a SaaS solution outside of its core on-premises ERP solution (and from a different vendor).

Use Gartner’s Pace-Layered Application Strategy to develop a detailed view of your organization’s business capabilities by layer, define and agree on the boundaries of ERP, and document the scope of your ERP strategy.

Recommendations:

- First, assemble a team to work on creating the model for your organization. This team should comprise members of the ERP team, enterprise and solution architects, as well as the broader application team. The team should educate themselves about Gartner’s Pace-Layered Application Strategy and business capability modeling (see "How to Develop a Pace-Layered Application Strategy" and "Business Capability Modeling Brings Clarity and Insight to Strategy and Execution").

- Then, the team needs to set about educating business stakeholders on the concepts of pace layering and business capability modeling (using "Toolkit: Pace-Layered Application Strategy Starter Presentation"). A business capabilities framework allows IT and business to discuss business needs and to define business outcomes for ERP without discussing the specific technology or vendors used.

- Next, the team should lead workshops with these business stakeholders to develop a pace-layered business capability model for its organization (using "Toolkit: Business Capability Modeling Workshop" and "Toolkit: Use Pace Layering With Business Capability Modeling to Prioritize Investment Decisions").

- The team must then conduct a fitness assessment of current applications against business needs (using "Toolkit: Application Fitness and Value Review" and "Toolkit: Application Fitness and Value Review: An End-to-End Business Process Model").
Then, it builds a visual representation of how the pace layers map to the application domains (using the Toolkits in "Pace-Layered Toolkits and Best Practices").

Finally, the boundaries of ERP must be clearly identified: What is "in scope" for ERP (see Figure 1) — noting that, as postmodern ERP is not a single "thing," this does not equate to what is in scope for any individual solution.

**Figure 1. Example Pace-Layered Business Capability Model Developed for ERP Strategy**

<table>
<thead>
<tr>
<th>Management and Business Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Vision and Strategy</td>
</tr>
<tr>
<td>Manage Indirect Procurement</td>
</tr>
<tr>
<td>Manage and Develop People</td>
</tr>
<tr>
<td>Manage Financial Resources</td>
</tr>
<tr>
<td>Manage Information Technology</td>
</tr>
<tr>
<td>Manage Risk and Compliance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manage and Deliver Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan and Optimize Supply Chain</td>
</tr>
<tr>
<td>Source and Procure Raw Materials</td>
</tr>
<tr>
<td>Manufacture Products</td>
</tr>
<tr>
<td>Manage Inventory</td>
</tr>
<tr>
<td>Manage Logistics and Warehousing</td>
</tr>
<tr>
<td>Fulfill Orders</td>
</tr>
<tr>
<td>Distribute and Deliver Products</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sell Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Quotes</td>
</tr>
<tr>
<td>Process Orders</td>
</tr>
<tr>
<td>Manage Contracts</td>
</tr>
<tr>
<td>Bill Customers</td>
</tr>
<tr>
<td>Manage Customers</td>
</tr>
<tr>
<td>Determine Pricing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market and Develop Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand Markets and Customers</td>
</tr>
<tr>
<td>Develop Marketing and Sales Strategy</td>
</tr>
<tr>
<td>Design Products and Offerings</td>
</tr>
<tr>
<td>Manage Advertising and Promotions</td>
</tr>
<tr>
<td>Manage Channels and Partners</td>
</tr>
</tbody>
</table>

= In Scope for ERP
= Potentially in Scope for ERP
= Out of Scope for ERP

Source: Gartner (February 2015)

**Identify Business Capabilities and Specific Domain Functionality**

ERP suites offer broad and deep functionality, but the modules can be difficult and expensive to deploy, lack the depth of domain-specific functionality delivered by specialist vendors and fail to satisfy user needs. Many processes outside core ERP areas (such as indirect procurement and
corporate treasury operations) are still heavily fragmented and inefficient, and rely on manual processing. Some business processes are evident candidates for specialist applications (for example, recruitment management), others are not always as obvious. A specialist add-on application can deliver greater scope for business process improvements, and realize these improvements more rapidly than by rolling out the equivalent modules of an ERP suite — and this is true even if the business capability resides in the system-of-record layer.

Areas of immediate opportunity for specialist applications can be identified by an analysis of "future phase" modules not implemented, customizations and shadow hybridization.

**Recommendations:**

- Bring shadow hybridization into the light. Inventory the applications used around the boundaries of the ERP system to find out if, and where, users are already subscribing to SaaS specialist applications and "side-stepping" the corporate ERP system.

- Catalog existing customizations and manual systems. Determine whether using a specialist SaaS application may be a more effective way to drive user adoption and realize incremental benefits, such as process automation and reduced complexity (see "Use SaaS Applications in a Postmodern ERP Strategy to Drive User Acceptance and Process Improvement").

- Focus on business value. Enable innovation in business processes, but ensure a good match between business capability and delivered functionality from the specialist application (see "Standardize Business Processes and Implement Governance to Maximize Business Value of SaaS ERP"). Many of the domains targeted by specialist SaaS vendors are changing rapidly from both a technology and process perspective. As with any application acquisition, be clear about the match between future requirements and the vendor’s road map.

- Maintain balance. Adopt a buy-versus-build approach (for example, by replacing customization with specialist applications), but do not fall into the trap of a best-of-breed mindset. This is counterproductive and will erode anticipated value (see "Postmodern ERP Strategy Is Not a Best-Of-Breed Approach").

- Leverage ERP services and data. There are options for systems of differentiation that leverage existing functionality and data in systems of record but minimize developed code. Stitch commodity functions together in a unique way with added special features to give a competitive advantage (see "Systems of Differentiation: Building Applications That Provide Competitive Advantage"). Service-oriented architecture (SOA) with composite applications or business process management (BPM) technologies are the top choices for this approach.

- Assess the scale of integration. Integration, process integrity and master data consistency are the obvious trade-offs when a SaaS application is used instead of modules from an ERP suite. Weigh the costs and integration complexity against the potential benefits of a specialist SaaS application (see "Adopt a Strategic Approach to Application Integration for Postmodern ERP and Business Applications").
Implement Transparent, Balanced Governance and Control Over Your ERP Strategy

Postmodern ERP scenarios necessitate looser control without losing control — the key is to take a balanced approach to governance and control. A Pace-Layered Application Strategy applied to ERP with defined boundaries provides a framework for control, yet allows IT to be responsive to business needs. Remember that ERP is primarily a system of record, and while it may support some differentiating business capabilities, it is unlikely to provide direct enablement of innovating business capabilities. Control the acquisition and deployment of specialist solutions to ensure business agility, but do not compromise this by unnecessary complexity. When you move away from a monolithic ERP approach to a postmodern ERP strategy, you must surrender some control and work collaboratively with business users/stakeholders and other parts of the IT organization.

Recommendations:

- Regularly review, and update as necessary, your pace-layered business capability model and associated ERP strategy. Pay close attention to the business capability life cycle, and the ERP vendors’ and specialist solution providers’ road maps. This review should be carried out at least annually with business and IT management, facilitated by ERP leadership.

- Review and update your existing ERP governance framework and process. Your ERP strategy should already contain the approved ERP principles, architecture and governance organization, but these (as well as the strategy itself) need revision as you adopt postmodern scenarios (see "How to Implement Effective ERP Project Governance," "Best Practices for Establishing ERP Technical Governance" and "Postimplementation ERP Governance Best Practices").

- Do not try to close down existing business-acquired SaaS solutions. They have been acquired for a reason — to meet a business need that is either unmet or unsatisfactorily met. Instead, understand the business capabilities they support. Ensure these SaaS applications are effectively managed and maintained (for example, user administration, security, resilience), and that they are integrated where needed. Maintain a balanced approach to the selection, implementation and evolution of solutions that prevents a descent into a “free for all” (see "Sourcing Governance Prevents Corporate Risks When the Business Bypasses IT").

- Respect, but update, the ERP boundaries. New or changed business needs must be evaluated and categorized as nondifferentiating, differentiating or innovating, and whether they fall within the boundary of ERP that you have defined. If it appears there is a need to change the boundary of ERP, then only do so after appropriate review and approval by the relevant governance groups (for example, the ERP technical authority or the ERP investment control group), rather than by tactical decision making or procurement. Acknowledge that the boundaries of the core ERP solution will be more changeable in postmodern ERP scenarios.

- Reference your pace layer model when making choices and decisions. Determine how to satisfy new business needs. If a business requirement is nondifferentiating, then it should be satisfied with standard functionality, that is, without customization — whether that is from the core ERP solution or a SaaS "add-on" solution. If the requirement is a differentiating (or innovating) capability, then evaluate customization of the ERP solution (on a cost-benefit-complexity basis) versus implementation of a specialist SaaS solution.
Actively manage specialist solutions. Do not allow them to linger or wither beyond their period of value. An innovative capability and its supporting specialist system may become nondifferentiating over time. Bear in mind that the expected life of a core ERP solution far exceeds that of an innovative capability. Use the ERP strategy and road map to identify a suitable life cycle event (for example, a major upgrade) to plan a migration of the functionality into the ERP solution, rather than continuing to maintain the specialist solution and associated integration. Do not fall back into force-fitting functionality into the ERP solution — only do so if the business capability can be met, business stakeholders support it and governance agrees it makes sense.

Do not forget about total cost of ownership (TCO). Choices and decisions should always take into account both the lifetime total costs of ownership and the lifetime benefits of the solution. Update your TCO model for ERP (see "Manage and Optimize the Lifetime TCO for ERP" and "Toolkit: Template for Collecting the Costs of an ERP Project").

Ensure Strategies, Plans and Expertise Are Developed for Essential IT-Enabling Capabilities

Postmodern ERP requires changes in the way IT and business users work together. IT must help business users define what type of integration (tightly coupled, loosely coupled, data, process) is appropriate given the postmodern HOOF scenario (see Note 1) being adopted. Integration and process integrity are not "one size fits all." For example, a SaaS procure-to-pay solution deployed to support indirect procurement only needs to pass approved invoices for payment to the accounts payable module of the core ERP system, a process that can be achieved with simple point-to-point integration in batch.

Over time, there will be more predefined application-to-application integration services available, as cloud services, and the increasing maturity of integration platform as a service (iPaaS), will create more strategic options for managing integration in a hybrid ERP world (see "How to Integrate Postmodern ERP and Business Applications"). Meanwhile, some large ERP vendors are beginning to offer their application integration suites as SaaS deployments to compete with emerging iPaaS vendors like Dell Boomi and MuleSoft.

Postmodern ERP brings changes to the support model, such as how application issues are identified and resolved, responding to new service requests, and managing the life cycles of the solutions/services within the ERP scenario in the enterprise. IT application teams need to spend more time understanding existing systems and looking at new solutions (and likely some new vendors, some of whom may be smaller than the organization is accustomed to dealing with). New skills or skills with increased importance include: business process analysis and management, application management, application integration, procurement and vendor management.

Recommendations:

- Develop a postmodern application integration strategy. The deployment of several solutions, potentially from different vendors, in a postmodern ERP scenario raises the importance of business and technology architecture (see "Address Integration for Hybrid Postmodern ERP").
Identify integration requirements because not all integrations are, or should be, the same.

- Evaluate cloud services brokerage as an option. As you begin to adopt more cloud-based specialty applications, consider the services available to help you manage this (see "A CIO Primer on Cloud Services Brokerage").

- Build a road map of application dependencies across and within pace layers. Identify potential dependencies in release versions. Adapt to the shorter life cycle of SaaS applications. Plan for smaller, more frequent upgrades and consider "upfront" possible exit scenarios (see "Implement Integrated Application Change Management for Postmodern ERP"). Manage SaaS applications within a hybrid ERP strategy as if they were more like systems of differentiation — even if they support system-of-record capabilities.

- Start planning now for organizational impacts. Identify the scenario(s) that will apply and when; and, as part of developing your ERP strategy, create an organizational plan that supports this. Engage IT and HR leadership to identify new skills, skills that will disappear or reduce in importance and those that will grow or increase in importance (see "Hybrid ERP Changes the Importance and Focus of Critical ERP Skills"). Map existing skills and jobs to the anticipated skills and organizational structure — taking sourcing into consideration.

- Holistically change the ERP and application teams' operating model. Hiring or developing new skills, changing the team structure and modifying governance are not sufficient on their own. The third pillar for success is to change how the ERP solutions are supported and changed, that is, "the ways of working" (see "Pace-Layered Application Strategy and IT Organizational Design: How to Structure the Application Team for Success", "Postmodern ERP Adoption Is Changing the ERP Support Organization" and "Change Your ERP and Business Applications Support Strategies as You Move to the Cloud").

**Case Study**

**Case Study 1**

This global real estate company used Gartner's pace layer concept to guide its ERP strategy and system replacement. As a result, it decided to move to an uncustomized package for systems of record and adopt other solutions for its systems of differentiation and innovation to provide its unique business capabilities (for example, revenue cycle management, business planning models, lease marketing and supporting multichannel retail tenants). In addition to this more segregated approach to supporting business capabilities with systems, the pace layer framework helped its stakeholders understand past and future cost patterns.

**Case Study 2**

A multimedia content management organization used the pace layer framework to redevelop its applications and ERP strategies. It defined its new ERP core as a single global instance system with minimal customization to support business capabilities in financial, manufacturing and human
resources; with an expected continued life of at least five years. However, it also desired to move to the cloud (toward postmodern scenarios) and is planning to move commodity nondifferentiating functions to SaaS; differentiating and business-specific functions to IaaS with integration to the core ERP and with an expected continued life of three to five years. Innovating capabilities will leverage core services and IaaS but have a less than three year life. This has resulted in a focus on value achieved through speed, scalability and differentiation. While leveraging providers for commodity infrastructure and services, it can rapidly deliver new capabilities to evolving market demands and more easily integrate acquisitions.

**Case Study 3**

A large international consumer goods firm was struggling with a complex order-to-cash (OTC) process in which sales were not considered complete until shipped items had been delivered to the client site and had been installed, tested and accepted — a two- to three-week process, but transacted completely outside the ERP system. The company was managing this postsales process through email, spreadsheets and some customized extensions to their ERP system. Accounts receivable (AR) and client satisfaction were suffering, in part, because the custom and manual processes could not adequately track the status of the postshipment activities.

To resolve this, the company replaced most of its OTC customizations and manual processes with a SaaS application. It was designed for field service technicians to perform maintenance work — not an exact match, but a close functional fit to the activities in question. In this case, it was used to provide mobile technology to track activities related to installation and acceptance. The SaaS application was acquired and deployed in weeks, only required licenses for the field installation personnel and was low-cost. The application was deployed in a loosely coupled interface, provided much better information and improved both AR and customer satisfaction measurements.

**Gartner Recommended Reading**

*Some documents may not be available as part of your current Gartner subscription.*

"2015 Strategic Road Map for Postmodern ERP"

"Postmodern ERP Strategy Is Key to Success With ERP Initiatives"

"How to Develop a Postmodern ERP Strategy"

"Toolkit: Postmodern ERP Strategy Template"

"How to Develop a Pace-Layered Application Strategy"

"Postmodern ERP Requires a Pace-Layered Information Strategy to Succeed"
Evidence

1 A Gartner Research Circle survey, "The Outlook of ERP in the Enterprise," November 2013. This survey involved 396 members of the Gartner Research Circle — a managed panel of global IT and business leaders — across 13 industries. It was tested, administered and the results analyzed by the Gartner Research Data Analytics team (see "Working Smarter, Not Harder, Is the Key to Business Success With ERP").

Note 1 The HOOF model

The hybrid, on-premises, outsourced and flip (HOOF) model outlines four possible long-range ERP scenarios (see "2015 Strategic Road Map for Postmodern ERP"):

- **Hybrid Reality**: In this environment, many components of functionality will be delivered as cloud services, whereas others will be maintained on-premises. Cloud services become at least an equal partner with on-premises delivery. This environment creates significant new integration challenges because it relies on a more varied and loosely coupled architecture.

- **On-Premises Monolith**: This reflects the situation now, where the ERP is suite-focused. There is a quest for reduced instances and a quest for a "single version of the truth" for business processes. The ERP strategy is equated with a single, dominant ERP vendor.

- **Outsourced Everything**: Many organizations have elected to outsource their IT environments, and there will be increased adoption of business process outsourcing (BPO) for ERP processes. This is driven by newer process-enhancing technologies and services (PETS), in which BPO providers can become the primary consumers of cloud-based ERP (which they then bundle with BPO services to clients).

- **Flip Model**: This option is where the market "flips" to the cloud. Instead of having on-premises core solutions that are complemented by innovative or differentiating processes being supported outside of ERP, now all commodity best-practice business processes will be delivered as cloud services. This will leave a much-reduced IT organization free to focus on building the innovative and differentiating business processes required. In this case, on-premises, integrated megasuites cease to exist.
GARTNER HEADQUARTERS

Corporate Headquarters
56 Top Gallant Road
Stamford, CT 06902-7700
USA
+1 203 964 0096

Regional Headquarters
AUSTRALIA
BRAZIL
JAPAN
UNITED KINGDOM

For a complete list of worldwide locations,
visit http://www.gartner.com/technology/about.jsp