

Applying Pace Layering to ERP Strategy

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VIEW SUMMARY

Most organizations struggle to implement an effective ERP strategy. Gartner's Pace-Layered Application Strategy will help organizations with the definition, governance, consolidation and prioritization of investments in ERP.

Note 1 Application Pace Layers

Gartner defines the three application pace layers as:

- Systems of Record — Established packaged applications or homegrown legacy systems that support core transaction processing and manage the organization's critical master data. The rate of change is low, because the processes are well-established and common to most organizations, and often are subject to regulatory requirements.
- Systems of Differentiation — Applications that enable unique company processes or industry-specific capabilities. They have a medium life cycle (one to three years), but need to be reconfigured frequently to accommodate changing business practices or customer requirements.
- Systems of Innovation — New applications that are built on an ad hoc basis to address new business requirements or opportunities. These are typically short life cycle projects (zero to 12 months) using departmental or outside resources and consumer-grade technologies.

Overview

This research describes the impact of Gartner's Pace-Layered Application Strategy (see Note 1) on ERP strategy. This will help application strategists develop an ERP strategy that will support differentiation and innovation, instead of constraining it.

Impacts

- A Pace-Layered Application Strategy will help organizations reduce the dominance of ERP vendors in application strategy.
- A Pace-Layered Application Strategy will help business users identify more opportunities for differentiation and innovation.
- A Pace-Layered Application Strategy will help organizations create a more differentiated ERP governance model.

Recommendations

- Use a Pace-Layered Application Strategy to ensure that your ERP vendor does not dominate your application strategy.
- Define a connective-tissue strategy to support a more flexible application portfolio.
- Decompose the application portfolio into small groups to discover opportunities for innovation and differentiation.
- Use different life cycle management strategies for different pace layers, and build a road map of application dependencies across pace layers.

Analysis

One of the biggest criticisms leveled at ERP systems (or any integrated application suite based on best-practice functionality) is that they are inflexible and don't support business change. Gartner finds that in too many cases any perceived inflexibility is due more to the way ERP applications have been purchased and deployed than to any inherent flaws in the technology. Many organizations fall prey to ERP vendor marketing, and attempt to implement ERP solutions in areas where they may not be the most appropriate solution. Gartner's pace-layering model (see "[How to Use Pace Layering to Develop a Modern Application Strategy](#)") is a new approach to defining an application strategy. Applying this model to ERP strategy will have a positive impact in building a balanced application portfolio of integrated suite applications sourced from a strategic ERP vendor, and on applications sourced from specialist vendors. This will help ensure that ERP systems support differentiation and innovation, rather than stifling it.

Figure 1. Impacts and Top Recommendations for Applying Pace Layering to ERP Strategy

Impacts	Top Recommendations
<p>A Pace-Layered Application Strategy will help organizations reduce the dominance of ERP vendors in application strategy.</p>	<ul style="list-style-type: none"> • Identify preferred ERP vendor(s) for systems of record. • Consider best-of-breed solutions for systems of differentiation and innovation. • Define a connective-tissue strategy to support a more flexible application portfolio.
<p>A Pace-Layered Application Strategy will help business users identify more opportunities for differentiation and innovation.</p>	<ul style="list-style-type: none"> • Decompose the application portfolio into small groups. • Look for areas of differentiation and innovation even within process areas defined as systems of record.
<p>A Pace-Layered Application Strategy will help organizations create a more differentiated ERP governance model.</p>	<ul style="list-style-type: none"> • Manage ERP systems as foundational systems of record. • Differentiate governance strategies across pace layers. • Build a road map of application dependencies across pace layers.

Source: Gartner (January 2012)

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Impact: A Pace-Layered Application Strategy Will Help Organizations Reduce the Dominance of ERP Vendors in Application Strategy

Most organizations don't have a clearly defined and documented ERP strategy that is explicitly aligned with business strategy. Instead, their application portfolio has grown over time as a series of incremental projects (often as a result of acquisition) that has made the technical architecture more complex without yielding obvious strategic benefits. In an effort to bring order to the chaos, many management teams are announcing that they are "doing ERP" without a clear understanding of what this actually means. For most senior executives, doing ERP means mandating that all business applications will be purchased from a single vendor (frequently Oracle or SAP), regardless of whether or not they are a good fit for all the company's requirements. Management negotiates an apparently attractive enterprise agreement with

the vendor, and IT is happy because there is just one "throat to choke." Yet, this approach is most likely to create an ERP straitjacket for the organization as the ERP footprint expands throughout the enterprise and users can only consider application functionality from the ERP vendor. The application strategy is dictated by the ERP vendor, not driven by the organization's business strategy. It should be the other way around.

The pace-layering model will change the way organizations think about the role of an ERP system in a business application strategy. From a macroviewpoint, ERP systems are primarily systems of record. These applications are integrated suites that share a common data model, and manage and maintain much of the company's master data. Most companies are not looking to differentiate their business processes based on these applications, although they can be used to create differentiation through a lower cost base for core business transaction processing. Instead, these applications deliver standardized processes, and create a data and process foundation for most other business activities.

Adopting a pace-layered approach to application strategy will help senior executives understand that ERP is only part of the answer to their business requirements. The standardized processes and "best practices" enshrined in ERP are ideal for systems of record, but may not be the right solution for systems of differentiation and will rarely be used for systems of innovation. By their very nature, ERP systems are only effective once common business processes have become established across an industry or industries. Thus, solutions from specialist vendors and/or in-house development using business process management technologies will be more likely options for systems of differentiation and innovation. This approach to managing the application portfolio will help executives understand that the organization's ERP vendor is not the automatic or preferred choice for every application need. This will reduce the stranglehold ERP vendors have on application strategy in many organizations.

Recommendations:

- Identify preferred ERP vendor(s) for systems of record: There is no standard definition of the functionality and business processes included in ERP. This will vary by organization, and depends entirely on business strategy (see "[ERP Strategy: Why You Need One, and Key Considerations for Defining One](#)"), so the main aspect of any ERP strategy is to define a business process and functionality scope to delineate a boundary for the ERP system. Using the pace-layering approach, ERP systems are heavily (but not exclusively) focused on systems of record, and the choice of ERP vendor is more focused on this application layer than on differentiation or innovation. The ERP vendor should be the preferred choice for systems of record, but may not be in other application layers.
- Consider specialist solutions for systems of differentiation and innovation: While ERP vendors will be the preferred strategic choice for systems of record, this is not the case with other layers. It is more important that systems of differentiation and innovation closely support the business processes and can adapt more readily to changes as opposed to providing good enough common practices. Although the preferred ERP vendor may offer applications in the differentiation and innovation layers, these should always be considered against solutions from specialist vendors. These vendors frequently offer deeper domain functionality than ERP vendors, and the applications are increasingly being offered through the cloud. The potential functional advantages of specialist solutions need to be balanced against the potential benefits of integration and process integrity offered by ERP vendors. Specialist vendors often are found in the ERP vendor's ecosystem, in which case the integration issues may have been addressed. In most organizations, we would expect an ERP system boundary to cover most systems of record, some systems of differentiation and few (if any) system of innovation. It is important to balance the process integrity of ERP suites against the process agility required by systems of differentiation and innovation (see "[Balance Process Agility and Process Integrity Choices Along the Application Continuum](#)").
- Define a connective-tissue strategy to support a more flexible application portfolio: The pace-layering model makes it clear that an integrated ERP suite can't cover all an organization's application needs. Therefore, defining the right technologies to provide a connective tissue between the layers (and different applications) will become more important in an organization's application strategy. This is a complex task, because a range of technologies will be required, and it is important to determine what, if any, role the connective tissue (such as process integration capabilities, master data management and extraction, transformation and loading [ETL] tools) provided by the ERP vendor will play. This is a task for application strategists, middleware strategists and enterprise architects.

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Impact: A Pace-Layered Application Strategy Will Help Business Users Identify More Opportunities for Differentiation and Innovation

The pace-layering model is a very effective tool in communicating the primary role of ERP applications as systems of record. However, it is too simplistic to think of broad application categories and apply them to specific layers. The pace-layering model works very effectively when applied at a more granular level, and organizations will use this to identify opportunities for differentiation and innovation at all levels of business operations, even in those that may be broadly classed as systems of record.

Let's consider some financial accounting processes. At a high level, (supplier) invoice to payment is a nondifferentiating process well-supported by an ERP system. However, at a more granular level, subprocesses and activities within invoice to payment offer opportunities for differentiation, and even innovation. An example in the invoice-to-payment process area is supplier e-invoicing, which removes paper from the invoice submission activity. This type of technology helps reduce the cost of invoice processing, but can also build stronger relationships with suppliers, differentiating companies that adopt supplier e-invoicing from those that do not. Invoice to payment also offers opportunities for innovative new ways of doing business, for example dynamic discounting or online auctions of accounts payable debt. By decomposing the application portfolio to this level of granularity, pace layering will help organizations move away from the default ERP everywhere position where it makes sense. In this example, organizations will need to work with a specialist supplier e-invoicing network to augment the accounts payable functionality from their ERP vendors. In these instances, the supplier e-invoicing network provider manages the connective tissue by providing links from the network to the organization's ERP system.

Recommendations:

- Decompose the application portfolio into small groups: Although thinking in broad terms like ERP is helpful at a macrolevel, the application portfolio needs to be decomposed to lower levels of granularity to identify how the applications should be categorized into pace layers. This task should be performed by application strategists working with functional representatives from each domain (e.g., finance, HR, procurement, operations, etc.).
- Look for areas of differentiation and innovation even within process areas defined as systems of record: Subprocesses or activities within a process area defined as systems of record can still offer opportunities for differentiation or even innovation, despite falling under a process area that may be categorized as systems of record. Gartner has produced more detailed analysis of the main functional areas that typically fall within an ERP boundary to help with this (see [Recommended Reading](#)).

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Impact: A Pace Layered Application Strategy Will Help Organizations Create a More Differentiated ERP Governance Model

The pace-layering model will enable organizations to view ERP systems in their true light, as foundational systems of record that are strategic assets that need to be managed as such. In too many organizations, the ERP portfolio assumes a life cycle all its own that is dictated more by vendor upgrade cycles and technology developments than the business needs of the organization. This means organizations often struggle to justify upgrades (see "[To Upgrade or Not to Upgrade: The Big ERP, SCM, CRM Question](#)"), which can lead to the ERP system becoming stalled at a particular release level, and the cost of moving it forward becomes higher and higher the longer it remains stalled. Adoption of the pace-layering model in ERP governance will help shift the traditional view of ERP as a necessary evil to an enterprise asset.

The management of the ERP life cycle also needs to be more responsive to demands for differentiation and innovation. Applying the pace-layering model will create a differentiated governance model that will support different rates of change in the application portfolio, instead of treating all applications the same. This will impact the ERP system as it may well span pace layers. For example, if an organization implements order entry as part of its ERP suite and considers this application to be differentiating, new functionality in this area could be a key driver for upgrading to a specific release. However, if there is no new functionality in this (and other) areas of differentiation, it may make sense to skip an upgrade (unless it is required to maintain the overall integrity of the systems of record).

Recommendations:

- Manage ERP applications as foundational systems of record: Systems of record should be managed on at least a seven-year planning horizon (see "[Gartner's Pace-Layered Application Strategy: Governance and Change Management](#)"). For ERP applications, Gartner would recommend a 10-year to 15-year planning horizon. This means organizations should have a clear long-term capital funding plan, including funding for upgrades that are likely within that period. Approaching ERP as a system of record will help organizations get out of the "do we upgrade or not" conundrum. If ERP is properly managed as a foundational system, the question is not "should we upgrade" but "when does it make sense to upgrade" (from the perspective of maintaining a vital enterprise asset). Replacement of foundational systems of record like ERP should only be considered when there is a business strategy change that means the original decision factors that supported the ERP choice no longer apply.
- Differentiate governance strategies across pace layers: Although ERP systems are primarily systems of record, it is likely that most organizations' ERP boundary will include at least some systems of differentiation or innovation. It is important to recognize this, because any elements of the ERP suite that fall outside systems of record need to be managed differently. They are the areas where configuration changes and even customization will be more frequently required to support changing business requirements. Key ERP skills should be targeted at supporting

areas of differentiation and innovation, rather than systems of record. For systems of record, business processes should be changed to work the way the standard delivered ERP processes work.

- Build a road map of application dependencies across pace layers: An ERP suite that spans pace layers will require a more nuanced approach to life cycle management. Although the systems of record core will drive long-term upgrade planning, functional requirements in systems of differentiation and/or innovation may impose their own demands. For example, a company that uses order management from its ERP vendor and views this as a system of differentiation may see significant value in a new, distributed order management module the ERP vendor is releasing. However, to implement this module, the systems of record core may need to be upgraded ahead of the planned long-term upgrade strategy. The differentiation benefits may well justify changing the planned upgrade schedule. Thus, it's important to build an ERP road map to identify any potential dependencies in release versions across the different pace layers (see ["ERP Road Map Development Methodology"](#)).