The Future of ERP Is Composable

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World events have proven the need for foundational enterprise business capabilities that enable agility. Here is what application leaders managing ERP strategy must do to engage business leaders and deliver capabilities that enable the organization to survive and thrive.

Additional Perspectives

- Summary Translation: The Future of ERP Is Composable
  (09 November 2020)

Overview

Key Findings

- ERP strategy is often thought of as a one-time strategic software purchase from a vendor without careful consideration of the ERP applications' impact on the business objectives.
- Application leaders who bought into the single-vendor ERP approach to resolve all integration problems and create a "single source of truth" end up overrelying on the ERP vendors' capabilities. They often become burdened with an overabundance of customization and end up stuck with a system that is costly and inhibits business agility.
- The "once and done" implementation approach to ERP deployment undermines business value because it impedes reaction to disruptive business and market changes.
- Outdated, legacy skills handicap traditional, internal ERP support teams from meeting the needs of the business. Line-of-business (LOB) stakeholders try but cannot support systems themselves, or they attempt to rely primarily on cloud vendors for support, which does not work.

Recommendations

Application leaders responsible for ERP strategy must:

- Accelerate business outcomes by defining business capabilities through roadmapping exercises with business leaders.
- Reduce reliance on customizations and proprietary-ERP vendor technology by preparing to support the deployment, through the replacement and integration of the various applications the business needs, whether they are offered by your strategic ERP vendor or not.
- Continuously deliver incremental business value along the ERP roadmap by demanding ERP vendors provide business capabilities, then composing and recomposing ERP as needed in a modular mode.
- Build a great ERP support team and reduce technical debt by investing in wider-ranging skills in those who will support ERP.

Strategic Planning Assumption(s)

By 2023, organizations that have adopted a composable approach will outpace competition by 80% in the speed of new feature implementation.

By 2024, 60% of organizations will deploy packaged business capabilities (PBCs) to construct their operational business experiences.

Analysis

World events have proven that businesses need change. Organizations must deliver innovation quickly and adapt applications dynamically — reassembling capabilities from inside and outside the enterprise. To do this, organizations must understand and implement the "composable enterprise." In order to deliver on digital transformation with ERP capabilities, application leaders need applications that they can compose, recompose and extend. This will allow them to innovate and adapt to the changing needs of the business.

Enterprise resource planning applications (ERPs) have historically missed the mark in multiple ways. They have fallen short on the ability to plan, design and execute with real-time responsiveness. For example, end of month batch processing often includes five to seven days to close the books, then another day or two to run the financial statement or cash flow report. This can put a business behind by as many as 40 days, replanning for an event that happened at the beginning of the previous month. ERP suites often fail to provide industry-specific or differentiating functionality for various processes. For example, few ERP suites support merchandising for retailers, the contracting process for government or logistics management for manufacturing. The user experience (UX) of ERP suites often falls short of customer, employee and supplier expectations.

Application leaders have often allowed customization within their ERP applications to meet the demands of the business; working within a proprietary technology stack of the "monolithic approach" that ERP vendors deliver. The ERP black box adheres to proprietary, static data models, development/integration tools and business logic. The result are systems that lack the agility to adapt in the face of crisis and result in businesses lagging behind rather than leading.

A recent Gartner Research Circle survey shows that 84% of organizations have had to adjust their business operations in response to the COVID-19 crisis (see How Application Leaders Are Responding to COVID-19). Application leaders are increasingly pressured to adapt their ERP support teams and applications to the ongoing crisis, yet still prepare for growth as an outcome. Gartner predicts that the number of organizations transitioning from on-premises to cloud applications will increase from 2020 to 2021 by 20% because of pandemic related business pressure (see Forecast Analysis: Enterprise Application Software, Worldwide).

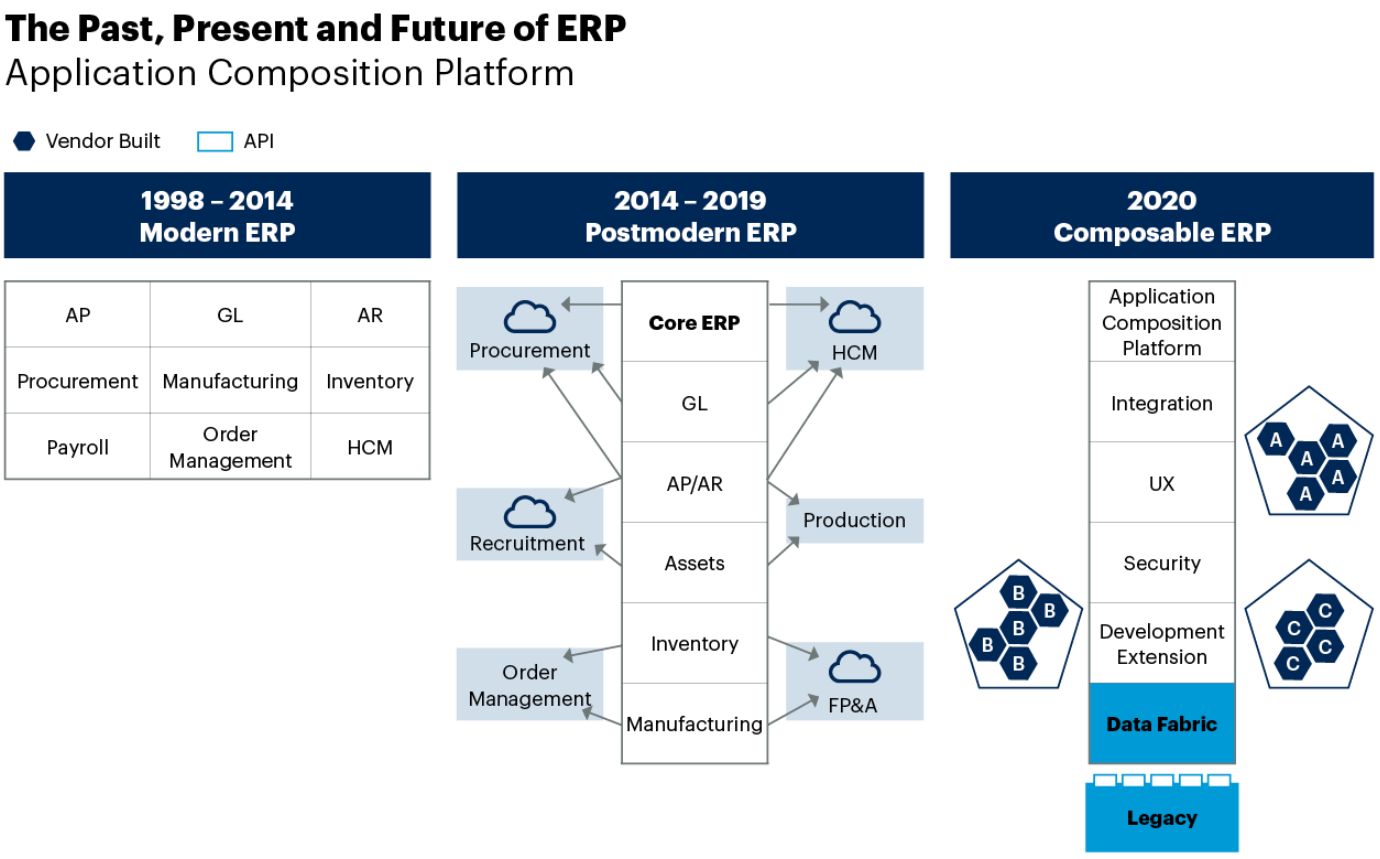
Even before the pandemic, application leaders were struggling with ERP strategy. Some organizations have stuck with the monolithic ERP application strategy, often suffering as a result from inadequate systems, heavy customization and large technical debt. Other organizations, led by business leaders, have deployed a host of "fill-in-the-gap" satellites around the ERP application(s) in order to circumvent the issues of ERP and meet business needs. The efficacy of these satellite applications is entirely dependent on their ability to evolve integration capabilities to deliver in real time rather than batch.

The current state (as customers come out of the global pandemic working with smaller budgets and attempting to optimize current assets) is very vendor centric and with an integration strategy that is often built on what was easily done previously. The gaps are often filled in tactically in a haphazard way. The plan for migration is often to digitize what is currently done on "cloudy" systems, whereas true transformation looks to value now and five years from now. Customers and vendors have pivoted toward a postmodern ERP approach. Its effectiveness is still hampered by vendor-centricity of the data model as well as the difficulty in integrating various applications under one technical umbrella.

What must application leaders managing ERP strategy do to deliver capabilities that enable the business to survive and thrive? Application leaders are frequently asking this question in inquiries with Gartner ERP customers. They must prepare for the era of composable ERP. [1]

The future state of ERP will be defined by integrated applications that can be composed and recomposed to deliver customer-defined business capabilities. Composable ERP is an adaptive technology strategy that enables the foundational, administrative and operational digital capabilities enabling an enterprise to keep up with the pace of business change. This strategy delivers a core of composable applications and, as a service, software platforms that are highly configurable, interoperable and flexible to adapt to future modern technology (see Figure 1).

Figure 1: Past, Present and Future of ERP



Source: Gartner
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Composable ERP is defined as an adaptive technology strategy that enables the foundational administrative and operational digital capabilities for an enterprise to keep up with the pace of business change. This strategy delivers a core of composable applications and, as a service, software platforms that are highly configurable, interoperable, and flexible to adapt to future modern technology.

In order to realize this customer-centric future state, application leaders responsible for ERP strategy must change their strategies and approaches to people, processes and platforms in order to deliver composable ERP (see Figure 2).

Figure 2: Deliver Composable ERP

Deliver Composable ERP

Source: Gartner
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Align ERP Strategy to Business Outcomes

ERP is a strategy, not a singular business application, as such the ERP strategy requires constant engagement review and innovation. If ERP was a thing, then you are at the mercy of a vendor, and the set of technical internal (or third-party system integrator) resources that built the thing. ERP is primarily and essentially a strategy for aligning the application portfolio to business objectives. Application leaders are in the middle of expansive opportunities to leverage crucial technologies to advance their business outcomes. By adopting composable ERP as a technology strategy, for composing applications together to deliver outcomes through ownership of data and integration, application leaders can transform their ERP, and support organizations as valuable service partners to the business. This is not without danger as, with any worthwhile transformation, this pivot must be thought of as a strategic initiative, rather than a tactical reaction.

In order to align ERP investments with business outcomes, application leaders must engage and enlist business leaders to establish the roadmap that will be delivered by IT as a service. The ERP roadmap must be governed by business leaders in conjunction with IT leadership. This is a significant shift from previous models where IT owned the ERP applications after initial consultation with business leaders. Gone are the days where organizations could put ERP solutions in place and "not worry" about them until the next upgrade in five to seven years. Application leaders can no longer justify the expense and effort of a technical integration, or a lift-and-shift to the cloud exercise only on technical merits or value (see Table 1).

The business must own the strategic roadmap, while IT provides the technology roadmap in support of the strategy — that is ERP strategy. To succeed with a composable ERP strategy, the business strategy and the IT strategy will be challenged to share common fundamentals in business language and architecture. Composable business and composable enterprise applications must work together to meet this challenge (see Future of Applications: Delivering the Composable Enterprise).

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Table 1: Business Drivers for Composable ERP

Personalization of Experience	*Product-Centric Delivery Models*	*Platform Business Models*
Think “Playlist” not album	Packaging business capabilities as products Products, not projects Continuous improvement	Allowing others to build their own products on your business capabilities … … and building your own products using other organizations business capabilities

Source: Gartner

Update Your Integration, Analytics and Master Data Strategies

ERP application leaders need to redefine integration, analytics and master data strategies as part of a transformative ERP strategy.

An unfulfilled promise of the monolithic ERP architecture was a single data model to provide visibility of end-to-end transactions. However, in order to accommodate the unique data requirements of customers, the ERP vendors provided environments for customizing (and often to an immoderate degree) their ERP installation.

As ERP vendor architecture has evolved, applications are provided with open architectures and technologies to increase interoperability. Modern applications are built on mini- and micro-services architecture. They have increased “integrability” — the ability to integrate (see A Litmus Test for Business Applications Integrability) by adopting architectures built for initiating web services and exposing/mediating API’s. Most ERP vendors are building out event-driven architectures allowing for the consumption of events in real time rather than in batch processes. Often integration is thought of as a phase during an ERP implementation, or an ongoing maintenance activity. As ERP vendors and customers build applications around APIs, web services and mini- and microservices, the strategic value of integration is raised further.

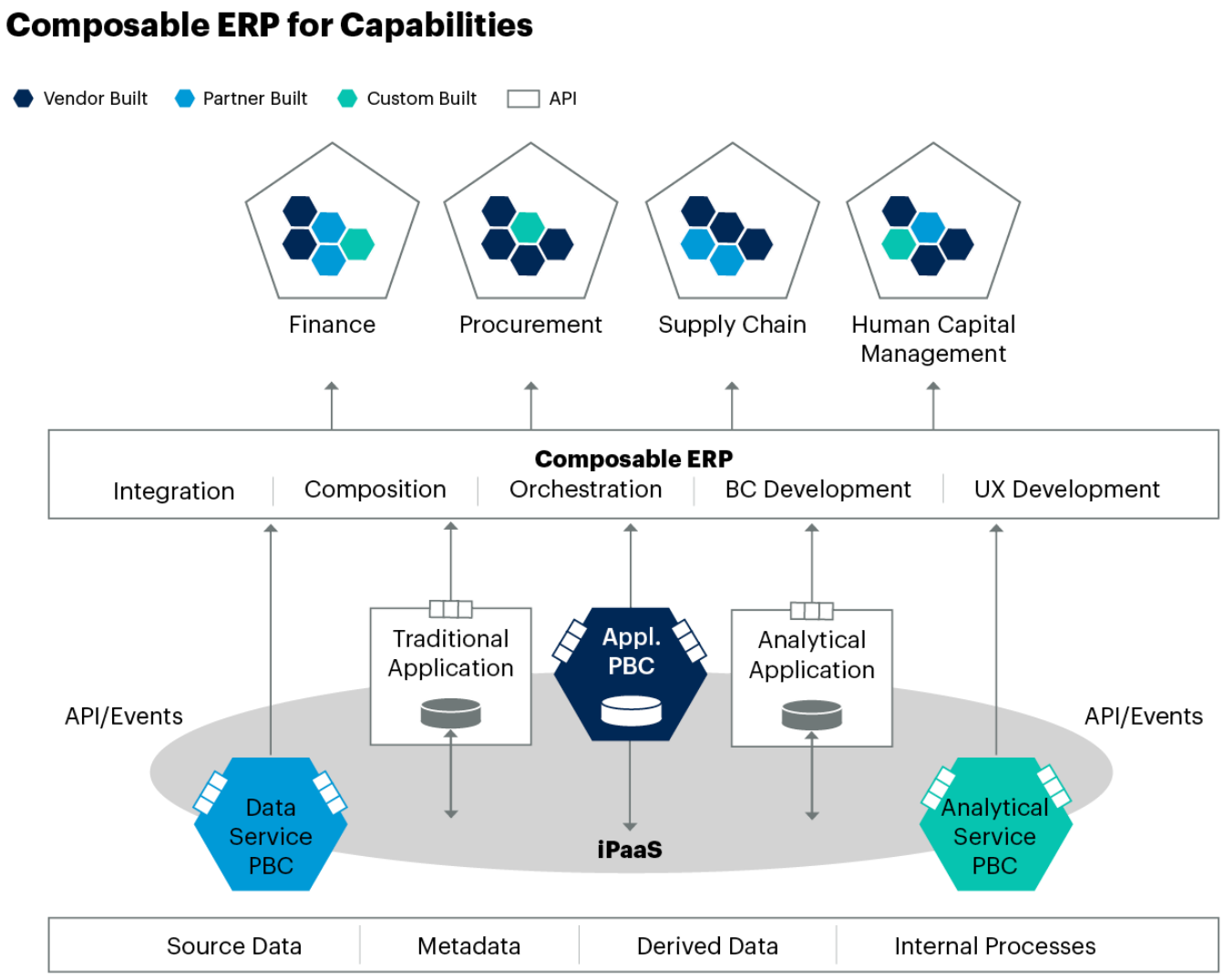
For ERP application leaders delivering composable services to customers, modern application architectures bring a tremendous opportunity to deliver value in a way that a heavily customized monolithic suite cannot. The organization is free to deploy any combination of suites, point solutions and services to meet its unique needs. The IT organization itself can do the important work of integrating these applications and data together to deliver strategic business capabilities specific to the enterprise. They can provide standardized processes on a global scale for as many capabilities as your business partners wish. They can integrate multiple clouds to deliver end-to-end processes with disparate vendors, while still protecting your data with the highest security. They can differentiate processes and capabilities with multi-tiered approaches to the specific needs of the business in regions where standardization “doesn’t fit.” They can build ERP applications and services that allow for rapid merger, acquisition or divestiture of businesses.

The purpose of this future is to compose applications that fulfill the specific capability requirements of the business (see Figure 3). Some capabilities can be accomplished by a single vendor-provided suite of applications. Other complex capabilities require integrated sets of applications to best provide value to the business. The ERP application leader becomes the maestro that weaves the data and applications together to fulfill the needs of the business. As the business changes and new models are required, the applications are recomposed to deliver the new capabilities.

The ownership of the integration strategy, and the ownership of the data strategy are two key initiatives that enable this composable future. The monolithic approach to ERP applications allowed vendors to dictate integration and data strategies because they owned the data model. ERP support teams did not keep up with the proprietary technology platforms, and often resorted to a flat file in tandem with FTP integration strategy, because that’s how it always worked. “When all you have is a hammer, all issues look like a nail” is the underlying challenge. The strategic decomposition of ERP brings the opportunity to build a toolbelt of integration capabilities as a platform. Sophisticated business capabilities that rely on multiple data sources

can be integrated to validate against up-to-date master data, with applications integrated for frictionless handoffs and cohesive UXs.

Figure 3: Composable ERP for Capabilities



Source: Gartner
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Recommendations:

- Reduce reliance on customizations by architecting your application portfolio to seamlessly span a variety of applications, suites and clouds.
- Enable a flexible and vendor-agnostic composable ERP strategy by supporting the creation of a hybrid integration strategy to accommodate evolving and diverse technology needs.
- Position your composable ERP strategy for growth by investing in a reliable data management strategy that focuses on business needs rather than “single-vision-of-the-truth” ERP architectures.

Organize to Continuously Deliver Incremental Business Value

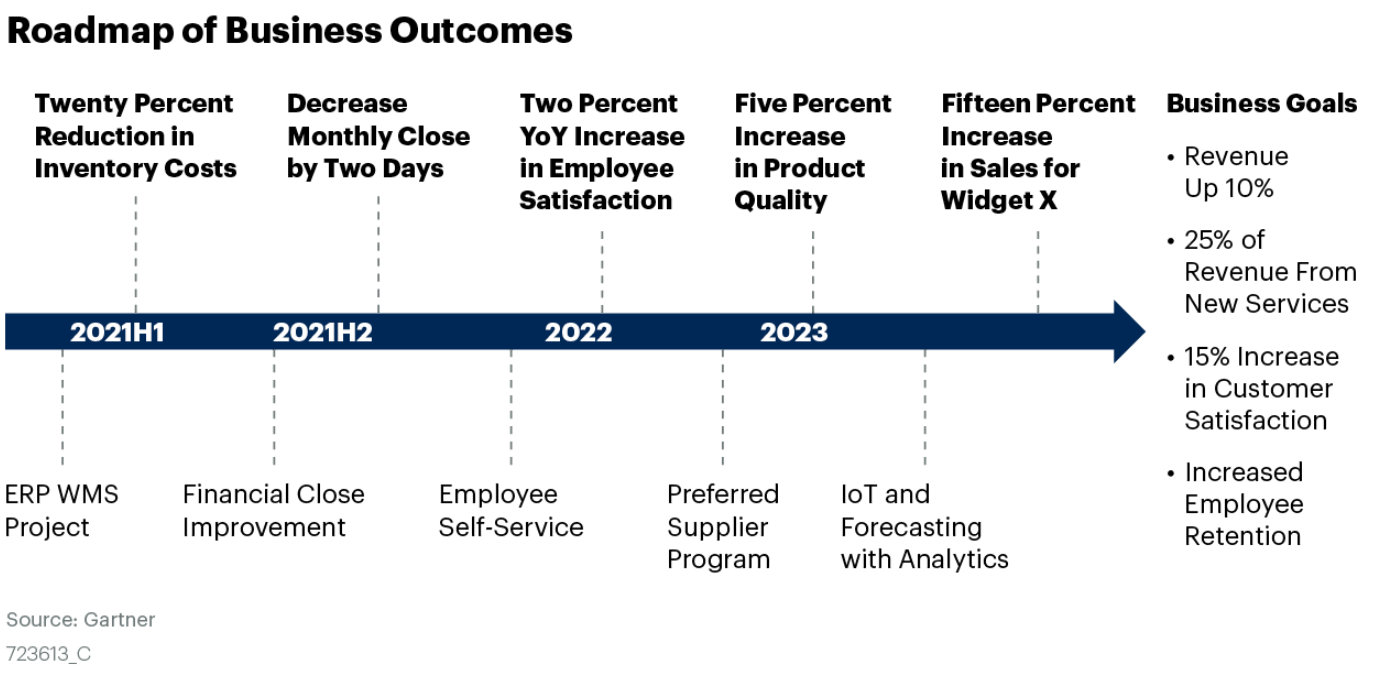
Composable ERP is more than an uncoordinated “best-of-breed” approach to application choices. Application Leaders must be the orchestrators and leaders of such a vision, to ensure the right balance exists between technical complexity and

business priorities; from solution architecture throughout deployment and evolution. As business models change, so must strategic roadmaps. Data and applications must keep pace, and applications may have to be renovated or replaced in order to stay ahead of the business needs. The cadence of updates and new feature releases from ERP vendors complicates this, but also enables this faster pace of business innovation.

Most ERP initiatives run as projects have a form of project leadership and governance. However, once system integration (SI) partners leave and the ERP solution is declared "live," the ERP leadership committee ceases to engage with the solution. One of the values of ERP strategy is that it contains mechanisms for reviewing the business case and measuring for improvement. If the ERP leadership does not regularly meet, the ERP application leader will need to organize and bring people into a living ERP leadership body.

Business partners own and operate the ERP strategy according to strategic roadmaps (see Figure 4, which shows business outcomes in blue and the metrics to assess progress against outcomes in gray). The business seeks capabilities that deliver measurable results. If the results are not there, they must evaluate and reevaluate processes in order to improve results. The evaluation should also include whether the applications used to deliver the results are still "fit for purpose" and capable of delivering needed functionality.

Figure 4: Roadmap of Business Outcomes



This fast pace of innovation brings about challenges particularly around ERP application footprints. The business and the ERP application leaders must agree on a definition of "ERP applications," which for most organizations include many suites and applications that are not a part of the core ERP. The application leaders who understand the end-to-end business processes will be better suited to help the business assess the switch-out of one application for another — and provide a vision of the integration of applications and data to deliver enterprise business capabilities.

As the business evolves, they must have metrics in place to determine whether their ERP Strategy is currently successful (see IT Score Reveals 3 Critical Issues That Application Leaders Must Address to Improve Business Results). Relying years later on initial results measured once from the initial "go-live" will lead to disillusionment with the ERP applications. Business leaders and ERP application leaders must work together to regularly test and measure the benefits and business value of the ERP applications to ensure alignment to the strategy and business case.

Recommendations:

- Maintain an ERP leadership team beyond go-live and indefinitely. Use this team to evaluate pieces of the portfolio regularly and update the ERP strategy.
- Periodically calculate the agreed-upon metrics for assessing ERP effectiveness, and use these to refine the ERP strategy as needed.
- Support and assist business-led initiatives to evaluate (and when appropriate, deploy) new applications outside of the monolith for automation, improved user interface and real-time responsiveness. Define “ERP” as broadly as possible to support end-to-end process thinking.

Reskill Your ERP Support Team

In order to deliver and support the composable ERP, application leaders supporting ERP should emphasize agile generalist skills in their ERP teams rather than orienting around singular superstar talents in a vendor’s proprietary platform. The monolithic approach to ERP, that was supported by proprietary technology, often locked customers into a specific way of administering and operating the applications. This monolithic, narrow approach is responsible for significant technical debt. Vendors have since moved on to more open platforms and technologies. ERP application leaders should orient their ERP teams and third-party support/staff augmentation in the same way.

Application leaders must upgrade traditional team skills in coding using specific languages, querying, complex report building, and application architecture with general coding skills enabled by low-code/no-code platforms and integration building platforms.

The value of the composable ERP will be found in the business outcomes that are enabled by the ERP ecosystems of applications, integration platforms and data fabrics. The new technologies introduced by these ecosystems require a train of thought that requires constant learning and application of the lessons learned. To a certain extent, the enterprise (IT and business) becomes a culture of testing hypotheses. The IT team evaluates and proposes new technologies that accelerate ERP value for the business. The business utilizes the testing and scenario-building environments, provided through technology, to test for the value of new LOBs, business models or functionality. The composable ERP will be far less static. Traditional skills in coding using specific languages, querying, complex report building and application architecture will be supplanted by general coding skills enabled by low-code/no-code platforms and integration building (see Table 2).

Table 2: The New ERP Team Skills in the Composable ERP

Skill Area	From	To	Why
Development	Specific or proprietary integrated development environments (IDEs) or coding languages	Low-code/no-code platform skills	Spread the burden and opportunity to build differentiation
Integration	Replicate previous methods (often copy/paste or flat file transfer)	Enabling connectors or transforming via low-code transformers and artificial intelligence (AI) enabled connectors	Deliver the best capability to serve the business, rather than reliance on a vendor
Testing	Positive testing code with a custom-built test harness	Automated model-based testing driven by behaviors	Build a culture of testing and hypothesis evaluation
Team orientation	Project	Product	Align support teams to engage the business in the enhancement of business processes and capabilities.

Metrics	Delivery to the business	Business value for the business	Focus on partnership with the business to speak and deliver in their terms
Operations	Manual transport and movement, multiple avenues for security	DevSecOps	Automate the continuous delivery of updates and enhancements
Software Update Deployment	Optional projects every three to six years	Vendor-delivered every three to six months	Evaluate and adopt for continuous innovation

Source: Gartner

The increasing adoption of cloud-software as a service (SaaS) ERP and extending applications removes many requirements for on-premises support. The vendors will update servers, application code, databases, security and user interfaces (UI). The expense will shift from capital expenditure or a shared expense model to an operating expense model allocated to the business units. With the business paying for the software subscription and the customer support that goes along with it, the question of "Why do we need an internal ERP support team" will come.

Application service providers will compete with the application leaders to offer the same application services that the ERP organization can offer to the business. "Shadow IT" units might pop up out of nowhere in the business. Faced with all of this new competition, what does the application leader providing ERP support have that no one else has? The tools, technical know-how and project management skills to deliver business outcomes.

The application leader supporting composable ERP provides value to the business through the engagement of business and IT around composing the capabilities needed for delivering business outcomes. The team that had supported the monolithic ERP must be enabled to adapt to new support models that incorporate continuous delivery and continuous integration practices (See How to Model Your Cloud ERP Support Team). The ERP IT support team, with history and familiarity of the business processes, can aid the business in three key areas:

1. Analyzing the application data and delivery metrics to establish a baseline of capability maturity.
2. Testing for value of new features and functions in SaaS ERP application updates.
3. Engaging new integration and data management strategies to compose new capabilities via packaged or extended enterprise applications.

The relationships built with the business can be leveraged in agile support models that incorporate the business into the roadmapping, prioritization and execution of ERP change. Those relationships cannot simply be outsourced or purchased from a third party. The composable ERP will require a consistent level of engagement and IT as a service to continuously deliver value to the business.

Evidence

1. From January 2019 through September 2020, Gartner ERP analysts have fielded over 1,000 customer inquiries on the future of ERP, composability and integration.

Document Revision History

2019 Strategic Roadmap for Postmodern ERP - 31 May 2019

2018 Strategic Roadmap for Postmodern ERP - 17 January 2018

2015 Strategic Road Map for Postmodern ERP - 25 February 2015

Develop a Strategic Road Map for Postmodern ERP in 2013 and Beyond - 31 July 2013

Recommended by the Authors

Hype Cycle for the Future of Applications, 2020

Innovation Insight for Packaged Business Capabilities and Their Role in the Future Composable Enterprise

Create a Future-Proof Integration Strategy for Your ERP

The Applications of the Future Will Be Founded on Democratized, Self-Service Integration

Recommended For You

Hype Cycle for ERP, 2020

How to Live Happily Ever After With Your Middle-Aged ERP Vendor

Critical Capabilities for Cloud ERP for Product-Centric Enterprises

What CIOs Must Do to Avoid Disappointing ERP Initiatives

What's Trending With CIOs: ERP