Applications and Software Engineering Leaders Primer for 2021

Published 4 February 2021 - ID G00738521 - 10 min read

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Initiatives: Applications and Software Engineering Leaders

Application and software engineering leaders must transform themselves and their organizations in 2021. Our research will guide you along the journey to innovate, lead and continually modernize your digital strategy.

Scope

Application and software engineering leaders will face challenges in changing to meet the demands of 2021. Use this research to drive changes to support an effective, dynamic application environment.

In addition to application and software engineering leaders, other roles involved in this initiative are:

- Chief information officers
- Enterprise architecture and technology innovation leaders
- Data and analytics leaders

Our research will help you with:

- Leadership — You must possess leadership skills in order to inspire your teams, develop the talent and shift the culture in your organization.
- Function Design — As budget and control for applications shift away from central IT control, the applications group must be organized to meet the challenges of digital business.
- Function Management — It is vital to implement and improve management practices using key metrics and indicators to measure the effectiveness of controls, applications or the program.
- Relationship Management — You and your teams must understand how to work effectively with business peers, make hard choices and co-create a composable business together.
- Application Innovation — You must identify and capitalize on emerging technologies and trends which will impact your application and software engineering strategy.
Portfolio Governance and Modernization — Minimizing technical debt and maximizing organizational agility will help you to continually modernize and rationalize the application portfolio.

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Analysis

Figure 1. Applications and Software Engineering Leaders Overview

Applications and Software Engineering Leaders

Source: Gartner
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Application and software engineering leaders are driving digital transformation, creating innovation opportunities within their teams and enabling business units to improve productivity and customer experience. The business challenges presented in the past year demonstrate that you and your teams, no matter how successful your track record has been to date, need to continuously evolve to be better prepared throughout 2021 for business disruptions like COVID-19.

According to the 2021 Gartner View From the Board of Directors Survey, a majority of surveyed boards expect budgetary increases in IT and technology as a result of COVID-19. The areas expected to benefit most from this increased investment will be customer engagement and enterprise productivity. You, as an application and software engineering leader, will need to implement the required plans and processes to effectively manage this increased responsibility. But how do you get the business onboard so you can effectively capitalize on this increased investment? In order to achieve this, your application and software engineering organization must develop a deeper, two-way relationship with the business, where business leaders assume more accountability for IT projects. Already, software development is increasingly happening outside your direct span of control. This means you must consider the creation of multidisciplinary digital business teams called “fusion teams” that blend technology and other types of domain expertise.

Gartner's 2021 research for application and software engineering leaders will help you implement and manage your application portfolio more effectively while driving a successful team within your applications group that will be better prepared to navigate future business disruptions.

Topics

In 2021, it will be critical to make step-function-type improvements in your digital business capabilities. This means there is pressure on you and your team to transform the ways you work to deliver great digital products for your customers and employees. This pressure and others will force application and software engineering leaders to rethink traditional approaches to staff resourcing, business engagement, user experience and more.

Being aware of changes in the application landscape is no longer enough to stay ahead of business and technology trends; you must transform your style of leadership to set the foundation for growth across the organization. This means building skills and knowledge beyond the typical software and technology domain of your systems of record and front-end applications. You must develop the soft skills required to work collaboratively with different business units. You must understand the motivations and dynamics that attract and retain the best talent, and you need to build a culture of innovation that can separate the hype from reality to reap the true benefits of existing trends, as well as emerging technologies.

Our research in this area addresses the following topics:

Leadership
The application and software engineering leader must orchestrate change, instigate innovation and drive value through the execution of application initiatives across the enterprise. To be successful, you must grow your leadership abilities across a wide range of areas. You need to implement processes to attract and retain the best talent in order to create an environment that fuels innovation and an inclusive culture. Fostering this culture comes from the top. Demonstrating the values you put forward will encourage your teams to share a sense of community and feed off each other's ideas, leading to teams that are highly productive and innovative. This is a key differentiator of high-performance teams.

Questions Your Peers Are Asking

- What skills must application and software engineering leaders possess to successfully deliver and maintain their organization’s application portfolio?
- How do we address the organizational and cultural impacts of business disruption (e.g., that resulting from COVID-19)?
- How do we build a sustainable innovation process and culture?

Recommended Content

- Leadership Vision for 2021: Applications
- Application Leaders: Master Composable Enterprise Thinking for Your Post-COVID-19 Reset
- Toolkit: The Application Leader’s First 100 Days

Planned Research

- Inspire customer-centric experimentation to kick-start applications innovation
- How to use a pace-layered application strategy to lead your organization to intelligent composable business
- How to build exceptional software engineering talent by becoming a Connector manager

Function Design

The scope, structure and roles of the application organization, both now and in the future, are fundamental elements to build upon. The success of your organization will demand a radical departure from traditional methods in order to support and enable an intelligent composable business, whereby business applications are more modular to expose discrete functionality. Organizations need to support a team-based, product-centric delivery model, including a higher level of collaboration (or even amalgamation) with business. This means reconsidering the historic divide between business and IT.

Questions Your Peers Are Asking
Some recommended content may not be available as part of your current Gartner subscription.

**Recommended Content**

- **4 Essential Roles to Support Product Teams**
- **Use Gartner’s Reference Model to Deliver Intelligent Composable Business Applications**

**Planned Research**

- Kick-start your composable business journey with two key strategies
- Systematically eliminate dependencies that impede value delivery in the product management model
- Applications meet data and analytics to form composable intelligent business

**Function Management**

Management of core functions in the applications group, including strategy, maturity, budgeting and governance, are fundamental tenets that should not be thought of as a fixed path or a set number. Application and software engineering leaders must assess their current state, understand the gaps and plan to evolve the management aspects of their organization.

**Questions Your Peers Are Asking**

- What should an application strategy contain, and how should it be created?
- How do I implement and govern an application strategy?
- How can application and software engineering leaders build agile learning strategies to develop and future-proof their application teams?

**Recommended Content**

- **IT Score Reveals 3 Critical Issues That Application Leaders Must Address to Improve Business Results**
- **Adapt to the “New Normal” of Remote Work for Applications Staff**
Planned Research

- How to use IT Score for applications to improve your organization’s performance
- Improve employee engagement and productivity with digital adoption solutions
- The role of application leaders in a successful agile transformation

Relationship Management

Applications have many stakeholders, making it essential that application and software engineering leaders collaborate with their peers in the business, and that IT delivers business outcomes, especially in “hot topic” technologies. These include low-code tools and the citizen development approaches associated with them. Moving to an environment consisting of components like product orientation, agile, DevOps and business-led IT impacts these relationships.

Questions Your Peers Are Asking

- How can IT work effectively with business leaders, product managers, product owners and other constituents?
- How can application and software engineering leaders drive business agility by promoting citizen development practices?
- How should application and software engineering leaders collaborate with relevant stakeholders when formulating an application strategy?

Recommended Content

- Ignition Guide to Creating a Competency Development Plan for Agile Teams
- How to choose your best-fit vendor for return-to-work applications
- Strategic Roadmap for business-led citizen development
- Establish shared metrics to promote collaboration between delivery teams and their stakeholders

Application Innovation
Emerging technologies, such as artificial intelligence (AI), blockchain, the Internet of Things (IoT) and digital twins display promise in terms of revolutionizing and transforming existing applications and processes. Such nascent technologies follow a cycle of hype that you must distil in order to identify what tangible benefits are to be gained and how to architect such implementations in order to identify whether it's a strategic or tactical play. A key success factor to innovating with emerging technologies or existing applications in your portfolio is to ensure you prioritize the total experience you deliver across the customer and employee journey.

Questions Your Peers Are Asking

■ How will emerging technologies and trends impact application strategies and governance?

■ How should application and software engineering leaders organize and architect their emerging technology development, integration and platforms?

■ How do I create the optimal user experience in the applications deployed across the organization?

Recommended Content

Some recommended content may not be available as part of your current Gartner subscription.

■ 3 Ways to Manage the Risks of Artificial Intelligence in the Enterprise

■ How to Detect Fakes in a Zero-Trust World Using Artificial Intelligence and Blockchain

■ Success in the Digital Experience Economy Requires Connecting MX, UX, CX and EX

Planned Research

■ Decision systems that consider a new sociotechnical landscape of humans, procedural code and AI

■ Governance model for citizen automation and development

■ Digital twins drive intelligent composable business adoption

Portfolio Governance and Modernization

Many portfolios include applications that have deteriorated over time and others that provide duplicate business capabilities. This leaves organizations with complex, inflexible applications that are costly to operate, integrate and change. It is vital to assess the application portfolio continuously to identify and prioritize opportunities to improve business support, and to improve the application portfolio by continuous business-driven modernization.

Questions Your Peers Are Asking

■ How should the business engage with and run rationalization and modernization programs?
How should organizations link their application portfolio to business processes to understand the value?

How should an organization assess and prioritize the technical debt within its applications?

**Recommended Content**

Some recommended content may not be available as part of your current Gartner subscription.

- Use TIME to Engage the Business for Application and Product Portfolio Triage
- Building a Multiplatform Application Modernization Business Case
- Address Technical Debt With Gartner's PAID Model and Avoid Bankrupting Your Application's Future

**Planned Research**

- Continuously modernize by embedding modernization work in delivery team workflows
- Impact of the product management model and business-led IT on application portfolio management
- Apply application roadmaps to modernize application life cycle management

**Suggested First Steps**

- Designing the Application Organization: An Overview
- The Future of Applications Depends on IT-Business Collaboration

**Essential Reading**

- IT Score Reveals 3 Critical Issues That Application Leaders Must Address to Improve Business Results
- Use Gartner's Reference Model to Deliver Intelligent Composable Business Applications
- Hype Cycle for the Future of Applications, 2020
- Hype Cycle for the Internet of Things, 2020
- Top 10 Application Predictions Through 2025

**Tools and Toolkits**

- Toolkit: The Application Leader's First 100 Days
Evidence

Gartner’s View From the Board of Directors Survey 2021: This study was conducted to understand how boards of directors view digital-driven business model evolution in their enterprises. It also helps understand the expectations of boards of directors from executive leaders, and how boards of directors translate their focus to actual executive action and overall corporate performance.

The primary research was conducted online during May and June 2020 among 265 respondents from the U.S., EMEA and APAC. Companies were screened to be midsize, large or global enterprises.

Respondents were required to be a member of a board of directors or corporate board of directors. If a respondent served on multiple boards, they answered for the largest company, defined by its annual revenue, for which they were a board member.

Document Revision History

Application Leaders Primer for 2020 - 24 January 2020

Related Priorities

<table>
<thead>
<tr>
<th>Initiative Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software Engineering Technologies</td>
<td>We help organizations build and improve technologies to create and scale differentiated, innovative digital products that support digital business demand.</td>
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<tr>
<td></td>
<td>The digital workplace helps employees work in ways that support business capabilities. It is critical to understand how technology and digital dexterity enable ways of working, now and in the future.</td>
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<tr>
<td>HCM Technology Transformation</td>
<td>HCM technologies support enterprise HR processes such as administrative HR, payroll, talent acquisition, posthire talent management, HR service management, workforce management and talent analytics.</td>
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<tr>
<td>ERP</td>
<td>The ERP initiative equips enterprises with the skills and knowledge required to assess, select, deploy and manage ERP in ways that maximize business value.</td>
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<tr>
<td>Digital Workplace Applications</td>
<td>We help privacy programs build effective and ethical processes capable of operating at the scale and speed required by innovative, growing businesses.</td>
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<td>Initiative Name</td>
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<tr>
<td>Corporate Legal and Compliance Technologies</td>
<td>Gartner will guide legal and compliance organizations through the complex, evolving technology landscape to help them meet business demands in an unpredictable environment.</td>
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<tr>
<td>CRM Strategy and Customer Experience</td>
<td>Customer experience (CX) and CRM must adapt to rapidly changing organizations, customers and environments. Gartner’s research explains how to align internal resources with external customer needs.</td>
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<tr>
<td>Customer Service and Support Technology</td>
<td>Numerous technologies and best practices are needed to create a leading customer service organization and its associated operational, customer experience and employee experience aspirations.</td>
</tr>
<tr>
<td>Finance Applications</td>
<td>Finance applications enable process digitalization and data-driven decisions. Use this initiative to form a wider strategy for a composable enterprise, along with ERP, HCM and procurement solutions.</td>
</tr>
<tr>
<td>Procurement and Strategic Sourcing Applications</td>
<td>We help organizations maximize procurement and strategic sourcing applications to digitize the sourcing, supplier management, contract management, procurement and invoice management processes.</td>
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