A Forrester Consulting
Thought Leadership Paper
Commissioned By Hyland

September 2015

To Be Brilliant In The Moment, Think Beyond Buy Versus Build

Rapid Application Development Platforms Offer A Faster, Easier Alternative: Configure

FORRESTER®

Table Of Contents

Executive Summary 1

Today's IT Organizations Manage Sprawling Application Environments 2

Technical And Organizational Silos Impede Productivity 3

Resistance To Change Leads To Shadow IT 5

Most Companies Are Still Stuck In A Buy-Versus-Build Mentality 6

As Demand For Embedded Content Rises, RAD Platforms Offer A Faster, Easier Alternative 7

Key Recommendations 10

Appendix A: Methodology 11

Appendix B: Supplemental Material 11

Appendix C: Demographics 11

Appendix D: Endnotes 12

ABOUT FORRESTER CONSULTING

Forrester Consulting provides independent and objective research-based consulting to help leaders succeed in their organizations. Ranging in scope from a short strategy session to custom projects, Forrester's Consulting services connect you directly with research analysts who apply expert insight to your specific business challenges. For more information, visit forrester.com/consulting.

FORRESTER®

Executive Summary

As business continues to shift operations to the digital world, companies need to equip their employees with the right tools and information to win, serve, and retain their increasingly empowered customers. Employees who are equipped with the right context for their tasks can be truly brilliant in the moment. That could mean having instant access to a customer's order history when addressing a service issue, visibility into the approval trail of a contracting request, or compiled logistics data to streamline supplier management. By fostering operational excellence, companies will improve the experiences of their customers.

In July 2015, Hyland, creator of OnBase, commissioned Forrester Consulting to evaluate the adoption of rapid application development (RAD) platforms to create applications that equip employees with the right context to effectively make informed decisions. Then to further explore this trend, Forrester developed a hypothesis that tested the assertion that a single, content-enabled RAD platform can solve key IT challenges and enable employees to be brilliant in the moment.

IT organizations with sprawling application environments struggle to keep up with changing needs of employees and customers. A single content-enabled rapid application development platform can solve for these challenges and enable employees to be brilliant in the moment.

In conducting 187 online surveys and four in-depth interviews with enterprise architecture-focused IT professionals at US and EU enterprises, Forrester found that while few companies have yet to embrace RAD platforms, early adopters have achieved many benefits from configuring applications on these platforms. These benefits include faster rollout of applications, better user adoption, and context that helps employees be brilliant in the moment.

KEY FINDINGS

Forrester's study yielded four key findings:

- **Sprawling application environments overwhelm IT organizations.** Businesses rely on a wide variety of systems and tools to support day-to-day processes. Over two-thirds of survey respondents rated enterprise line-of-business systems like enterprise resource planning (ERP) as important or critical to business processes, and a similar amount manage business-critical information using email and custom database applications. In fact, 45% of companies reported using 100 or more applications on at least a weekly basis, and about a third of those (17% of total respondents) use 1,000 or more. These sprawling application environments are difficult for IT organizations to manage and inefficient for end users.
- **Disparate systems and organizational silos impede productivity, while resistance to change leads to shadow IT.** With so many applications and systems to manage, IT organizations struggle to integrate systems and maintain data quality. Nearly half of survey respondents cited these as top challenges (48% and 44%, respectively). These issues impede end user productivity, as employees must make decisions from incomplete or outdated data and collaborate across departments with ineffective tools. Against these circumstances, about half of organizations (48%) struggle with shadow IT. Interview participants explained that employees' lack of understanding of available tools and resistance to change fuel the tendency for departments to go in their own directions to buy or build applications.
- **Most companies default to either buying off-the-shelf or custom programming new applications.** Though tools like rapid application development platforms have been available for many years, the vast majority of companies (88%) are stuck in a buy-versus-build mentality. Some of this is ingrained from the top-down, with organizations strategically taking a firm stance in either direction. But as firms struggle to rein in IT spending and meet changing end user and customer needs, they should consider alternate approaches.
- **As demand for embedded content rises, RAD platforms offer a faster, easier alternative.** About half of survey respondents (47% to 51%) anticipate increasing demand for embedded content in customer-facing, collaboration, and customer service applications. Applications that combine structured and unstructured data and content in digestible ways will help power those moments of employee brilliance. Enterprise architects consider fast implementation the most important aspect of optimizing their application strategy. Our survey revealed that users of RAD platforms cited faster rollout as a top benefit, and they can more easily embed rich content into applications. In addition, interview respondents using RAD platforms highlighted integration and user experience benefits that help combat productivity barriers and shadow IT.

FORRESTER®

Today's IT Organizations Manage Sprawling Application Environments

Businesses have become increasingly digital in how they collaborate internally and communicate with customers and partners. In this new age, companies require a variety of features and functions to support ongoing business processes. Organizations that lack a strategic approach to expanding their IT environments can face major issues with application sprawl.

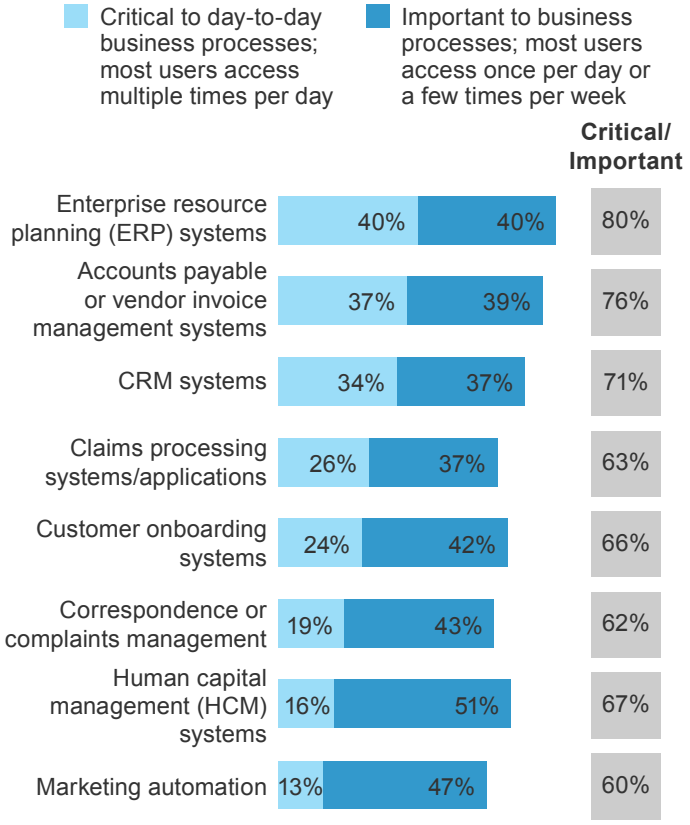
In surveying 187 enterprise architects in the US and EU and interviewing four professionals in the same roles, we found that:

- **Sixty percent or more of companies use a variety of enterprise systems at least daily.** We asked survey respondents to rate a variety of systems on a scale of not important, nice to have but not essential, important, or critical. We found that enterprise resource planning (ERP) systems are business-critical to 40% of survey respondents and important to an additional 40%. Accounts payable/invoicing and CRM systems are next on the priority list, with 76% and 71% of respondents, respectively, rating them as critical/important to business processes. However, beyond these three, five more types of systems received a 60% or higher critical/important rating (see Figure 1). This demonstrates the vastness of the application landscape that businesses have come to rely on.
- **Companies also use a variety of tools to manage business-critical information.** The majority of firms also use tools outside of their enterprise line-of-business systems to manage critical information. These include email (68%), database management applications (67%), shared drives (60%), spreadsheets (57%), and many others. Even in today's digital age, 42% of companies still use paper/physical files and folders to store information (see Figure 2). Employees must flip back and forth across a multitude of tools to complete day-to-day tasks, hindering their ability to be truly brilliant in the moment. For example, email is often the delivery channel for content and context when no other system exists.
- **Forty-five percent of companies use 100 or more applications on at least a weekly basis.** About a third of those companies (or 17% of all respondents) use 1,000 or more. And beyond those applications, companies likely have many more applications collecting dust with little usage or adoption. Sprawling IT environments not only hinder employee brilliance at the company level but also place a major strain on the IT organizations responsible for managing the applications.

FIGURE 1

Business-Critical Systems Include ERP, A/P, And CRM

"To what extent do users rely on the following systems to complete tasks and business processes?"



Base: 187 enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

"The hardest thing with having that many applications is the need for programmers and development people to have knowledge of different systems. If a change needs to happen, I need people with a whole variety of knowledge and skills."

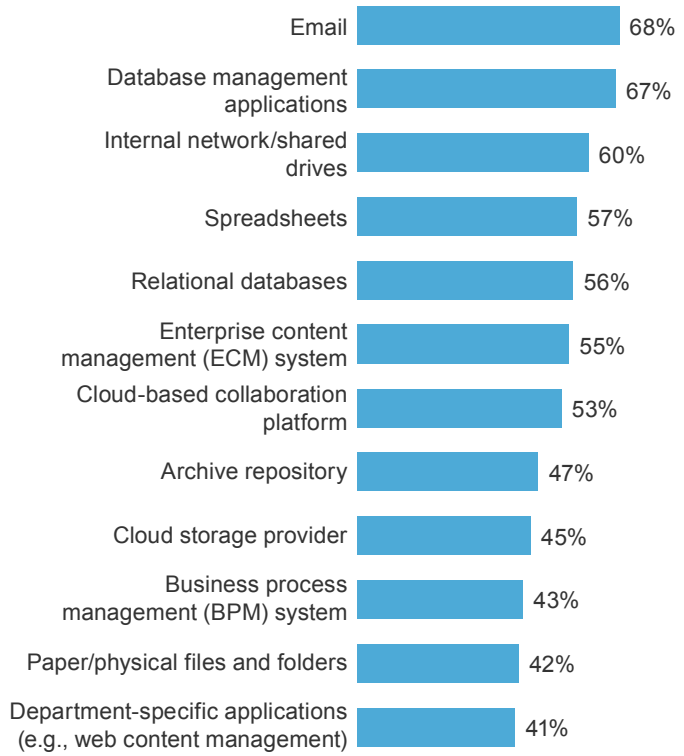
— IT director at a US-based multinational manufacturer

FORRESTER®

FIGURE 2

Companies House Business-Critical Information Across A Vast Array Of Tools And Systems

"Outside of enterprise line-of-business systems like those mentioned earlier, what other tools/systems/ methods does your organization use to manage business-critical information?"



Base: 187 enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

› **The vast majority of organizations have work to do to optimize their enterprise application strategies.** We asked survey respondents to rate their organizations' maturity in business process management (BPM), enterprise architecture (EA), and enterprise content management (ECM). We found that while many identify as somewhat mature, few identify their strategies as defined, widely utilized, and optimized. Enterprise architecture garnered the highest maturity ratings, with 26% identifying as optimized, compared with 23% for BPM and only 16% for ECM. These maturity ratings are likely even higher than the industry average given that by definition, respondents (i.e., enterprise architects) work at companies with defined enterprise architecture functions. As companies work to combat application sprawl, they must do so strategically in order to optimize how they manage processes, content, and data.

Technical And Organizational Silos Impede Productivity

The sprawling application environments that companies are battling create real challenges for IT organizations and for end user employees. These challenges highlight a need for information, unstructured content, and workflows to reside in a single, dynamic application that fosters productivity and, ultimately, powers moments of brilliance. Our study revealed that:

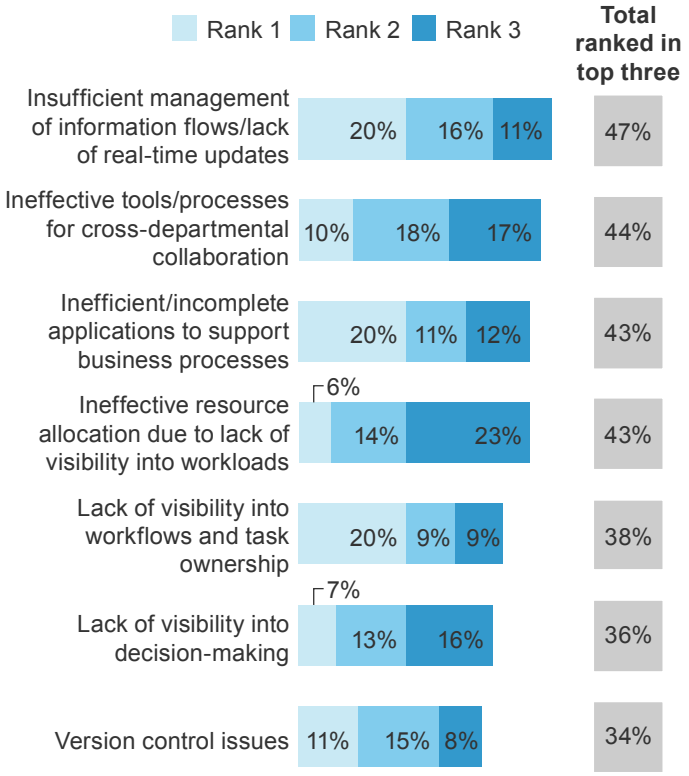
› **Outdated information and ineffective collaboration tools make it harder for employees to do their jobs.** When asked about the top barriers to user productivity facing their companies, 47% of respondents ranked insufficient management of information flows in their top three. Ineffective collaboration tools and inefficient applications also topped the list, with 44% and 43% of respondents ranking each in their top three, respectively. Twenty percent of respondents ranked lack of visibility into workflows and task ownership as the No. 1 barrier and 38% ranked this in their top three (see Figure 3). This indicates that many businesses are making decisions based on outdated information and may be delaying or duplicating work due to collaboration barriers.

› **IT organizations struggle to integrate disparate systems and maintain data quality.** As they strive to support the sprawling application landscapes their organizations have created, IT teams face challenges as well. Top among them is integrating structured data and unstructured content across disparate systems, with 48% of survey respondents ranking it in their top three challenges. Maintaining data quality is also a top issue at 44% (see Figure 4). Organizational silos exacerbate integration issues, making processes more difficult for IT and end users alike. When asked about challenges, a project manager at a US-based materials company said, "They don't talk to each other." We clarified whether he was referring to the people or the systems, and he proclaimed, "Both!"

FIGURE 3

Poorly Managed Information And Ineffective Apps Create Confusion And Impede Worker Productivity

"Which of the following are the greatest barriers to user productivity that your organization faces today?"
(Rank top three)



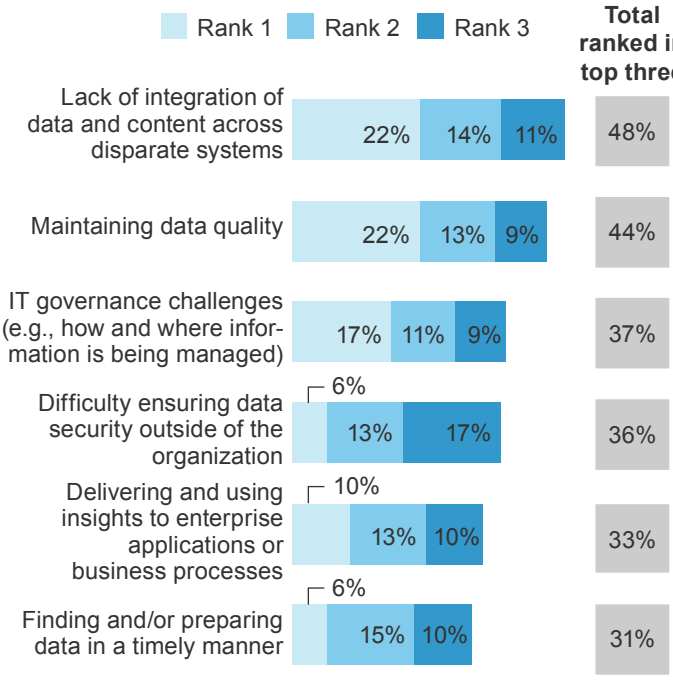
Base: 187 enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

FIGURE 4

IT Organizations Struggle With Data And Content Integration And Maintaining Data Quality

"Which of the following are the greatest challenges affecting your organization's application and information management strategy?"



Base: 187 enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

FORRESTER®

Resistance To Change Leads To Shadow IT

About half of survey respondents (48%) agreed that shadow IT — e.g., departments building or buying applications without following corporate or IT guidelines — is a major problem at their organization. The remaining 52% either don't see shadow IT as an issue, or they're not aware that it occurs. Delving into this topic further with interview participants and survey respondents who struggle with this issue, we found that:

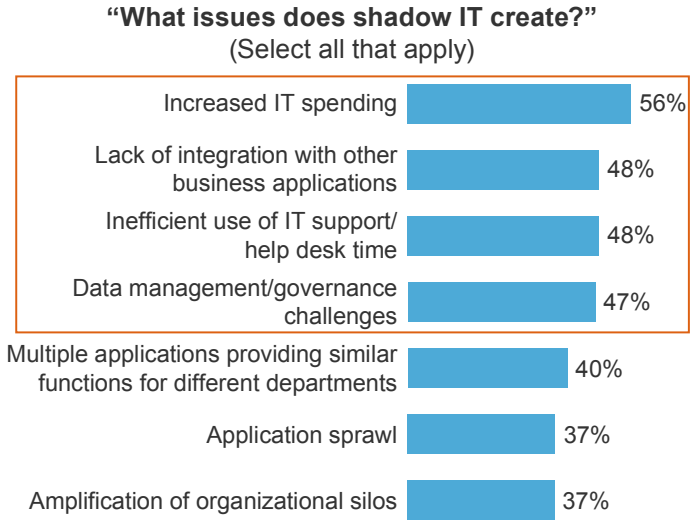
› **Organizations struggle with change management, which can lead to shadow IT.** Interview participants highlighted lack of adoption as one of the drivers of their disparate, sprawling application environments. Most surmised that their end users resist adopting new applications due to lack of familiarity. Training users on new systems requires time and effort, when many IT organizations are already at capacity. The IT director at a multinational manufacturing conglomerate lamented that he has to contract external people to handle "the humanistic side of change management" each time the company implements a new system. Most organizations, however, will not have this luxury. The lead developer at a major US materials company described how shadow IT plagues the organization, creating budget and security concerns.

> *"There are some people that have gumption but don't ask for help, or don't know it's there. They'll buy something one-off. Or they'll use a slew of free online tools. And it's like, what kind of intellectual property are you putting on the World Wide Web?!"*
>
> — Developer at a major US materials company

› **Shadow IT exacerbates existing challenges and puts strain on budgets and resources.** Among survey respondents who agreed that shadow IT is a major problem, 56% cited increased IT spending as an issue that shadow IT creates. Additional issues include familiar challenges like lack of integration (48%) and data management/governance challenges (47%), indicating that shadow IT exacerbates the struggles that organizations already face today. On top of spending and technical issues, shadow IT puts a strain on IT employees: 48% cited inefficient use of help desk time as a consequence of shadow IT (see Figure 5).

FIGURE 5

Shadow IT Creates Budget, Resource, Integration, And Governance Challenges



Base: 90 enterprise architects in the US and EU who agreed that shadow IT is a major problem at their organizations

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

› **IT organizations need to better enforce policies to combat shadow IT.** Only about half of organizations reported that they have official, strictly enforced policies in place for implementing new packaged/off-the-shelf (51%) and custom (49%) applications. The other half either handles requests on a case-by-case basis or does not strictly enforce official policies. With shadow IT creating so many issues for companies, organizations should consider stricter policies for implementing new applications. However, so as not to deter adoption and further exacerbate shadow IT issues, firms must work to ensure the usability and usefulness of existing enterprise applications.

Most Companies Are Still Stuck In A Buy-Versus-Build Mentality

Traditionally, when it came time to implement new systems or applications, IT organizations would consider two options: buy software off-the-shelf or build the required capabilities via custom coding. There are tradeoffs to consider with each approach, including financial cost, resource constraints, and feature/functionality gaps. However, as technology has progressed, CIOs have more tools at their disposal to support their IT organizations than ever before. Hence, it is surprising to see that few organizations have found the middle ground between implementing applications fast (as you can with off-the-shelf purchases) and customizing features to meet the precise needs of the business (as you can with custom programming). In discussing these approaches with survey respondents and interview participants, we found that:

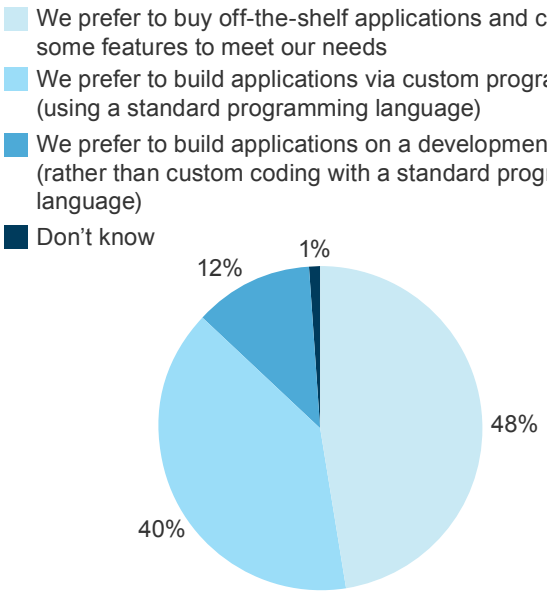
› **Companies cling to build versus buy, while few have yet to embrace platform alternatives.** In our survey, we asked respondents their approaches to implementing various types of applications and found that only 52% build one or more types of applications on a development platform, rather than hand coding. Comparatively, 75% use custom, hand-coded programming to build one or more types of applications, and 84% buy off-the-shelf. A staggeringly low 12% of companies prefer building applications on a development platform, compared with the 48% that prefer to buy off-the-shelf and 40% that prefer to hand code (see Figure 6). The vast majority of companies are still stuck in the two-option mentality, compromising custom features when they buy and tying up internal resources when they build. Configuring applications on a rapid application development platform remains a relatively untapped middle ground.

› **Companies weigh cost and functionality in deciding whether to buy, build, or configure.** Cost or budget drives decisions to buy, with 30% of respondents indicating it as the top driver. Meanwhile, IT organizations primarily decide to build custom applications if they have highly complex requirements. This is true of both hand-coded applications and those configured on a development platform (see Figure 7). While availability of internal resources was less of a driver, the structure of an IT organization (i.e., the number of in-house developers) ultimately plays a role in whether companies favor buy versus build.

FIGURE 6

Companies Are Divided On Buy Versus Build, While Few Have Yet To Embrace RAD Platforms

"What is your organization's preferred approach to implementing new applications?"



Base: 187 enterprise architects in the US and EU

(percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

› **The buy-versus-build philosophy is often ingrained in an organization from the top down.** Though survey results indicated that cost and functionality play a major role on a project-by-project basis, our interviews revealed that organizations tend to have a buy or build philosophy based on company strategy. For example, a multinational manufacturer we spoke to tends to buy off-the-shelf because it encourages collaboration across the company's relatively independent operating units. On the other hand, a US materials company built a large software development team based on the philosophy that it would rather invest in human capital than in software:

"We try if at all possible to buy, and change as little as possible. . . .The easiest way to force people into a single way of doing things is give them one single piece of software."

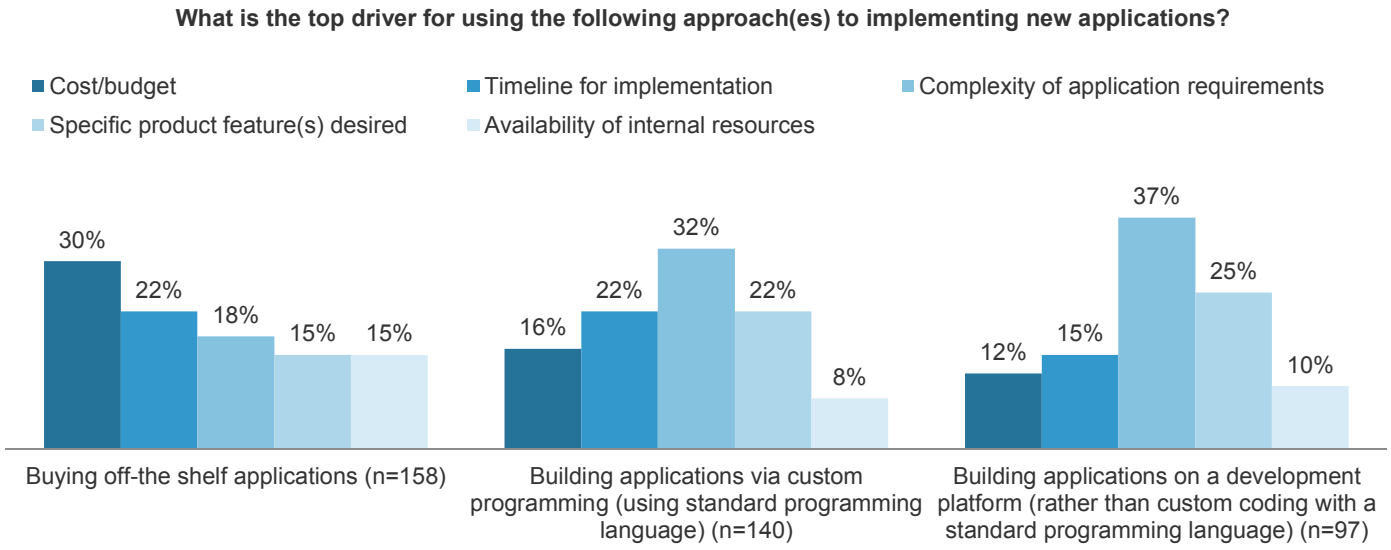
— IT director at a US-based multinational manufacturer

"We would rather hire talent and build than buy software that just isn't going to do the job."

— Developer at a leading US-based materials company

FIGURE 7

Cost Drives Decisions To Buy, While Complexity Of Requirements Influences Decisions To Build



Base: variable enterprise architects in the US and EU

(percentages may not total 100 because of rounding)

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

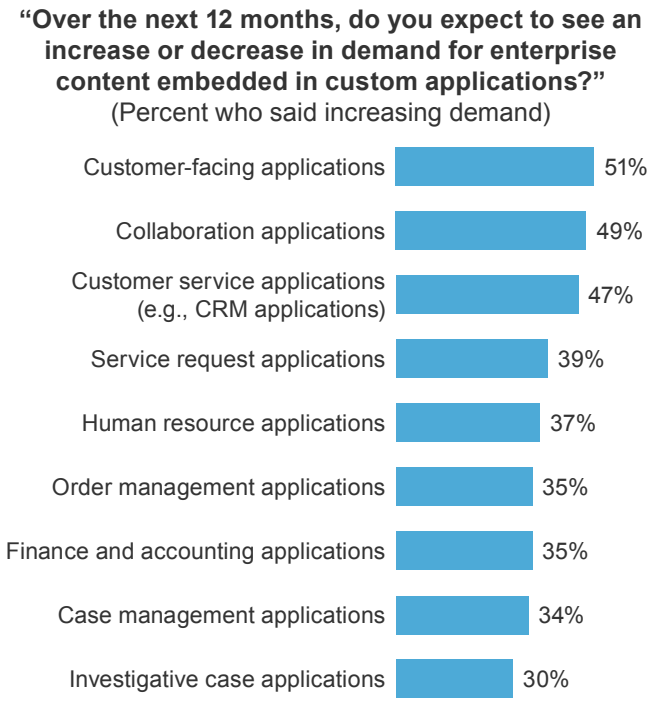
As Demand For Embedded Content Rises, RAD Platforms Offer A Faster, Easier Alternative

The ultimate goal of leading business technology organizations is to enable their end user clients to win, serve, and retain customers.[1] For many companies over the next year or so, this means creating tools that provide end users with context to support business decisions and tasks — and fast. Above all, enterprise architects value getting users up and running quickly. Therefore, they need solutions that help them quickly implement and customize applications that enable employees to be brilliant in the moment. Our study revealed that:

› **Many firms foresee increasing demand for embedded content in applications.** Top applications with increasing demand for embedded content include customer-facing (51%), collaboration (49%), and customer service applications (47%) (see Figure 8). This indicates that businesses are turning to embedded content to help them win, serve, and retain customers, not only by enabling employees to be brilliant in the moment, but by creating customer self-service capabilities that improve customer experiences. For example, by embedding content into its CRM application and enabling customers to do more self-

FIGURE 8

Demand For Embedded Content Is Up, Primarily In Customer-Facing, Collaboration, And Service Apps



Base: 187enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

service, a multinational manufacturer was able to dedicate 20% of its customer service staff to data analysis, improving and optimizing overall services levels.

› **Early adopters of RAD platforms reap the coveted benefit of getting users up and running quickly.** Among the many priorities enterprise architects juggle, fast implementation resonates as most important, with 45% rating this as "extremely important." This priority aligns with the top benefit that users of rapid application development platforms see: 53% of these users cited faster rollout of applications as a benefit of RAD platforms (see Figure 9). Companies that are stuck in the build versus buy rut should consider this third option as an opportunity to evolve more quickly in today's fast-paced business landscape. However, as we learned from a project manager whose company began configuring applications on an RAD platform a few years ago, companies may not be aware of this third option:

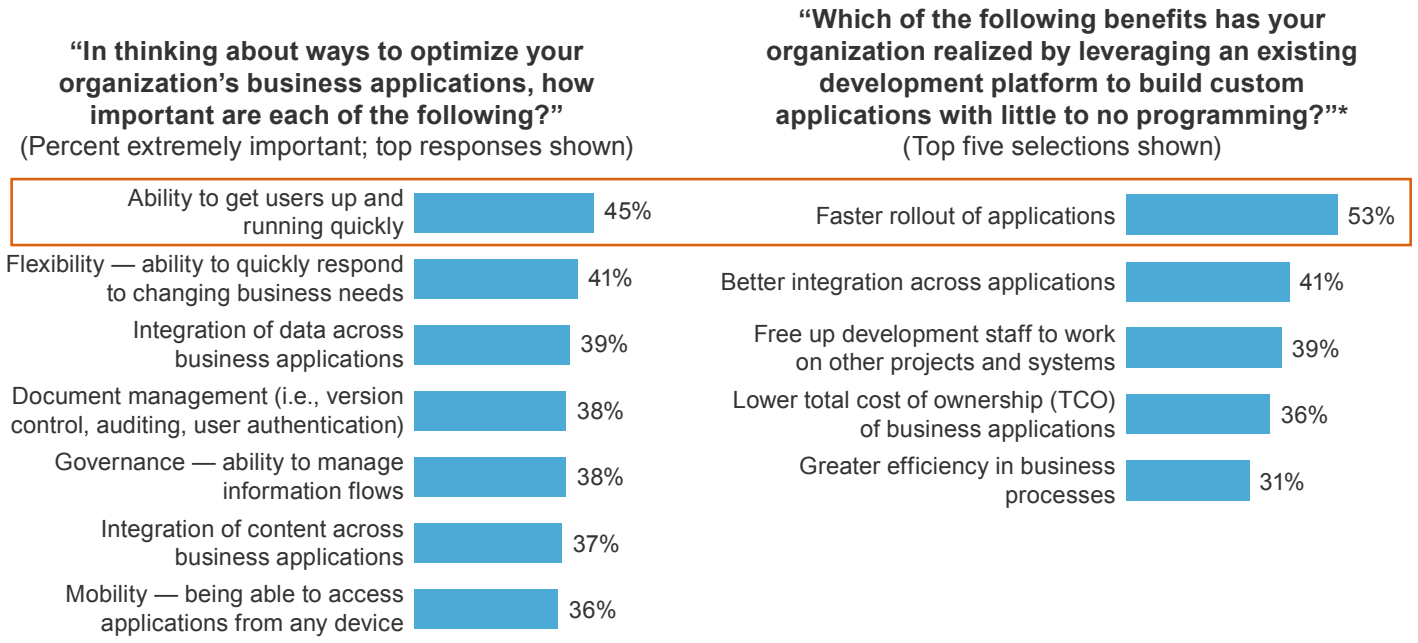
"Forever we had two ways of doing something: We would either buy or develop. Now we have this third option, which is to configure a solution [on a low-code platform]. It changed our whole world. We went from doing about one project a year to between eight and 10."

— Project manager at a US building materials company

› **RAD platforms also simplify creating rich, content-driven applications.** We asked survey respondents to rate various aspects of embedding content into custom applications. When comparing their responses based on their company's approach to implementing collaboration applications, we found that RAD platform users have an easier time embedding rich content and developing rich user interfaces than those that buy applications or use custom programming. In addition, RAD platform users find it much easier to configure application logic than off-the-shelf purchasers (54% versus 28%) (see Figure 10). By creating rich, content-driven applications that seamlessly combine structured and unstructured data and content in digestible ways, IT organizations empower employees to be brilliant in the moment.

FIGURE 9

RAD Platforms Help Companies Roll Out Applications Faster, Which Is Enterprise Architects' Top Priority



Base: 187 enterprise architects in the US and EU

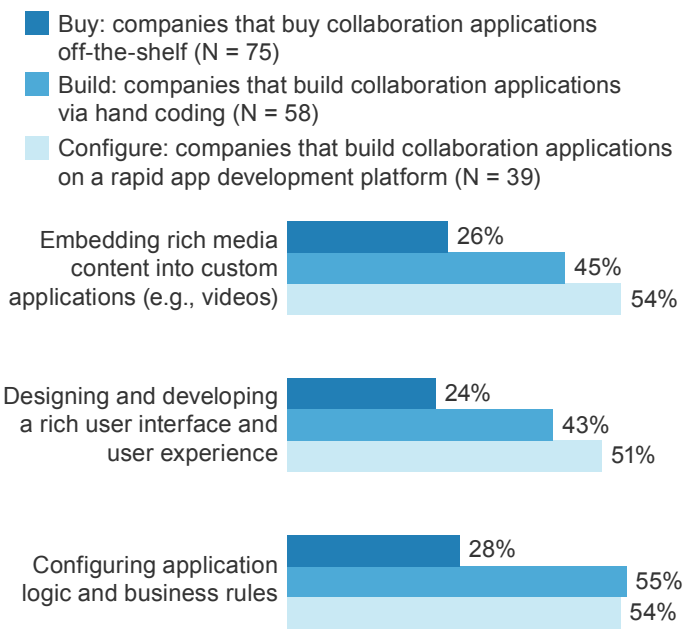
*Base: 97 enterprise architects in the US and EU whose companies use RAD platforms to build one or more types of business applications

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

FIGURE 10

Creating Context For End Users Is Easiest For Teams That Use RAD Platforms

"Thinking about embedding enterprise content into custom applications, how difficult or easy do you feel it is to complete the following tasks?"
(Percent who said easy/very easy)



Base: variable enterprise architects in the US and EU

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

› **Overall, rapid application development platforms offer a best-of-both-worlds alternative to buy versus build.** Our study showed that in addition to the benefits of faster implementations and more easily embedding content, rapid application development platforms offer solutions to the broader challenges IT organizations face with sprawling application environments. Take integrations, for example: On RAD platforms, firms can build data objects upfront and reuse them over time, which saves time compared with custom programming and eases integration challenges compared with off-the-shelf purchases. In addition, applications built on the same interface can all have a similar look and feel, which can speed adoption among end users and helps combat shadow IT. Overall, configuring applications on RAD platforms wins out against buying off-the-shelf and using customer programming in myriad ways (see Figure 11).

"Our application store builds upon itself. Every new app that we configure always pulls from internal data stores. We see if we can reuse anything — not just a code library, but data."
— Developer at a leading US-based materials company

"Once our users understand it, we can deploy a ton of different applications. Every time we add something on there's no new training."
— Project manager at a US building materials company

FIGURE 11

Rapid Application Development Platforms Offer The Benefits From Buy And Build Strategies

Benefits:	Buy off-the-shelf	Build via custom programming	Configure on a platform
Quick to implement	✓	X	✓
Easy to integrate	X	✓	✓
Easy to embed content	X	X	✓
Less strain on developers	✓	X	✓
Low financial investment	X	✓	✓
Easier to train end users	X	X	✓

Base: 187 enterprise architects in the US and EU (survey) and four enterprise architects in the US (interviews)

Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

Key Recommendations

Our survey revealed that as the volume and variety of enterprise applications continue to grow, most IT organizations struggle to deliver applications that meet their employee end user and customer needs. Embedded content in applications provides context that enables employees to be brilliant in the moment, achieving operational excellence that, in turn, creates better customer experiences. As CIOs and enterprise architects (EAs) work together to construct their long-term enterprise application strategies, they should:

- **Ramp up their focus on configuring apps to keep pace with digital innovation.** As our survey data demonstrates, all too often EAs fall into the trap of going down a single rabbit hole when it comes to buy, build, or configure. In the face of accelerating change and disruption, EAs must embrace blended approaches that combine buy, build, and configure options when building new solutions. This will require EAs to increase their organization's investments in RAD platforms. This will also require that EAs extend RAD platforms across the enterprise to provide an easy-to-use and flexible way for the business to quickly build new apps without creating new disconnected app silos.
- **Fast-track next-generation RAD platforms that simplify content integration.** For most EAs, the concept of RAD platforms is not new. But let's be clear, we're not talking about your father's — or big brother's — RAD platform architected in the last century. An emerging generation of RAD platforms puts content and entity management at the center of their offerings, allowing EAs and developers to easily model and reuse entities and data objects across a wide range of applications. These data objects can be configured to contain structured and unstructured content, rich media, and case management content. EAs can also share these objects across internal apps built on the platforms and with external custom and packaged apps.
- **Embed content that makes customers brilliant in the moment, too.** Embedding contextual content inside of new and existing applications has the potential to make employees brilliant in the moment, equipping them to use the right information at the right time to make the right decision. But a hidden gem uncovered by the survey data is that contextual content also has the potential of enabling customers and partners to have similar moments of brilliance as they engage with your company through self-service channels. EAs will need to invest in content-enabled RAD platforms that can extend content and entity objects to customer-facing apps, while also balancing security and role-based access to sensitive content and data.

Appendix A: Methodology

In this study, Forrester conducted an online survey of 187 enterprise architecture professionals at organizations with 1,000 or more employees in the US and 500 or more employees in the UK, France, and Germany. Forrester also conducted four qualitative interviews with US participants, two of whom were sourced from Hyland Software's client list and two of whom were sourced through a third party. Both the survey and interviews sought to understand priorities and challenges of the current application environment and evaluate the adoption of RAD platforms. Survey and interview participants included decision-makers and influencers at manager level and above in IT roles, and they are involved in developing their organization's enterprise architecture strategy. Questions provided to the participants asked about their current applications used, processes for implementing new applications, and approach to embedding content into applications. Respondents were offered a small incentive as a thank you for time spent on the survey and in the interviews. The study was completed in July 2015.

Appendix B: Supplemental Material

RELATED FORRESTER RESEARCH

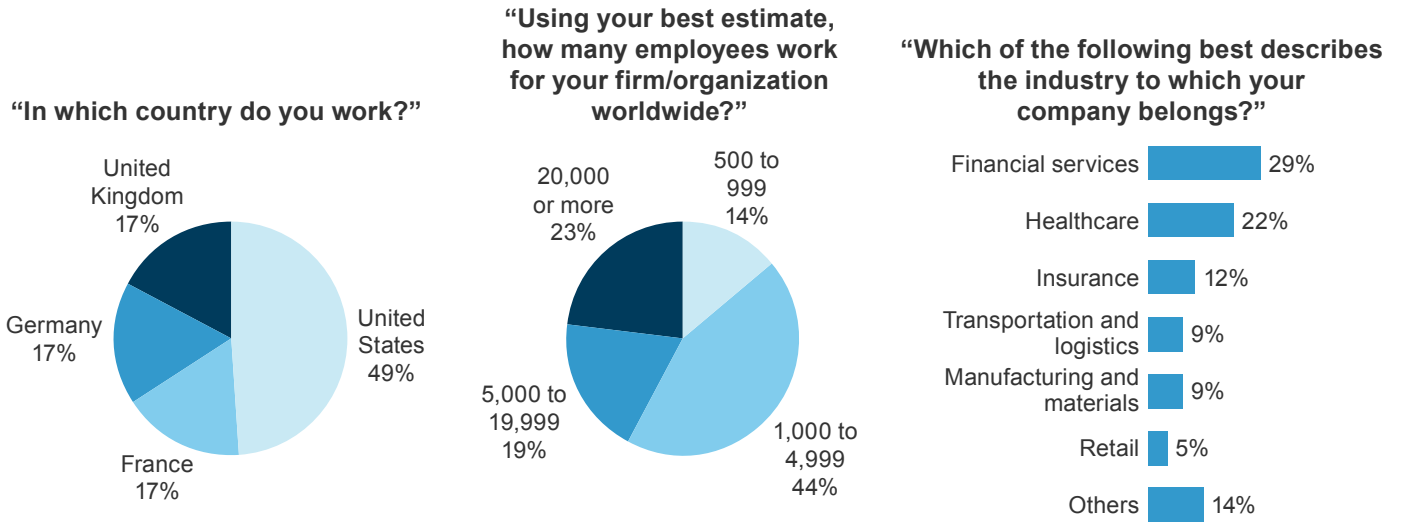
"New Development Platforms Emerge For Customer-Facing Applications," Forrester Research, Inc., June 9, 2014

"Five Customer-Facing Scenarios Shape 'Low-Code' Platform Choices," Forrester Research, Inc., September 10, 2014

"Low-Code Platforms Deliver Customer-Facing Apps Fast, But Will They Scale Up?" Forrester Research, Inc., August 11, 2015

Appendix C: Demographics

FIGURE 12
Respondent Company Demographics



Base: 187 enterprise architects in the US and EU
(percentages may not total 100 because of rounding)
Source: A commissioned study conducted by Forrester Consulting on behalf of Hyland, July 2015

Appendix D: Endnotes

[1] Forrester defines business technology (BT) as technology, systems, and processes to win, serve, and retain customers. Source: “EA Capabilities Must Change To Accelerate The BT Agenda,” Forrester Research, Inc., August 13, 2015.