MARCH 2023

The State of Application Modernization 2023:

Insights into IT Teams' Strategies and Preparedness

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INTRODUCTION

The state of application modernization across organizations is quickly maturing.

The need to deeply understand and modernize systems is becoming increasingly urgent as enterprises contend with a shrinking talent pool able to support legacy technology, a growing need to support much larger volumes of data, and a requirement to identify and address potential security vulnerabilities hidden in legacy systems. However, as we navigate economic uncertainty, capital is limited and the tolerance for the budget overruns and project delays previously associated with modernization projects is slim to none.

Despite challenges, the ability to execute successful modernization initiatives has never been closer in reach. Tools that provide intelligent automation and shorten project timeframes through phased workflows and defined processes are changing the game.

We embarked on this survey to better understand the balance between the urgency of application modernization, and the very real challenges of budget, technology, and labor shortages. We hoped to uncover what success looks like in application modernization today, and whether organizations understand and have what they need to meet those goals. We also wanted to gain perspective from IT teams on what obstacles may be holding them back, and whether they have access to the advanced technology capabilities they need to succeed.

METHODOLOGY

To get a true understanding of application modernization in today's enterprise environments, we commissioned a survey of 200 senior IT decision-makers from Healthcare, Financial Services, and Insurance organizations in the US, with more than 1,000 employees.

This report was administered online by Global Surveyz Research, a global research firm. Respondents range from CIOs and Head of IT to System Administrators, IT Strategists, Solution Architects and Modernization stakeholders. All respondents have either started an application modernization project already, or plan to within the next 12 months. The respondents were recruited through a global B2B research panel, and invited via email to complete the survey, with all responses collected during Q4 2022. The average amount of time spent on the survey was 5 minutes and 47 seconds. The answers to the majority of the non-numerical questions were randomized, in order to prevent order bias in the answers.

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KEY TAKEAWAYS

1 Boosting Productivity Trumps Cloud Migration and Other Commonly Cited Modernization Goals

Boosting employee productivity is the top motivation for application modernization, chosen by 40% of respondents. This is ahead of other top motivations, including retiring mainframe infrastructure (37%), and reducing the dependency on legacy code (36%). It is also far ahead of commonly cited reasons for application modernization, such as cloud migration (22%) and improving customer experience (29%).

However, there is a disconnect when comparing these results to success measures. Improving customer experience and readiness to migrate to the cloud show up as the top measures of success, indicating that there may be differences in how IT teams think about the benefits of modernization versus the rest of the business.

2 51% of Organizations Already Have or Anticipate Critical Issues That Require Modernization

More than half of enterprises are already experiencing or anticipating critical issues which need to be addressed by modernization immediately. At the moment, organizations are focusing their modernization efforts on critical applications, and those with few or no dependencies. They are likely looking to stay within a tight budget, and ensure they don't take on unnecessary risk, especially during an economic uncertainty.

3 Confidence Drops in Understanding of Legacy Apps After Modernization Begins

While 70% of respondents are confident to very confident about their preparedness for modernization initiatives, a comparison of those who have already started their projects and those who have not yet taken the leap tells a different story. 41% of respondents who have not yet started say they are very confident. This number drops to 28% for those who have already begun. The second group have likely uncovered unexpected challenges and knowledge gaps in the documented understanding of their applications. Many also base their confidence in the belief that they can fill those gaps with knowledge from legacy personnel; however, a full 81% of respondents cite challenges retaining and/or hiring legacy programming talent, showing that this confidence may be overstated or misplaced.

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4 Modernization Without the Need to Freeze Code is the Top Requested Capability

59% of respondents say that modernization without the need to freeze code is their top "I want" item when it comes to advanced modernization capabilities, with 64% recognizing that freezing code has both business and financial impact. This is likely to be because of the need to put policy changes on hold when code is frozen, as application logic cannot be updated.

5 Only 31% of Respondents Are Taking Advantage of Any Advanced Modernization Capabilities

Despite the availability of advanced technologies that support capabilities such as modernizing without the need to freeze code, no more than 31% of respondents believe they have access to these tools. There appears to be low awareness of the level of automation and other means to mitigate risk that can be incorporated into modernization initiatives.

6 Different Industry Verticals Have Specific and Varied Motivations and Strategies for Modernization

Throughout the data, we found meaningful differences between the target verticals we surveyed. One example is the variance in how they measure the success of modernization initiatives. Financial Services organizations are more likely to measure success by readiness to migrate to the cloud. In Healthcare, success is more likely to be measured by if the project reduced IT management costs and was completed within budget, while in Insurance, the most important factor is meeting performance requirements.

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Survey Report Findings

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WHAT ARE THE CORE MOTIVATIONS FOR APPLICATION MODERNIZATION PROJECTS?

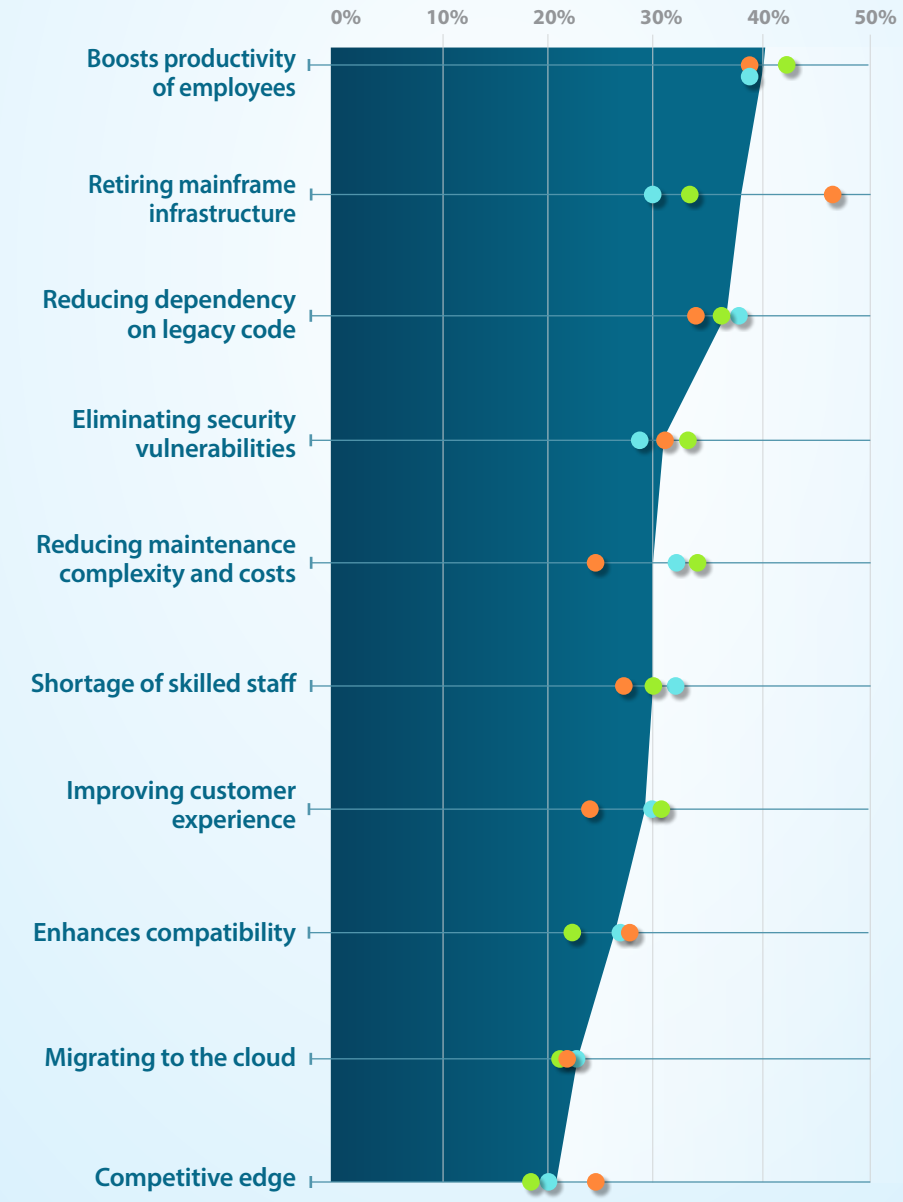
The top motivation for application modernization projects is to boost employee productivity (**40%**).

Other core motivations are retiring mainframe infrastructure (**37%**) and reducing the dependency on legacy code (**36%**).

Application modernization is a business optimization decision, and as such, many top motivations appear to be related to internal cost optimization. This includes employee productivity and reducing the dependency on legacy technology. This is compared to external motivations like gaining a competitive edge or improving customer experience, which fall much lower on the list of priorities. While it's common to hear cloud migration called out as a key reason to modernize, the data shows it falls below many other motivations.

When drilling down into the motivations for application modernization projects by industry we do see that Financial Services organizations are far more motivated by retiring mainframe infrastructure than other industries (**46%** compared to **30%** in Healthcare, and **33%** in Insurance). The mainframe footprint of a Financial Services organization is much larger and so the costs they are looking to optimize are on a much larger scale.

Figure 1: Motivations for Application Modernization Projects



*Question allowed more than one answer and as a result, percentages will add up to more than 100%

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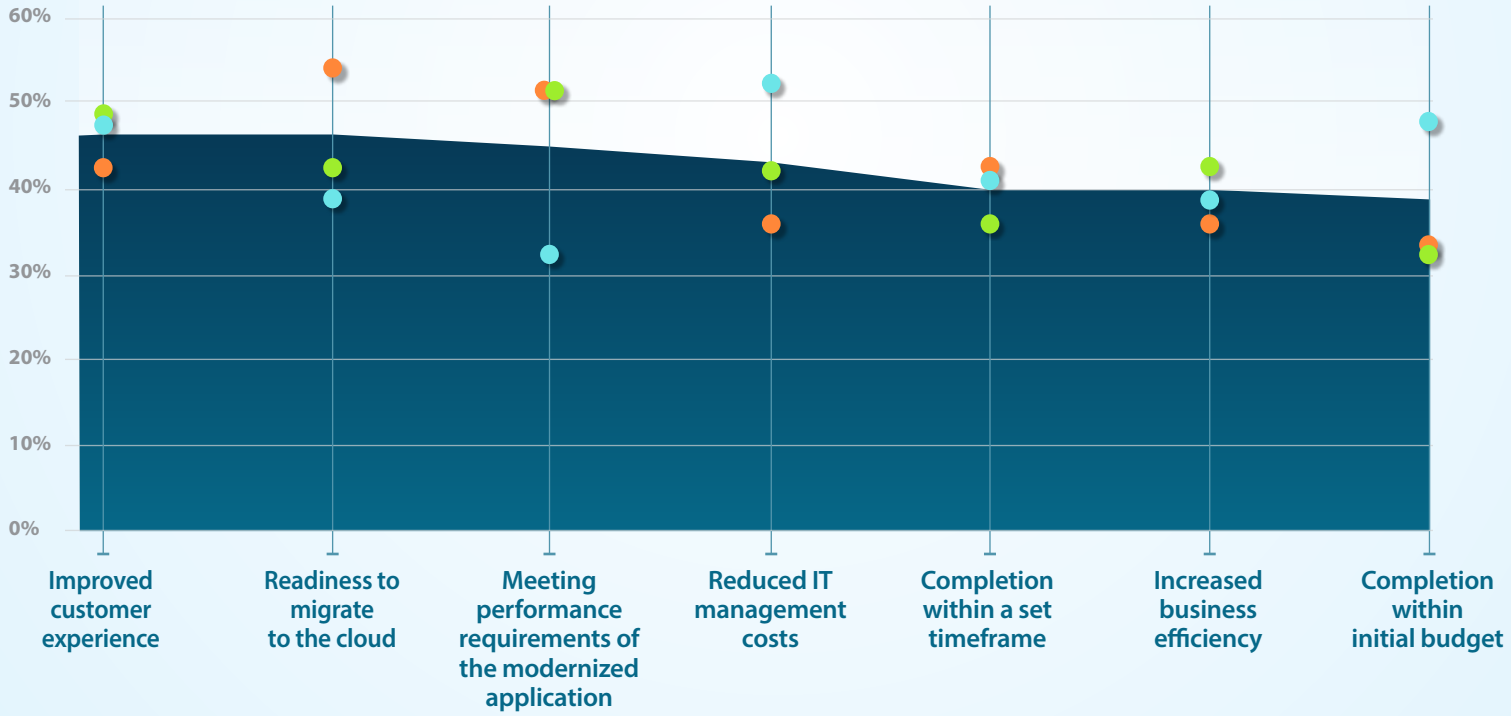
HOW DO ORGANIZATIONS MEASURE THE SUCCESS OF APPLICATION MODERNIZATION PROJECTS?

While we didn't find as much variance in the responses, the top measurements for the success of application modernization projects are an improvement in customer experience (**46%**), the readiness to migrate to the cloud (**46%**), and meeting the performance requirements of the modernized application (**45%**).

There is a curious discrepancy between the top measures of success and the motivations for modernization outlined in Figure 1 – where migrating to the cloud and improving customer experience were towards the bottom of the list. The disconnect is likely the result of different objectives between IT Teams and their line of business counterparts who contribute to defining measures of success.

It's also interesting to look at how success is measured across different verticals. The top success factor for Financial Services is the readiness to migrate to the cloud (**54%**), which makes sense considering their top motivation is retiring mainframe infrastructure (Figure 1). In Healthcare, reduced IT management costs (**52%**) and completing the project within budget are most important (**48%**), while in Insurance, meeting performance requirements is the cardinal factor for success (**51%**).

Figure 10: Measures of Success



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HOW ARE DECISION MAKERS PRIORITIZING APPLICATION MODERNIZATION EFFORTS AND AT WHAT SCOPE?

51% of organizations are experiencing critical issues that need to be addressed via application modernization or anticipate critical issues manifesting in the near future.

When we asked respondents their intended scope for modernization, organizations are generally focused on critical applications (**55%**), as well as those with few or no dependencies (**55%**).

As the number of dependencies increases, IT teams may be worried about business disruptions and resource investment getting out of hand, particularly in the face of stories from prior modernization initiatives that have gone badly.

Today's organizations are working to a tight budget, especially during an uncertain macroeconomic environment, and therefore it aligns that decision-makers favor limiting the scope to what is considered business-critical or projects that are easier to stay on top of.

Figure 2: Level of Priority of Application Modernization Effort

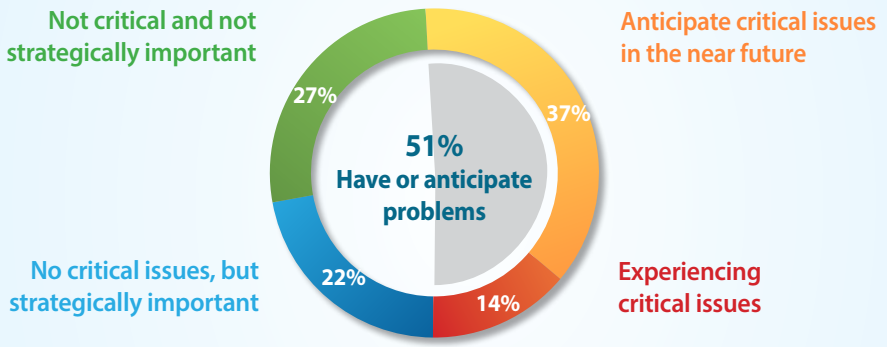
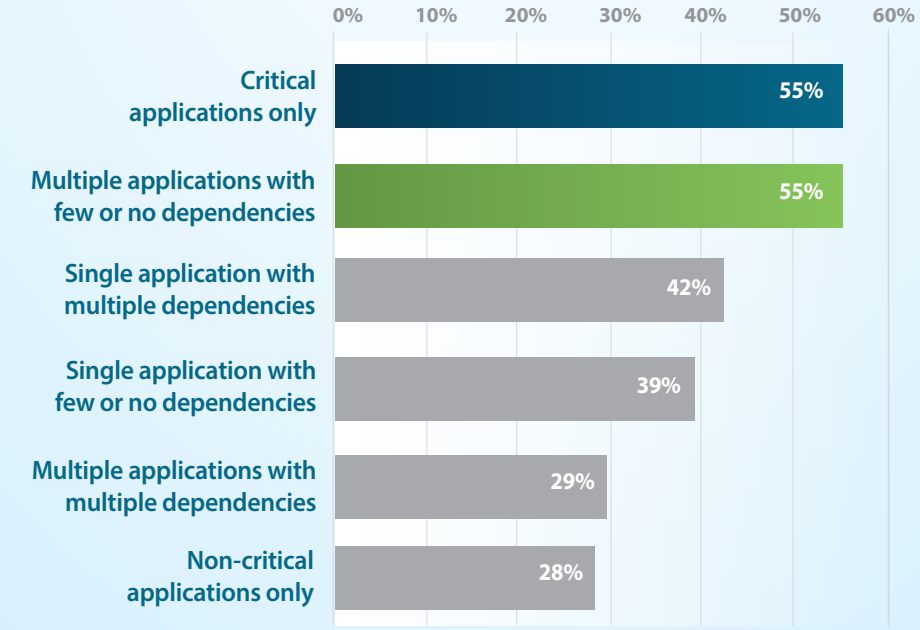


Figure 3: Scope of Application Modernization Effort



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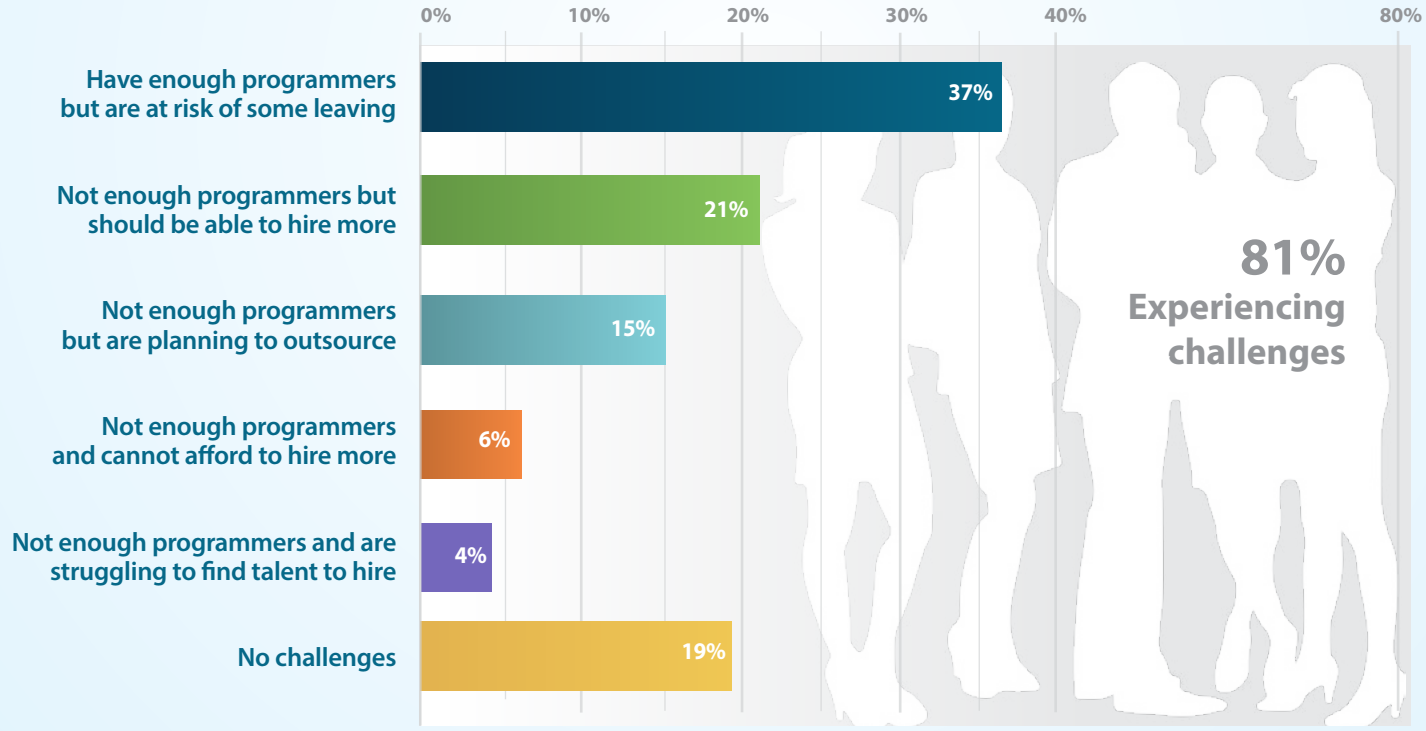
CHALLENGES EXPERIENCED IN HIRING/RETAINING LEGACY PROGRAMMING TALENT

81% of companies admit to having some kind of challenge in hiring and/or retaining legacy programmers. While the top individual response was from organizations that are at risk of programmers leaving (**37%**), most organizations do not believe they currently have enough legacy talent (**46%**).

The majority of those respondents however do believe this is a problem that can be solved via additional hiring and outsourcing (**36%**). But industry experts like Deloitte point out that organizations need to have a firm strategy in place to solve the growing challenges of an aging and fast diminishing workforce, "particularly for organizations that use legacy applications for core business functions."

Figure 4: Challenges Experienced in Hiring/Retaining Legacy Programming Talent



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CONFIDENCE IN KNOWLEDGE OF APPLICATIONS BEING MODERNIZED

We asked respondents how confident they are in their organization's understanding of legacy applications being modernized. "Very confident" indicated having a fully documented understanding of applications, while other confidence levels included reliance on personnel knowledge.

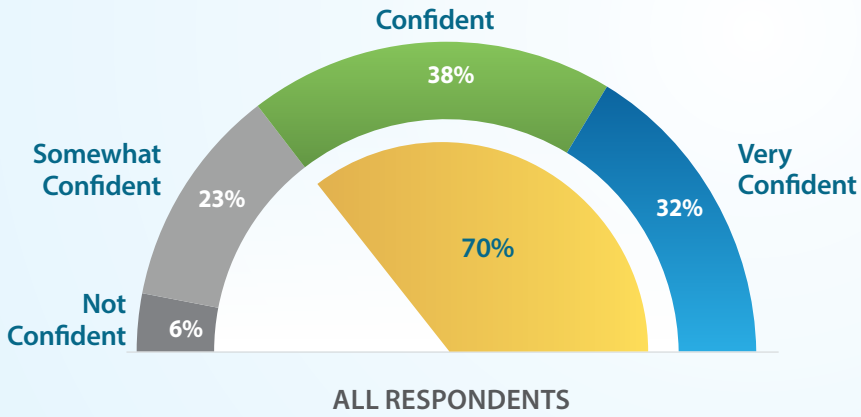
70% of all respondents believe the organization is either confident or very confident with their understanding of the legacy systems being modernized.

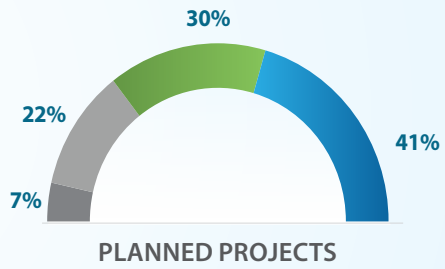
However, when looking at the level of confidence of those who have application modernization projects planned, compared with those who have already started a project – we uncover a different story.

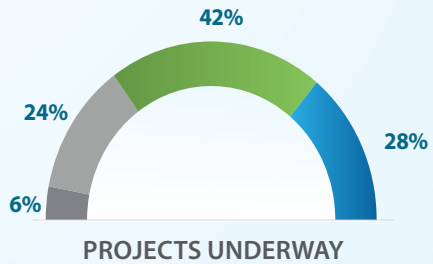
41% of companies who have not yet started their modernization project are very confident, compared to just **28%** of those who have already begun. Teams often aren't aware of the breadth and depth of information needed to be successful in these initiatives, until they start. Therefore, the levels of preparedness to successfully execute on these modernization initiatives may not be as high as organizations believe.

Also, many respondents are basing their confidence in their understanding of legacy applications on the knowledge of personnel who can support these systems. While many organizations believe they can find and hire this talent as needed (Figure 4), they should consider that talent may not be as readily available as they think, as per the Deloitte report cited above.

Figure 5: Level of Confidence in Understanding of Legacy Applications







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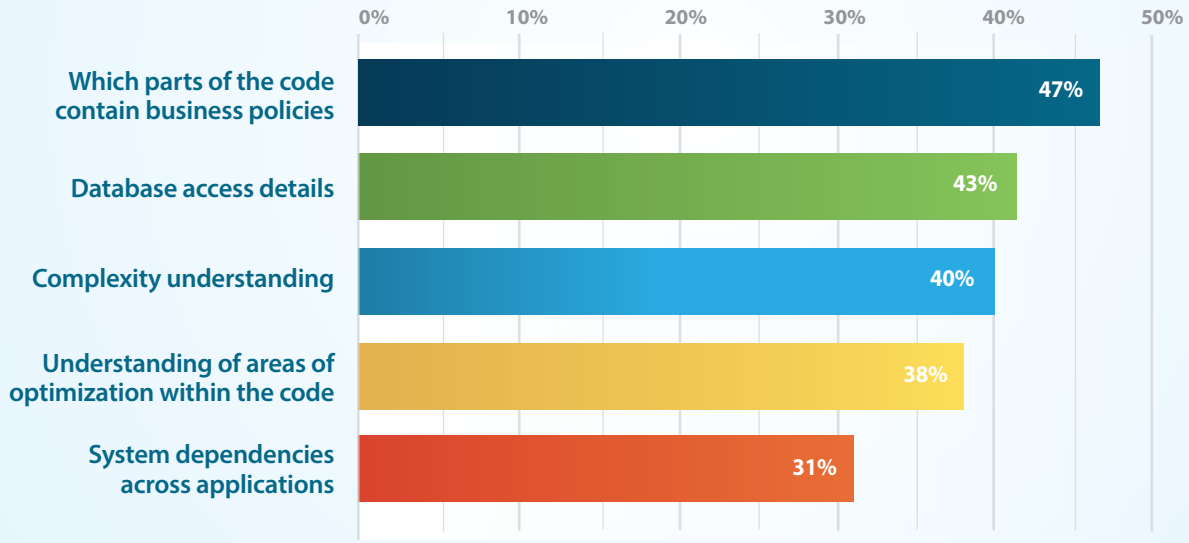
FOR MODERNIZATION EFFORTS, WHAT'S CRITICAL TO UNDERSTAND BEFORE YOU BEGIN?

The top areas of importance to understand are the parts of the code that contain business policies (**47%**), database access details (**43%**), and understanding the complexity (**40%**). These areas of importance are uniform across industries and roles.

While system dependencies tend to be a common area of concern, it is interesting to note that respondents chose data related dependencies as more important than system dependencies in preparation for modernization.

Figure 6: Top Application Understanding Attributes for Modernization Efforts



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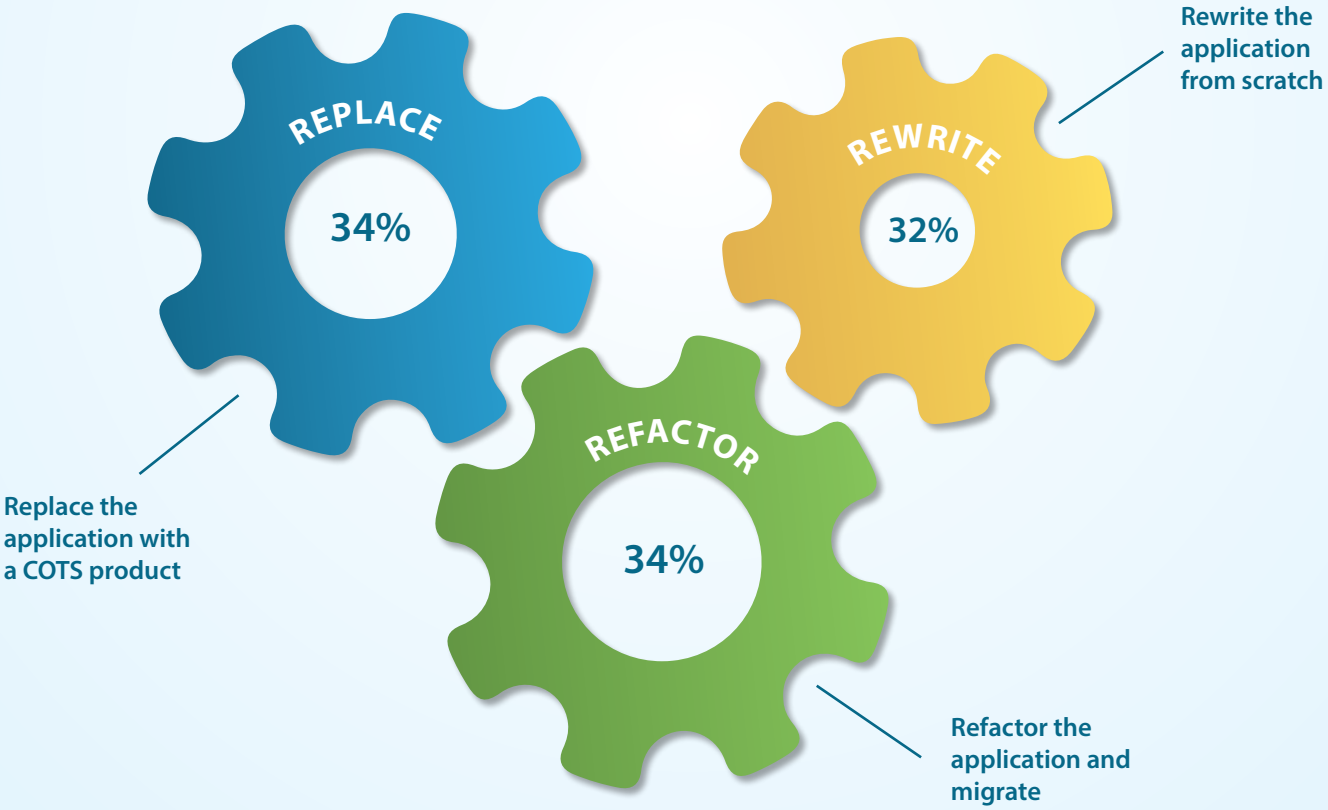
THERE IS NO SINGULAR MODERNIZATION PATH

Respondents are split into three almost equal groups when it comes to their modernization strategies. This shows that there really is no one size fits all path to modernization success. Organizations will require different outcomes and strategies across their portfolio, and will need to work with vendors that can support the breadth of goals.

34% of respondents are planning to replace their legacy application with a modern commercial-off-the-shelf (COTS) application; **34%** of respondents are planning to refactor or optimize the application and transform it to a modern language and architecture; and **32%** of respondents are planning to rewrite the application from scratch in a modern language and architecture.

Figure 7: Modernization Strategies



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WHAT IT TEAMS WANT VS. WHAT THEY HAVE ACCESS TO

Respondents were asked about the ideal capabilities they would like to have when modernizing their applications, and compared this with what IT teams already believe they have access to. We found significant gaps across the board.

59% wish they had the ability to modernize legacy applications without the need to freeze code, as **64%** see moderate to significant business & financial consequences to freezing code. However, only **31%** of the respondents believe they have access to this capability.

On the other end of the scale, the ability to automate documentation was the least important item on the wish-list, but with personnel status unclear (Figure 4) and confidence in legacy application knowledge largely dependent on these personnel (Figure 5), organizations may want to place greater attention on this capability. With a shrinking talent pool of legacy knowledge, the ability to create automated documentation that is comprehensive and robust is more critical than people think.

And in general, there seems to be a low level of access to the latest modernization technologies, as no more than **31%** of respondents say that they have any of these capabilities at their disposal, all of which are currently available.

Figure 8: Capabilities for Application Modernization: Wants vs Have

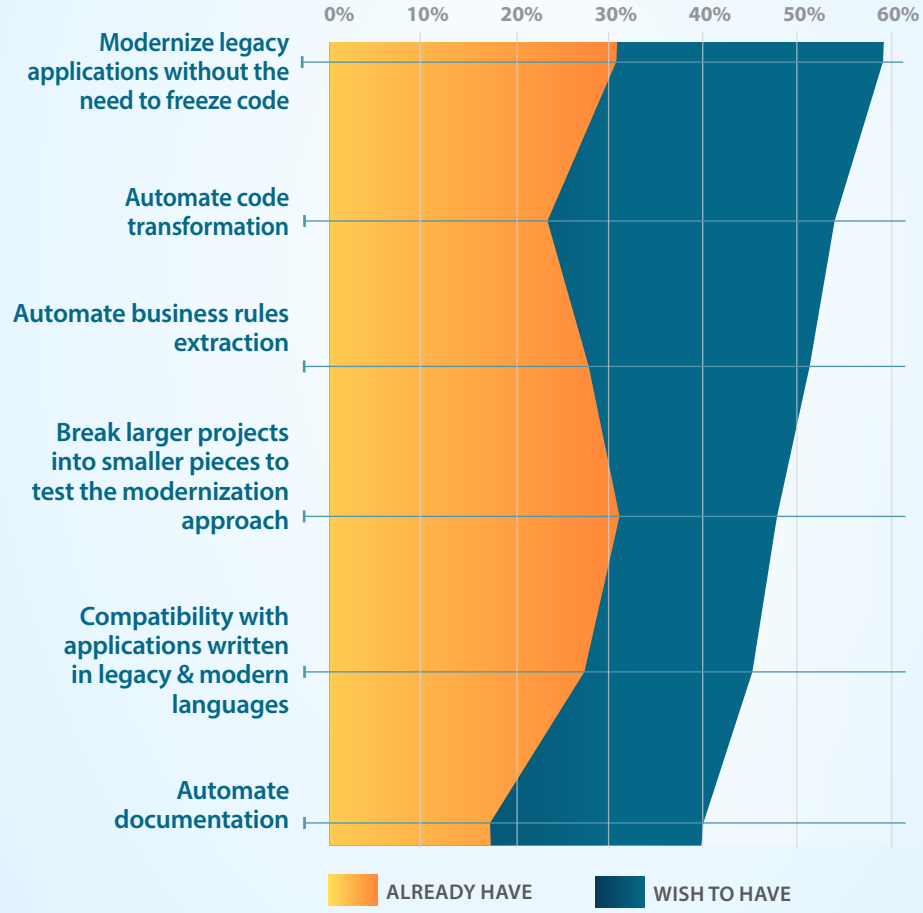

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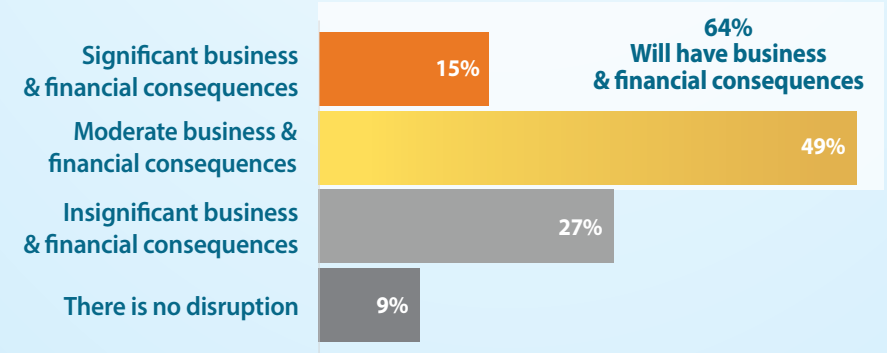
Figure 9: Level of Disruption Associated with Freezing Code



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SURVEY DEMOGRAPHICS

Figure 11: Industry

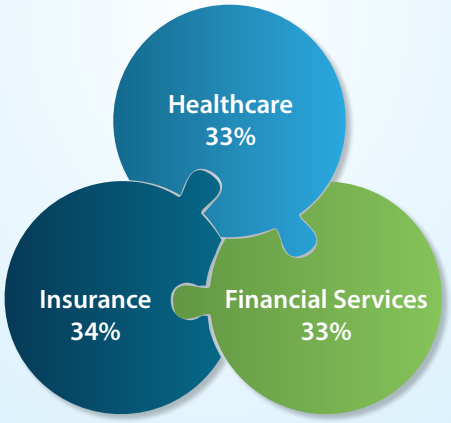


Figure 12: Job Seniority

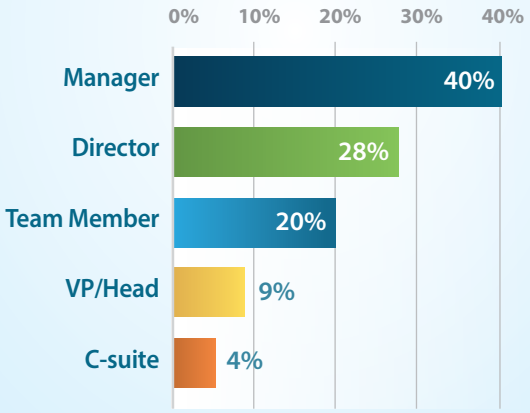


Figure 13: Company Size

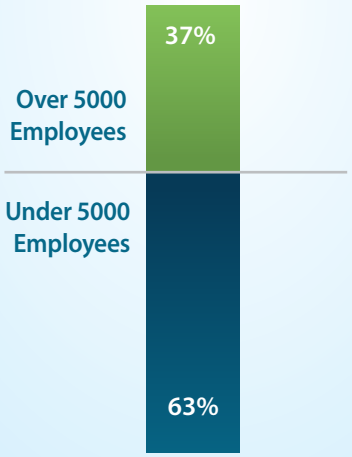


Figure 14: Timeline for Modernization Projects

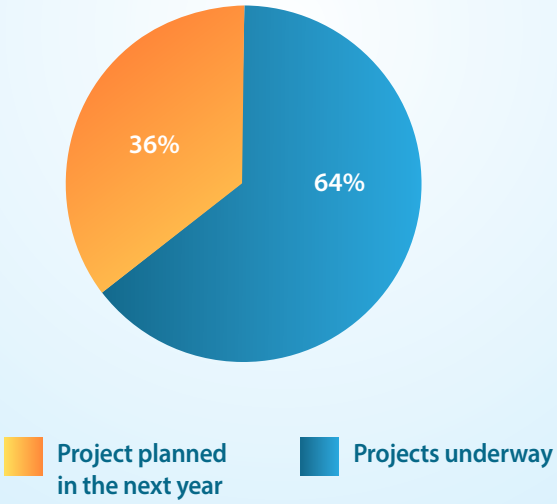
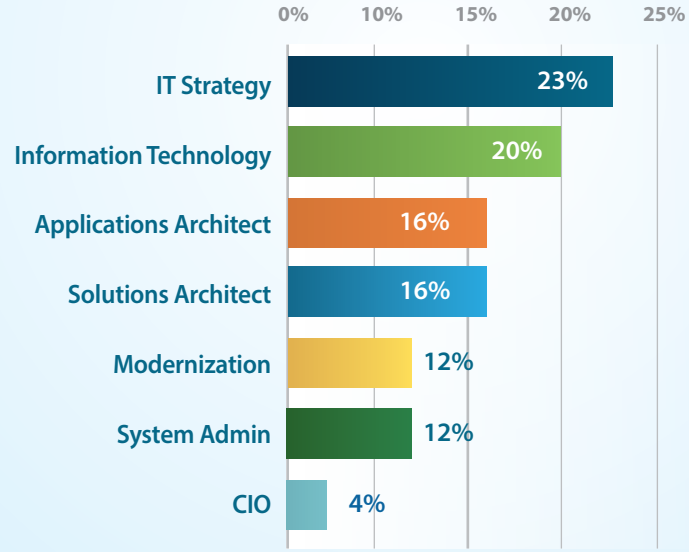


Figure 15: Role



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ABOUT EVOLVEWARE

EvolveWare has been dedicated to providing enterprises, partners, and government organizations with a seamless application modernization journey since 2001. Its industry leading Intellisys™ platform is the only end-to-end solution that automates the processes involved in maintaining and modernizing applications written in 20+ programming languages. Incorporating a unique, patented technology, this automation platform mitigates risk with a phased approach and delivers a truly agile modernization experience. EvolveWare is proud to have strategic partnerships with Deloitte and KPMG amongst others, and to have delivered successful results in record time for customers such as BMI, the State of New York, and the U.S. Department of Defense. Headquartered in Silicon Valley, CA, EvolveWare's global team is committed to continuous innovation, outstanding client services, and support.

Learn more

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