



PMI's

**PULSE** *of the*  
**PROFESSION**<sup>®</sup>

In-Depth Report

# REQUIREMENTS MANAGEMENT

A CORE COMPETENCY FOR  
PROJECT AND PROGRAM SUCCESS

## INTRODUCTION

When counting the number of causes of project failure, you need more than one hand. But the leading culprits will always include scope creep, poor communication, lack of stakeholder involvement and inadequate support from the executive sponsor. And all of these problems share something in common: they involve or impact requirements — the process of identifying, defining, documenting and managing the solution a successful project must deliver.

Despite the obvious importance of requirements to project value and business outcomes, there is a shortage of meaningful research on how organizations perceive and approach this critical component of projects and programs.

This *Pulse of the Profession*® In-Depth Report addresses that void. Based on a comprehensive survey of more than 2,000 practitioners, this report provides a timely and unprecedented look into the current practice of requirements management and its impact on projects and programs, including exclusive data, analyses and related insights on key issues and questions. Specifically:

- The critical resources required;
- The training and support organizations need to provide;
- The processes and good practices to be followed; and
- Most importantly, what high-performing organizations do better — or differently

This report details the findings from an in-depth research project that PMI conducted in May of 2014. The research was conducted to better understand more about the critical competency of defining and managing requirements in organizations, and how that capability contributes to project and program success.

PMI defines requirements management as the discipline of planning, monitoring, analyzing, communicating and controlling requirements. It is a continuous process throughout a project. It involves communication among project team members and stakeholders and adjustments to requirements changes throughout the course of the project.

PMI hears from stakeholders that there is sometimes confusion between business analysis and requirements management. Our research provides some clarity: for organizations to deliver projects successfully, they need to be really good at business analysis. And to be really good at business analysis, they should have expertise in managing requirements.

PMI defines business analysis as the application of knowledge, skills, tools and techniques to determine problems and identify business needs; to identify and recommend viable solutions for meeting those needs; to elicit, document, and manage stakeholder requirements in order to meet business and project objectives; and to facilitate the project team with the successful implementation of the product, service or end result of the project or program.

While managing requirements is one critical part of the larger business analysis function, the process of business analysis often begins before project initiation, and extends beyond project closure, to ensure that expected benefits are realized. Regardless of whether a project manager or business analyst has responsibility, being good at these related functions is essential to ensure successful delivery of projects and programs.

But perhaps most importantly, our study finds that regardless of what it is called, or who does it, organizations are falling short in three critical areas, and projects are suffering as a result. This report highlights the importance of a sustained focus on people, process and culture to address the #2 most commonly-cited reason projects fail — poor requirements management. Read on to find out how your organization can improve today.

**David P. Bieg**  
Program Manager, Project Management Institute

## EXECUTIVE SUMMARY

It seems straightforward, but the real-world practice of requirements management continues to vex organizations, both small and large, for many reasons. And doing it poorly leads to project failure.

In 2009, IAG Consulting conducted a Business Analysis Benchmark survey that classified 74 percent of companies as having a low level of requirements management maturity, resulting in missed deadlines, budget overruns and wasted resources. These companies achieved their business objectives a mere 54 percent of the time, while taking 35 percent longer to deliver these disappointing results.<sup>1</sup>

Such findings should have served as a wake-up call. However, little has been done in the intervening years to examine how organizations are responding to the requirements crisis — until now.

PMI's 2014 annual global *Pulse of the Profession*<sup>®</sup> study revealed that “inaccurate requirements gathering” remained a primary cause of project failure (37 percent) in 2014 (up from 32 percent in 2013).<sup>2</sup> This fact, plus PMI's focus on this practice area, led us to research this cause of failure in depth and publish our findings in this report.

Our study shows that far too many organizations still lack maturity in requirements management. They lack the necessary resources to do it properly. They are failing to develop the relevant skills in the people they do have. And, not surprisingly, executive management and sponsors are not fully valuing the importance of excellence in requirements management.

It's costing them. For every dollar spent on projects and programs, 5.1 percent is wasted due to poor requirements management.\* Put in more striking terms, this amounts to US\$51 million wasted for every US\$1 billion spent. That's a lot of potential value falling through the cracks in the project-driven world.

To turn the tide and enable more successful projects and business outcomes, this study finds that organizations must focus much more attention on three critical areas that can greatly improve the effectiveness of their requirements management capabilities: people, processes and culture.

- **People** — Organizations must put the **necessary resources** in place to properly apply requirements management for recommending solutions for projects and programs. At the same time, they must also **recognize and develop the skills** needed to perform these functions.
- **Processes** — Organizations must **standardize and formalize** their **processes** at the project and program levels, to ensure they are consistently applying good requirements management practices for all their initiatives.
- **Culture** — Organizations must create a sense of urgency at the top, so that **executive management and sponsors fully value** the practice as a **critical competency of projects and programs**, and provide the appropriate support and commitment needed to excel throughout the organization.

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\* For the purposes of this report, “requirements management” is used in the broad sense, representing all of the roles that perform business analysis and requirements management tasks on projects and programs.

## THE URGENCY: POOR REQUIREMENTS = POOR PERFORMANCE

There are many reasons today's organizations continue to struggle to bring consistency to their projects and programs. Despite the efforts of talented, hard-working teams, they aren't achieving the full potential of their most important strategic initiatives. And in an increasingly complex business environment, with rapid technological change and globalization, project execution is only becoming more challenging.

The in-depth study finds that when projects do not meet their original goals and business objectives, inaccurate requirements management is **the primary cause of that outcome** almost half of the time (47 percent).

And when they identify inadequate or poor communication as a primary cause of project failure, three out of four organizations report that the issue negatively affects requirements management (75 percent) — more than any other area of their projects, including risk, stakeholders, schedule or budget.

There are many components to successful project implementation — all of them interrelated and important — but clearly requirements management is one of the most critical. And when it is done poorly, the consequences can be severe. The cause and effect of poor requirements management is worse for low-performing organizations,<sup>3</sup> where more than half of projects are unsuccessful primarily due to poor management of requirements. This problem costs low performers nearly 10 cents for every dollar spent.

By comparison, in high-performing organizations,<sup>4</sup> only 11 percent of projects don't meet their original goals primarily due to poor requirements management, and the waste is a much more bearable 1 percent.

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# 47%

**of unsuccessful projects fail to meet goals due to poor requirements management.**

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## THE SITUATION: ORGANIZATIONS ARE STRUGGLING

Identifying the connections among poor requirements management, project failure and wasted project dollars is an important first step in addressing the problem. But the problem is multi-faceted — our study finds that organizations lack focus on people, processes and culture.

First, only half of organizations (49 percent) report that they have the **necessary resources** in place to properly perform requirements management, leaving the other half of organizations lacking resources (Figure 1).

### One half of organizations report not having adequate resources to do requirements management properly

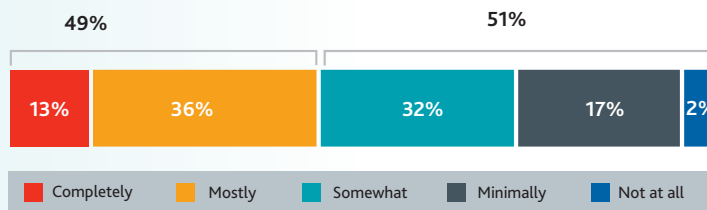


Figure 1

Additionally, the study shows that there is limited recognition of the needed skills for requirements management; specifically, fewer than one in four organizations (24 percent) report doing well in **recognizing and developing skills** needed for effective management of requirements. Perhaps more concerning is that one out of three organizations (34 percent) is not doing very well or anything at all in the critical area of skills development specific to requirements management (Figure 2).

### One in three organizations is not doing very well or anything at all in the critical area of skills development

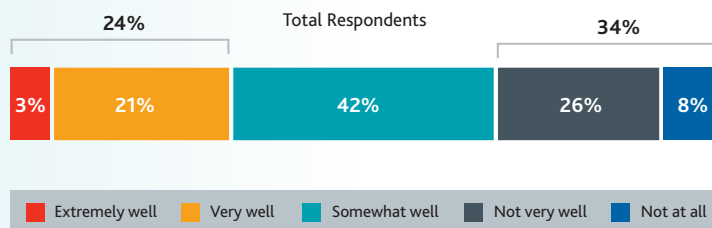


Figure 2

When it comes to processes and practices, less than half of organizations report that they are performing well in the **key requirements management practices** needed, from “quality of the product solution” and “end customer satisfaction” to “executive sponsor buy-in” and “managing change” (Figure 3).

Furthermore, only 46 percent of organizations report using a formal process to ensure unbiased requirements validation for projects, and 26 percent say objective validation is generally done, though no formal process is in place.

### Less than half of organizations report performing well in requirements management practices



Figure 3

These findings suggest a concerning lack of proficiency in many organizations' requirements management resources and skills development, as well as practices and processes. In order for any of these deficiencies to be meaningfully addressed, organizations must value the importance of requirements management and connect it to the success of their projects and programs. However, the majority of respondents report that their **organizations as a whole** — and both top management and executive/project sponsors, specifically — **do not fully value** requirements management as a critical competency for projects and strategic initiatives (Figure 4).

Collectively, all these findings — inadequate resources, insufficient skills development, informal processes and practices, and indifferent support in the top ranks of organizations — paint a troubling picture that strongly suggests that **low requirements management maturity is widespread**. And organizations are not in denial about the state of affairs — only one in five (20 percent) organizations report high **requirements management** maturity. See sidebar on page 9 for more on requirements management maturity.

All of these critical focuses on people, processes and culture are interrelated, and a lack of attention to any single one could jeopardize a project's ability to deliver on its goals and objectives. But not doing any of them well can be a fast track to project and program — and organizational — failure.

### The majority of organizations are not fully valuing requirements management as a critical competency for projects and strategic initiatives

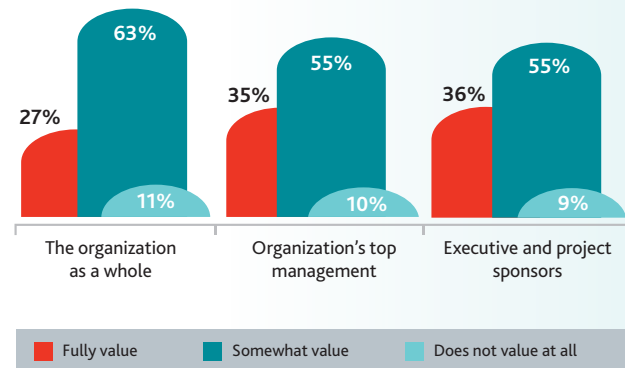


Figure 4

## THE CHALLENGE: KNOWING VS. DOING

The vast majority (87 percent) of organizations recognize, to some degree, that improvements are needed. When asked to what degree improvements are needed in the performance of requirements management in the organization, more than one-third of organizations (35 percent) report that “many” are needed, and another 52 percent report that “some” are needed within the organization.

Our study finds that some organizations are already taking steps to make improvements to the performance of requirements management. More than one-half report focusing on more defined practices and processes (58 percent) and revisions to current processes (53 percent). Additionally, 48 percent of organizations report focusing on employee training (Figure 5). These are steps in the right direction.

### Many organizations report focusing on practices and processes (more of or revisions to) — employee training — to improve their requirements management performance

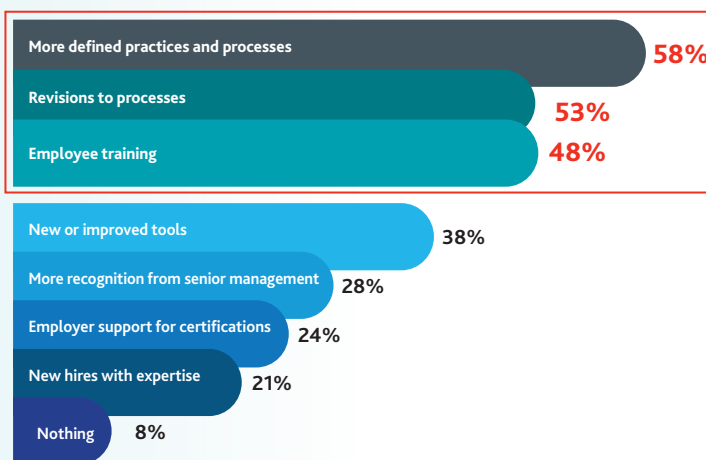


Figure 5

However, while a strong majority of organizations acknowledge the critical importance of requirements management–related competencies to the success of their organization’s projects, our study finds that there is a gap between this understanding of the value of these competencies and the practice of them. For example, although 71 percent of organizations say that communicating to stakeholders about organizational objectives is “extremely or very critical”, only 59 percent report performing this activity “always or often.” Similar **gaps between the critical view and frequency of performing** can be found in all of the requirements management–related competencies we measured, from “designing product solutions that meet business objectives” to “quantifying resource needs for requirements work” (Figure 6).

Given the recognized critical nature of these competencies, organizations must focus on performing each of them for their projects and programs.



There is a gap between the critical view and frequency of performing requirements management competencies

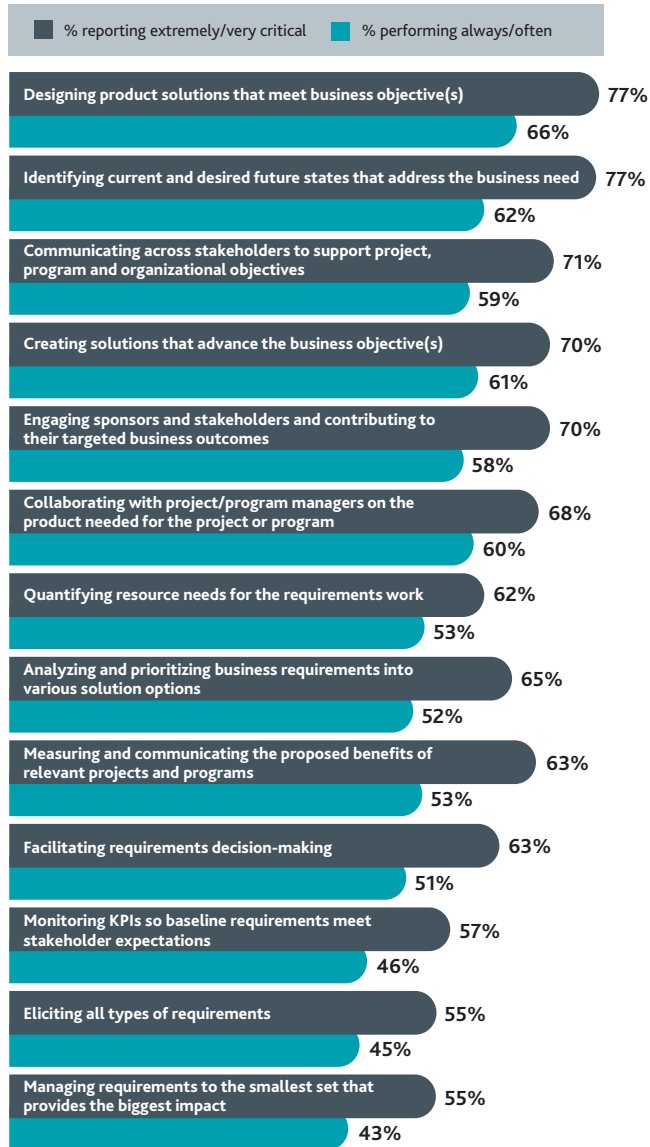


Figure 6

# 1 in 5

organizations report high requirements management maturity.

WHAT DOES MATURITY LOOK LIKE?

"Maturity is about the levels of capability and efficiency an organization demonstrates across its people, processes, and tools when performing requirements management activities on a project or program.

It is achieved by continuously monitoring capabilities, identifying areas for improvement in the requirements process and implementing improvements to ensure optimal performance of the requirements-related activities.

It is enabled by organizational and leadership recognition of the importance associated with the practice of requirements management on projects and programs." – David P. Bieg

## THE WAY FORWARD: A FOCUS ON PEOPLE, PROCESSES AND CULTURE

It bears repeating that low-performing organizations are **wasting almost 10 times more money** on projects and programs due to poor requirements management than their high-performing counterparts — about 10 percent of every dollar spent compared to 1 percent.

However, our study finds that there is no discernible difference between high and low performers when it comes to **who** performs requirements management functions for projects and programs in the organization. That is, high performers use project managers and business analysts for requirements management on projects and programs in the same proportions as low performers, and so we can conclude that **the outcomes of projects and programs are not affected by whether requirements management tasks and activities are performed by project managers, business analysts or both.**

When it comes to effectively performing requirements management, **it is not *who* but *how*** that makes the difference.

So when it comes to requirements management for projects and programs, ***how*** are high-performing organizations doing better or differently than low performers?

It is clear that high-performing organizations recognize the critical competency of effective requirements management on projects and programs, as evidenced by their focus on people, processes and culture.

### People

Our study shows that organizations that have the necessary resources in place (people, time, etc.) to do requirements management properly, and that recognize and develop the employee skills needed for effective requirements management, have significantly better project outcomes — more projects that meet their original goals and business intent, meet their established baseline, and are completed on time and within their original budget (Figures 7 and 8).

**Having the necessary resources in place (people, time, etc.) to do requirements management leads to better project performance**

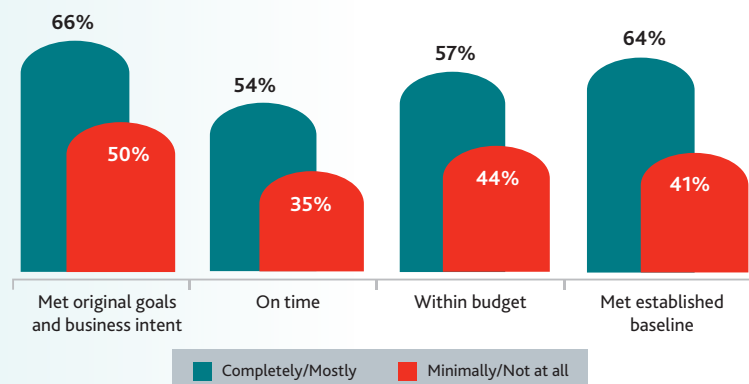


Figure 7

Recognizing and developing the employee skills needed for effective requirements management leads to better project performance

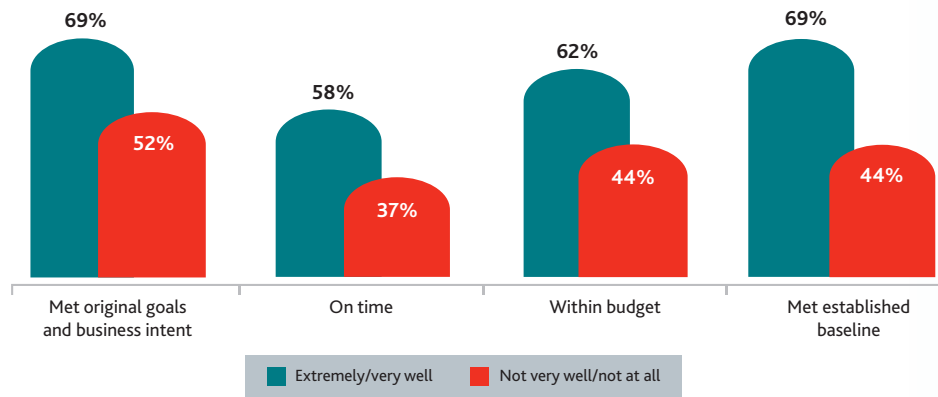


Figure 8

High-performing organizations recognize the need to support and develop their people, as our study shows that high performers are significantly more likely to focus on getting the necessary resources in place and recognizing and developing the skills needed for effective requirements management compared to low-performing organizations (Figure 9).

*“In my experience, people have been spending a lot of time on titles and terminology, and have lost sight of the important work that drives outcomes. We need to put titles and terminology to the side, and instead focus on the activities that contribute to the success of projects and programs. Let’s pay attention to what really matters, and make some substantial improvements.”*

— Mark A. Langley,  
President and CEO, Project Management Institute

High performers are significantly more likely to have the necessary resources in place and recognize and develop employee skills for effective requirements management/business analysis

Have the necessary resources in place (% completely/mostly)



**68% High performers**  
38% Low performers

Recognize and develop the employee skills needed (% extremely/very well)



**45% High performers**  
15% Low performers

Figure 9

## Processes

Organizations that demonstrate proficiency with their requirements management processes and practices report significantly better project outcomes, particularly when focusing on validation and verification of requirements. Our study shows that organizations that use a formal process for requirements validation of projects realize significantly better project outcomes (Figure 10).

### Focusing on a formal process for requirements validation to ensure object validations leads to better project performance

Using a formal process to ensure objective validation = better project performance

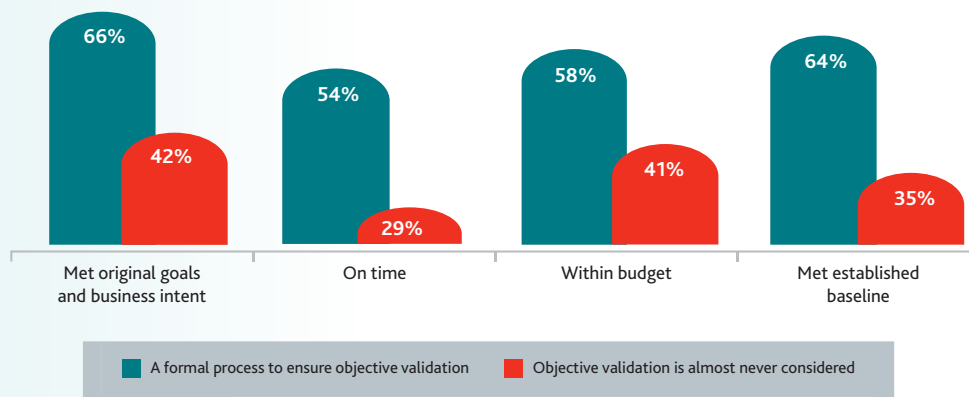


Figure 10

High-performing organizations recognize the importance of requirements management processes and practices for their projects, as our study shows that high performers are significantly more likely to use a formal process for requirements validation of projects compared to their low-performing counterparts (Figure 11).

### Twice as many high performers use a formal process to ensure object requirements validation for projects

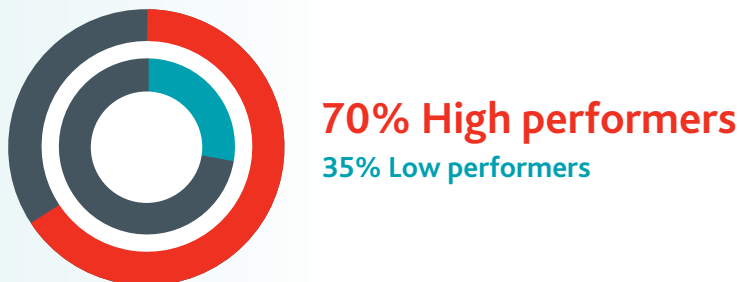


Figure 11

Furthermore, compared to low performers, high-performing organizations report performing significantly better in each of 10 key requirements management practices. Clearly, high performers have higher proficiency levels among the requirements management practices and processes (Figure 12).

### High performers perform significantly better in each of the requirements management practices

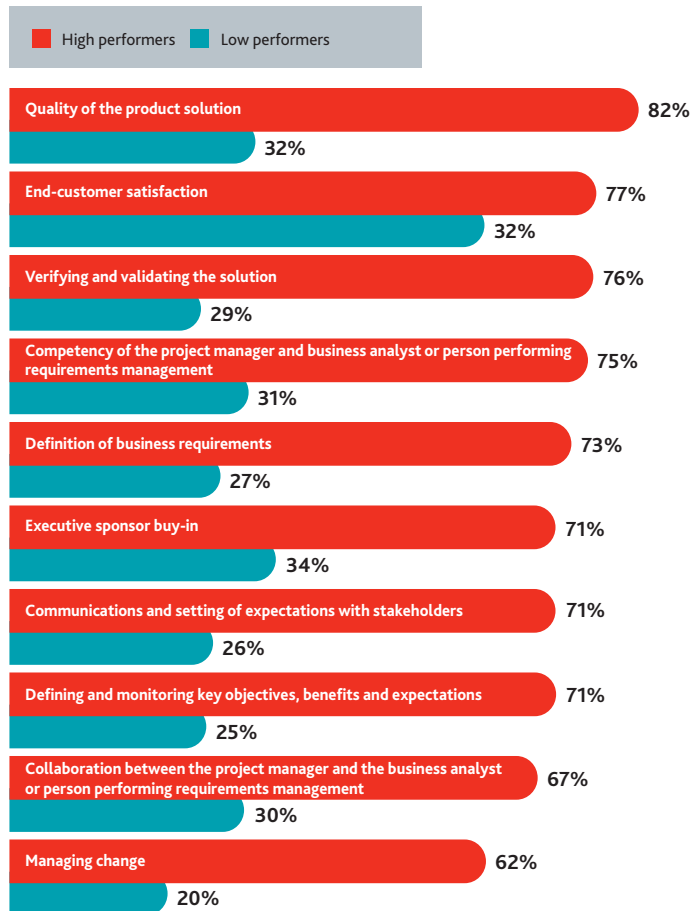


Figure 12

### THE MOST IMPORTANT SKILLS FOR REQUIREMENTS MANAGEMENT?

We asked our Global Executive Council<sup>5</sup> members to tell us what they believe are the most important skills needed for effective requirements management. Many told us that the two most important skills are:

- Active listening, and
- Interpreting and clearly articulating requirements and aligning them to the strategic vision for the project.

Additionally, many also noted the importance of:

- Communication
- Dealing with ambiguity
- Engaging stakeholders

These are not technical project management skills — they are about leadership and being strategic. We don't find this surprising. When managing requirements for projects and programs, the need for the technical skills is essential; practitioners must be able to elicit and document specifications, monitor and assess, and perform conceptual and visual modeling. But to successfully manage requirements, practitioners must be able to do things such as:

- Uncover needs that business partners and end users would not be able to articulate on their own;
- Understand business process complexity;
- Recognize the implications of business strategy changes; and,
- Communicate solution value to key stakeholders.

## Culture

Our study clearly suggests that recognition of requirements management as a core competency for projects and programs starts at the top, and that the culture of the organization embracing requirements management is critical for projects and programs. When organizations (as a whole), top management and executive/ project sponsors fully value requirements management for their projects and programs, project outcomes are significantly better — meeting their original goals/business intent and their established baseline, as well as on time and within budget completion (Figures 13, 14 and 15).

### The organization fully valuing requirements management as a critical competency leads to better project performance

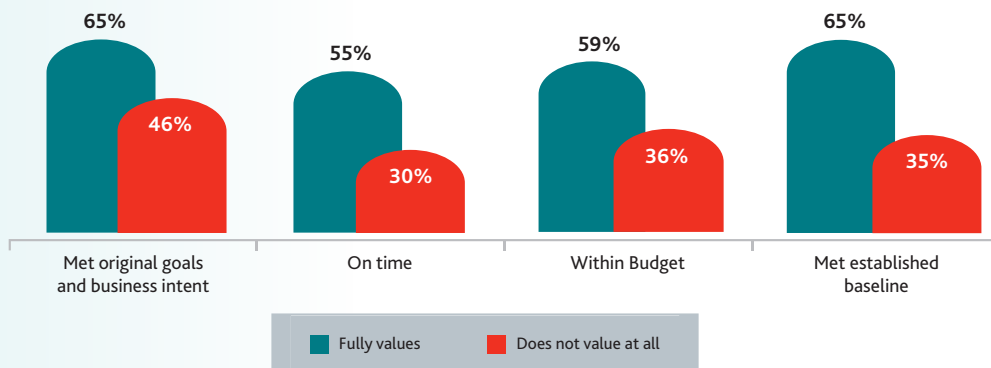


Figure 13

### Top management fully valuing requirements management as a critical competency leads to better project performance

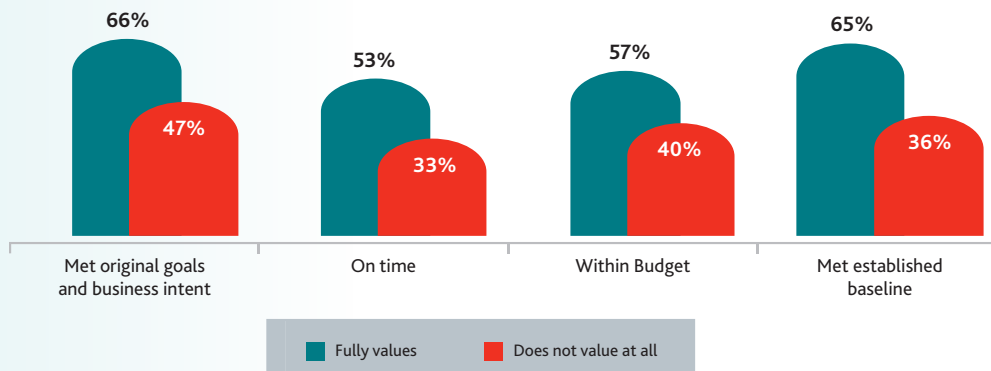


Figure 14

**Executive sponsors fully valuing requirements management as a critical competency leads to better project performance**

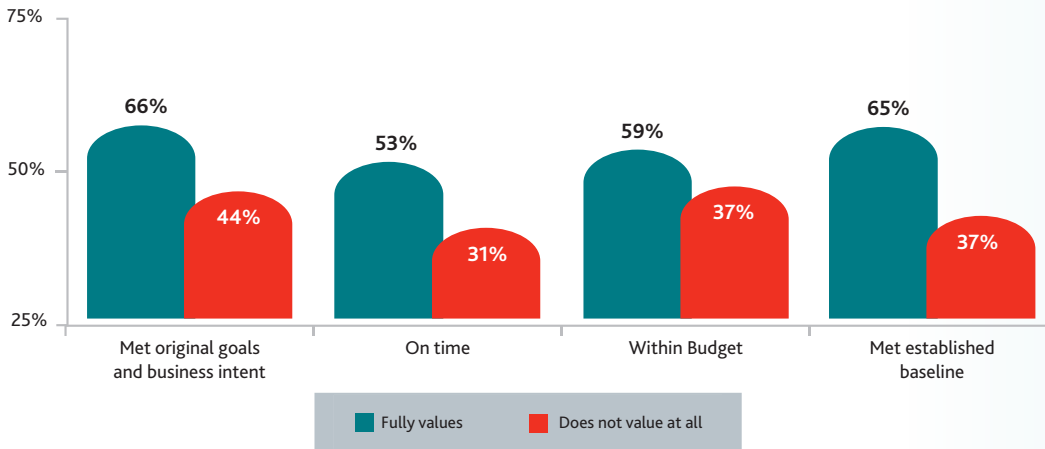


Figure 15

It therefore comes as no surprise that our study shows just how significantly high-performing organizations outperform low performers when it comes to organizational culture, recognizing requirements management as a core competency for projects and programs (Figure 16).

**High-performer organizations, as a whole, are significantly more likely to value requirements management as a critical competency verse low-performer organizations**

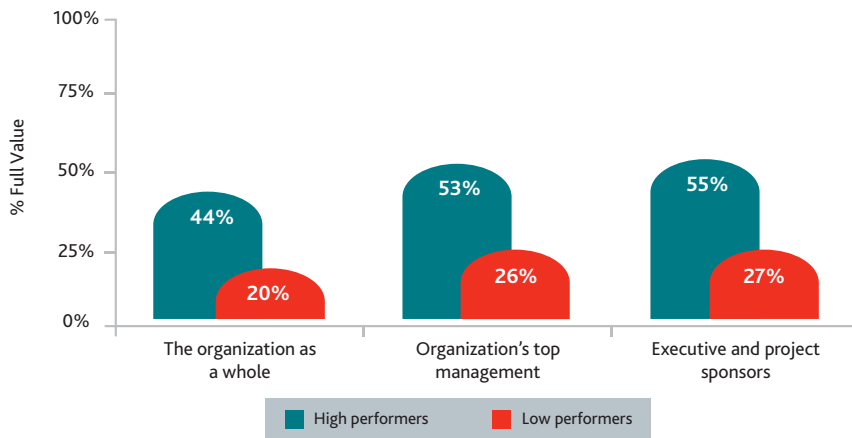


Figure 16

## PERSPECTIVE: THE RELATIONSHIP BETWEEN PROJECT MANAGERS AND BUSINESS ANALYSTS, BY DAVID P. BIEG

Our study also explored what project managers and business analysts expect in requirements management over the next 3 to 5 years. Two items of particular interest surfaced:

- An increase in the demand for business analysts (reported by 53 percent of organizations)
- An increase in the integration of requirements management and business analysis with project management (reported by 52 percent of organizations)

These responses were consistent between high and low-performing organizations. While increasing the number of business analysts and increasing integration is a positive sign, our study reveals that more needs to be done, particularly in the areas of leadership support, professional development and communication.

Our research suggests that collaboration between business analysts and project managers solves communication problems and fosters project success. However, we often allow hierarchical organizational structures to create barriers that get in the way of establishing productive working relationships grounded in mutual respect.

With a clear understanding of — and respect for — each other's roles and responsibilities, project managers and business analysts can work together effectively to achieve project objectives. When this happens, I've seen projects do better at estimating and scoping the work, have fewer changes, and significantly improve on delivered functionality. Collaboration also makes the job of the project manager and the business analyst easier because together they leverage their strengths and support each other to produce a better product while accomplishing the common goals of the organization.

According to our research, only 46 percent of organizations believe there is good collaboration between their project managers and business analysts. Yet, 68 percent of organizations indicate this collaboration is essential for project success. It is clear that there is significant room for improved collaboration — the first step on the path to project success and better business outcomes.



## CONCLUSION

Organizations can mitigate the negative impact that poor requirements management has on projects and programs, and the financial waste that result.

- Get the necessary resources in place to perform requirements management for projects and programs properly, and recognize and develop the employee skills needed for effective management of requirements;
- Standardize, formalize and mature the organization's requirements management processes, and consistently apply good requirements management practices; and
- Ensure that the organization, as a whole, top management and executive/project sponsors, fully value requirements management as a critical competency for projects and programs, and put the appropriate commitment behind it.

The organization's focus on people, processes and culture can significantly help to ensure requirements management is employed as a core competency for project and program success.

## ABOUT THIS REPORT

Research for PMI's *Pulse of the Profession® In-Depth Report: Requirements Management — A Core Competency for Project and Program Success* was conducted in May 2014 with responses from 2,066 project and program managers and business analysts. Additional in-depth telephone interviews were conducted with manager-level practitioners for the purpose of obtaining deeper insights into opinions and examples of situations, illustrating how effective requirements management contributes to project and program success.

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- 1 IAG Consulting. *Business Analysis Benchmark – 2009: The Path to Success*. 2009.
- 2 PMI. *Pulse of the Profession®: The High Cost of Low Performance*. January 2014.
- 3 Low performers are organizations that achieve 60 percent or fewer projects on time, on budget and meeting original goals. 2014 PMI *Pulse of the Profession®*.
- 4 High performers are organizations that achieve 80 percent or more of projects on time, on budget and meeting original goals. 2014 PMI *Pulse of the Profession®*.
- 5 PMI's Global Executive Council is a community of decision makers, subject matter experts and influencers who believe that shared learning, along with program and project management, can bring about real change and improve business results. The Council is comprised of representatives from approximately 80 globally recognized and influential organizations, ranging from financial institutions and IT to aerospace, defense and energy.



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