



Gartner for R&D Leaders

# How to Build a Business Case for Digital Investment in R&D

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To gain executive buy-in for R&D digital technology investments, R&D leaders must craft an effective business case that emphasizes sustainable business value. R&D leaders should use Gartner's structured approach to tell a compelling story of business value creation from their proposed investment.

# Overview

## Key Findings

- The most effective way of obtaining and maintaining funding for R&D technology investments is a business case that supports the R&D's overall digital transformation strategy.
- A convincing business case for R&D technology investments must demonstrate long-term business value creation including, but not limited to, incremental cost savings.
- Powerful storytelling of the business case among all stakeholders of the digital transformation effort helps reinforce stakeholder alignment with the transformation plan.
- A good business case has five characteristics — strategic alignment, clarity, transparency, pragmatism and narration.

## Recommendations

R&D leaders responsible for building business cases for technology investments in their digital transformation journey must:

- Establish a strategic foundation for the case by demonstrating alignment of the technology investment with the overall R&D digital transformation strategy and roadmap.
- Create a financial model of the investment by determining the cost savings from terminating existing systems and the cost of implementing the new digital technology.
- Socialize the business case by telling the influential stakeholders a story that talks about both the business benefits of each planned process as well as R&D-specific risks considerations.
- Ensure their business case incorporates the five key characteristics of a good business case to gain confidence of their influential stakeholders.

# Introduction

A recent survey of R&D leaders showed that 41% of them are renewing/replacing technology for interconnectivity and 26% are moving to cloud-based technology solutions. To convince management — especially business stakeholders — to invest in digital transformation, R&D leaders need to present a strong business case. This research outlines the three steps (see Figure 1) that R&D leaders can take to create a strong business case to secure funding for their digital technology investments:

- Create a financial model
- Tell a compelling story
- Incorporate five key characteristics

**Figure 1: How to Build a Strong Business Case**



# Analysis

## Create a Financial Model

It is difficult to demonstrate a high positive financial value for R&D digital transformation projects, as these projects rarely, if ever, link directly to revenue growth. As such, cost savings become the path to demonstrating financial benefits for the organization.

To create a financial model, R&D leaders should:

- **Map legacy systems to planned replacement systems.** Create an inventory of current systems and practices used to accomplish work within R&D, then map legacy/siloed systems and practices to planned replacement systems (see Table 1).

**Table 1: Example: Mapping of Legacy/Siloed Systems and Practices to Planned Replacement Systems**

Legacy Technology/System	Planned Replacement Technology/System
Paper laboratory notebook	Interconnected electronic laboratory notebook
Siloed laboratory instruments	Interconnected laboratory information management system
Siloed computer-aided design (CAD) system	Interconnected CAD system
Siloed engineering testing system or frame	Interconnected engineering testing system or frame
Siloed product life cycle management (PLM) system	Interconnected PLM system

Source: Gartner

- **Prioritize replacement projects.** Use good decision-making methods to prioritize replacements, as new systems will likely be implemented in a cadenced fashion.
- **Estimate the direct and indirect cost savings of the project.** This includes savings that can be attributed to the new technology, including elimination of direct and indirect costs associated with current technology and/or systems. Direct costs associated with legacy systems include application costs, licensing costs, renewal and/or upgrade fees, on-premises hardware costs and personnel costs. Indirect costs associated with legacy systems include inefficiency in data acquisition and storage, inefficiency of manual processes in data sharing, errors and rework costs.
- **Estimate acquisition and implementation cost of new systems.** This includes onetime costs such as cost of new technology acquisition and implementation, as well as ongoing costs such as cost of the new technology subscription and maintenance costs.
- **Calculate a financial metric appropriate for long-term investments.** Financial metrics appropriate to R&D technology investments may be: net benefits analysis (the value of all benefits less the value of all costs), cost-benefit analysis (the ratio of the value of all benefits to value of all costs) or cost-effectiveness analysis (a comparison of the total cost of the project to its effectiveness as measured in outcomes).

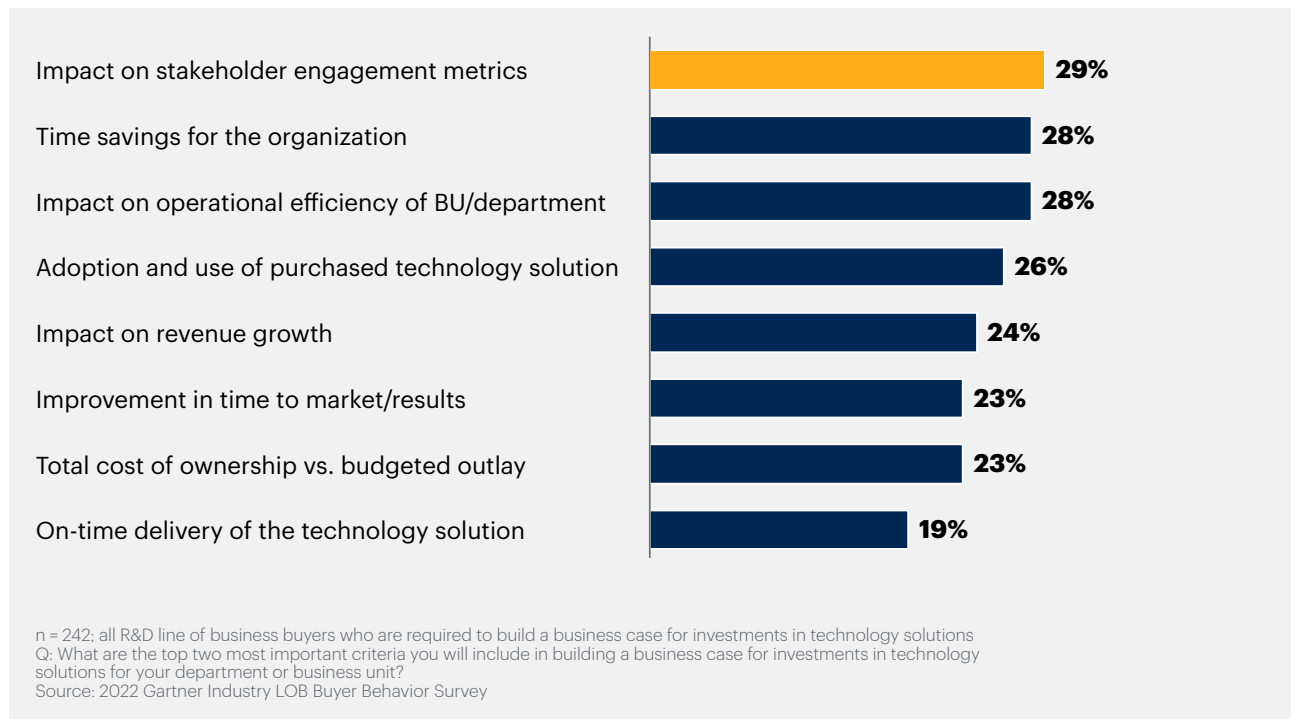
## Tell a Compelling Story

To tell a compelling story of business value creation through their business case, R&D leaders should:

- **Demonstrate impact on metrics most important to influential stakeholders.**

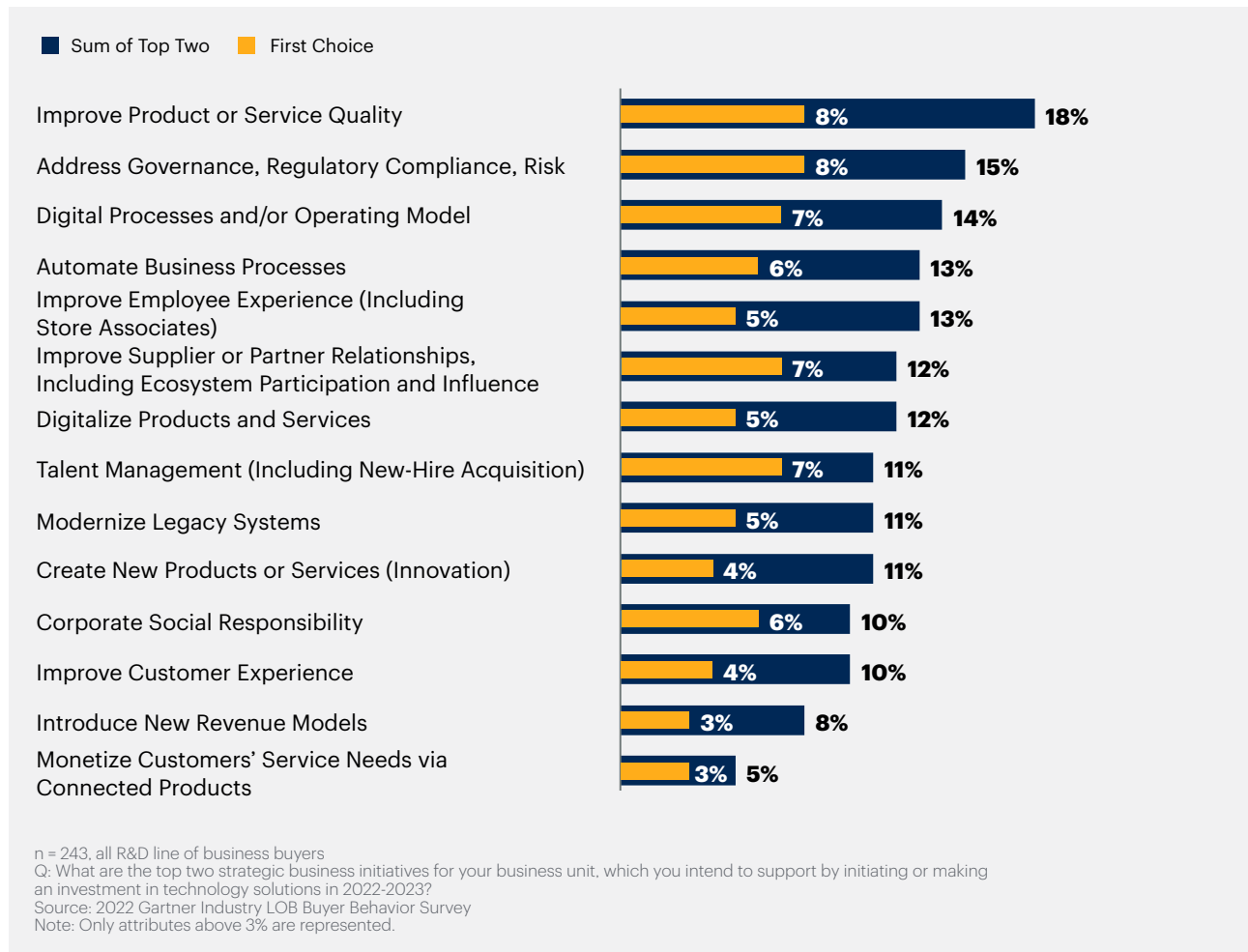
For R&D leaders, the top criterion for including information in a business case for technology investments is impact on stakeholder engagement metrics (see Figure 2). R&D leaders must thus craft their story around how the investment will impact metrics such as customer satisfaction, channel partner relationship and Net Promoter Score.

**Figure 2: Top Criteria for Building a Business Case for Technology Investments in R&D**



- **Emphasize how digital transformation improves business outcomes through R&D process improvements.** Technology investments that support R&D's digital transformation strategy provide long-term benefits, many of which are qualitative such as process efficiency, automation, data democratization, increased personnel bandwidth and talent outcomes. As the business value of these improvements is difficult to quantify, R&D leaders can use business impact data (see Figure 3) to highlight the qualitative business benefits of digital transformation.

**Figure 3: Top Two Business Impacts From Making Technology Investments in R&D**



- Map legacy processes to planned processes and discuss business benefits of each.** Create an inventory of current processes within R&D and map legacy processes to planned new processes (see Table 2). Then, discuss the business benefits of each planned process change, for example, digitalizing processes and/or operating models will improve speed to market, automating formerly manual R&D procedures will reduce errors and rework, and digitalizing R&D data and analytics environment will improve talent acquisition and retention.

**Table 2: Example: Mapping of Legacy Processes to Planned New Processes**

Legacy Processes	Planned New Processes
Stand-alone processes and/or operating model	Digitalized processes and/or operating model
Manual procedures	Automated procedures Manual
Manual data input and sharing	Automated data input and sharing
Poor data and analytics environment	AI-enabled democratized data and analytics environment

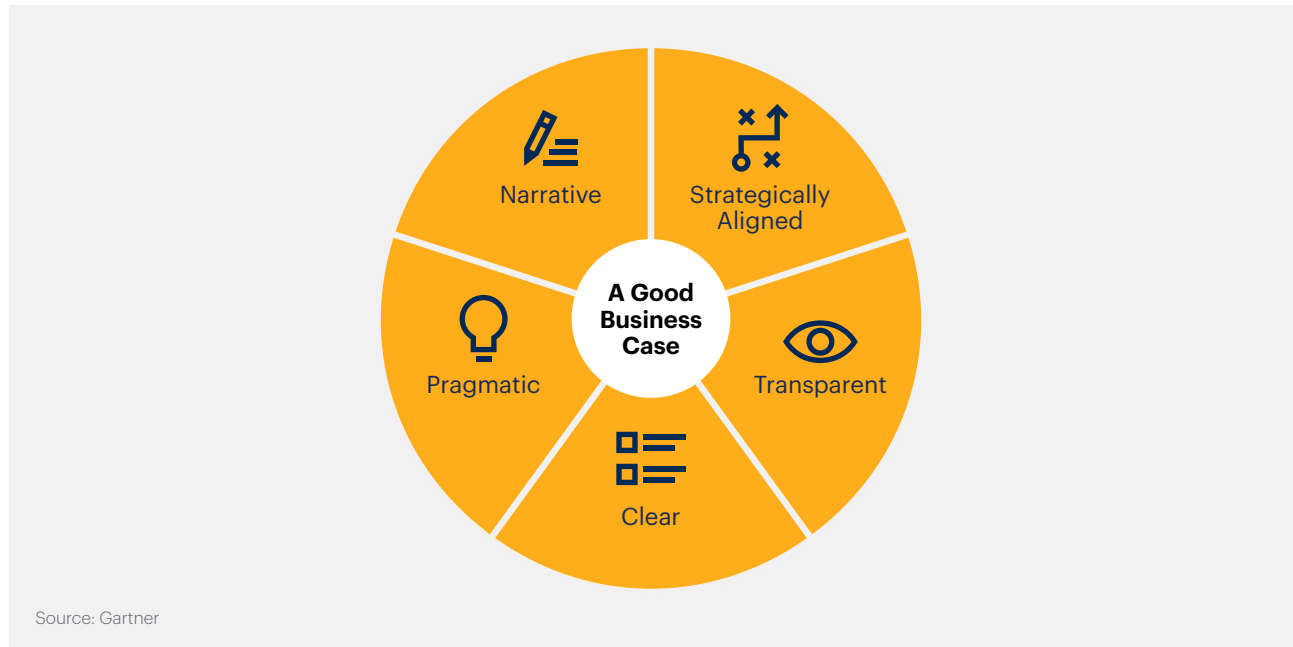
Source: Gartner


- **Outline the risk considerations of the project.** This should include the risks of not investing as well as the risks of investing in the project. The risks of not investing in the digital technology investment may include increasing costs due to poor efficiency, manual errors and rework, poor decision making due to limited data and analytics, reduced competitiveness compared to other companies executing digital transformation, and unpredictable downtime of the aging legacy systems. The risks of investing in the project may include near-term loss of productivity when transitioning to the new system, investment requirements higher than originally estimated, interconnectivity problems with already interconnected systems, security of data in cloud-based systems, and vulnerability to cybercrimes and ransom attacks.

# Incorporate Five Key Characteristics


A review of business case literature reveals that good business cases have five characteristics. They are strategically aligned, clear, transparent, pragmatic and narrative (see Figure 4).

**Figure 4: The Five Characteristics of a Good Business Case**



**Strategically Aligned** 

It cannot be overemphasized that the business case must align with and support the overall strategy and roadmap for digital transformation. The business case should not reflect the R&D leader’s point of view, which might be interpreted as only serving the R&D function as opposed to supporting the overall business. R&D leaders must be careful to craft the business case communication collateral to address the concerns of the stakeholders. Influential stakeholders must see that the business case is in alignment from their unique points of view.

**Transparent** 

The business case should explicitly state all assumptions, particularly when presenting the financial model. In the absence of transparency, influential stakeholders may question the likelihood that the costs, risks and beneficial outcomes of the project will be achieved.

### Clear



The benefits of investing in digital transformation projects in R&D are unique from other corporate functions because they produce more intangible, long-term benefits than tangible, short-term benefits. This point must be clearly and concisely made throughout the business case narrative. Expectations for the outcome of these investments among stakeholders must be managed accordingly.

### Pragmatic



The merit of the project should be judged by applying the “Should-Could” Matrix. Two questions should be answered in the business case narrative: Will the project provide sufficient future benefits compared to its cost? Does the organization have the capabilities to successfully complete and implement the proposed technology investment?

### Narrative



R&D leaders face a challenge to secure resources for technology investments because they are competing with other functions for finite financial resources. Other functions may be advantaged because their investment proposals will promise tangible, near-term benefits. As such, R&D leaders must depend on convincing storytelling of their business case, emphasizing the long-term benefits of their proposals.

The financial model and the story of business value creation should reflect these characteristics to build confidence in the influential stakeholders that the business case is realistic and achievable.

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