

Capture AI Value With These 5 Benefit Realization Best Practices

7 June 2023 - ID G00788429 - 14 min read

By Leinar Ramos, Rajesh Kandaswamy

Defining and measuring business value are the top barriers to AI implementation. Data and analytics leaders focused on AI must implement the five benefit realization best practices in this research to capture and monitor the value of their AI projects.

Overview

Key Findings

- The main barriers to AI investment and adoption are a lack of understanding of AI benefits and the inability to measure them.
- Mature AI organizations define business KPIs much earlier than lower-maturity organizations, typically at the ideation phase of every AI use case.
- Capturing business value from AI projects requires much more than having a high-performing AI model. It requires process engineering, change management, resource allocation, training, incentive design and other key factors to ensure that the organization is ready to realize benefits from the project.
- To test and isolate the specific impacts of AI projects, advanced AI teams employ a more diverse portfolio of measurement techniques, going beyond traditional financial metrics.
- Organizations often neglect benefit realization once the AI model has been deployed, monitoring only technical KPIs and failing to track all the factors that drive business value.

Recommendations

As a data and analytics leader working on AI, you should:

- Tell a compelling story about the value you will create with AI to gain buy-in, build momentum and drive adoption.
- Define a value hypothesis at the start of the project by quantifying the improvement that your AI project will have on a specific KPI.

- Build a plan with the actions and changes required to realize benefits from your AI project. Ensure that business partners are ready to change their behavior based on new insights.
- Rigorously test the value hypothesis as you rapidly iterate the AI project, by using a combination of methods (e.g., attribution methods and A/B testing) to verify the targeted improvement to the defined KPI.
- Define and track leading and lagging metrics for your AI projects. Establish a system that goes beyond technical metrics to robustly monitor the value generated by the AI model after deployment.

Introduction

AI has the potential to create substantial business value for organizations, but AI teams often find it challenging to realize and communicate these business benefits. In a recent Gartner survey, “difficulty measuring the value” and “lack of understanding of AI benefits and uses” were the main two barriers to AI implementation, ahead of data accessibility, data quality, lack of AI skills and many other factors. ¹

Benefit realization is the process of identifying, planning and measuring the business outcomes of a project. This process is both critical and challenging for AI projects.

AI techniques are unlike other technologies in that they can learn and adapt their behavior in complex ways. These are powerful attributes, but they can also make it hard to predict the performance of AI models. This challenge will only intensify with the advent of generative AI – a powerful technology, but one riddled with hard-to-predict failure modes.

AI benefits are also hard to plan for because they require business actions, as well as process and behavioral changes, that go beyond the direct control of AI teams. Similarly, it is hard to attribute benefits to just AI model outputs because KPIs are affected by many factors.

All of these challenges result in a fundamental gap between AI model outputs and business benefits: Organizations could have the best AI models, but still fail at delivering value.

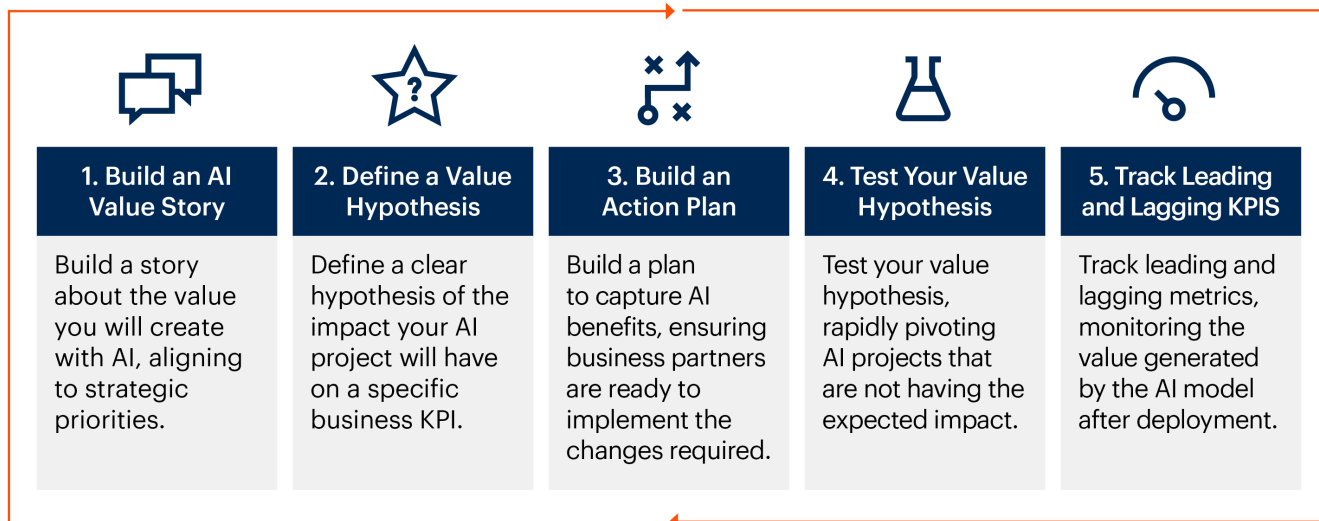
Benefits do not happen by themselves. They need to be actively managed and monitored before, during and after AI model deployment.

Thus, to derive tangible business benefits from their AI projects, data and analytics leaders must implement the five benefit realization best practices described in this research (see Figure 1).

Figure 1: Five Key Practices for AI Benefit Realization



Five Key Practices for AI Benefit Realization



Source: Gartner
788429_C



Analysis

Practice 1: Build an AI Value Story

Before they can get started, AI projects first need to obtain funding. To sell the value of AI initiatives, data and analytics leaders must build a value story. This is not a traditional business case, but a compelling articulation of the project’s benefits.

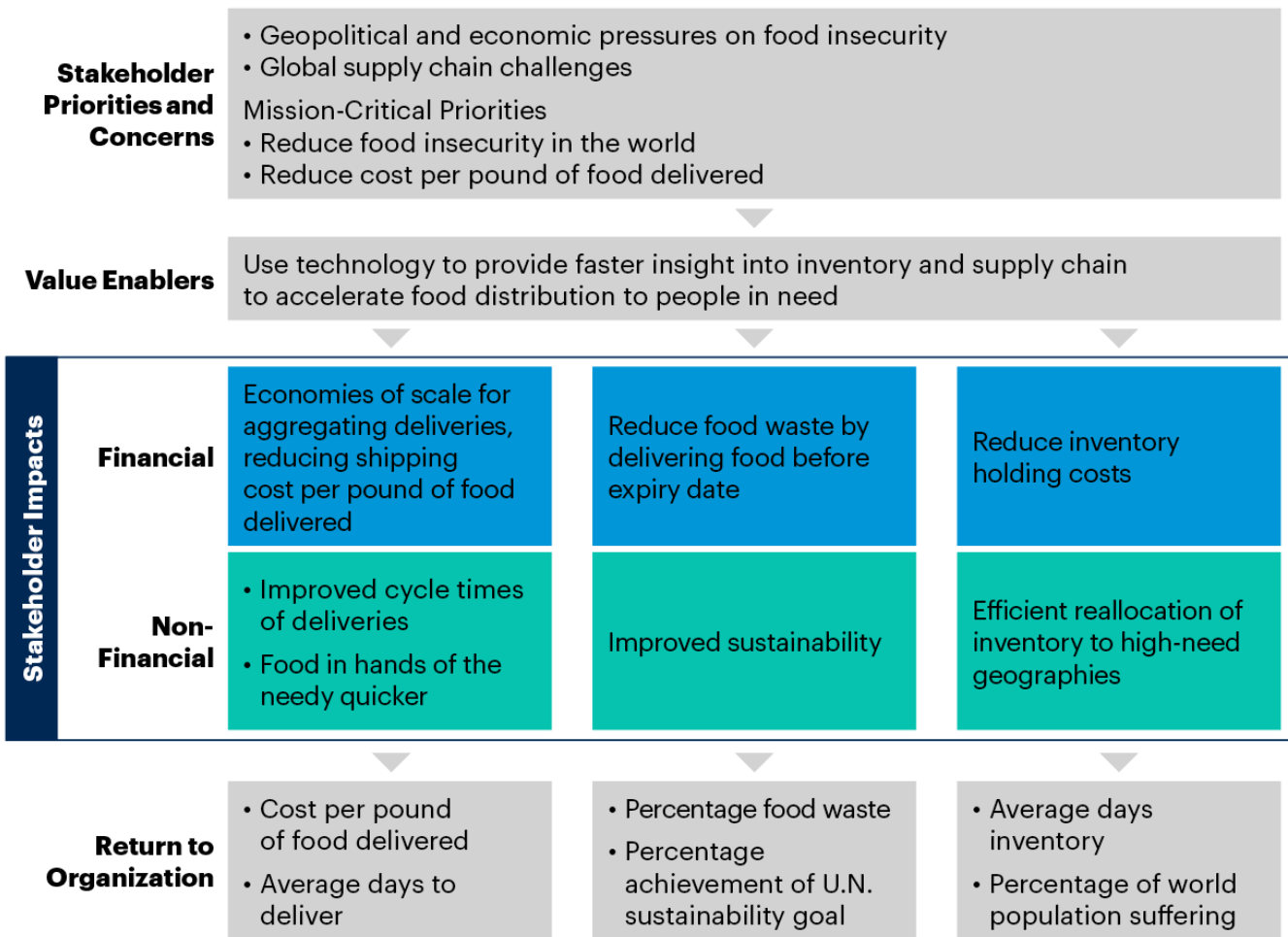
A value story is a narrative that illustrates progress toward business outcomes. These stories are told from the perspective of stakeholders’ key priorities, and communicate both financial and nonfinancial benefits tied to these priorities. They are also helpful in identifying the outcomes and KPIs that will define success for the AI project.

These value stories can be supported by data, but they must be told in a compelling way that evokes emotion from the audience. They should start with the stakeholders’ priorities and conclude with the benefits to the organization. Figure 2 provides a high-level example of an AI value story (see also [Infographic: How to Sell the Business Benefits of Data and Analytics](#)).

Figure 2: Example of an AI Value Story



Food Distribution Nonprofit Value Story Framework



Source: Gartner
770206_C

Gartner

Stakeholders don't make decisions on data alone. AI success requires storytelling.

You can also employ an AI use-case portfolio view to communicate potential value. This tool can help you visually communicate to business partners how different use cases rank in terms of business benefits and feasibility (see [Toolkit: Discover and Prioritize Your Best AI Use Cases With a Gartner Prism](#)).

Value stories are not optional. They are required to secure funding, drive adoption and create momentum for AI projects to scale. They are also key as a first step to defining a precise value hypothesis.

Practice 2: Define a Value Hypothesis

AI teams must define a value hypothesis: an assumption about the improvement that the AI project will have on a specific business KPI. This hypothesis should flow from the value story defined in the previous section, targeting a concrete KPI that is well-aligned to the top priorities of the organization.

This is just a hypothesis because you simply do not know in advance if it will come true. However, having a hypothesis with a clearly defined business KPI allows the AI team to remain focused on business value, and to iterate toward a specific goal.

The hypothesis does not need to be complicated – a simple format like the one below is often enough.

Value Hypothesis Format:

(AI Use Case “X”) will increase/decrease (Business KPI “Y”) by (“Z”%) amount

Creating a value hypothesis is a critical discipline because business KPIs are often an afterthought in AI. Teams often leave the business KPI definition for much later in their projects. In the 2022 Gartner AI Use-Case ROI Survey, we found that mature AI organizations do the opposite – they are more likely to define their business metrics at the ideation phase of every AI use case than low-maturity ones. ² AI teams must identify the business KPI that the AI project will improve at the very start of their projects, *without exception*.

The business KPI does not necessarily need to be financial. According to the 2022 Gartner AI Use-Case ROI Survey, mature AI organizations do not directly use financial metrics (like Net Present Value) as much as they use more indirect business metrics to estimate their AI’s value (see Figure 3). ³ Indirect metrics are those that can influence customer success, cost efficiency and business growth.

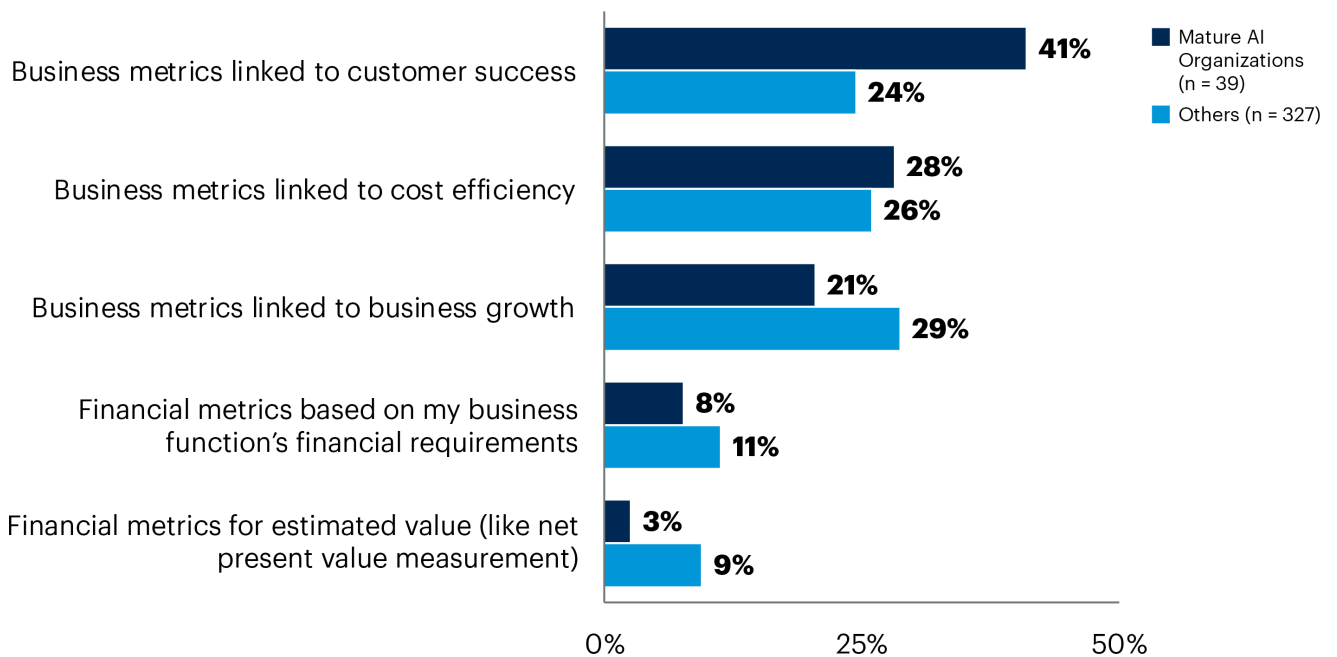
These indirect business metrics can drive financial performance, but are typically a few steps removed. They include KPIs like inventory cycle time, impact on Net Promoter Score, productivity improvements and others. Accounting for indirect business metrics is very important to measuring the value of AI (see [How to Optimize Enterprise Value From Data and Analytics](#)). Solely focusing on financial metrics can make organizations miss critical investments in important projects that have longer-term, but strategic, impacts.

Figure 3: Business Metrics Developed to Estimate Return on AI Investment



Primary Business Metrics Developed to Estimate Return on AI Investment by Level of Maturity

Percentage of Respondents



n = varies; asked only respondents using essentially business metrics and/or combination of technical and business metrics (Q14 = 2 or 3); excluding "not sure."

Q: What kind of business metrics has your organization primarily developed to estimate the return on your AI investment?

Source: 2022 Gartner AI Use-Case ROI Survey

788429_C

Gartner

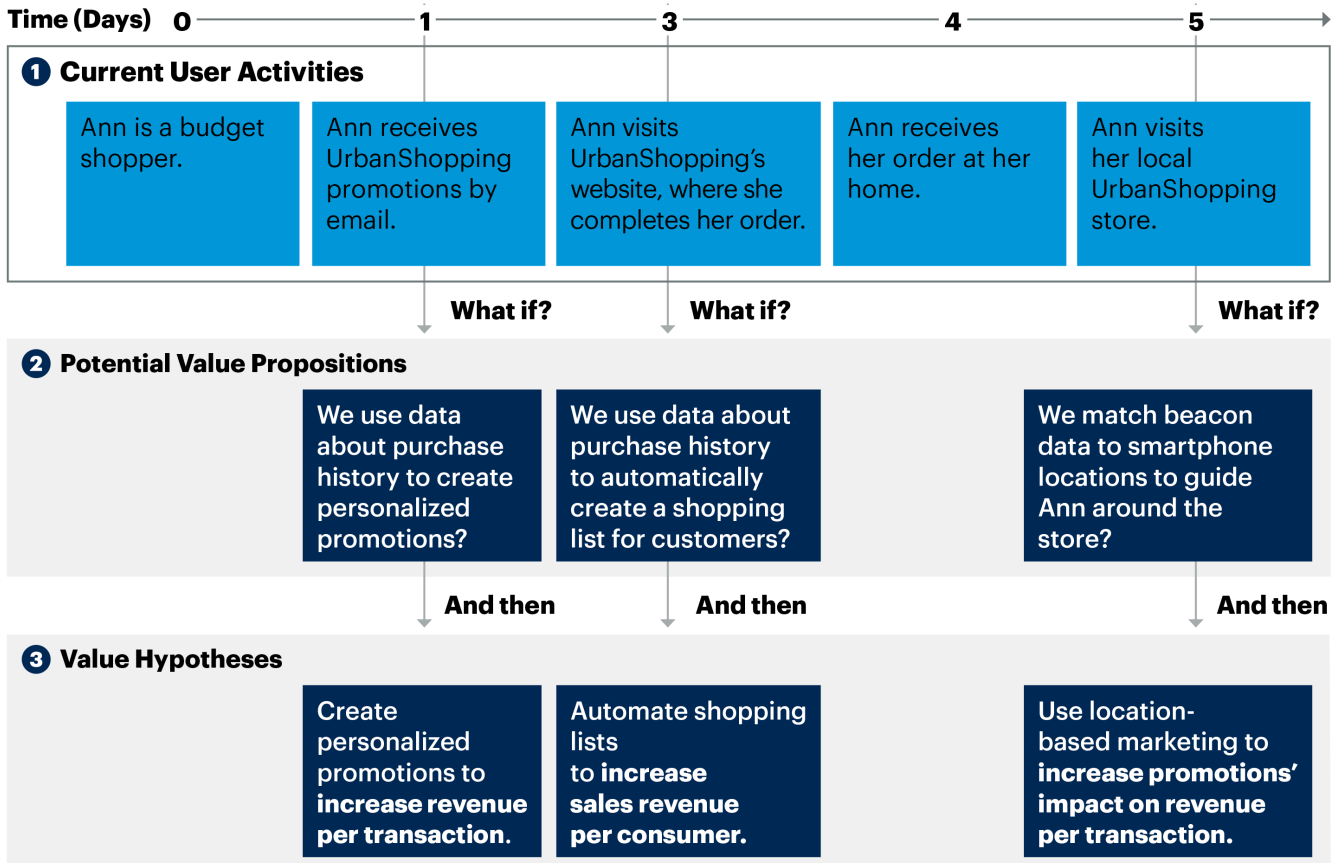
Figure 4 provides examples of value hypotheses from a European retailer (under the pseudonym "UrbanShopping"), which assigned a value hypothesis for each of its AI use cases immediately after they were identified. ⁴

Figure 4: Creation of Value Hypotheses (UrbanShopping*)



UrbanShopping's* Data Journey Map

Illustrative



* Pseudonym

Source: Adapted From Urban Shopping

788429_C

UrbanShopping*

Gartner.

In summary, AI teams must define a value hypothesis as soon as they identify an AI use case that they will be working on.

Practice 3: Build an Action Plan

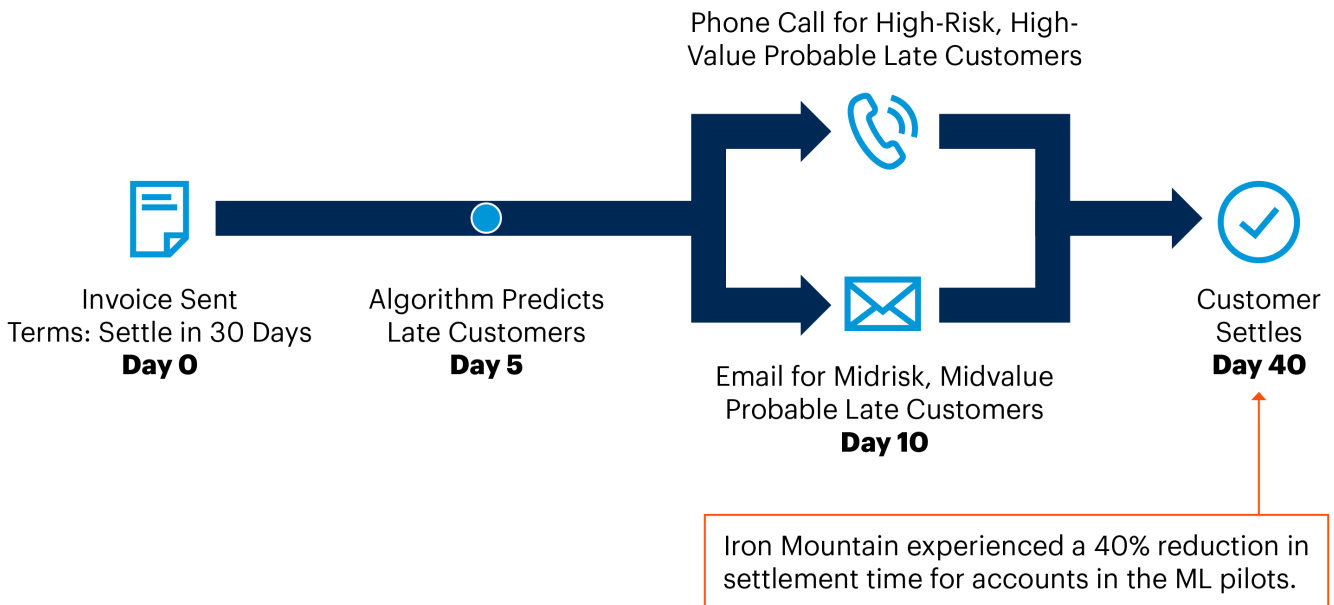
Capturing AI benefits doesn't happen by itself. AI teams must have a plan to go from an AI output to a set of actions and changes that will ultimately drive the business KPI.

Figure 5 provides an example from Iron Mountain, which reduced its target KPI – customer settlement time – by adapting its accounts receivable process to use machine learning.⁵ Crucially, Iron Mountain added customer contact business actions (at Day 10) based on the AI predictions. Without these additional actions, the value of the AI predictions would have gone unharvested.

Figure 5: Example of an AI Action Plan (Iron Mountain)



AI Action Plan Example



Source: Adapted From Iron Mountain
788429_C



Gartner

Change management can be challenging because AI projects often necessitate changes that go beyond the direct control of the AI team building the models. Such changes typically involve process reengineering, team upskilling, resource allocation and technology modifications.

It is crucial to avoid building this action plan in isolation. You need to understand whether business partners are ready to execute these actions. A business readiness checklist can help you ensure that business partners are on board. Table 1 provides an example of one from Micron Technology (Micron).⁶ Your action plan must also include the training and incentive design necessary to ensure that the business adopts the AI models. (You can use the value story, described in the Practice 1 section, to communicate the benefits for different stakeholders.)

Table 1: Business Readiness Filters (Micron)

Are Business Partners Ready to Act on the Prediction?

Can they:

- Change the business process as needed?
- Allocate the right resources?
- Change the technology?
- Reorganize teams as necessary?

Source: Adapted From Micron

Practice 4: Test Your Value Hypothesis

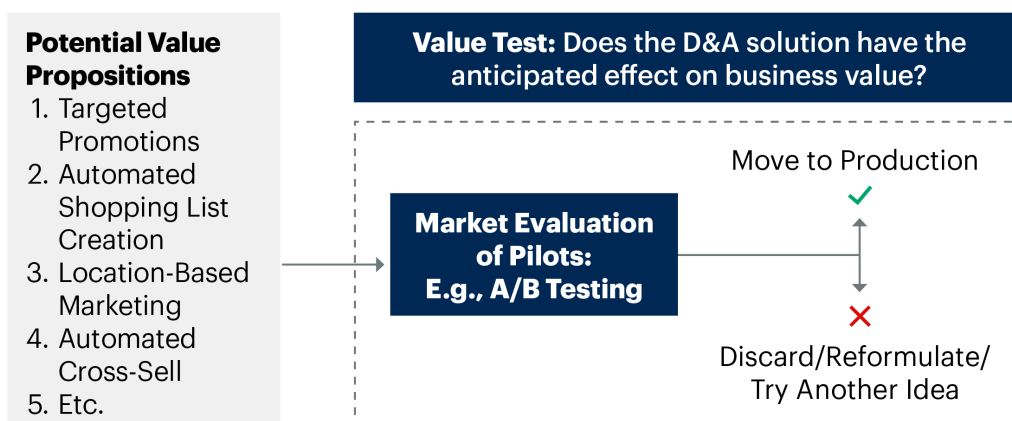
It is often challenging to isolate the effect that an AI project has on the target business KPI (the value hypothesis described previously), because many factors outside the AI project also affect that KPI.

A/B testing is the standard approach to measuring a change's impact on KPIs. In A/B testing of AI, the new AI solution is applied to a randomly chosen subset of cases while a control group is maintained to compare business KPI performance. Figure 6 provides an example of A/B testing from a European retailer (under the pseudonym "UrbanShopping").⁴ In this example, the retailer's AI value hypotheses (described in the Practice 2 section) are A/B-tested to determine whether they should move into production. A/B tests are the ideal setup to run an experiment and test the value hypothesis.

Figure 6: Testing the Value Hypothesis (UrbanShopping*)



Testing the Value Hypothesis



* Pseudonym

Source: Adapted From Urban Shopping

788429_C

UrbanShopping*

Gartner

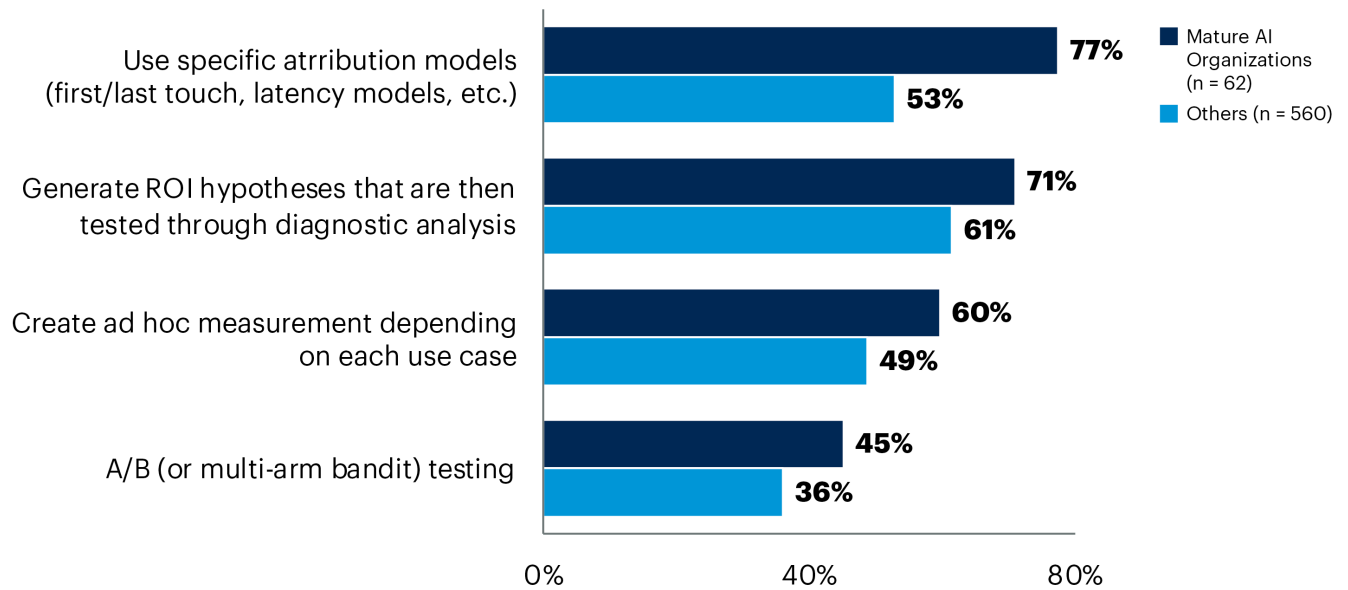
However, A/B tests are not always possible or economically feasible (see [Innovation Insight: Causal AI](#) for alternative techniques). According to the 2022 Gartner AI Use-Case ROI Survey, mature AI companies employ a combination of methods to measure the value of AI projects (see Figure 7).⁷ They tend to use other methods much more than A/B testing. In particular, they use attribution models – such as first-/last-touch attribution or latency models – to assign credit to actions taken because of the AI project.

Figure 7: Measures Used to Attribute the Net Benefit of AI



Measures Used to Attribute the Net Benefit of AI by Level of Maturity

Percentage of Respondents



n = varies; leaders involved in AI; excluding “not sure.”

Q: How does your organization attribute the net benefit (evaluate the contribution) of AI within your use cases?

Source: 2022 Gartner AI Use-Case ROI Survey

788429_C

Gartner

Before fully deploying their AI model, AI teams must choose one or several approaches to test their value hypothesis. Iterating quickly, they must either prove or disprove that the AI use case resulted in the expected business benefit.

This discipline is key to keep the focus of the team on benefit realization. Crucially, testing should be done as early in the process as possible. The objective is to fail fast and iterate before spending too much time on a misguided effort.

Practice 5: Track Leading and Lagging KPIs

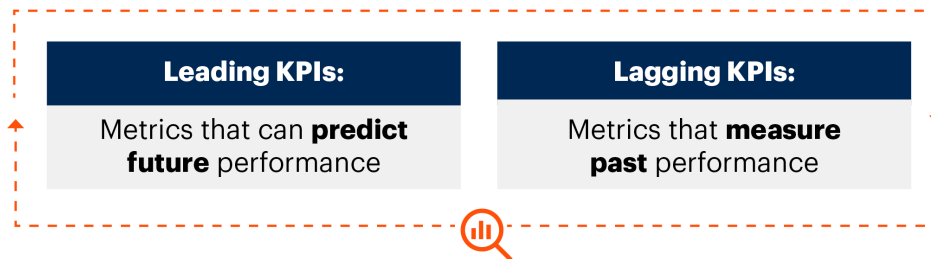
The deployment and release of an AI model are only the start of AI benefit realization. To drive AI business value, you need to continuously monitor and act on two types of metrics (see Figure 8):

- **Lagging KPIs:** Metrics that assess past performance. The main lagging KPI for AI projects is the business KPI defined in the value hypothesis (discussed in the Practice 2 section). AI teams need to continuously monitor the business KPIs targeted and analyze deviations from expected performance.
- **Leading KPIs:** Metrics that can predict future performance and that are useful early indicators of performance issues. In AI projects, the leading KPIs might measure different steps of the action plan required to realize business benefits (described in the Practice 3 section). Similarly, the AI model performance can be seen as one – but not the only – leading indicator of the future business value to be created.

Figure 8: Leading and Lagging Indicators



Leading and Lagging Indicators



To drive AI business value, both types of KPIs must be continuously monitored.

Source: Gartner
788429_C

Gartner

According to the 2022 Gartner AI Use-Case ROI Survey, mature AI organizations are more likely than low-maturity ones to measure a *combination* of technical and business metrics for their AI projects.⁸ Monitoring is particularly important for AI projects because model input “drift,” system performance and business operations can cause business benefits to dissipate.

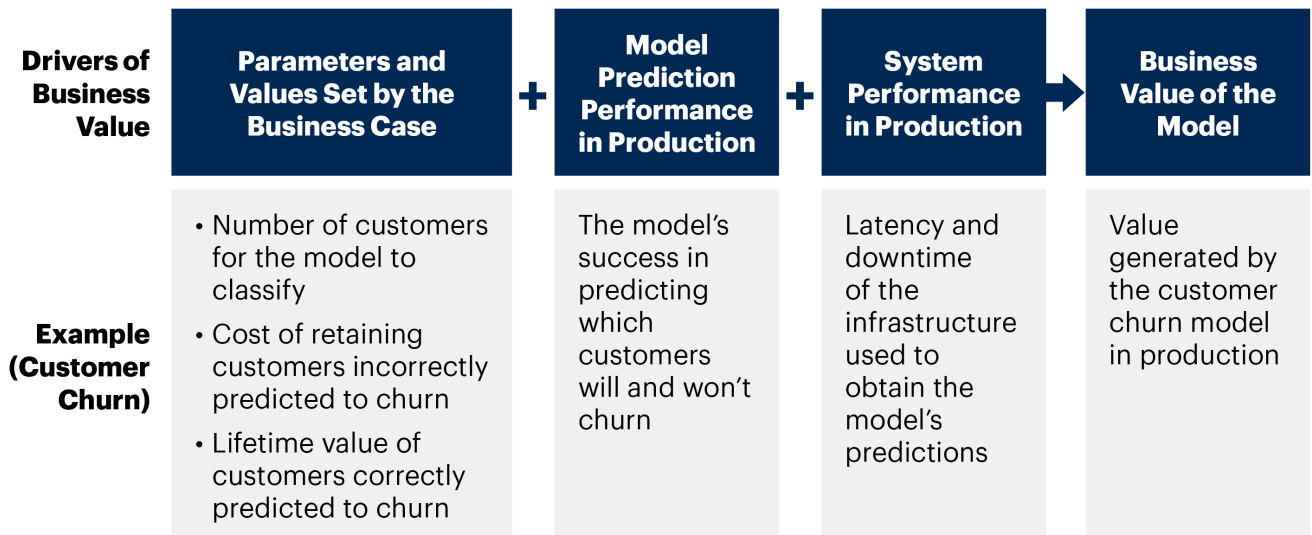
Figure 9 shows how Georgia Pacific monitors business value from AI models in production.⁹ It measures not only the lagging KPI of business value via customer churn reduction, but also the leading KPIs related to the business case, AI model predictive performance and system performance.

The message is clear: The predictive performance of an AI model is only one of many factors that affect business value.

Figure 9: Business Value Framework for AI Models (Georgia Pacific)



Business Value Framework for AI Models



Source: Adapted From Georgia Pacific
788429_C



AI teams must establish a monitoring system that includes leading and lagging KPIs, detects deviations from expected performance, and acts on those deviations. Moreover, there should be named owners who investigate and resolve the deviations.

Ultimately, the five-step process described in this research is iterative in nature. AI teams must build a value story, identify and test their hypothesis, and make adjustments to continuously improve performance, both before and after deploying their AI models.

The organizations profiled in this research are provided for illustrative purposes only, and do not constitute an exhaustive list of examples in this field, nor an endorsement by Gartner of the organizations or their offerings.

Evidence

2021 Gartner AI in Organizations Survey: This survey was conducted to understand the keys to successful AI implementations and the barriers to the operationalization of AI. The research was conducted online from October through December 2021 among 699 respondents from organizations in the U.S., Germany and the U.K. Quotas were established for company size and for industries to ensure a good representation across the sample. Organizations were required to have developed AI or intended to deploy AI within the next three years. Respondents were required to be part of the organization's corporate leadership or report into corporate leadership roles, and have a high level of involvement with at least one AI initiative. Respondents were also required to have one of the following roles related to AI in their organizations: determine AI business objectives, measure the value derived from AI initiatives, or manage AI initiative development and implementation. Disclaimer: Results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

2022 Gartner AI Use-Case ROI Survey: This survey sought to understand where organizations have been most successful in deploying AI use cases and figure out the most efficient indicators that they have established to measure those successes. The research was conducted online from 31 October through 19 December 2022 among 622 respondents from organizations in the U.S. (n = 304), France (n = 113), the U.K. (n = 106) and Germany (n = 99). Quotas were established for company sizes and for industries to ensure a good representation across the sample.

Organizations were required to have developed AI to participate. Respondents were required to be in a manager role or above and have a high level of involvement with the measuring stage and at least one stage of the life cycle from ideating to testing AI use cases. Disclaimer: The results of this survey do not represent global findings or the market as a whole, but reflect the sentiments of the respondents and companies surveyed.

* Pseudonym.

¹ In the 2021 Gartner AI in Organizations Survey 2021, we asked, “What are or will be the top three barriers to the implementation of AI techniques within your organization?” (n = 698; base; excluding “not sure.”)

² In the 2022 Gartner AI Use-Case ROI Survey, we asked, “At what stage are the metrics defined for measuring business value of AI use cases in your organization?” (n varies; asked only respondents using essentially business metrics and/or a combination of technical and business metrics; excluding “not sure.”)

³ In the 2022 Gartner AI Use-Case ROI Survey, we asked, “What kind of business metrics has your organization primarily developed to estimate the return on your AI investment?” (n varies; asked only respondents using essentially business metrics and/or a combination of technical and business metrics; excluding “not sure.”)

⁴ For the full 2019 case study, see [Continuously Market-Tested Data & Analytics Strategy \(UrbanShopping*\)](#).

⁵ For the full 2019 case study, see [Case Study: Simple Machine Learning Pilots \(Iron Mountain\)](#).

⁶ For the full 2021 case study, see [Machine Learning Literacy for Business Partners \(Micron\)](#).

⁷ In the 2022 Gartner AI Use-Case ROI Survey, we asked, “How does your organization attribute the net benefit (evaluate the contribution) of AI within your use cases?” (n varies; leaders involved in AI; excluding “not sure.”)

⁸ In the 2022 Gartner AI Use-Case ROI Survey, we asked, “What metrics is your organization using when measuring AI use cases?” (n varies; leaders involved in AI; excluding “not sure.”)

⁹ For the full 2021 case study, see [Case Study: Monitoring the Business Value of AI Models in Production \(Georgia Pacific\)](#).

Learn how Gartner can help you succeed

[Become a Client](#)

© 2024 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner is a registered trademark of Gartner, Inc. and its affiliates. This publication may not be reproduced or distributed in any form without Gartner's prior written permission. It consists of the opinions of Gartner's research organization, which should not be construed as statements of fact. While the information contained in this publication has been obtained from sources believed to be reliable, Gartner disclaims all warranties as to the accuracy, completeness or adequacy of such information. Although Gartner research may address legal and financial issues, Gartner does not provide legal or investment advice and its research should not be construed or used as such. Your access and use of this publication are governed by [Gartner's Usage Policy](#). Gartner prides itself on its reputation for independence and objectivity. Its research is produced independently by its research organization without input or influence from any third party. For further information, see "[Guiding Principles on Independence and Objectivity](#)." Gartner research may not be used as input into or for the training or development of generative artificial intelligence, machine learning, algorithms, software, or related technologies.

[About](#) [Careers](#) [Newsroom](#) [Policies](#) [Site Index](#) [IT Glossary](#) [Gartner Blog Network](#) [Contact](#) [Send Feedback](#)

Gartner[®]

© 2024 Gartner, Inc. and/or its Affiliates. All Rights Reserved.