



Current Research Projects

MIT CISR investigates contemporary concerns to help executives meet the challenge of leading dynamic, global, and information-intensive organizations. MIT CISR research scientists and collaborators from around the world produce rigorous academic research using a variety of methods. The relevance of the research is ensured by the active participation of corporate sponsors and patrons from a range of industries; our insights are disseminated through research publications and events.

Competing on Knowledge: The Next Challenge for Scaling AI

Since 2019, MIT CISR's data research team has investigated how organizations scale AI in the pursuit of becoming AI-fueled. We have discovered that scaling AI requires advanced data monetization capabilities, an AI explanation capability, and a rethinking of scale to realize both deployment success and model recontextualization. This year we will investigate yet another area to rethink: model management. In 2023, we will explore model management to better understand its role in scaling AI—and the implications for how organizations need to think about and manage organizational knowledge.

This study will primarily rely on a survey of several hundred executives with an understanding of AI at their organization. The research team will also conduct at least one vignette or case study on a company that has achieved success in scaling AI.

Research questions we will pursue include:

- Is model knowledge management different from traditional knowledge management? Why or why not?
- How can AI-model knowledge contribute to an organization's competitiveness and firm performance?

This project is a continuation of MIT CISR's 2022 research project on [Managing AI Scale: Identifying Approaches that Work](#).

RESEARCH TEAM: Barb Wixom (lead, MIT CISR), Ida Someh (U. of Queensland), Robert Gregory (U. of Miami), Olgerta Tona (U. of Gothenburg)

SEEKING: We are seeking participation in the research from executives with familiarity of at least one AI initiative at their organization.

Essential Practices to Realize More Value Faster from Digital Innovations

In earlier research, we found that to realize more value faster from digital innovations, established organizations are redesigning themselves around three learning imperatives: What skills do large, established organizations consider essential for a digital-first workforce?

1. **Innovation teams** must take a test-and-learn approach to build a successful digital innovation—i.e., one that is valuable to both end-users and the organization.
2. **Top-level management** must learn frequently from initiatives to build an innovation portfolio that meets more strategic objectives despite scarce resources.
3. **Functional experts** must learn to build shared resources that help similar initiatives scale.

MIT CISR Current Research Projects

In 2023, we will conduct a survey to identify practices that distinguish top-performing companies as they test and learn at both the digital innovation initiative and portfolio levels and when developing shared resources. In addition, we will conduct a case study.

We will focus on the following research questions:

- How do companies learn whether an initiative will generate a digital offering that is desirable, feasible, and profitable?
- How do companies regularly reallocate scarce resources—especially people—to the initiatives that contribute most to their strategic objectives?
- How do companies learn about and address any common challenges across sets of similar digital innovation initiatives?

This project is a continuation of MIT CISR's 2022 research project on [Learning to Create More Strategic Value Faster with Digital Innovations](#).

RESEARCH TEAM: Nils Fonstad (lead, MIT CISR), Martin Mocker (Reutlingen U.), Jukka Salonen (retired), Dave Robertson (MIT Sloan)

SEEKING: We are seeking participation in the research from executives who have helped strengthen their organization's capacity to learn more and more often from digital innovation initiatives, regarding the value those initiatives generate in relation to the organization's strategic objectives.

Growing with xTechs

Large established organizations often work with application-specific technology startups, which we call xTechs, to innovate in digital customer experience and operations. The results can be spectacular but are inconsistent. This project explores how leading organizations succeed when innovating with xTechs. To study this phenomenon we will conduct interviews, do case studies, and supplement the findings with secondary data, a Delphi Panel, workshops, and polling.

We will focus on the following research questions:

- How do large organizations manage xTech collaborations effectively?
- How do they measure success, and how successful are they?
- What advice do xTechs have for large organizations?

RESEARCH TEAM: Alan Thorogood (lead, MIT CISR), Peter Weill (MIT CISR), Stephanie Woerner (MIT CISR)

SEEKING: Ideal project participants in this research include FinTech consortiums, large organizations engaging with xTechs, and xTech founders and team members.

Leveraging Digital Ecosystems for Sustainability

Companies increasingly use digital technologies and data to develop products, services, and business practices that contribute to sustainability objectives. Based on past MIT CISR research, we hypothesize that companies with ambitious sustainability objectives must leverage the power of digital ecosystems, and in doing so will create ongoing value for all participants. We will study this by conducting interviews with experts and executives responsible for companies' digital initiatives for sustainability and creating case studies on successful initiatives.

We will focus on the following research questions:

MIT CISR Current Research Projects

- To what extent have companies leveraged ecosystems to make significant progress on sustainability objectives?
- What practices help companies overcome challenges, create momentum, and realize sustainability value and other digital value from digital initiatives for sustainability?
- How do companies hold digital initiatives accountable for realizing value and how do they track the cumulative impact?

RESEARCH TEAM: Ina Sebastian (lead, MIT CISR), Thomas Haskamp (U. of Potsdam), Stephanie Woerner (MIT CISR), Barb Wixom (MIT CISR)

SEEKING: We are seeking participation in the research from executives responsible for digital initiatives that have made significant progress on sustainability objectives and that have created value. We are particularly interested in digital initiatives for sustainability currently underway or completed with other organizations.

Making Talent a Competitive Advantage

One of the perennial challenges to organizations globally has been how to develop and sustain a skilled workforce. This challenge has recently been magnified by the need to fill clear gaps in terms of technical skills that are required to become an increasingly digital organization, and by changes in the expectations of talent. Turning the talent challenge into a competitive advantage requires a strategy that meets the needs of both employees and employers.

This study will rely on exploratory qualitative case studies, in conjunction with quantitative analysis of the exploratory survey data in the recent MIT CISR 2022 Decision Rights for the Digital Era Survey.

We will focus on the following research questions:

- How are large, established organizations approaching their strategic workforce planning process?
- Which approaches to filling digital skills gaps (i.e., hiring, acquiring, contracting, training) are proving most effective for them?
- How are these organizations using technology to identify and meet the unique needs of individual employees?
- What practices have proven effective at creating a work environment that fits employees' expectations?

This project is a continuation of MIT CISR's 2022 research project on [Developing a Digital-First Workforce](#).

RESEARCH TEAM: Nick van der Meulen (lead, MIT CISR), Cynthia M. Beath (U. of Texas at Austin), Dorothy Leidner (Baylor U.), Olgerta Tona (U. of Gothenburg)

SEEKING: We are seeking interviews with leaders who are involved in (reimagining) their organization's strategic workforce planning and/or talent-related efforts. In addition, the research team would welcome the involvement of an organization that has made significant progress in developing a workforce that is digital-first.

Monetizing Data with Dynamism

In the digital economy, organizations must generate financial returns from their data assets while sensing and responding to emergent opportunities and threats. This requires that they selectively liquify data assets, purposefully invest in data monetization capabilities, and deeply develop data-driven cultures. In this study, we will investigate two aspects of data monetization: (1) the current state of data monetization, which we will identify by replicating the MIT

MIT CISR Current Research Projects

CISR 2018 Data Monetization Survey; and (2) the role of liquid data assets, dynamic capabilities, and data-driven culture in data monetization outcomes.

This study will primarily rely on a survey of several hundred executives with an understanding of their organization's data monetization investments and outcomes. We will also conduct at least one vignette or case study on a company that has increased its data monetization returns because of investments in data monetization agility.

Research questions we will pursue include:

- How do organizations generate top financial returns from data monetization? How do data monetization returns contribute to overall firm financial performance?
- How do data liquidity, data monetization capabilities, dynamic capabilities, and data-driven culture influence data monetization effectiveness?

RESEARCH TEAM: Barb Wixom (lead, MIT CISR), Nick van der Meulen (MIT CISR), Cynthia Beath (U. of Texas at Austin), Gabe Piccoli (Louisiana State U.), Joaquin Rodriguez (Louisiana State U.)

SEEKING: We are seeking participation in the research from executives with an understanding of their organization's data monetization investments and outcomes.

Simplifying Decision Rights for Growth

One of the four big “explosions” that company leaders have to deal with in a digital business transformation is changing decision rights—specifically, getting the right people to lead key decisions. If companies don't change decision rights on a few key decisions, then they won't see different results from their decisions. These few decisions typically include who decides what is done versus how the goal is accomplished, how much is going to be invested and how that spending is prioritized, and who deals with exceptions. Building on previous MIT CISR research, we will conduct interviews with senior executives in companies that have successfully transformed to understand how decision rights changed as part of the transformation. We will follow up by developing an in-depth company example and analyzing data from an MIT CISR survey.

We will focus on the following research questions:

- What are the key decisions to focus on in a digital business transformation?
- Which decision rights are business leaders most often accountable for and which are CIOs/IT most accountable for?
- Which decision rights most influence growth?
- Do decision rights vary by pathway?
- Can we create a decision right matrix with metrics to track?

RESEARCH TEAM: Peter Weill (lead, MIT CISR), Stephanie Woerner (MIT CISR), Nick van der Meulen (MIT CISR)

SEEKING: We are seeking participation in the research from CIOs and other C-level executives in companies that have successfully digitally transformed.

What It Takes to Build a Successful External Developer Platform

In previous MIT CISR research on Designed for Digital, we identified five building blocks of digital transformation that “big, old” companies are working on if they want to deliver digital customer offerings successfully. One of these building blocks is the external developer platform that a company provides to third-party developers to develop their own digital offerings for customers. Building an external developer platform takes more than exposing APIs and providing a developer portal or app store. For example, how do you build a developer community? And how do you monetize the platform?

We will start this investigation with a case study, preferably of a successful and comprehensive external developer platform from a software company with extensive experience in building such a platform. Synthesizing this experience should help non-software companies in building their own external developer platforms.

We will focus on the following research questions:

- What do companies need to provide—for example, APIs, SDKs, developer community management (including conferences), or trainings—to help third-party developers innovate on top of their external developer platform?
- Which organizational and technological capabilities—for example, dedicated roles, processes, incentive systems, and IT systems—are required to build an external developer platform?
- What differentiates successful external developer platforms from less successful ones?

RESEARCH TEAM: Martin Mocker (lead, Reutlingen University), Ina Sebastian (MIT CISR)

SEEKING: We are seeking participation in the research from executives responsible for external developer platforms and ecosystems at software companies and at companies in other industries (including manufacturing, finance, and others). These executives could be general managers of the external developer platform business unit or the chief architects for those platforms.