



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 and our insights are disseminated through research publications and events.

Building Relational Ecosystems for Innovation

Ecosystem partners have played an increasing role in advancing companies' digital transformations, helping the companies to digitize (by providing access to new technologies) and become more digital (by collaborating on innovative digital offerings). In addition, companies in the MIT CISR community increasingly contribute to solving grand societal challenges, such as affordable healthcare and climate change, that require multiple ecosystem actors working together at multiple levels.

Ecosystems for innovation require relational forms of coordination to manage conflicting priorities and collaborative work that is interdependent, uncertain, and time constrained. Quantitative evidence from MIT CISR research indicated that ecosystems performed better if they scored higher on joint goals, mutual benefits, and effective information sharing. Building and supporting high-quality relationships is even more challenging among multiple organizations than it is within a single organization due to differences in power, communication, and digital readiness among other factors. In this study, we explore how organizations design high-performing relational ecosystems for innovation. Research questions include:

- How do interdependent actors coordinate relationships to create value in ecosystems?
- What are the key mechanisms—such as ecosystem metrics and digital readiness—that support relational coordination for value creation in ecosystems?
- How do interdependent actors in ecosystems overcome power differentials and lack of trust to build momentum toward sustainable value creation?

Research team: Ina Sebastian (lead, MIT CISR), Jody Hoffer Gittel (Brandeis University)

Seeking: Executives who are actively engaged in building and managing ecosystems for innovation

Developing a Digital-First Workforce

MIT CISR research has shown that organizations that devolve decision making to empowered cross-functional teams outperform their industry peers. Yet in addition to having the authority to decide for themselves what they will accomplish and how to get things done, these teams require digital skillsets to effectively address emerging business priorities and drive organizational transformation. In this research project we will therefore explore organizations' talent development approaches, with a particular focus on the skills and approaches required to develop a digital-first workforce. Research questions include:

- What skills do large, established organizations consider essential for a digital-first workforce?
- How do these organizations identify and classify the required skills in relation to existing skillsets?
- What activities and approaches help organizations to most effectively upskill and reskill their entire workforce?



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Seeking: Leaders who are involved in (setting up) enterprise-wide upskilling and/or reskilling 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.

Research team: Nick van der Meulen (lead, MIT CISR), Cynthia M. Beath (University of Texas), Dorothy Leidner (Baylor University), Olgerta Tona (University of Gothenburg)

Generating Compelling Returns from Data Liquidity Investments

Investing in an organization's data liquidity—the ease of data asset reuse and recombination—should unleash faster and more data monetization activities. At the same time, building data liquidity is costly, with challenges and risks. For example, it is unclear how companies can make sure that value created from greater liquidity is captured by the organization. To date, we have identified two approaches that large organizations are using to increase the data liquidity of strategic data assets: (1) structuring data as digital data assets (DDAs), and (2) enhancing the company's data platform capability with advanced cloud-based technologies and techniques.

Continuing our 2021 investigation, this study explores how companies evaluate, monitor, and actively capture value produced as a result of data liquidity strategies. Research questions include:

- How do companies operationalize and measure data liquidity at both the organizational and data asset level?
- How do companies identify, form, and execute an effective data liquidity strategy?
- Does the nature of the company's strategic data assets influence its data liquidity strategy? If so, why and how?
- What organizational capabilities influence how companies identify, form, and execute an effective data liquidity strategy?

Seeking: Members of the MIT CISR Data Advisory Board and other Heads of Data who are interested in or actively trying to understand data liquidity

Team: Joaquin Rodriguez (lead, Grenoble Ecole de Management), Gabriele Piccoli (Louisiana State University), Barb Wixom (MIT CISR)

Guiding Decentralized Decision-Making

Since the COVID-19 pandemic began, organizations have increasingly relied on decentralized decision making by cross-functional teams to rapidly sense and respond to changes in their environment. MIT CISR research found that to empower these teams, organizations rely on four decision rights guardrails that align teams with enterprise-wide interests. The guardrails revolve around a company's purpose, data, policies, and resource allocation processes. In this research project, we continue our 2021 investigation into how the decision guardrails enable and constrain decentralized decision making. We seek to answer the following research questions:

- What are successful practices and key mechanisms for each of the decision rights guardrails?
- What are the integration and standardization requirements for each guardrail? How should the decision rights for these practices and mechanisms be distributed among key organizational stakeholders (e.g., teams, units/lines of business, centers of excellence, leadership)?

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- How do the four guardrails compare in terms of their contributions to key organizational performance indicators (e.g., organizational agility, time to market, cost of operations)?

Seeking: Digital leaders, enterprise architects, IT governance officers, data experts, and/or product/solutions owners to participate in our survey

Research team: Nick van der Meulen (lead, MIT CISR), Cynthia M. Beath (University of Texas)

Learning to Create More Strategic Value Faster with Digital Innovations

We want to better understand how established companies learn to create more strategic value faster with digital innovations. In our previous research, we identified that such learning happens on three levels: within individual digital innovation initiatives, across sets of similar initiatives, and across the entire portfolio of digital innovation initiatives. In 2022, we will develop a survey instrument to capture effective management practices that further learning at these three levels. Research questions include:

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

Seeking: We are looking for 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.

Team: Nils Fonstad (lead, MIT CISR), Martin Mocker (Reutlingen University), Jukka Salonen (MIT CISR Industry Research Fellow)

Managing AI Scale: Identifying Approaches that Work

MIT CISR’s data research team has been tracking the journeys of fifty-two AI projects since 2019. These journeys have helped the team identify two distinct patterns of AI model growth: scale up (i.e., increase in volume of core model use) and scale out (i.e., increase in number of recontextualized models). We have observed, however, that many of the AI initiatives are not scaling as desired. Likely, there are new managerial practices that leaders need to draw on to advance each AI scale dimension more effectively. In 2022, we will examine AI projects that report scale success and create practical insights to inform successful AI scaling. We will ask questions such as:

- How do companies successfully manage the processes of AI scale up and scale out?
- What is the impact of scaling AI on data-driven value creation and capture?

Seeking: Companies that believe they are successfully scaling AI—both up and out.

Team: Ida Someh (lead, University of Queensland), Barb Wixom (MIT CISR), Robert Gregory (University of Miami)

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New Forms of Networked Collaboration Using Blockchain

Blockchain technology has become a key enabler for networked forms of organization (e.g., firm partnerships, strategic alliances, collaborative agreements). Our research has identified some interesting ways in which blockchain adoption is creating faster and novel value creation for large organizations. This research will explore innovative use cases of blockchain technology to investigate questions such as:

- What practices help firms drive the adoption and innovation with blockchain technology in organizational networks?
- What activities and strategies help firms establish blockchain-related rules and agreements to create compelling value for organizational players within networks?

Seeking: We are interested to learn about blockchain adoption and implementation projects in firms seeking greater collaboration and cooperation in a network.

Team: Robert Gregory (lead, University of Miami), Ola Henfridsson (University of Miami), Barb Wixom (MIT CISR)

Sharing Data Within and Beyond the Organization

In recent years, MIT CISR research investigated how companies are thinking about interorganizational data sharing. However, in 2021, the MIT CISR Data Advisory Board suggested that we turn our focus inward, and instead investigate challenges and opportunities of data sharing within and across large organizations. The board also suggested that we identify and better understand internal data-sharing capabilities. In 2022 we plan to answer the following research questions:

- How do data sharing capabilities evolve, and for what purpose(s)?
- What is the relationship between *intraorganizational* and *interorganizational* data sharing?

Seeking: Data leaders and CxOs responsible for or actively working to develop or advance internal data sharing, and companies that have demonstrated success with internal data sharing

Team: Barb Wixom (lead, MIT CISR), Randy Bradley (University of Tennessee)

Solving the Organizational Rubik's Cube to Unlock Value from Digital

Last year, we began exploring the different goals for organizational surgery and how a number of companies have tried to achieve those goals. We identified four different goals: (1) addressing a new customer type, (2) creating a component based on a “crown jewel” of the enterprise, (3) building a new capability to be used across customer types, and (4) commercializing a component or capability as service. This year, using a survey and additional interviews, we will map the goals against sources of value—value from operations, customers, and ecosystems—and begin to identify different types of organizational surgery that can lead to accomplishing the goals and realizing value.

- What are the firm performance effects of each of the organizational surgery goals?
- What are the most effective practices to achieve each of the organizational surgery goals?
- What is the role of the key players (e.g., the board, the top leadership team, the CIO, the head of HR) in achieving the organizational surgery goals?

Seeking: Executives of companies that have effectively managed organizational surgery goals to achieve enterprise value

Team: Stephanie Woerner (lead, MIT CISR), Peter Weill (MIT CISR), Ina Sebastian (MIT CISR)