Discussion of "Mind the Gap: AI Adoption in Europe and the US"

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MIT Sloan

Brookings Papers on Economic Activity Conference

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The US–Europe Technology Adoption Divide

Europe has consistently lagged behind the US in technology adoption

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- **Retail IT**: US adopted scanners and barcodes 4–6 years ahead of Europe
- **Streaming**: US launch in 2007; first European launch 5 years later
- **Autonomous vehicles**: US commercial service by 2020; Germany authorized Level-4 taxis 5 years later (2025)
- **Satellite connectivity**: T-Mobile announced US nationwide launch in 2025; no European carrier yet

This Paper Documents the Same Pattern for AI

- **Documents a large US–Europe AI adoption gap:** knowing AI adoption numbers by itself is important
- **Explores mechanisms:** paper goes beyond measurement and explores the reasons behind the adoption gap and potential implications
- **Multiple adoption margins:** it separates adoption in three important ways:
  - Worker adoption **outside** of work (personal use)
  - Worker adoption **at work**
  - Firm-level adoption
- Excellent contribution—timely, well-executed, rich data

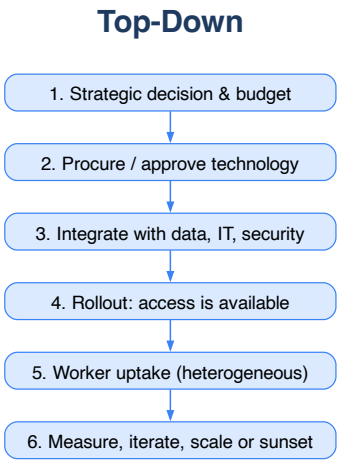
My Discussion

- Provide **two frameworks** of technology adoption:
  - Top-down vs. bottom-up adoption inside the firm
  - Firm-level adoption decision: cost-benefit analysis

- Discuss how **AI is different** from previous technologies based on these frameworks

- Map the paper's evidence to these frameworks to understand **why Europe is behind**

Framework I: Top-Down vs. Bottom-Up Adoption



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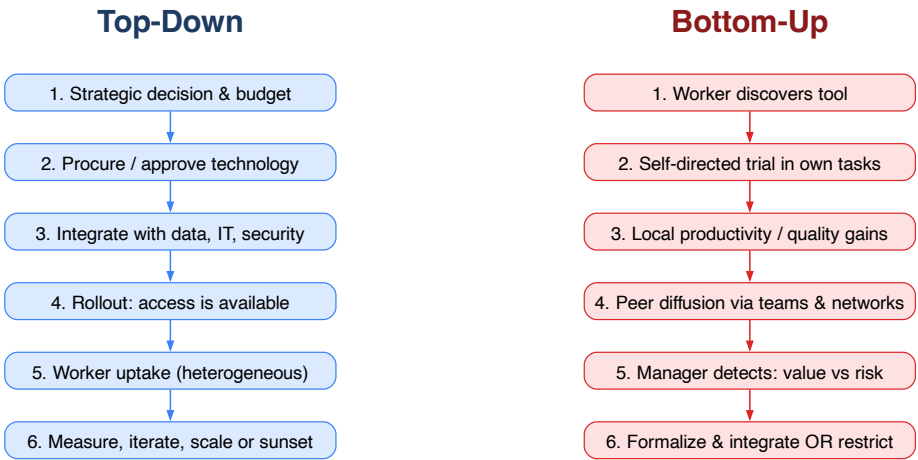

Top-Down vs. Bottom-Up: Historical Pattern

Pre-Digital Technologies

Steam engine, electricity, mainframes

High fixed costs, physical infrastructure

Adoption requires capital investment

Firm-level decision

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Digital Technologies

PCs, internet, SaaS, generative AI

Low cost of access to technology

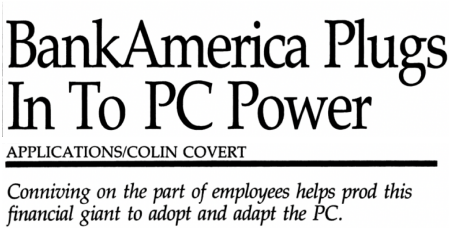
Workers can adopt independently

Adoption can be driven by workers

Top-Down vs. Bottom-Up: Historical Pattern

Pre-Digital Technologies	**Digital Technologies**
Steam engine, electricity, mainframes	PCs, internet, SaaS, generative AI
High fixed costs, physical infrastructure	Low cost of access to technology
Adoption requires capital investment	Workers can adopt independently
Firm-level decision	Adoption can be driven by workers
$\Rightarrow$ **Primarily top-down**	$\Rightarrow$ **Increasingly bottom-up**

PC Adoption Is an Example of Bottom-Up Adoption



BankAmerica Plugs In To PC Power

APPLICATIONS/COLIN COVERT

Conniving on the part of employees helps prod this financial giant to adopt and adapt the PC.

PC Magazine, March 1983

"Computers were being **bootlegged** into the company." Employees smuggled PCs into offices, expensing them as "paperweights and office supplies."

STEVEN LEVY THE BIG STORY OCT 24, 2014 12:00 AM

A Spreadsheet Way of Knowledge

A generation ago, a tool unleashed the power of business modeling—and created an entrepreneurial boom

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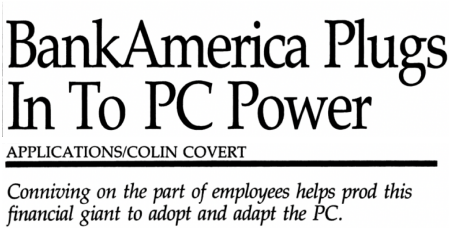

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"Shadow IT"

Bottom-Up Adoption Likely Plays an Important Role in AI

We now have **Shadow AI**—the AI equivalent of Shadow IT

Workers are quietly using ChatGPT, Copilot, and other AI tools for their daily tasks—without formal approval, integration, or IT involvement

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2024 Work Trend Index Annual Report
from Microsoft and LinkedIn

- "Employees are taking things into their own hands—**78% of AI users bring their own tools to work**" (BYOAI)
- "60% say their company **lacks a vision and plan** to implement AI"

Framework II: Firm-Level Adoption Decision

Information

Do you know about it?

Dev.: Foster & Rosenzweig (2010)

Trade: Caselli & Coleman (2001)

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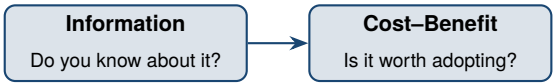

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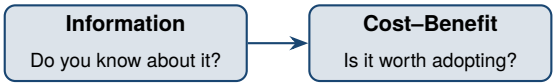

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Costs

Regulatory cost (Baker 2001)
Physical infrastructure cost
Organizational cost (Brynjolfsson & Hitt 2002)

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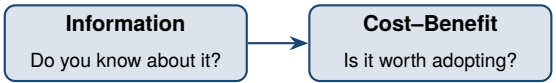

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Regulatory cost (Baker 2001)
Physical infrastructure cost
Organizational cost (Brynjolfsson & Hitt 2002)

Scale and market size (Hannan & McDowell 1984)
Competitive pressure (Gruber & Verboven 2001)
Network effects (Saloner & Shepard 1995)

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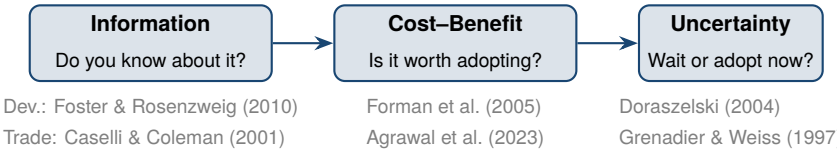

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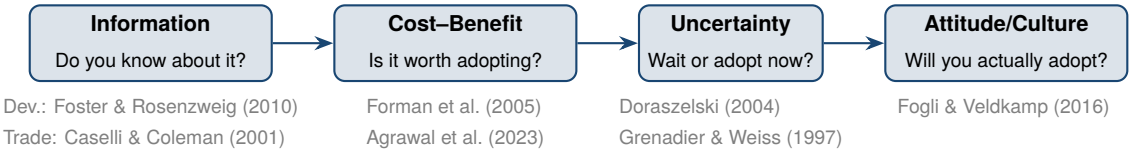

Determinants of Technology Adoption From These Frameworks

1. **Bottom-up worker initiatives**
2. **Information**
3. **Costs**
   - Regulatory
   - Physical infrastructure
   - Organizational
4. **Benefits**
   - Scale / market size
   - Competitive pressure
   - Network effects
5. **Uncertainty**
6. **Attitude/Culture**

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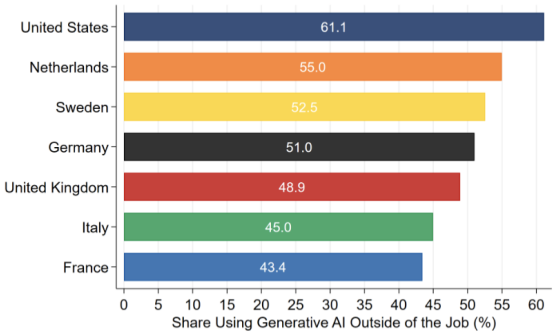
$\Rightarrow$ Mapping paper's results to these determinants

What Does the Paper's Evidence Say? – **Bottom-Up Adoption**

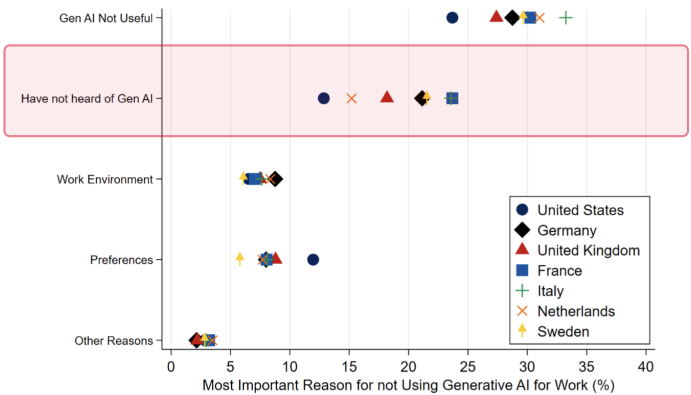
Share of Personal Use of Generative AI



- Large adoption gap for **personal use** as well (US 61%, Europe 43–55%)
- Lack of personal adoption can lead to lack of usage at work

What Does the Paper's Evidence Say? – **Information**

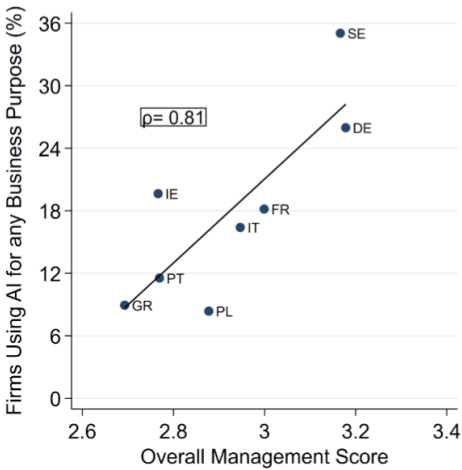
Knowledge and Awareness of Generative AI



- "Have not heard of Gen AI" is **lower in the US** (~12%) than in Europe (~15–23%)
- "This could reflect encouragement operating by increasing awareness."

What Does the Paper's Evidence Say? – **Organizational Cost**

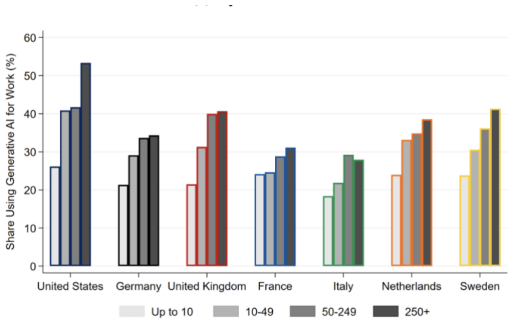
Management Score and AI Adoption



- Management quality and AI adoption are **strongly correlated** across European countries ($\rho = 0.81$)
- US firms have better management practices (Bloom, Sadun, and Van Reenen, 2012)

What Does the Paper's Evidence Say? – **Scale and Market Size**

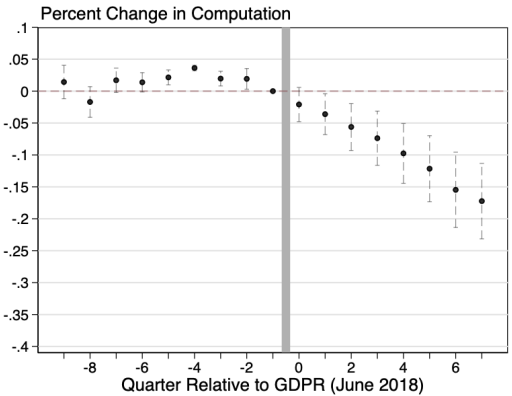
AI Adoption by Firm Size



- Larger firms are **more likely to adopt** AI in every country
- "Compositional differences in industry, occupation, and firm size account for **67% of the explained component**"

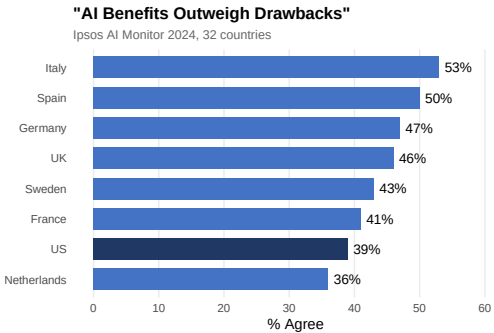
Other Evidence: Demirer et al. (2026) – **Regulatory Cost**

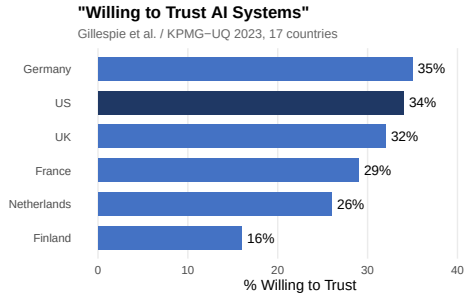
Impact of GDPR on Cloud Computing



- European firms' IT usage **20 percent down** relative to US firms after GDPR
- Most AI product features **delayed in Europe** due to regulation

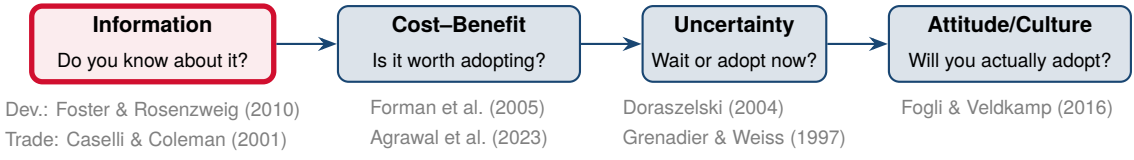
Other Evidence: Surveys – **Cross-Country AI Attitudes**





Implication: Both the US and Europe are low-trust regions. Cultural attitudes are unlikely to explain the US–Europe AI *adoption* gap.

So, What Explains the US–Europe AI Gap?



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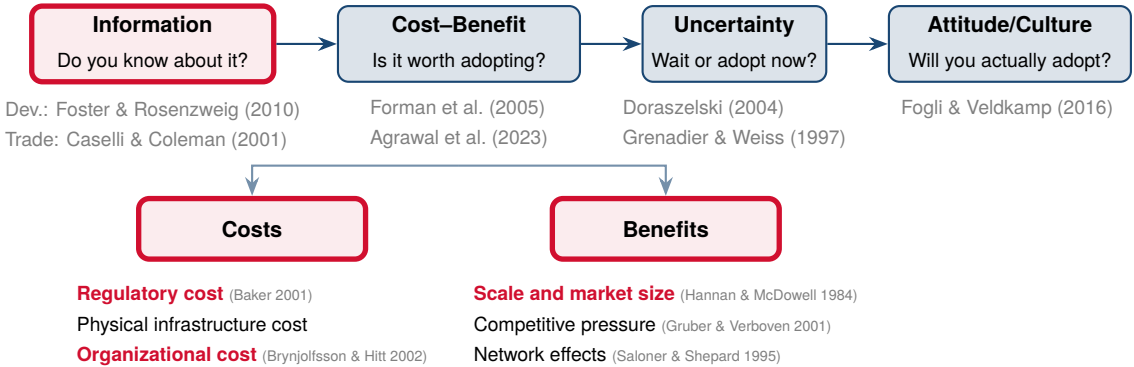

- Important to collect detailed evidence on each of these determinants
- Which of these are policy-relevant, and how can policy influence them?

Concluding Thoughts

- Technology adoption gaps have existed across all technologies—AI is no exception: technology available ≠ technology effectively deployed

- Understanding the determinants is crucial for policy

- The authors do an excellent job documenting the US–Europe gap—we should do a lot more:
  - In different settings (within-firm, within-country variation)
  - At different levels (worker, firm, industry, country)