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Reskilling in the Age of AI

Digital Reskilling Lab at HBS

August 2024
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*The **Digital Reskilling Lab** aims to develop new rigorous evidence and conceptual frameworks to support organizations that are already, or plan to, invest in **impactful** reskilling programs.*

*Our objective is to inform policy **at the firm, industry, and government levels** and facilitate the **adoption of effective practices** aimed at strengthening human capital initiatives in the workplace.*

Why Reskilling?

THE PROBLEM

Digital transformation changes the demand for skills:

- Polarization between high and low skill occupations
- Up to **32% of jobs** may be radically transformed (OECD 2019)
- **300mn jobs** estimated to be affected by Generative AI (Goldman Sachs, 2023)

New jobs created, but also many others at risk of obsolescence

POSSIBLE SOLUTIONS

Reskilling—training that helps acquire skills to access a new occupation—may help **workers** and **firms** cope with these changes:

- **1 billion people** may need to be reskilled to entirely new roles (WEF, 2021)

NEED FOR EVIDENCE

Despite public announcements, ongoing investments, reports, etc...

...Evidence on whether and how reskilling works is scant



Today's objectives

PRESENT

Findings emerging from lab activities

- Reskilling needs a different strategic and organizational context to succeed (eg role of middle managers)
- Reskilling best practices still unevenly adopted across firms

LISTEN

Feedback

- Do the findings resonate with you?
- Are there other hidden challenges/shifts we should focus on?
- Are there other successful reskilling strategies we should study?

RECRUIT

Explore research opportunities

- Administrative data
- Experiments



This talk

How can the process of **technological diffusion** be accelerated in an **effective** and **equitable** way in the age of AI?

Lessons from past
technological waves

Reskilling, promises
and challenges

Reflections



Impact of ICT (80s)

*“Think about a job as a series of **tasks**. Then ask: which task can be carried out by machines and which by workers?” (Autor, 2022)*

- **Changes within occupations**

- Routine and codifiable tasks: substituted by ICT=>lower demand
- Non-routine cognitive tasks; social: much harder to substitute and complementary to the technology=>higher demand

- **Creation of new occupations**

- New roles that can better exploit technologies
- In the US, 40% of employment growth arising from occupations that did not exist in 1940

Large and asymmetric costs on labor market

- **Polarizing the demand for skills across workers**
 - High demand at the extreme ends of the skill distribution: lots of demand for very high and very low skills (eg manual jobs)
 - Massive decline in demand for mid-skills occupations: jobs that can be automated
- **Creating massive imbalances and skill shortages inside organizations**
 - Up to 40% of firms declaring skills shortages in the USA (80% in Japan!)

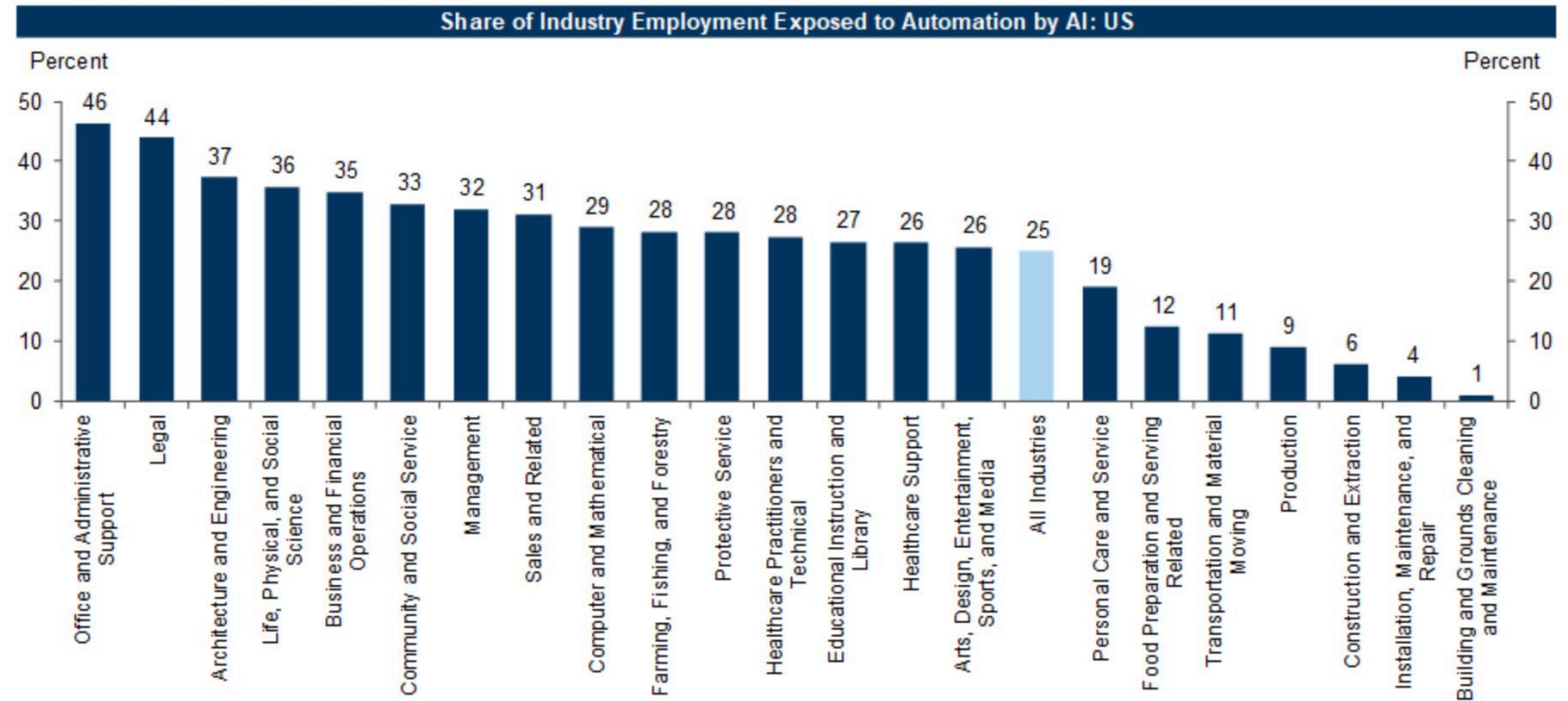
With Gen-AI, we are likely to see a similar movie, but played at a faster speed and for different occupations

Gen-AI may **substitute** for **more tasks**, including **cognitive ones**

AI codifies what was previously uncodifiable

“Protected” occupations (e.g. managers, lawyers, creatives etc.) are now exposed to the **risk of being automated**

Exhibit 5: One-Fourth of Current Work Tasks Could Be Automated by AI in the US and Europe



Source: Goldman Sachs, 2023

This talk

What will the future hold?

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What is Reskilling?

Reskilling is a form of training that helps individuals **rapidly acquire the skills needed to move to a new, in-demand occupation**, e.g.

- From actuaries to cybersecurity experts
- From combustion engine mechanics to electric engine specialists

Dual potential gains

- For **firms**: closing skills gaps, facilitating adoption of new technologies
- For the **workforce**: helping individuals access new opportunities in a less costly and more targeted way

According to current estimates **1 billion people** may need to be reskilled to entirely new roles (World Economic Forum, 2021)

Reskilling inside the firm is hard

Firms make significant investments in training, which are often met with disappointing results

- **Low take up** rates among employees, especially among those that need training most (Sadvick et al, 2021)
- **Uneven internal support: middle managers'** buy-in critical for the success of reskilling initiatives (design, selection, motivation, coaching), but often missing due to information and behavioral frictions (Heagele, 2021)

Reskilling requires shifting to a “new training paradigm”...

Old Training Paradigm

Reskilling is a CSR initiative to support displaced workers

Reskilling is an HR responsibility

Reskilling is a training initiative

Employees need to be convinced to reskill

Reskilling is an individual firm problem

New Training Paradigm

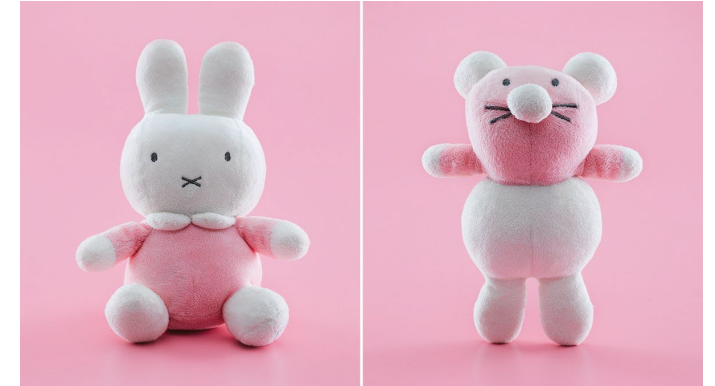
Reskilling Is a strategic imperative

Reskilling is the responsibility of every leader and manager

Reskilling goes beyond training – it is a holistic change management initiative

Employees want to reskill - when it makes sense

Reskilling takes a village



Reskilling in the Age of AI

Five new paradigms for leaders—and employees by Jorge Tamayo, Leila Doumi, Sagar Goel, Orsolya Kovács-Ondrejko, and Raffaella Sadun

From the Magazine (September–October 2023)

In-depth interviews with Chief Human Resource Officers of global firms publicly committed to reskilling a large fraction of their workforce (35 firms, 11 industries, 4 continents)



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...But adoption of these training practices is still very low

Survey of 1200 Chief Human Resource Officers of US firms with 100+ employees

New Training Paradigm

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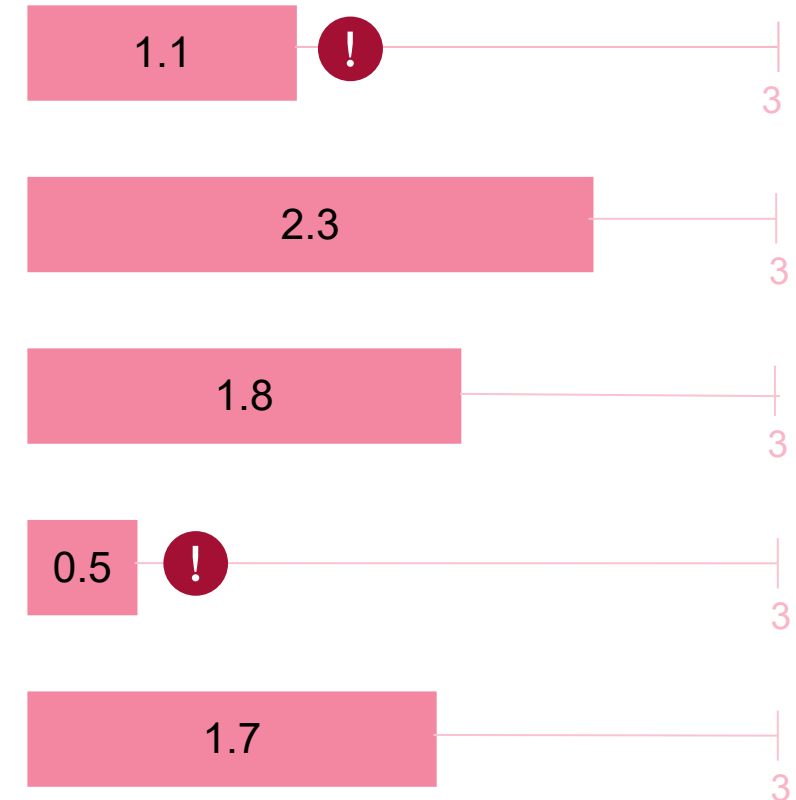
Reskilling goes beyond training – it is a holistic change management initiative

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To what extent do surveyed companies follow best practice?

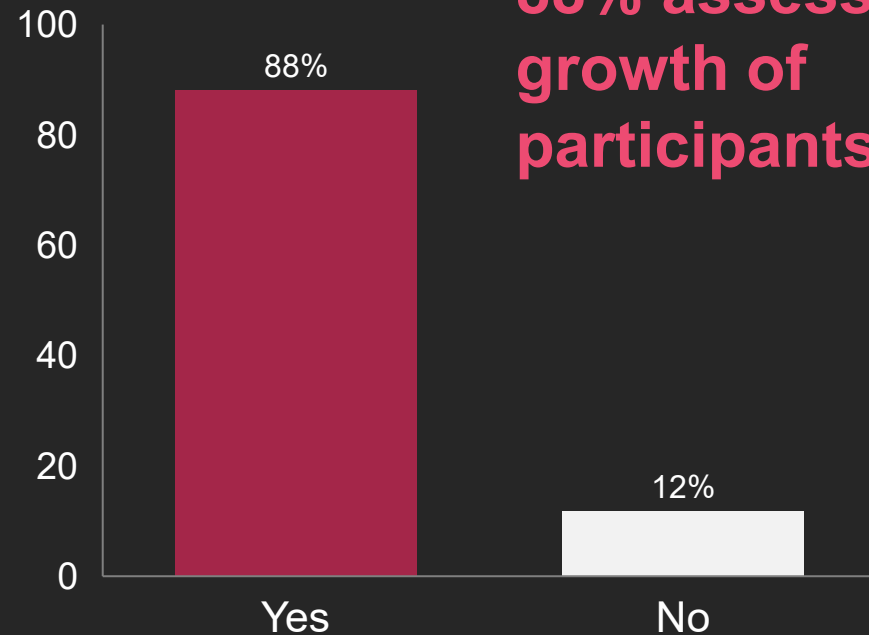
On a scale of 0-3 based on empirical proxies created from answers to questions relevant to each paradigm



Reskilling programs usually assess individual skill change—but most do not assess overall program ROI and effectiveness

Final assessment post program

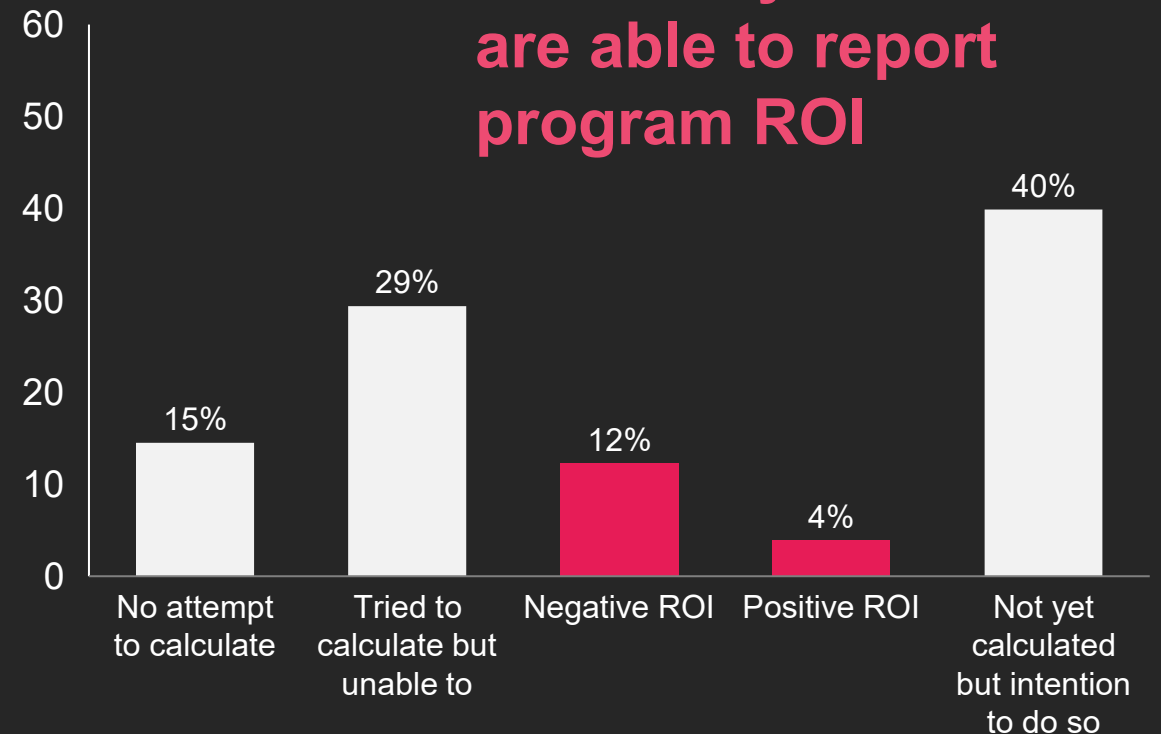
% of respondents



88% assess skill growth of participants...

Return on investment (ROI) achieved by reskilling

% of respondents



... but only 16% are able to report program ROI

This talk

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Having an appropriately skilled workforce is necessary to accelerate the process of technological diffusion and accelerate productivity growth

Investments in reskilling have great potential, as they can help firms and workers adapt and realize the opportunities offered by new technologies in a targeted, efficient and more equitable way

But their effective implementation at scale presents formidable challenges, which are often ignored in the public discourse

- Demand for reskilling among workers is low and heterogeneous
- Firms often lack the organizational and managerial capabilities needed to support the effective deployment of reskilling programs

The Role of Business Leaders

Implications for Firms & Business Leaders

- Aligning training with organization and strategy
- Attention to within-firm frictions, e.g. middle managers
- Flip side: training as a source of competitive advantage

Implications for Policy

- Training subsidies ineffective without active firm involvement
- Opportunity to improve current policies:
 - Supporting development of complementary investments (e.g., management practices)
 - Support firms willing to commit to training plus broader HR policies (e.g. career advancements) & evidence-based approach (missing!)



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Thank you

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