



AI Adoption in Europe: State of Art

Insights from a survey of 1,766 companies in Europe

Professor Carmelo Cennamo

Copenhagen Business School | Director, Digital Markets Competition Forum

SDA Bocconi | Director, Platform Economy & Regulation monitor

We surveyed 1,766 companies in Europe from diverse sectors

Survey Methodology

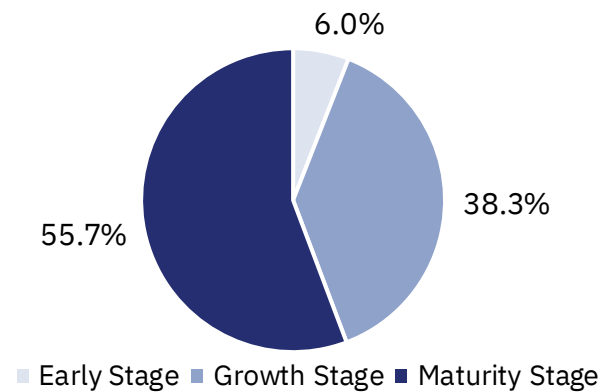
Respondents were individuals with **full or partial decision-making responsibility** in their organizations, such as founders, C-level executives, vice presidents, and directors.

The analysis focused on **profit-driven companies** in the **private sector**.

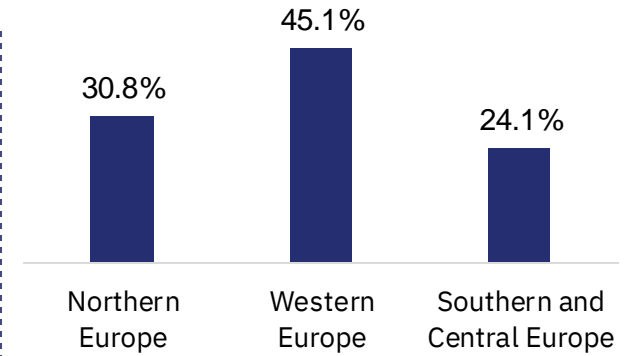
Organizations from charities, voluntary sectors, and publicly financed enterprises were excluded.

1,766

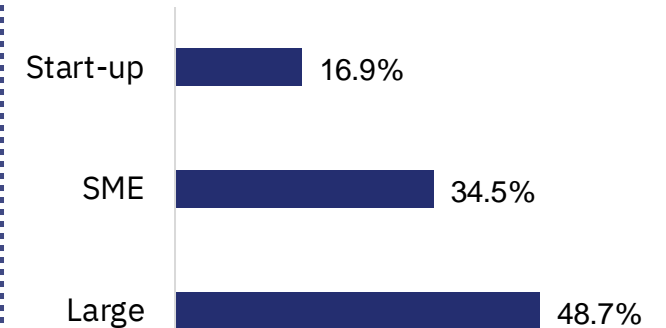
Companies interviewed
in **Europe**



Longevity

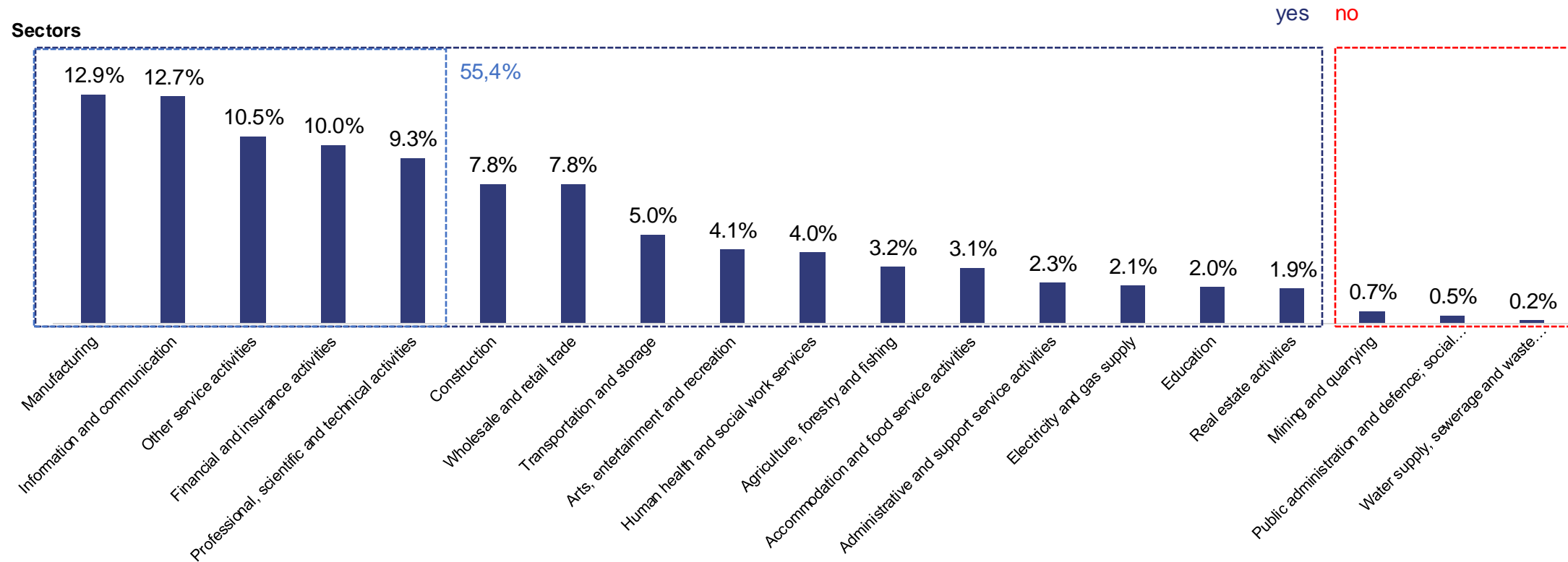


Geographic Macro Areas



Dimensional Size

We focus our analysis only on those sectors in which at least **30 firms** (approx. **2%**) are present in the sample.



86% of companies are using AI today, and 77% are likely to explore it further next year

86%

Of companies are **already using AI** in their operations

80%

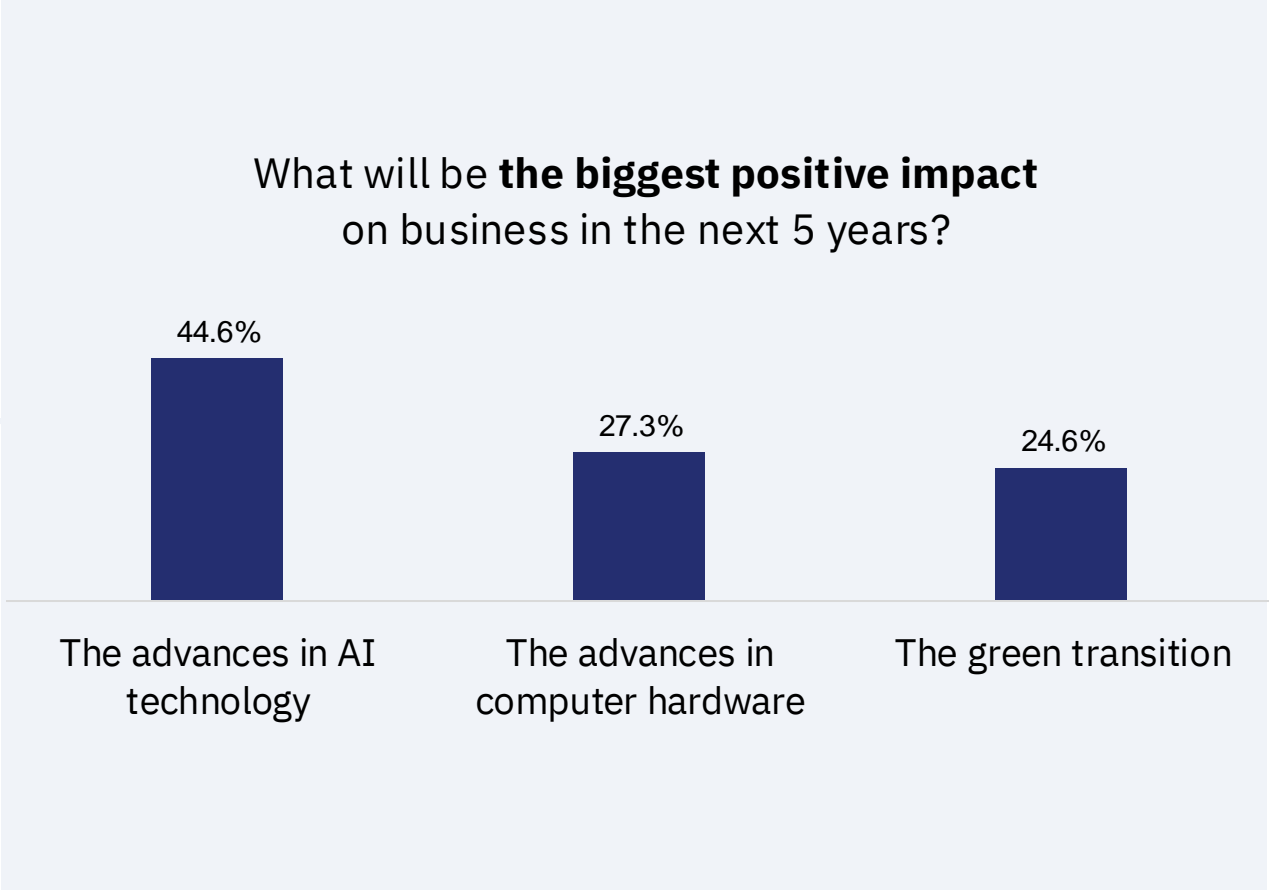
Believe that this is **not a transient trend**, but something that will be of great importance in the company's future

77%

Considers it **quite likely** that their company **will explore** other artificial intelligence tools next year

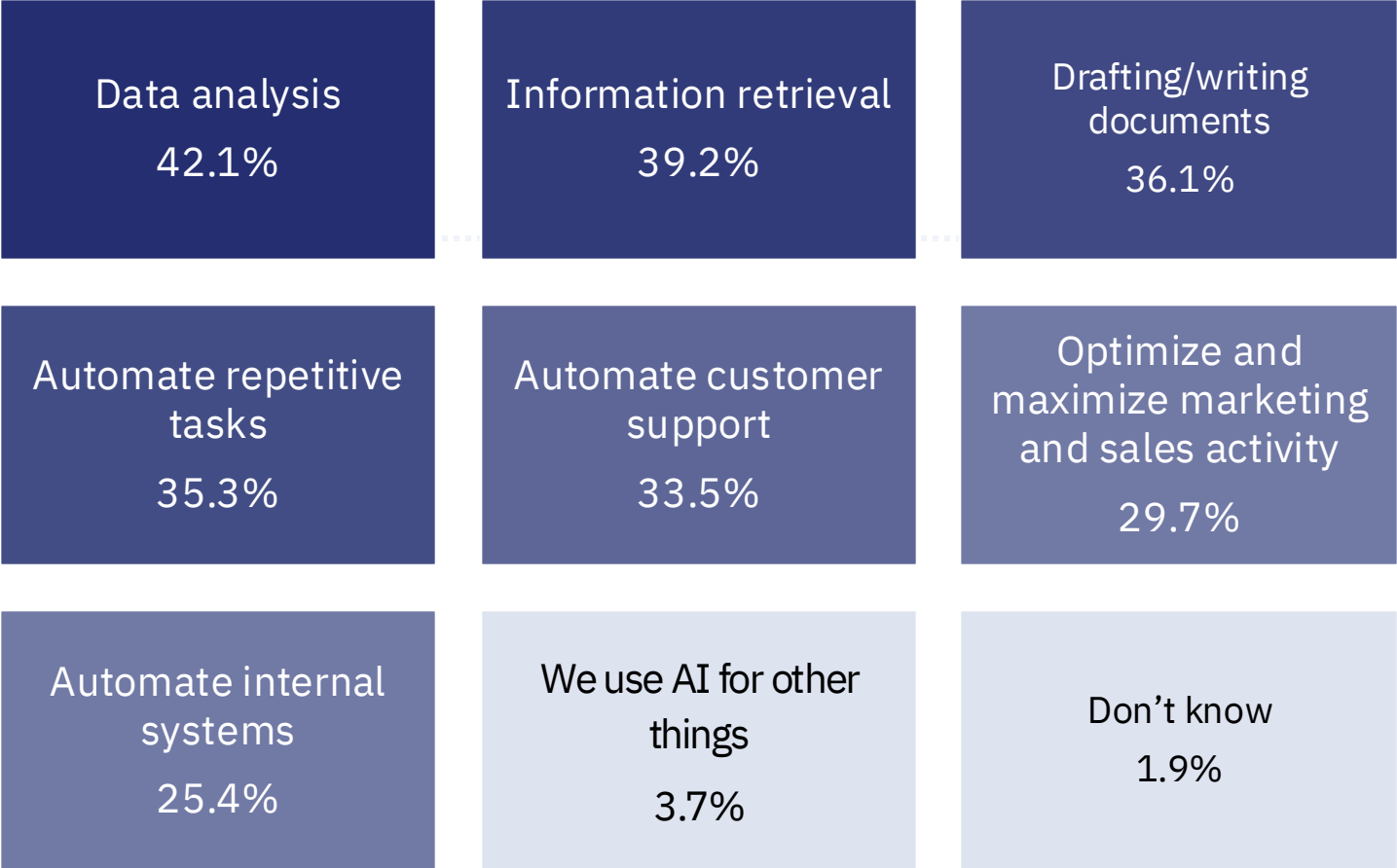
57%

Intend to invest in the next two years in **AI tools** that can **replace** tasks currently performed by **humans**



How companies are leveraging AI in daily operations

AI technologies used by companies concern the area of **data analysis** and **information retrieval**, followed by **helping and optimizing business activities** and then **automation**.



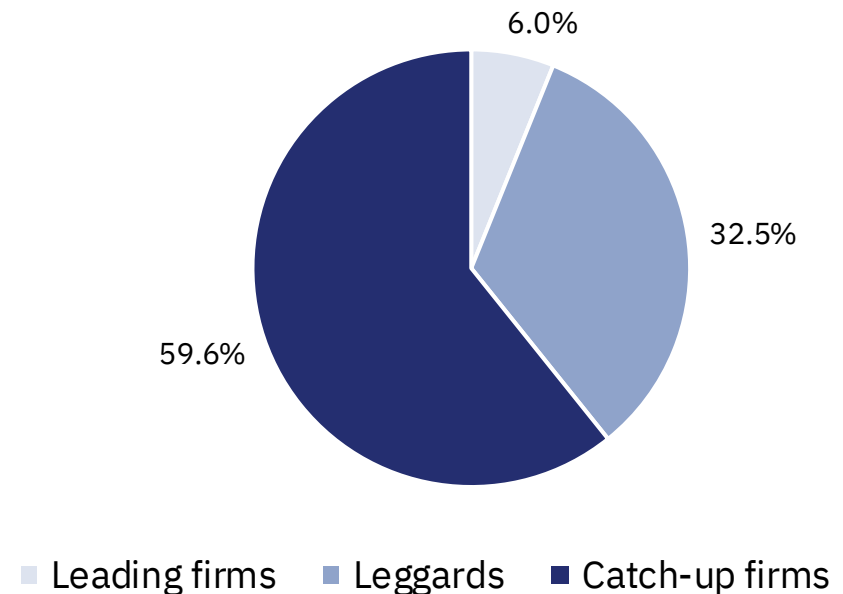
Leaders, Catch-ups, and Laggards in AI technologies adoption

Adoption of AI technologies. A variable was created by summing up the dummies' variables on the use of certain technologies in our question set.

So, the categorization is set as:

- **Leading firms:** if a company has utilized **more than 70%**.
- **Laggard firms:** if a company has utilized **less than 15%** of the technologies;
- **Catch-up firms:** if a company has utilized **15% to 70%** (inclusive);

Technology Adopters



Leading firms in AI adoption: They are **large, mature** firms, with **deep knowledge** of AI and digital technologies, and are in sectors with higher propensity to use digital tools.

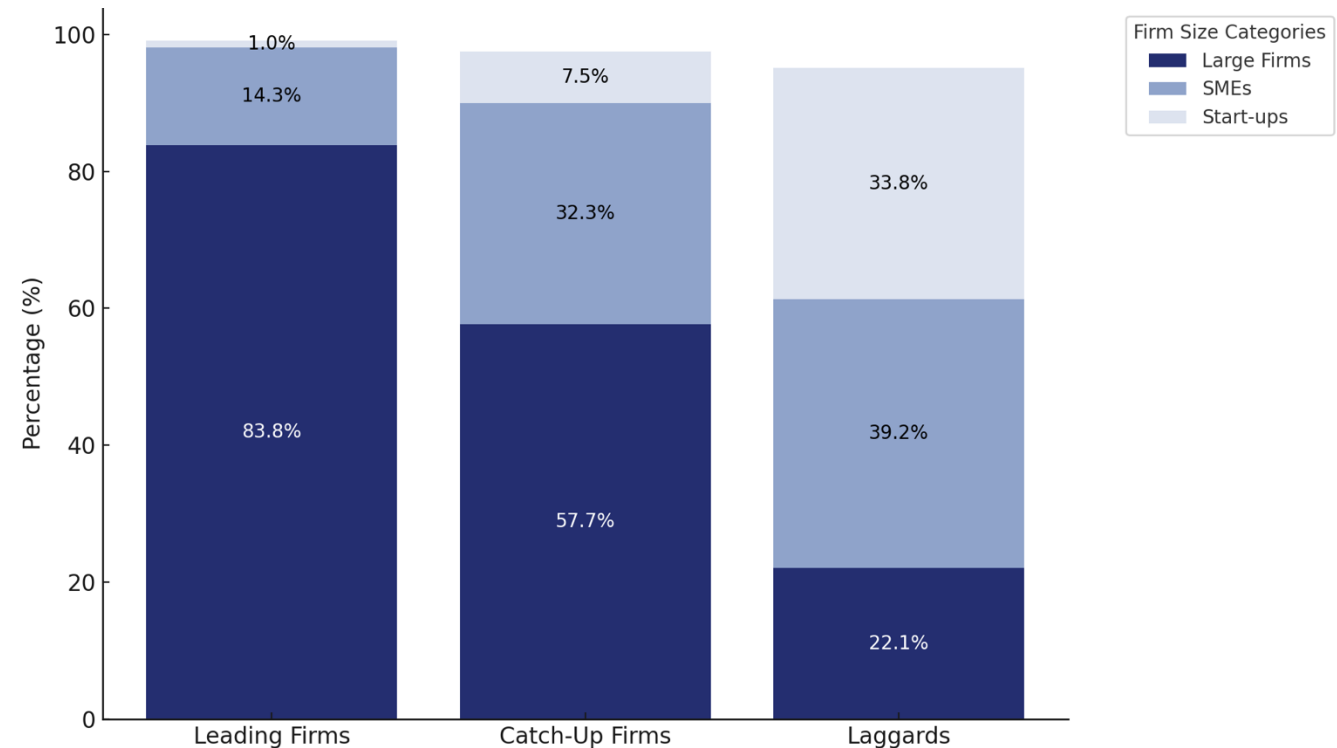
The **leading** firms are **mostly large** firms (**84%**) and, most of them, in the **maturity stage**.

These are two important factors that can explain their intensive investment in and usage of AI tools, as also justified by their deep knowledge of AI technologies.

Also, **large** companies have **multiple scopes** and **reasons** to use these tools.

Another factor is **the sectoral distribution** of the leading firms. They are in **sectors** that have **higher propensity¹** to **use digital tools**.

Furthermore, they are more likely to implement multiple technologies².



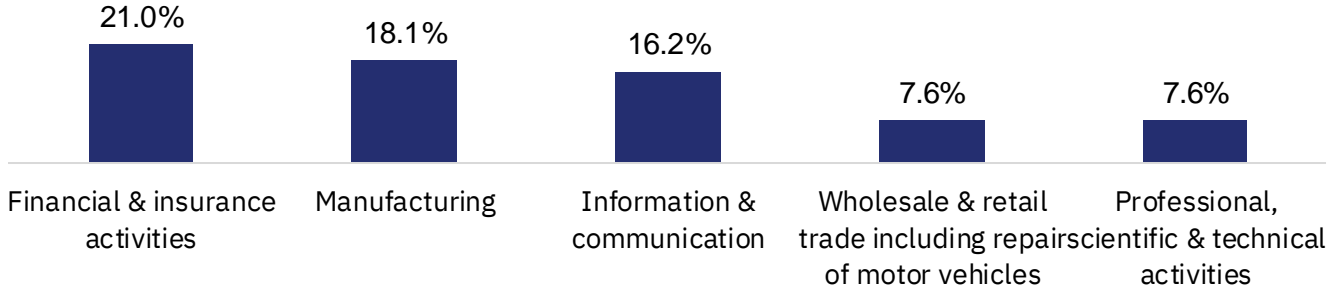
^{1,2} European investment Bank, EIB Investment Survey 2023
High productivity and knowledge intensive services are most affected by AI (OECD (2024)).

Leading firms dominate AI adoption in high-propensity sectors

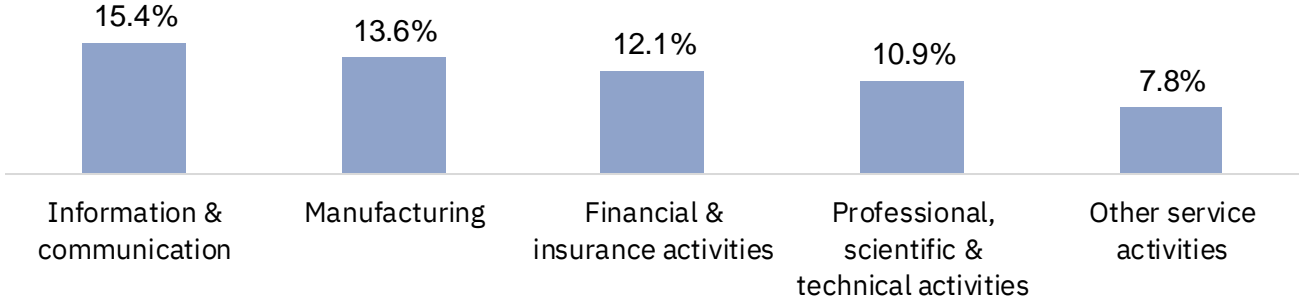
Leading firms are concentrated in sectors with **higher propensity to use digital tools**, like **financial/insurance services** and **manufacturing**.

Conversely, **laggard** firms, mostly SMEs and startups, operate in sectors with **traditionally low usage of digital technology, low knowledge** of the topic and the AI tools. However, these firms **are beginning** to explore GenAI for general purposes.

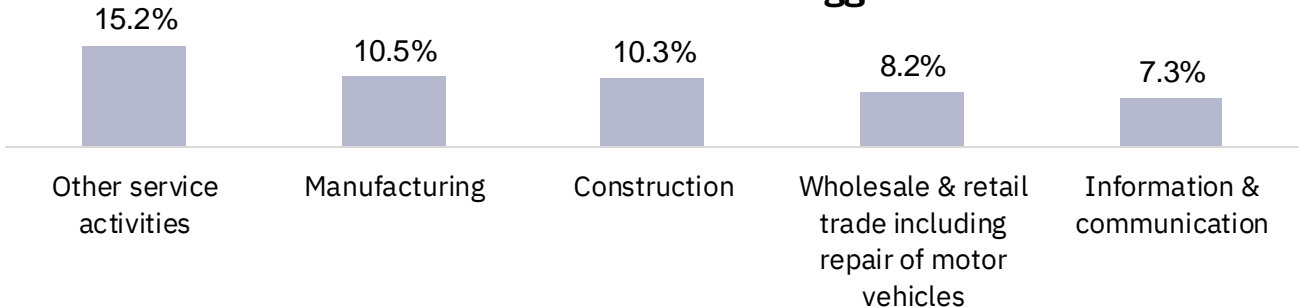
Sectoral distribution of leading firms



Sectoral distribution of catch firms



Sectoral distribution of laggard firms



Key drivers of AI adoption: generative AI applications, firm size, and sector-specific needs

Results from **regression analysis** further show that:

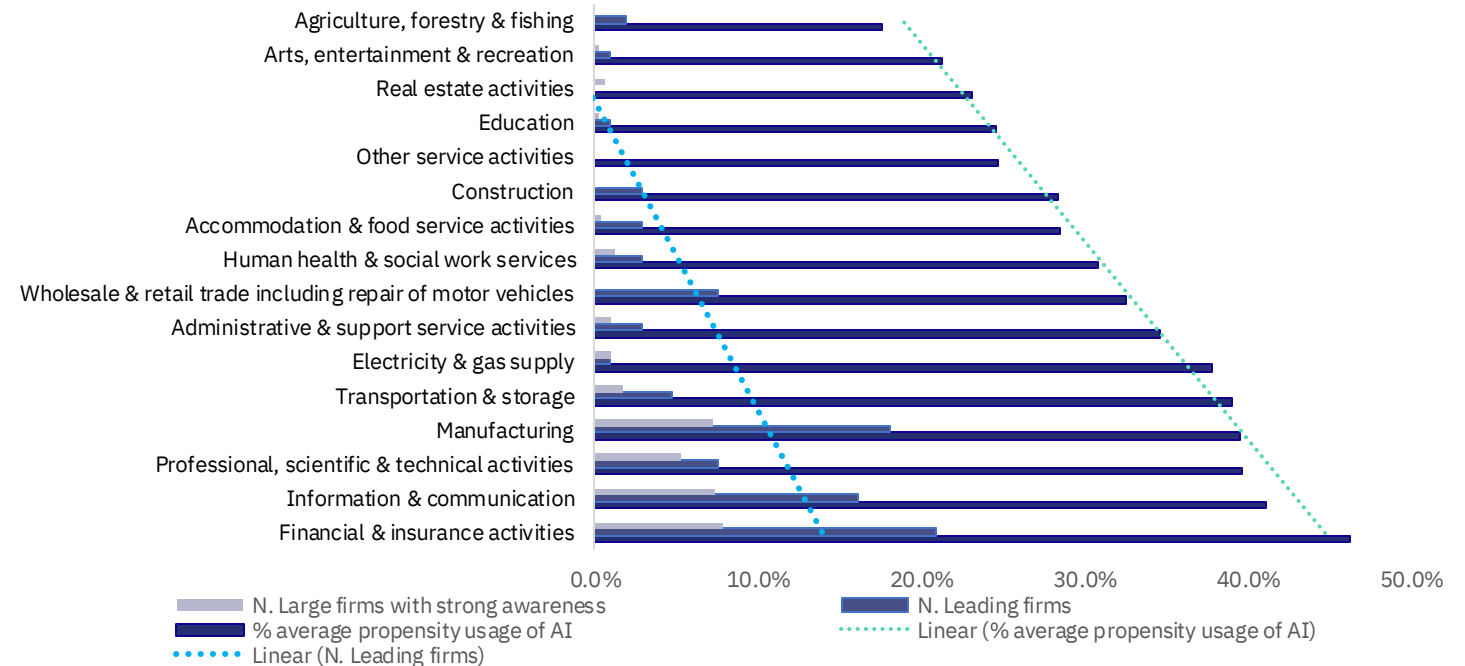
1. About **50% of the variation in technology adoption** is explained by **generative AI applications**, with significant positive effects for AI uses in **data analysis, document translation, and programming support**. This suggests that **firms employing AI** for these applications are **more likely** to be **advanced technology adopters**.

2. About **31% of the variation in technology adoption** is explained by **AI applications** when adjusted by **firm size**. Key drivers for adoption include AI's role in **cost savings, productivity, and scalability**, with **operational efficiency** being especially impactful. These findings highlight that **cost-efficiency and operational streamlining** are **crucial factors**, particularly for **larger firms**, in **adopting new technology**.

Moreover, the graph below highlights how **sector-specific drivers influence AI adoption levels**. Different industries **adopt AI** at varying rates, often **reflecting sectoral needs and competitive pressures**.

For instance, sectors focused on data-intensive tasks or operational efficiency (like finance and logistics) tend to adopt AI tools more rapidly for data analysis, automation, and decision support. Meanwhile, heavily regulated industries (e.g., healthcare) may experience slower AI adoption due to compliance concerns yet are increasingly integrating AI to streamline processes and enhance service quality.

Influence of sectors on degree of usage of AI technologies

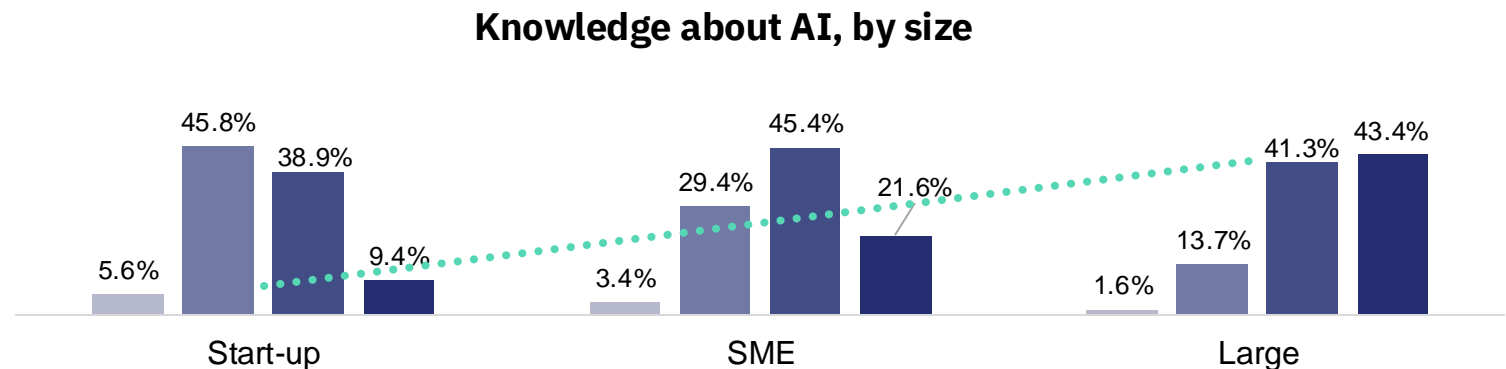
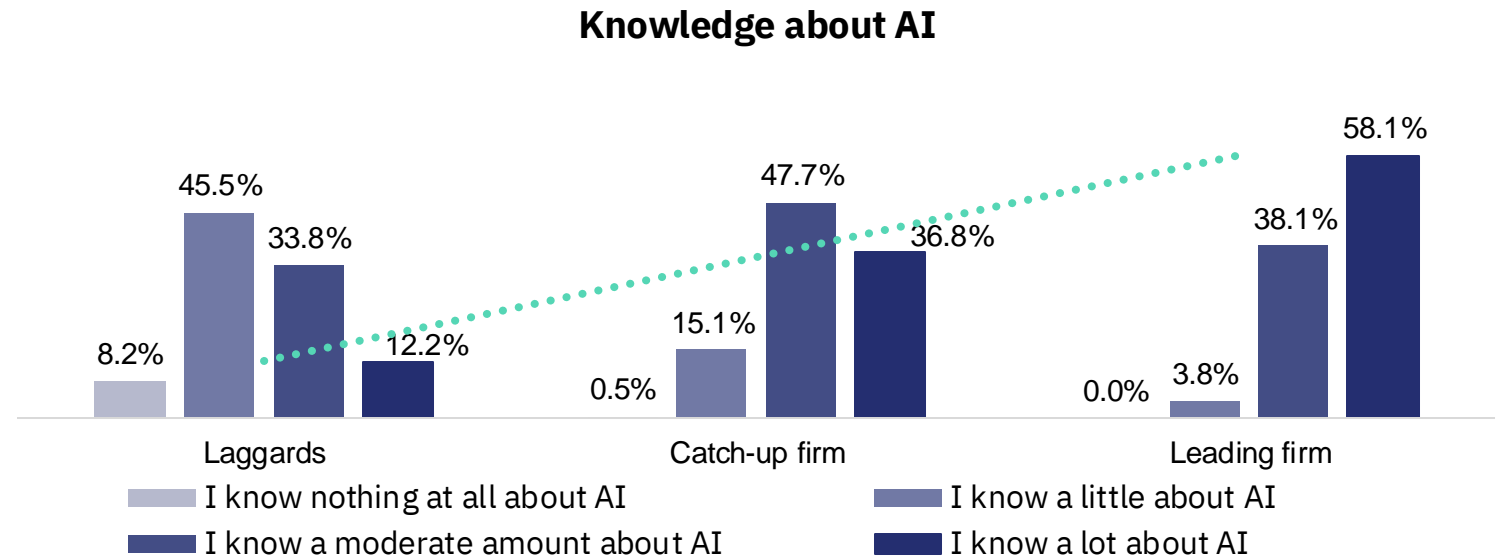


Digital readiness is a stronger driver of AI leadership than firm size

The main graph shows a **clear positive correlation** between **being a leading firm** and **possessing substantial AI knowledge**, underlining that **leading firms are those with high digital readiness**. They have invested in robust digital infrastructures and fostered a culture that embraces **digital transformation**.

The smaller graph highlights a complementary insight: while **firm size correlates with AI knowledge**, it is **not as strong** a predictor of leadership as digital readiness.

In fact, many large firms lag in digital readiness compared to more agile, smaller firms that actively integrate AI.



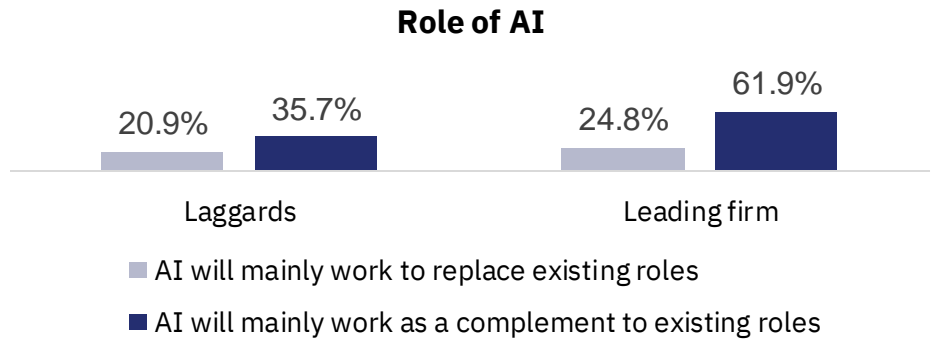
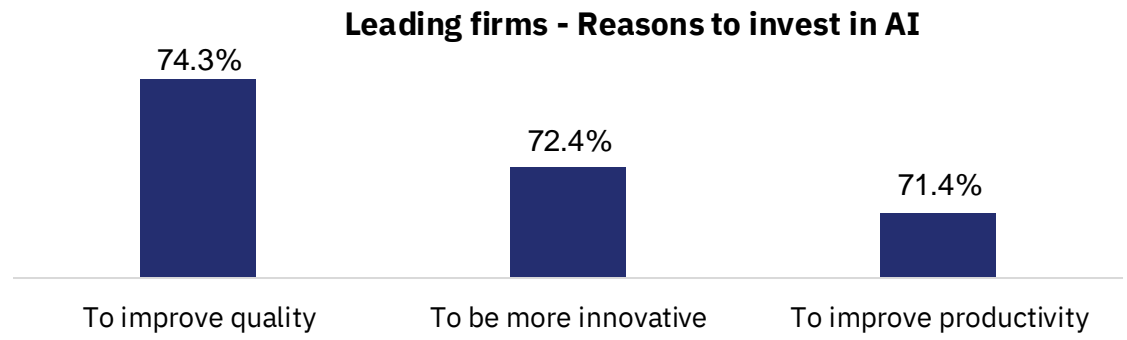
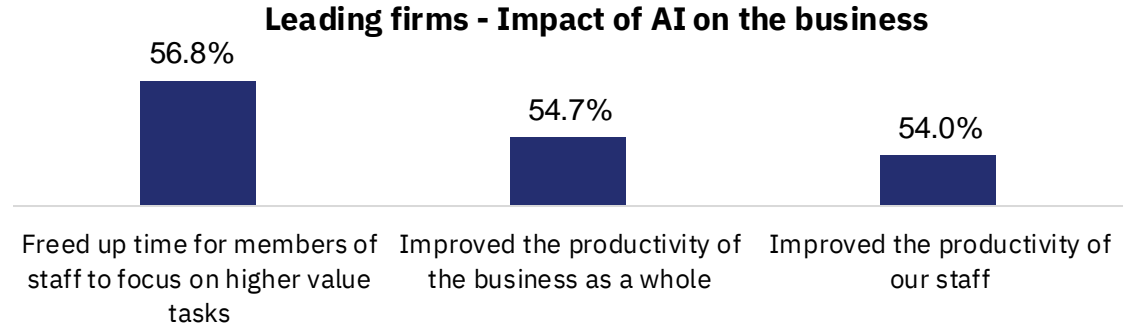
The “AI divide” between leading and other firms is driven by a **knowledge gap** about AI potential applications, further due to a **gap in digital transformations**

There is an “**AI divide**” between major leading firms and other market participants, primarily driven by a **foundational knowledge divide** regarding AI's potential applications. This divide means that **digitally-ready**, leading companies have a **comprehensive understanding** of how to implement AI, while **laggards remain uncertain** about its uses and benefits.

Leading companies use AI to improve **internal productivity**, streamline operations, optimize processes, and enhance efficiency at scale.

These firms prioritize **employee empowerment** by integrating AI tools that **support** and **enhance** human decision-making, **rather than replacing** it. This focus on **augmenting employee capabilities** demonstrates a commitment to workforce development alongside digital transformation.

In contrast, laggard firms often **lack** both the **strategic vision** and **foundational knowledge** required to leverage AI effectively, **resulting in slower adaptation** to industry changes.



The main barriers to AI adoption

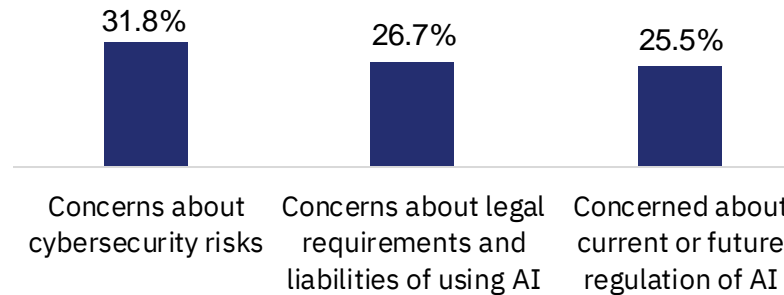
“The lack of available staff with the right set of skills is hampering investments for 85% of EU firm, with SMEs struggling more often in filling ICT vacancies”¹.

AI implementation is **limited** by a significant **skills gap**, as firms need **specialized talent** in data science and AI integration, thus the **labor market** need to **catch-up**.

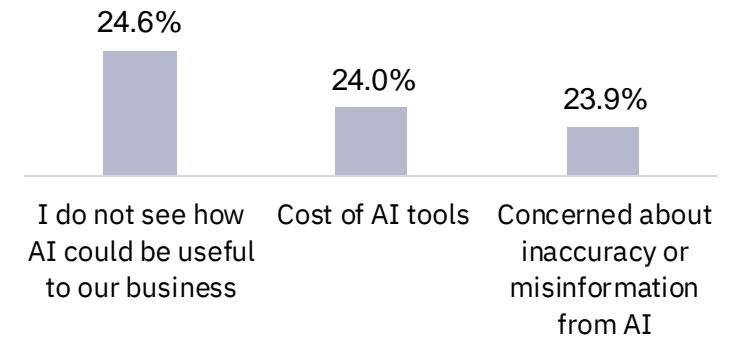
Additionally, **regulatory ambiguity**, especially in highly regulated sectors, creates **uncertainty** around liability, **slowing AI adoption** further.

This **dual barrier** of skills and regulation **reinforces the AI divide** where digitally-ready firms advance, while lagging firms, lacking both AI knowledge and strategic vision, fall further behind.

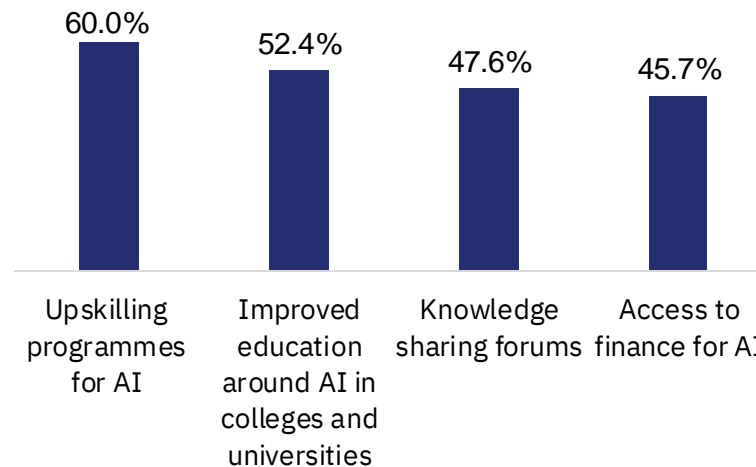
Leading firms - Main barriers



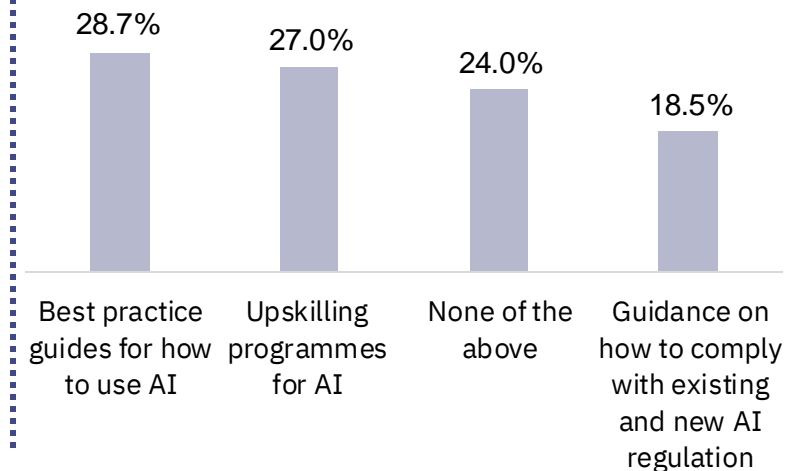
Laggards - Main barriers



Leading firms – Aids



Laggards – Aids



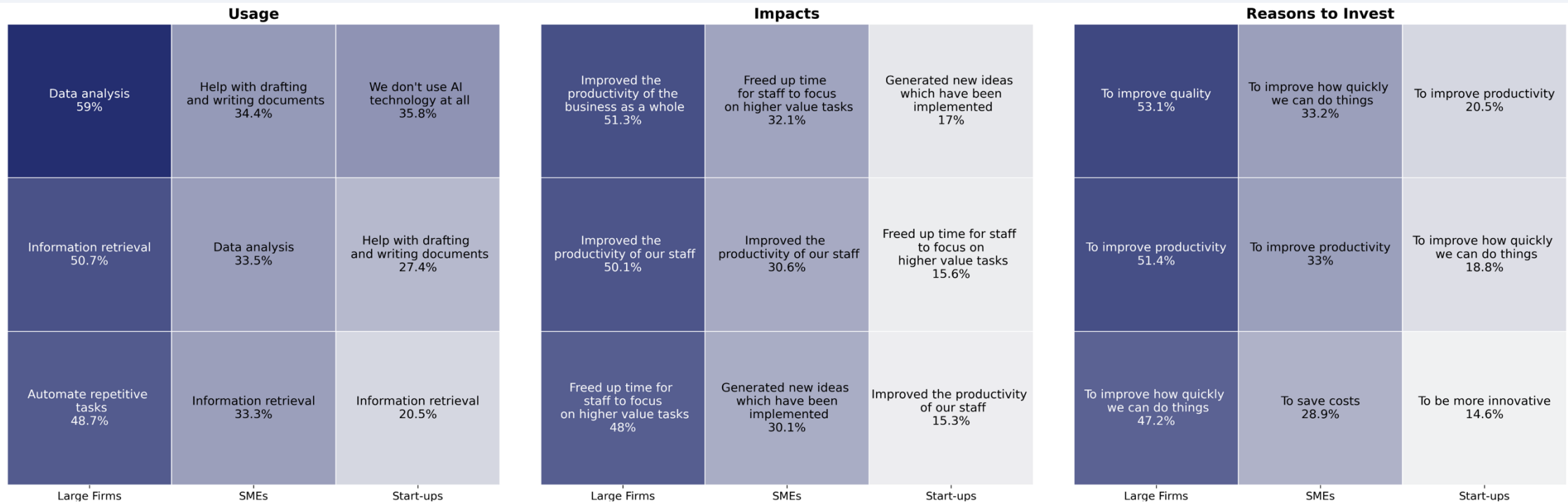
¹ European Commission (2023), Report on the state of the Digital Decade

AI strategies across Leading firms by size: Empowerment, Innovation, and Efficiency

Large firms prioritize **process optimization** and **employee empowerment**, using AI for **human-machine collaboration**, creating a synergy of automation and collaboration that enhances **productivity**.

SMEs focus on **cost savings** and **efficiency-driven optimization**. They often leverage AI to **improve internal processes, maximize resource use**, and boost efficiency, creating a balanced strategy that **supports growth**.

Startups use AI as an **innovation enabler**, prioritizing rapid experimentation to **discover new market opportunities**, develop prototypes, and test business scenarios.



Thank you!

Contact:

cce.si@cbs.dk

carmelo.cennamo@unibocconi.it

Research Team:

Giovanni di Caprio | Carmelo Cennamo

Ioanna Constantiou