

multiverse



# Mapping the **data skills** gap

Multiverse Skills Intelligence Report 2024

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# Introduction

## Mapping the data skills gap

**Companies that use data effectively make more money. Data analysis enables businesses and organizations to find new customers, automate tedious tasks, and forecast what's next. It's also the key to unlocking an AI-native business model.**

But the skills to collect, analyze and use data are in high-demand and short supply. 'Data specialist' is soon expected to become one of the fastest growing job titles in the world<sup>1</sup> and in the United States alone, it's projected that businesses will need an extra 17,700 data experts every year until 2032 to meet their demand for data-driven decision making.<sup>2</sup>

This problem couldn't come at a more critical time. Data skills will be crucial to fully realize the benefits of Artificial Intelligence (AI). Analysis by the McKinsey Global Institute estimates that, by 2030, UK GDP could increase by up to 22% as a result of AI productivity gains, but these gains will only be accessible if workers have the skills to input clean

data into AI models: it's why machine learning is a core part of our Advanced Data Fellowship program.

Business leaders know all this. 87% believe they have skills gaps already, and more than two thirds (69%) feel their organization will need different skills to stay competitive by 2030.

But the wider pool of data talent will not come unless leaders create it.

Upskilling – giving existing employees opportunities to improve their data skills, enabling them to perform their current role more effectively, or take on new responsibilities and advance their career – can help businesses build the skills to leverage emerging technologies and make the most of vast internal and external datasets.

But a single data skills course alone won't fix a skills gap. To deliver maximum impact, upskilling needs to be targeted and continuous. Training

should be designed to drive measurable business impact and prevent skills gaps from forming again.

First, organizations need the insight to understand exactly where their data skills gaps lie – to discover where upskilling could unlock real growth in the business. It's not just in the places you might expect – swathes of the workforce, even those in non-data roles, are spending hours a week on data tasks.

We need smarter upskilling. It's time to map the data skills gap.



# About the **Skills Intelligence** Report

At Multiverse, we help organizations identify, close, and prevent skills gaps at scale - all in one place.

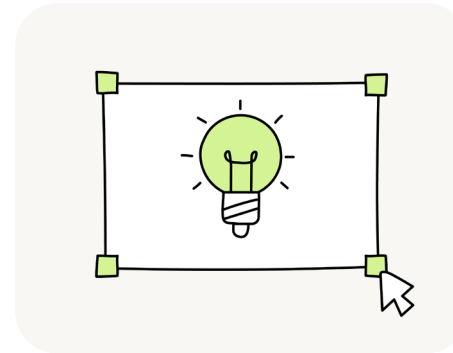
Through our skills assessments, we collect qualitative and quantitative data to pinpoint and close businesses' skills gaps, from top to bottom.

From this insight comes our inaugural **Skills Intelligence Report**: an analysis of the skills and productivity levels of over 12,000 employees, across 18 major industries in the US and UK.

These employees are knowledge workers - all interact with or need to leverage data in their role. But, as our insights show, the skills they're equipped with don't always match up to the opportunity available.

We've explored the real-world impact of the data skills gap on workplace productivity levels and the transformative benefits of upskilling.

Here's what we found.



We've assessed the skills of employees in a whole range of roles, including...

- HR Business Partner
- Head of Procurement
- Social Worker
- Marketing & Engagement Executive
- Senior Margin Analyst
- Area Manager
- Improvement Lead
- D&I Advisor
- Practice Nurse
- Quality Manager
- Chief of Staff
- Accounts Assistant
- Communications Manager
- Security Officer
- Risk Manager

## Chapter 1

# The productivity opportunity



# Understanding the **data skills** gap

Businesses are generating more data than ever before, and the rate is growing: the 147 billion terabytes created this year will rise to 181 billion by 2025.

Data skills have transformed from a specialist skill to a standard expectation in many roles.

Our survey shows that employees are spending significant proportions of their time working with data. But are they actually equipped to do this effectively? And is this time being spent productively?

Let's explore the data and technical skills businesses are working with in-house, and how employees rate their data skills.

How much time do employees spend working with data on average?

14.31

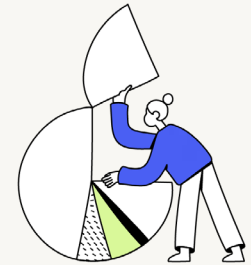
Hours a week on data tasks.

36%

Of their total working week.

## Productivity

Speed and efficiency of converting input into outputs – for example, analyzing a raw dataset into actionable insights.



## Terabyte

Unit of data equivalent to 1 trillion bytes, or 1,000 gigabytes.



## Basic data skills are missing in action

Significant proportions of employees report challenges with fundamental data skills. Half of workers report they lack the skills to make data analysis more efficient or to automate processes. Likewise, almost half can't use data to create forecasts.

Despite most leaders (60%) planning to spend more on software in 2024, technical skills are also lacking among employees – with heavy reliance on Excel and little experience in Power BI, Tableau or Python.

57%

Have no or basic Excel skills.

## Top data challenges reported by employees

Making data analysis more efficient

53%

Automating data processes and reports, using visualization or Business Intelligence tools

49%

Doing predictive data analytics, modeling, or forecasting

49%

Analyzing data to make informed data-driven decision

46%

Visualizing and presenting data

46%

Using data to help tell a story

45%

Managing technical/data-driven projects

44%

Working with data/technical professionals

43%

Structuring, preparing and manipulating data

42%

Sourcing and cleaning data

41%

55%

Have no Power BI or Tableau skills.

86%

Have no Python skills.

## Skills gaps are creating productivity gaps

Technical data skills gaps are having a negative and widespread impact on business performance.

Teams are losing hours and days at a time because of talent shortages and inefficient data tasks: all of which add up to a significant productivity drain.



### Questions for leaders

Do any of these challenges feel familiar to your business?

**4.34** hours  
or  
**11%** of the  
working week

Average time spent per employee each week on inefficiently completing data tasks.

**25** working  
days

Estimated productive time each employee loses to data skills gaps every year.

### The Multiverse take

"The lack of data skills is holding businesses back, and it is holding economies back. Workers are wasting hundreds of hours a year because they lack the skills to handle data effectively - that loss is coupled with the faulty decision-making and opportunity cost of poor data use.

"In the age of AI this issue is only exacerbated: companies' ability to harness this game changing technology depends on their ability to access, curate, and make use of their data. Companies have spent billions on software, but hardly anything on the skills needed to get the most from that software."

Euan Blair, CEO at Multiverse



Chapter 2

# The industry snapshot



# The industry snapshot

Data presents different opportunities in every industry.

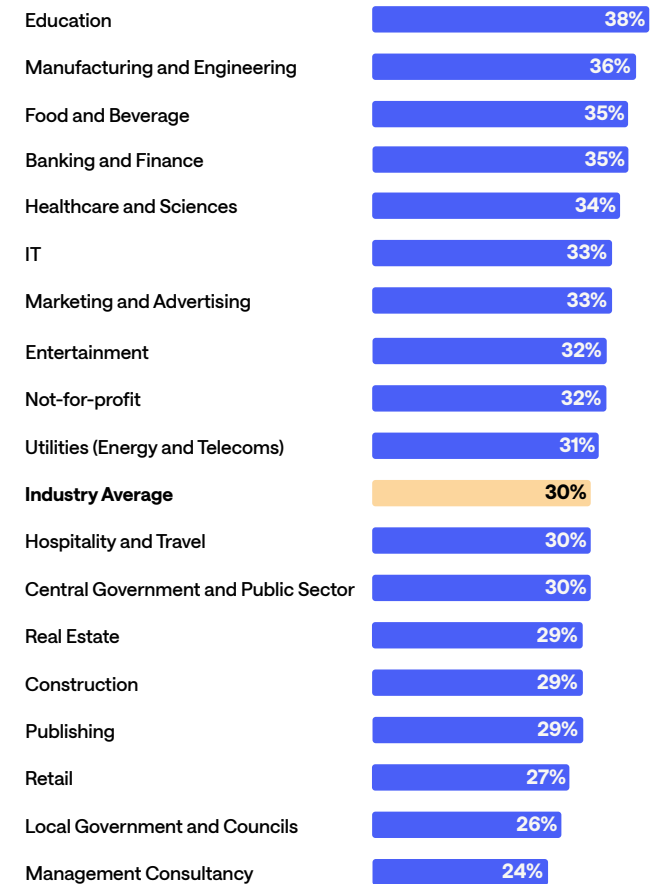
In manufacturing, data skills are used to optimize production processes and minimize downtime, while also supporting decision-making with insights that contribute to product quality improvements.

Meanwhile, in financial services the focus is on analyzing large volumes of financial data, facilitating informed decision-making and accurate reporting for stakeholders such as clients or regulatory bodies.

Similarly, data skills gaps play out in different ways. Let's compare how employees across 18 industries ranked their data productivity, and the challenges that each faces.



## What proportion of employees' time working with data is spent unproductively?



# Industries have **unique priorities,** but similar challenges

Time lost to unproductive data tasks varies from industry to industry, in part depending on the maturity of data use in that sector.

While the financial services sector has been reliant on high data use for many decades – and so employees may dedicate more of their time to data use – workers in education may be newer to the area.

There are clearly many opportunities for improvement – and understanding the detail behind the data skills gap in each sector is crucial.

## Questions for leaders

Where could your organization stand to benefit the most from improved data skills?

## Productivity challenges

**93%**

of healthcare workers have no skills in Python, despite spending 20 hours per week working with data.

Employees working in manufacturing spend almost

**3 hours**

a day working on data – but more than an hour of that is spent inefficiently.

**68%**

of employees at not-for-profits have basic or no skills in Excel, and just 5% are experts.

## The Multiverse take

"Leaders know that skills gaps exist, and the productivity drain they bring with them. The challenge is identifying where, exactly, they are.

"This insight is what's needed to deliver targeted interventions to close the gaps. Today, there's an over-reliance on market trends and 'asking around', neither of which pinpoint the issue.

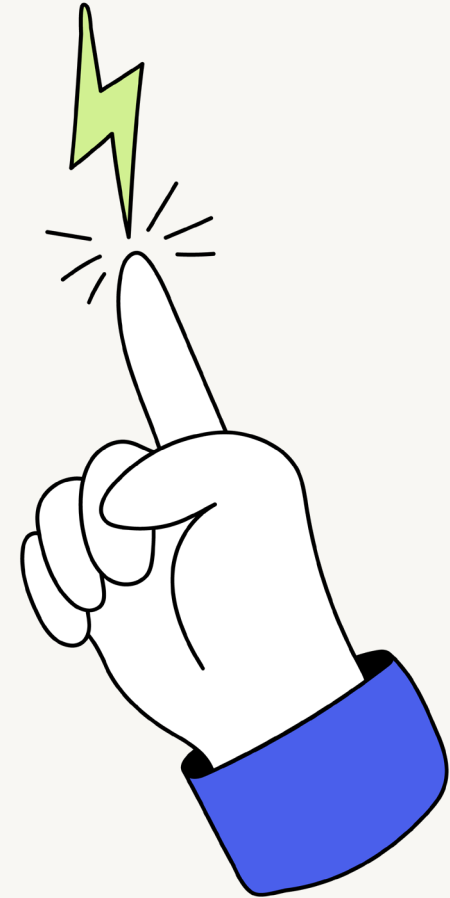
"Mapping your organization's data skills gaps can help to highlight the places where upskilling will add the greatest value for your employees and your bottom line.

"This can deliver real productivity gains – and create an organization more confident with data. That means more productive employees, more powerful insights, and more time spent on the work that matters."

Euan Blair, CEO at Multiverse

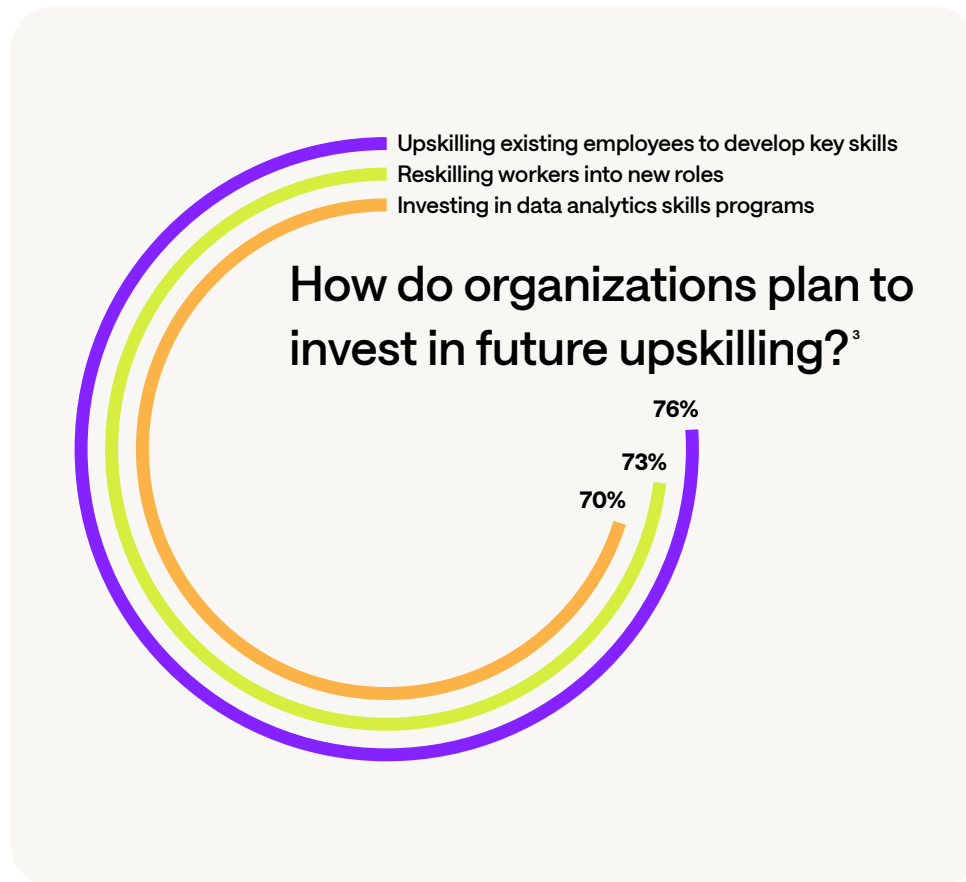
## Chapter 3

# The upskilling solution



# The **upskilling** solution

Upskilling and reskilling programs are becoming an increasingly vital route for organizations to build data skills and develop data-adept teams. Not just for the tools that exist today, but as an investment in the emerging technologies that will continue to define how we work in future.



## Do employees want to improve their data skills?

The clear answer is yes. Upskilling works both ways – it benefits employers by driving efficiencies with a skilled workforce and it's great for employees who feel empowered by an organization that wants to see them grow.

**90%**  
Of employees on average want to improve their data skills.



# Case study

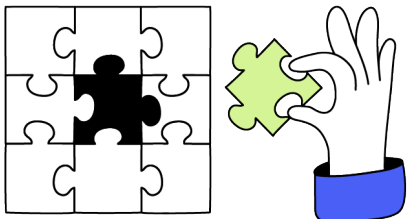
## Identifying, quantifying, and closing skills gaps at EDF Energy

EDF Energy partnered with Multiverse to assess skills and competencies across several business units.

Of those employees who use data daily, 19.9 hours a week were spent on data tasks, like predictive modeling, engineering data, producing visualizations, managing spreadsheets or analyzing data.

But almost half of that time could be saved, the skills assessment found, if employees were more skilled users of data.

Identifying room for efficiency gains, EDF launched a Data Academy, enrolling staff onto apprenticeship programs.



"While many organizations know instinctively that they have skills gaps, it's a challenge to identify them, quantify them, and close the gaps. At EDF, we recognise that a data transformation takes more than new technology, change needs people to create a culture that uses data to take action. We partnered with Multiverse to actually find where the company would benefit from building broader capabilities beyond data teams, enhanced existing skills, and put in place the Data Academy to deliver them.

"We have big ambitions, including in helping the UK to decarbonise to reach Net Zero, and we can't let skills gaps hold us back.

"Identifying and closing those gaps is helping us deliver on our goals, and enhanced data skills across EDF to help our customers save carbon and cash."

Lillian Philip, Senior Leader of Commercial Operations at EDF

# Case study

## Bridging the data skills gap at Cheshire West and Chester Council

**Cheshire West and Chester Council relies on a huge range of data to manage and underpin service delivery and has hundreds of employees working with data every single day.**

In partnership with Multiverse, the council ran a skills assessment to identify if there were areas in which the use of data could be improved through training.

That skills scan found that, while many employees were analyzing data, less than 10% were engaging in predictive analysis. It offered a huge opportunity for the council to make the most of the data they had to better predict service demand, deliver an enhanced service to residents, and inform budget planning.

Now, having enrolled more than 70 colleagues from a range of services onto data apprenticeships, new data skills are unlocking valuable insights about the needs of residents and communities, enabling the council to deliver focused digital and transformation programs.

Services are benefiting from a saving in staff time on data management tasks and the Council is seeing wider impact from the creation of the new, Council-wide Data Hive network, supported from the central data science and engineering hub.



**"Using data effectively is essential in local government for enabling us to deliver the best possible services to residents: it helps us understand where the challenges and the opportunities across our diverse range of services are.**

**"But harnessing data requires skills and the right organizational culture. We know that data skills are in short supply across the economy, that's why training our in-house colleagues is so important as they are the people who understand our services. Being able to identify where those data skills will make the biggest impact is a great first step."**

Simone Thomas, Senior Manager for Strategic Data Systems  
at Cheshire West and Chester Council

# The **upskilling** solution



## The Multiverse take

“New technologies are changing the way we work. We can be faster, more accurate and free up time to produce higher value work.

“But the potential impact of these new technologies are capped by the skill of the individuals who use them.

“Upskilling is also an employee imperative. The vast majority of workers want more skills to accelerate their careers and access the best jobs of the future. The best employers are creating those opportunities for them.

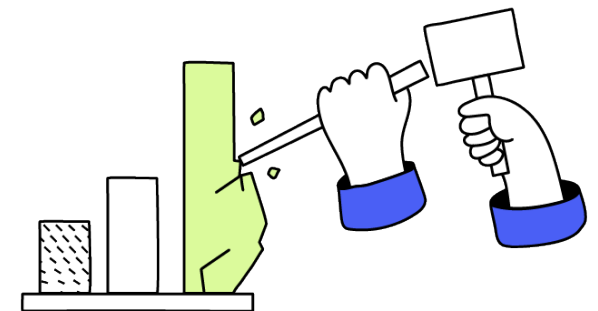
“It’s time to get employees up to speed on AI to even the data skills playing field and give individuals the opportunity to accelerate their careers.”

Anna Wang, Head of AI at Multiverse



## Questions for leaders

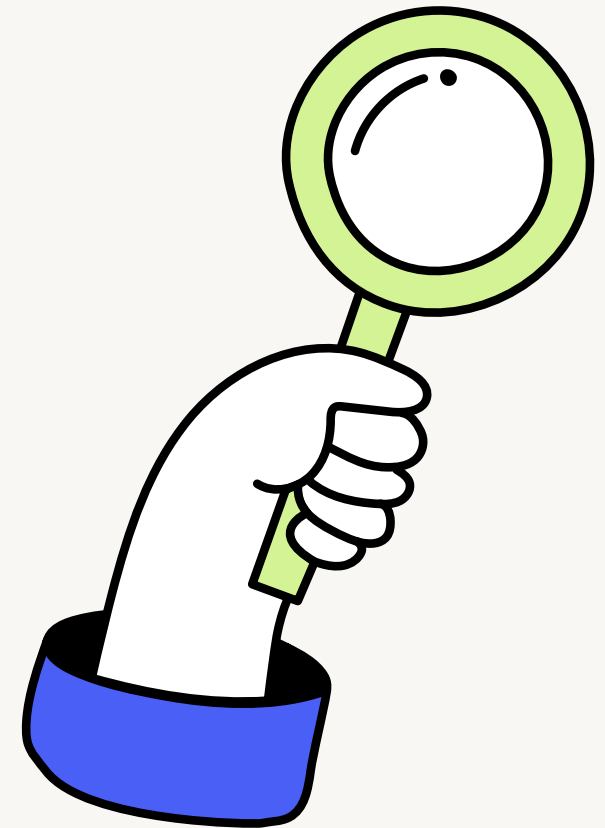
Does your business have an employee upskilling strategy?





Chapter 4

# Skills intelligence with Multiverse



# Skills intelligence with Multiverse

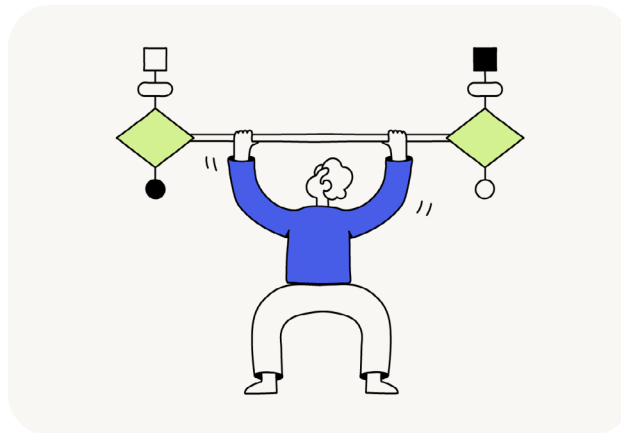
The first step in fixing any business issue is identifying the root cause. And when it comes to workforce skills, every business needs to understand their own unique situation.

Multiverse empowers leaders to identify, close, and prevent their most critical skills gaps — to drive towards any business goal, at any time, at any scale.

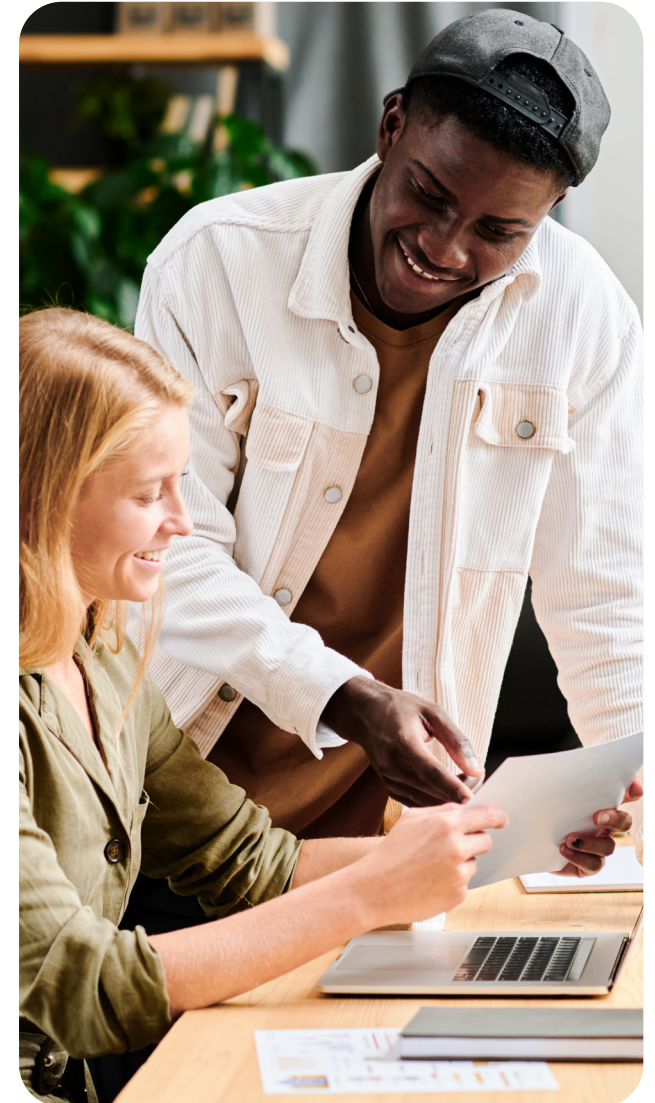
Our AI-powered skills intelligence creates an inventory of existing employee skillsets, and helps teams reveal the critical capabilities they need to build next.

Using these data-driven insights, employees onboard onto personalized learning pathways catered to their skill level and tied to tangible business goals, ensuring that upskilling and reskilling investments drive immediate business impact, not just provide an employee benefit.

Together, we can help you close skills gaps and deliver measurable results – for today and tomorrow.



Book a demo at [www.multiverse.io](http://www.multiverse.io)



## Methodology

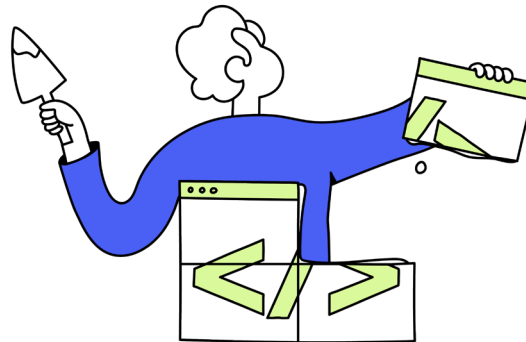
The data in this report includes results of **Multiverse** skills assessments completed by employees in the UK and US, between August 2023 and June 2024. For questions relating to data skills, 12,342 employees were surveyed by Multiverse. For questions relating to productivity, 19,198 employees were surveyed.

### Assessment

To assess data skills across an organization, we asked each respondent to:

- (1) Indicate their current ways of working with data and their expectations for data utilization in the future
- (2) Report their current level of expertise in key data skills
- (3) Share the criticality of each data skill to succeed in their role

Similarly, respondents report their time spent working with data daily and the percentage of their time completing data tasks that is spent ineffectively. To further understand respondents' interest in upskilling in data and their potential impact to their organizations, we survey respondents on questions related to their skill level in specific tools, their level of interest in upskilling and why, and the impact they can drive in their personal development, role, and organization.



# Book a **demo**

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