

REVOLUTIONIZING DECISION-MAKING USING AI

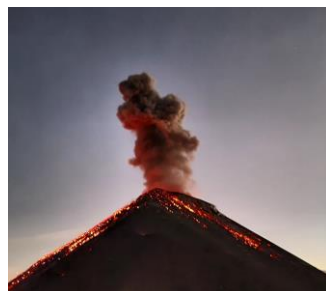
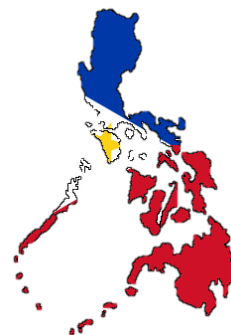
Arun Nandi
Head of Data &
Analytics at Unilever

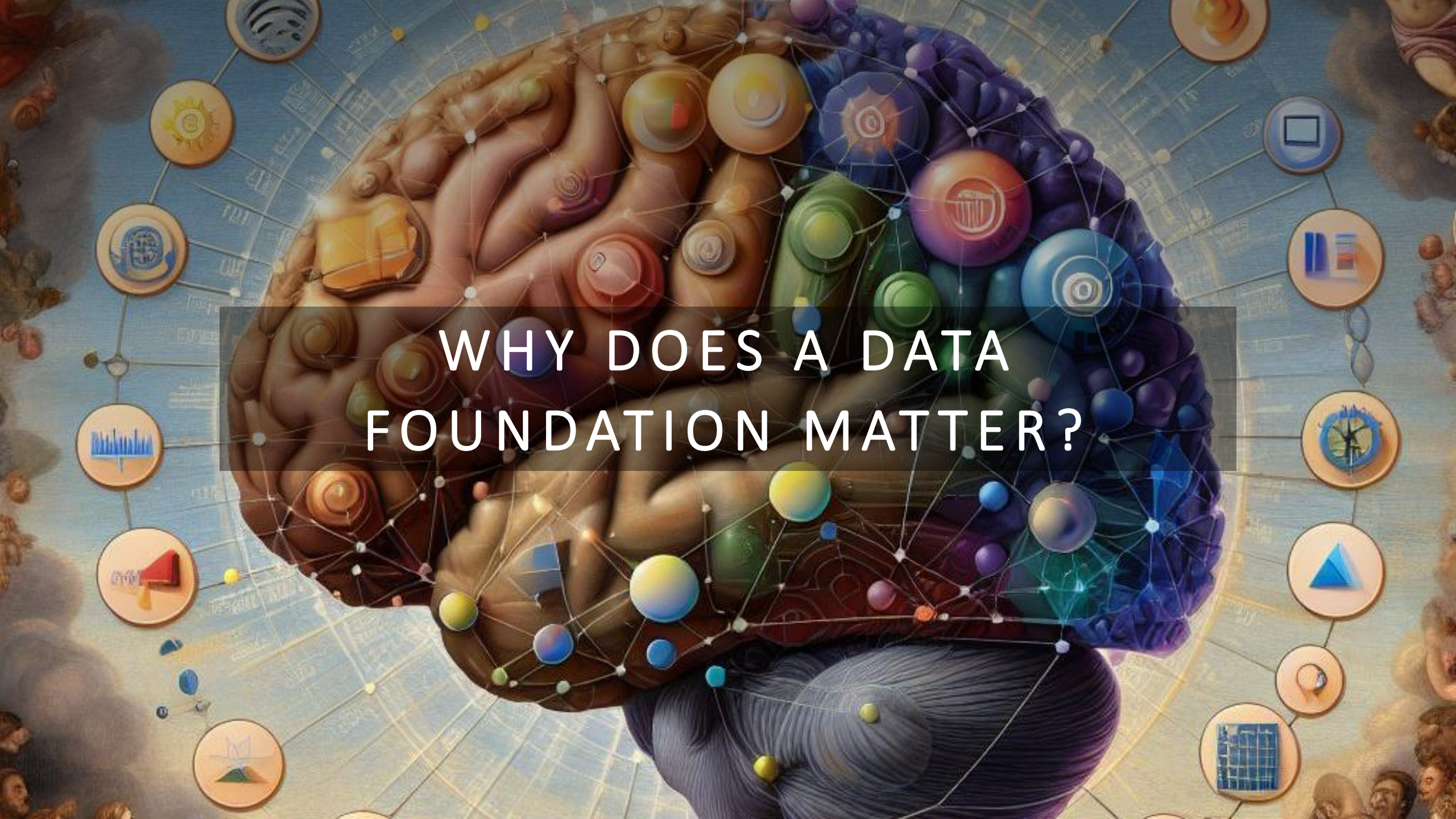


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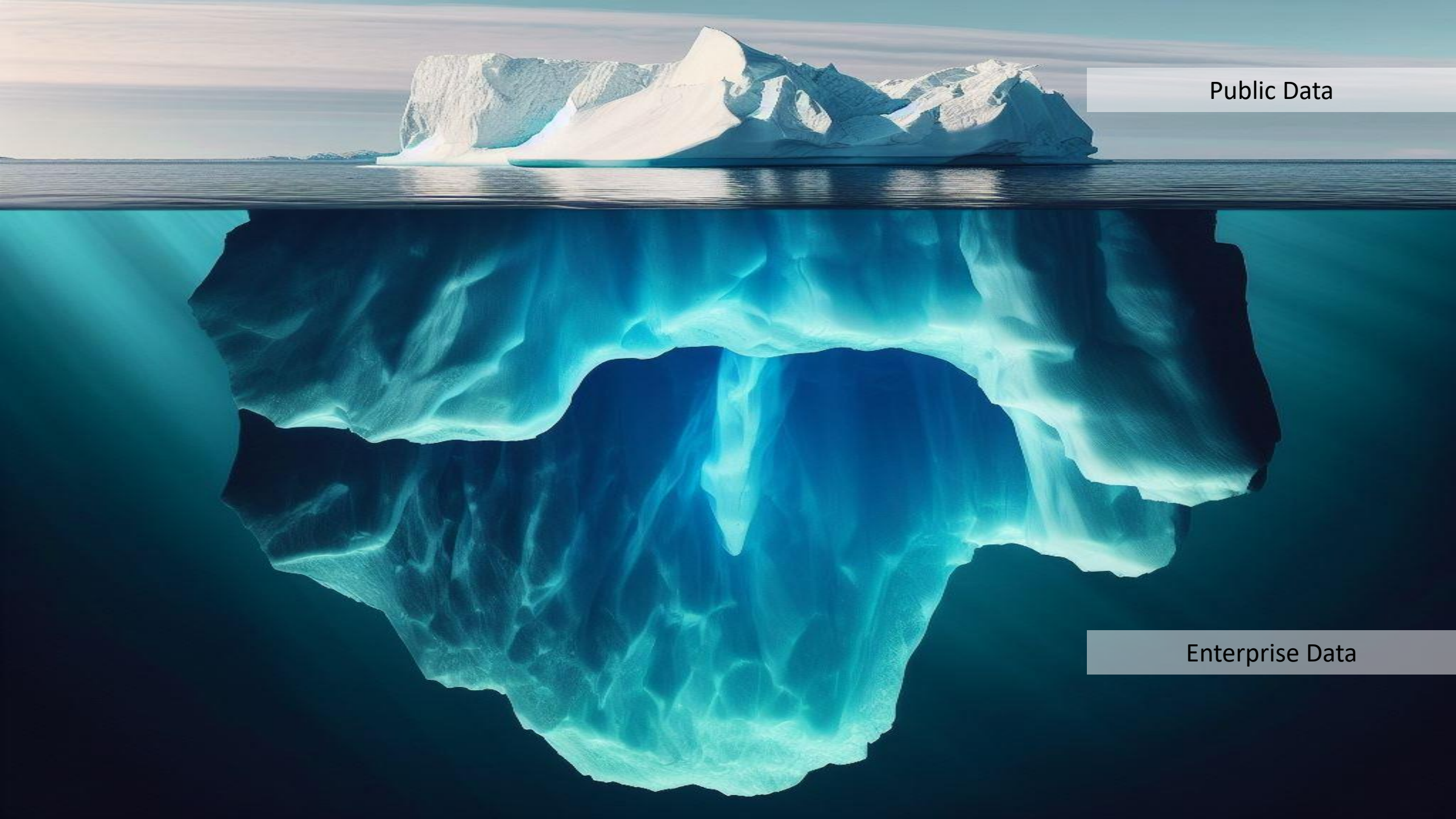


All images used are personal or creations from Dall-e3





WHY DOES A DATA
FOUNDATION MATTER?

An iceberg floating in the ocean. The tip of the iceberg is above the water line, and the much larger, more complex structure is submerged below. The water is a deep blue, and the sky is a pale blue with soft clouds. The iceberg's surface is jagged and uneven, with various textures and colors ranging from white to light blue. The submerged part of the iceberg is also jagged and uneven, with a more uniform light blue color. The water line is clearly visible, separating the visible tip from the hidden base.

Public Data

Enterprise Data

THE DATA SCIENCE **HIERARCHY OF NEEDS**

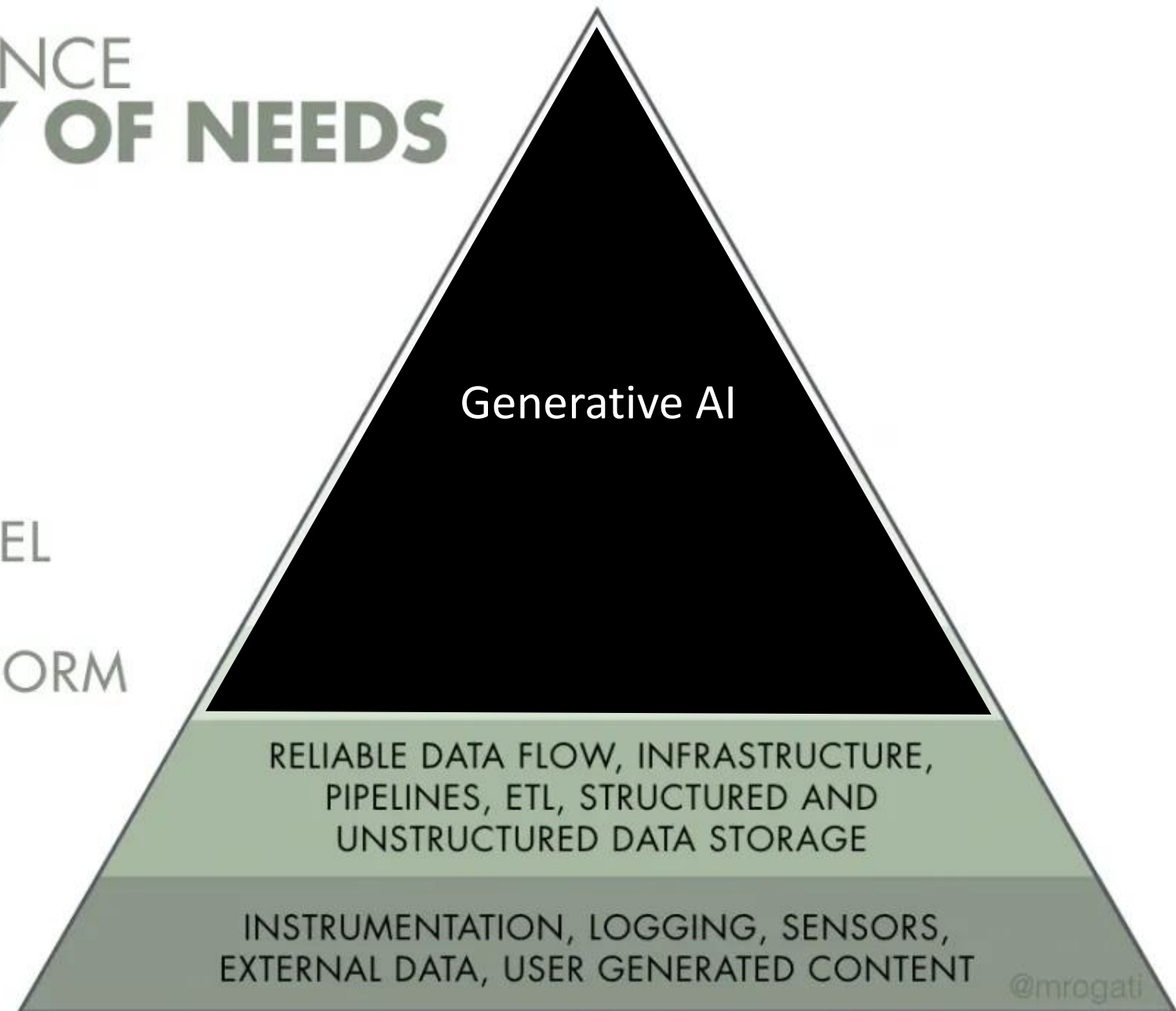
LEARN/OPTIMIZE

AGGREGATE/LABEL

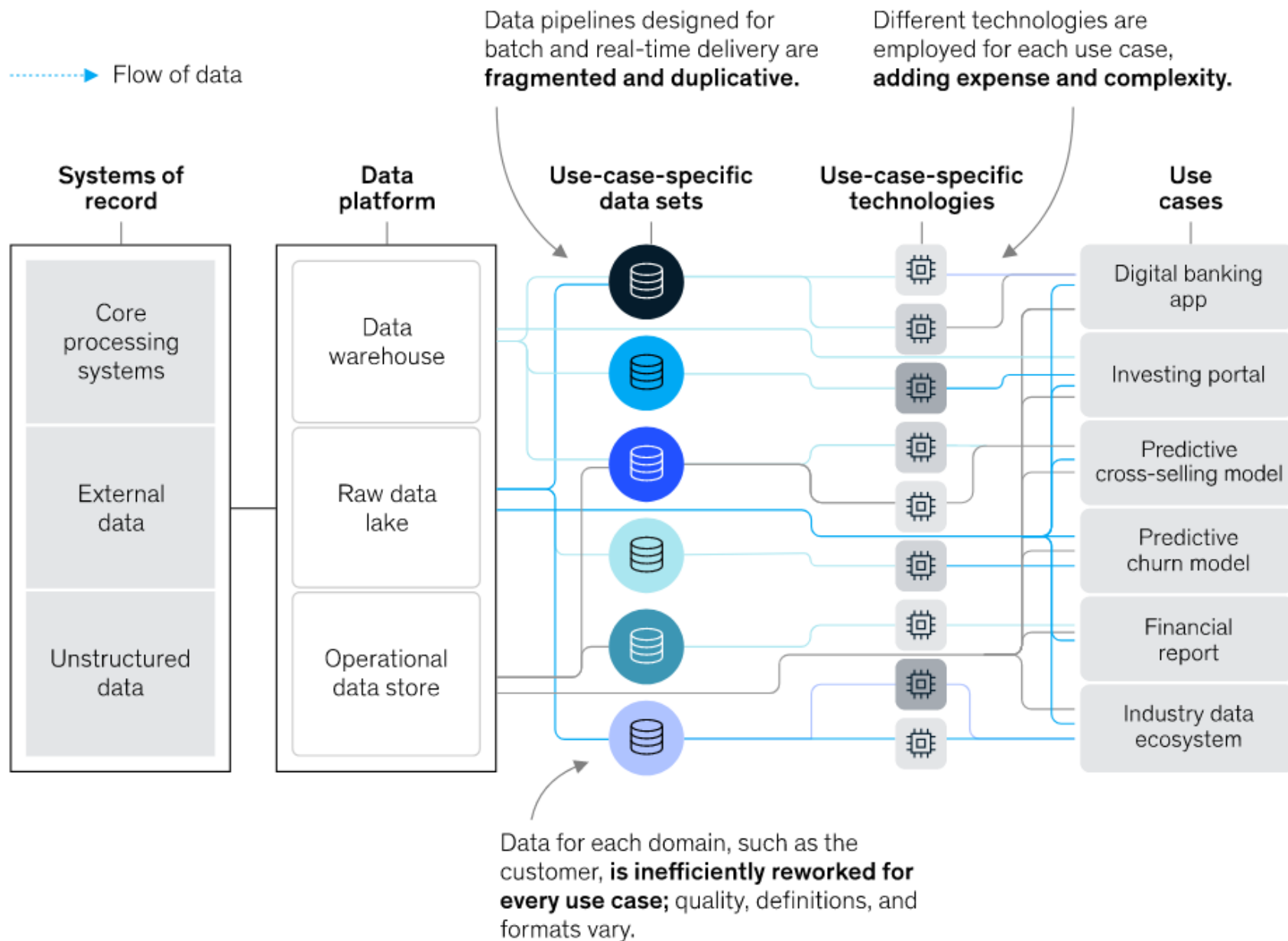
EXPLORE/TRANSFORM

MOVE/STORE

COLLECT

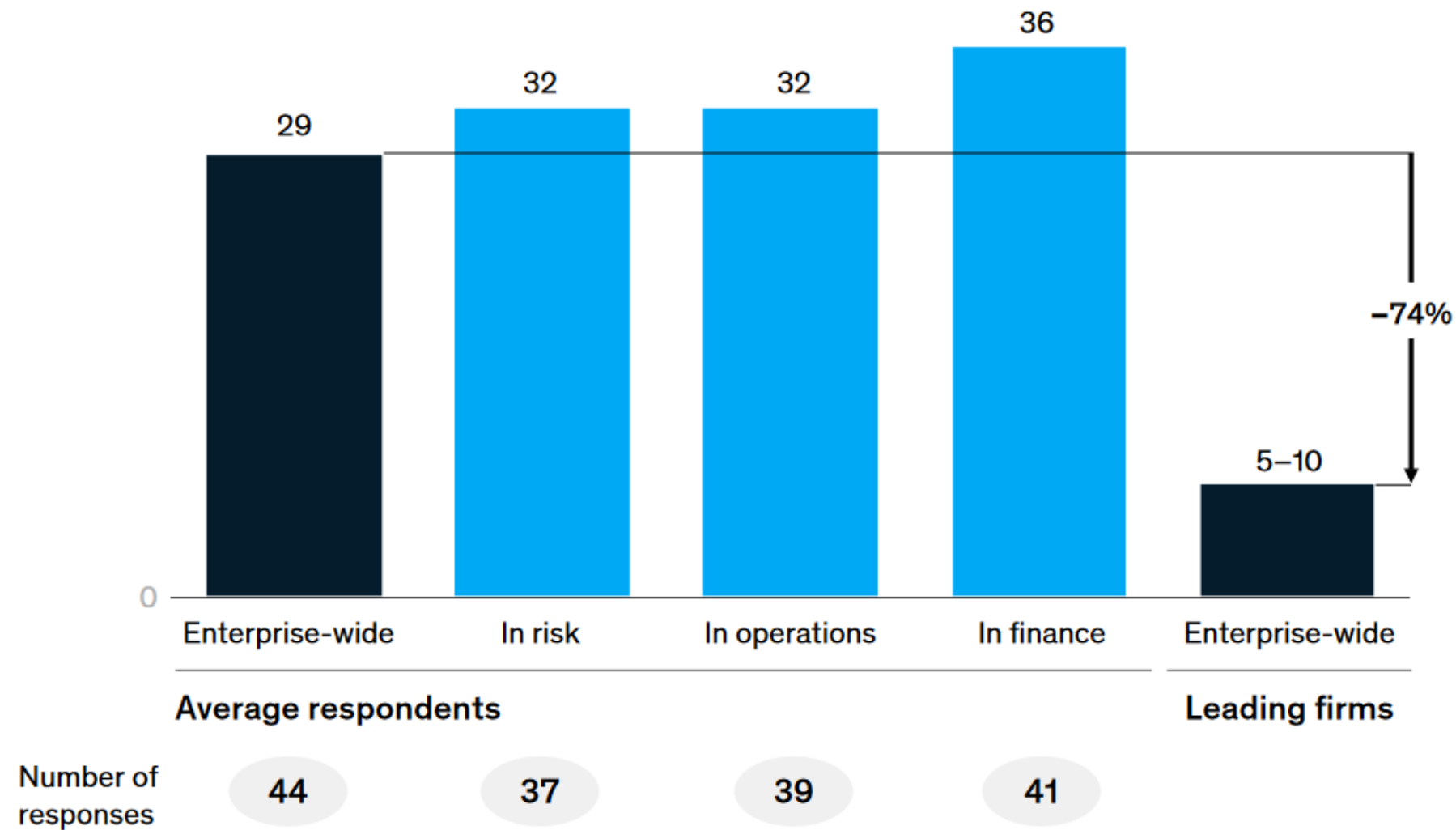


Example of a complex and inefficient data strategy



Time spent on non-value-added tasks due to poor data quality and availability¹

Estimated % of total employee time

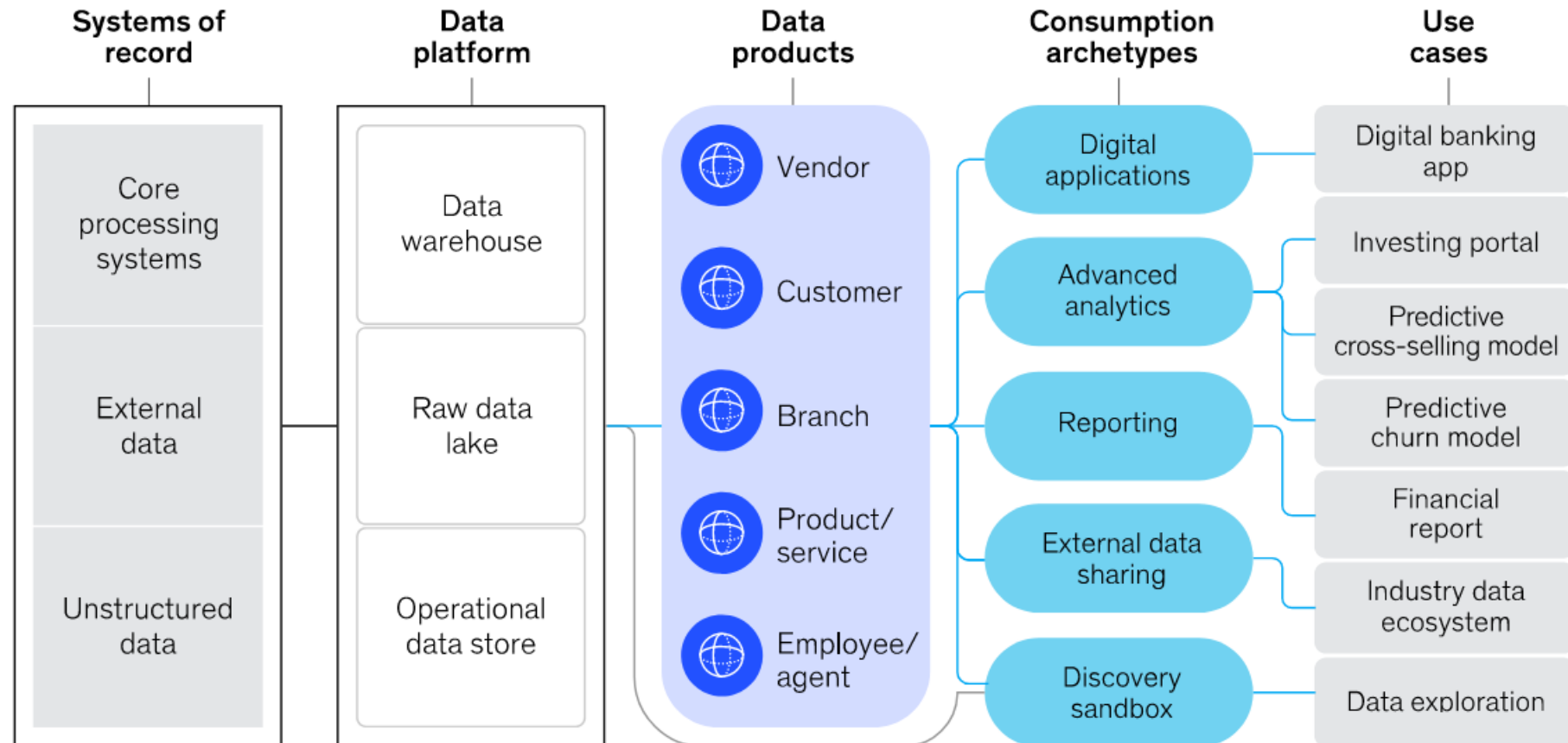


¹ Data sourcing, data aggregation, data reconciliation, data cleansing, manual reporting, etc.
Source: McKinsey Global Data Transformation Survey, 2019

A data product approach results in standardization that saves time and money.

Example of an efficient data product approach

.....> Flow of data

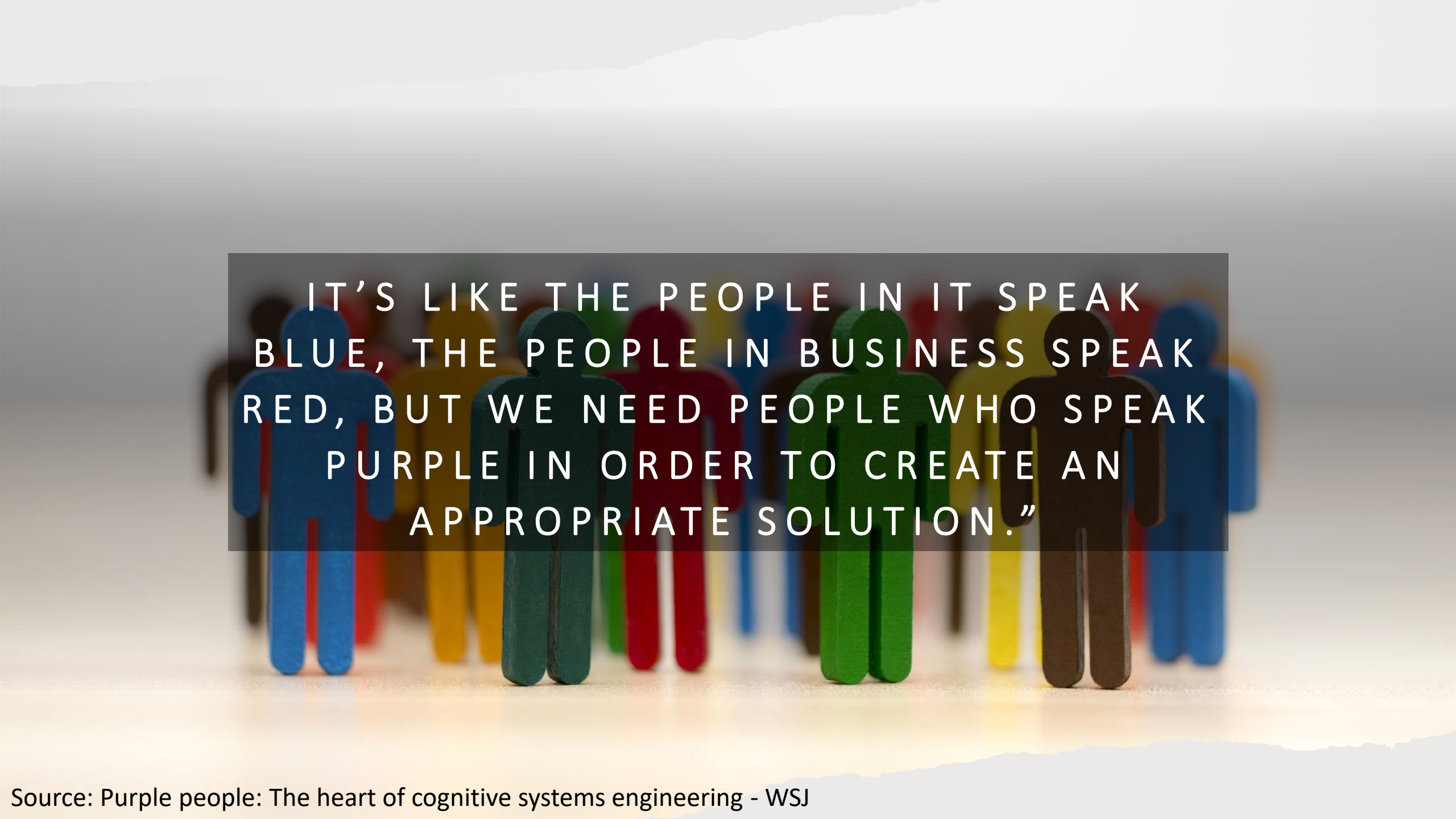




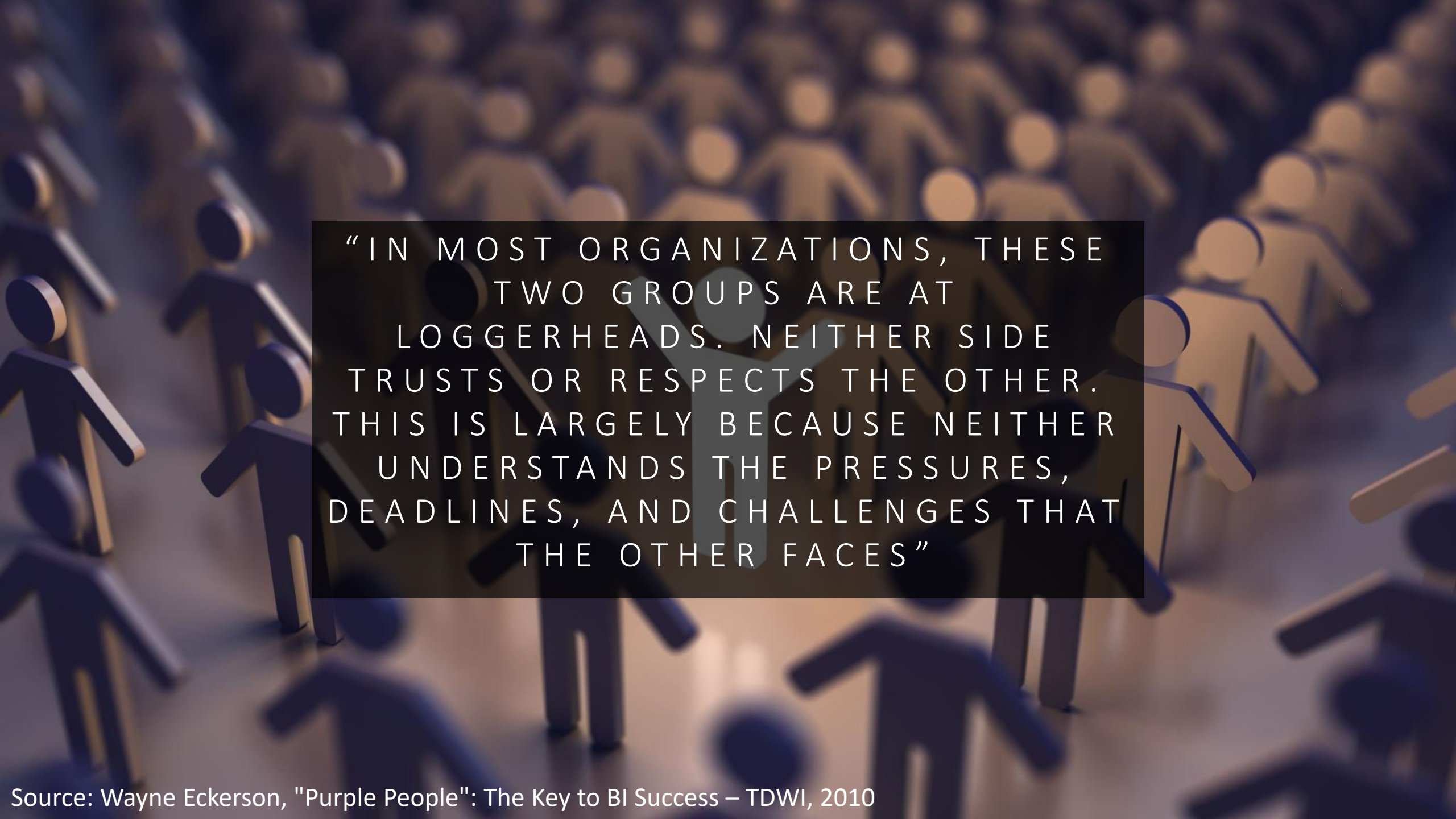
SUSTAINED INVESTMENT BEHIND DATA
FOUNDATIONS IS A CRITICAL ENABLER

The image is a 3D digital illustration representing data architecture. It features a large, translucent dome on the right side, which has a grid pattern and a red line graph with diamond markers on its surface. To the left of the dome are several concentric rings and a series of 3D bar charts in red and blue. The entire scene is set on a white base with various geometric patterns and lines, suggesting a complex data environment.

EVEN THE BEST DATA ARCHITECTURE
CANNOT GUARANTEE DATA QUALITY



IT'S LIKE THE PEOPLE IN IT SPEAK
BLUE, THE PEOPLE IN BUSINESS SPEAK
RED, BUT WE NEED PEOPLE WHO SPEAK
PURPLE IN ORDER TO CREATE AN
APPROPRIATE SOLUTION."

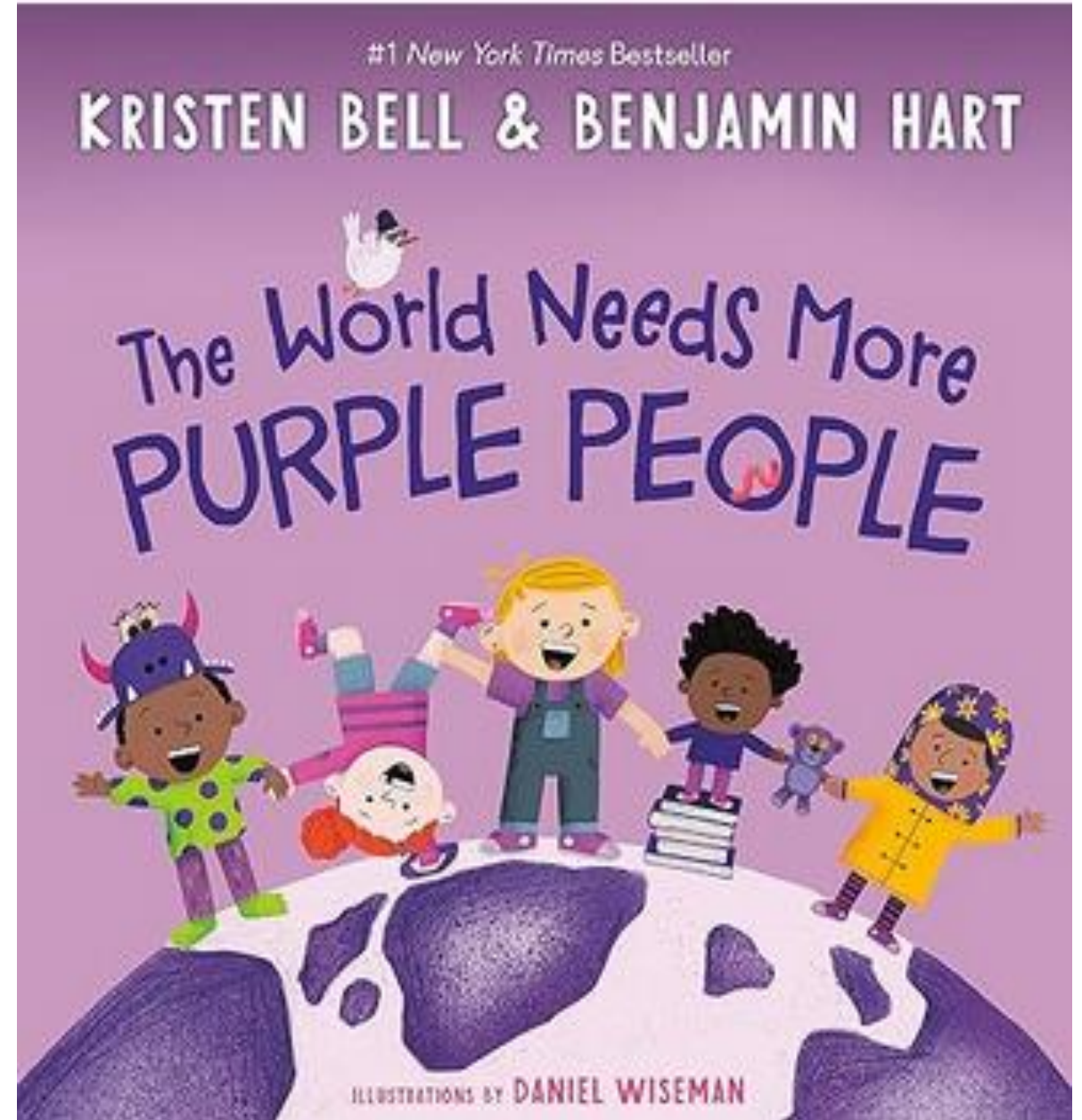


“IN MOST ORGANIZATIONS, THESE
TWO GROUPS ARE AT
LOGGERHEADS. NEITHER SIDE
TRUSTS OR RESPECTS THE OTHER.
THIS IS LARGELY BECAUSE NEITHER
UNDERSTANDS THE PRESSURES,
DEADLINES, AND CHALLENGES THAT
THE OTHER FACES”



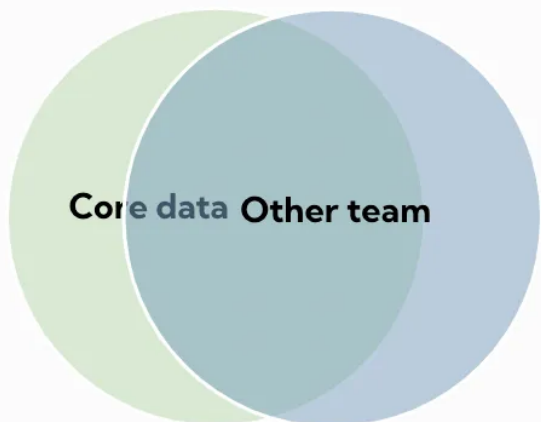
“BOTH BUSINESS AND TECHNOLOGY SKILLS
ARE VALUABLE IN THEMSELVES, BUT THEY
ARE MOST VALUABLE WHEN COMBINED.
COGNITIVE TECHNOLOGIES WILL CHANGE A
LOT, BUT THEY WON'T CHANGE THAT. THE
FUTURE BELONGS TO THE PURPLE
PEOPLE—JUST AS THE PAST DID”

- PURPLE PEOPLE BRING COMMUNITIES TOGETHER (REDUCING FUNCTIONAL SILOS)
- PURPLE PEOPLE ASK A LOT OF QUESTIONS
- PURPLE PEOPLE SPEAK UP AND ARE THEMSELVES
- PURPLE PEOPLE ARE KIND AND HARDWORKING

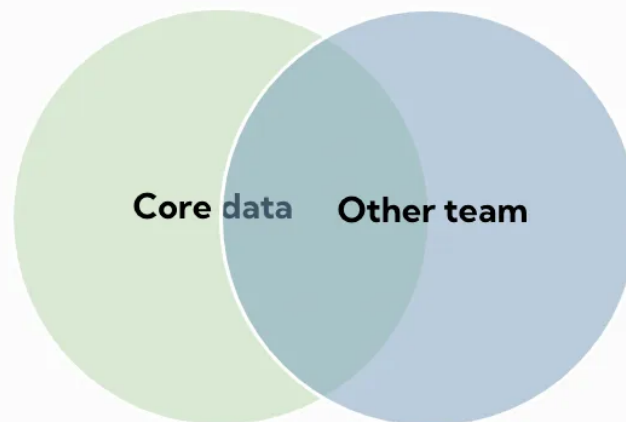


Understand the overlap data-like teams have with core data

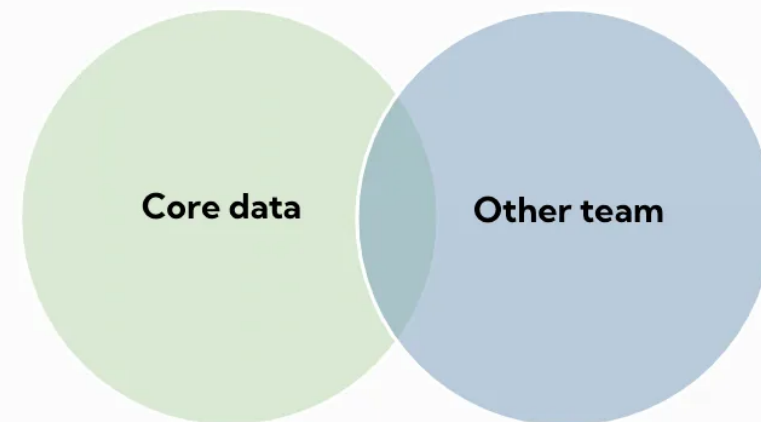
High overlap



Some overlap



Little overlap



Example

Credit analysts starting to build dbt models in their own project without involving the data team for business critical data

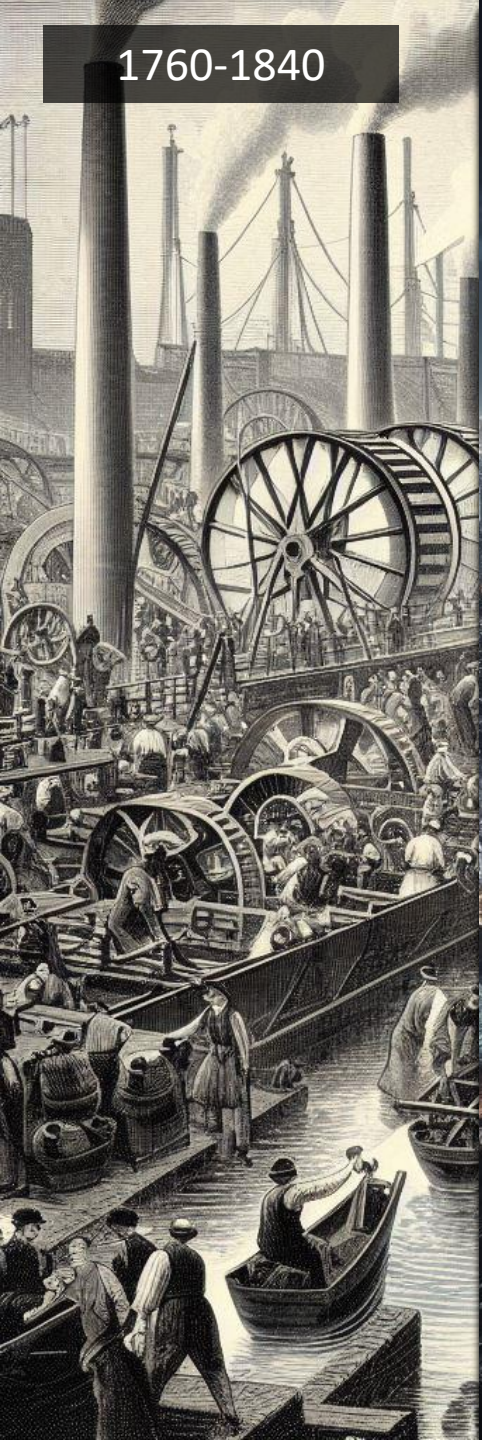
Example

Operations analyst team relying on custom run Pandas and SQL scripts to create a forecast that's business critical

Example

Sales Ops team starting to create custom dashboards in LookML used by the rest of the sales team

1760-1840



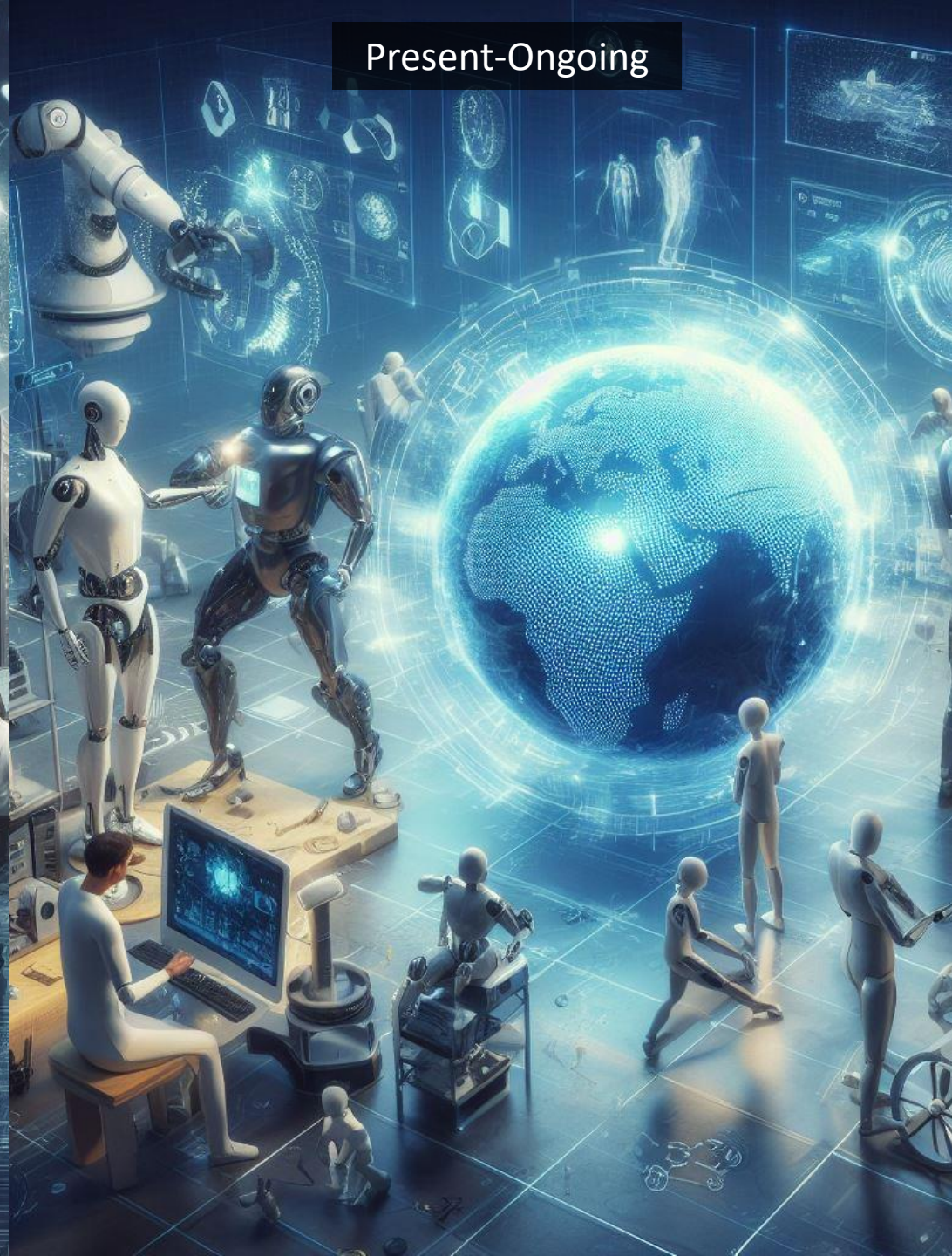
1870-1914



1950-Present



Present-Ongoing



Computation used to train notable artificial intelligence systems

Our World
in Data

Computation is measured in total petaFLOP, which is 10^{15} floating-point operations estimated from AI literature, albeit with some uncertainty. Estimates are expected to be accurate within a factor of 2, or a factor of 5 for recent undisclosed models like GPT-4.

Table

Chart

Select systems

Settings



Language and image recognition capabilities of AI systems have improved rapidly

Test scores of the AI relative to human performance

+20

0 ← Human performance, as the benchmark, is set to zero.

-20

-40

-60

-80

-100

2000

2005

2010

2015

2020

Handwriting recognition

Speech recognition

Image recognition

Reading
compre-
hension

Language understanding

AI systems perform better than
the humans who did these tests

AI systems perform worse

The capability of each AI system is normalized
to an initial performance of -100.

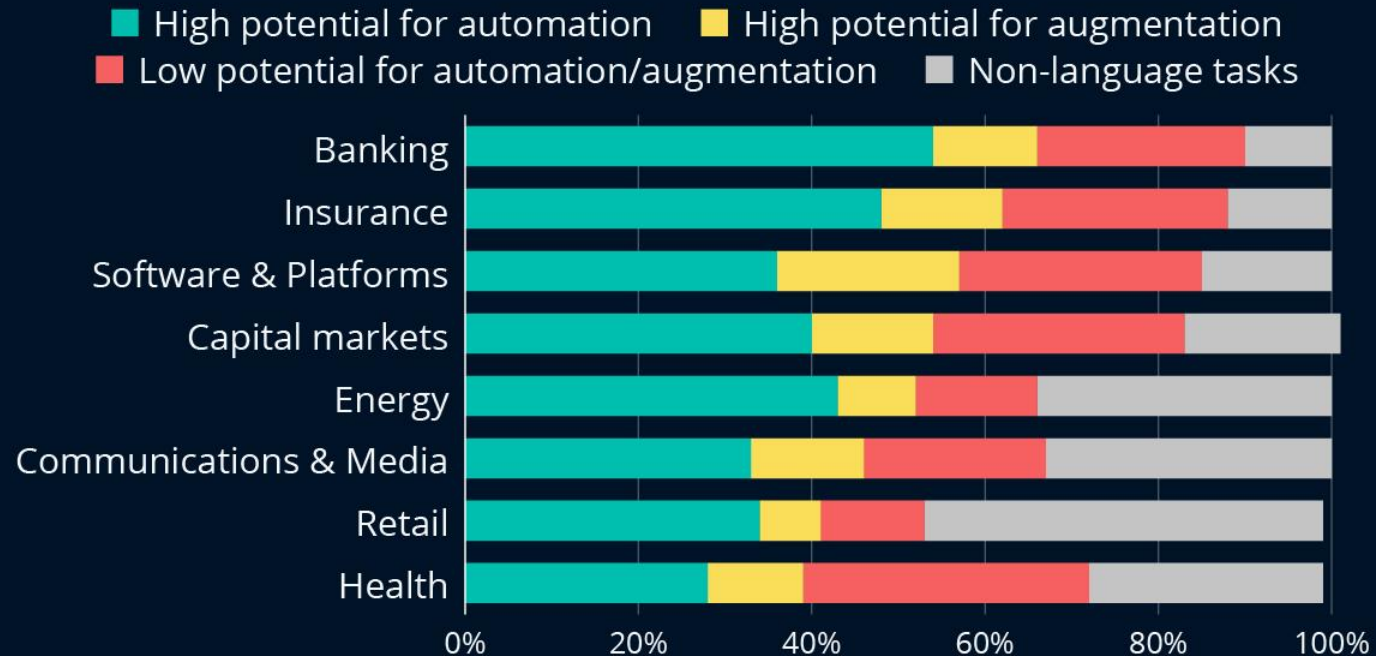
Data source: Kiela et al. (2021) - Dynabench: Rethinking Benchmarking in NLP

OurWorldinData.org - Research and data to make progress against the world's largest problems.

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In Which Industries Could AI Do Most of the Heavy Lifting?

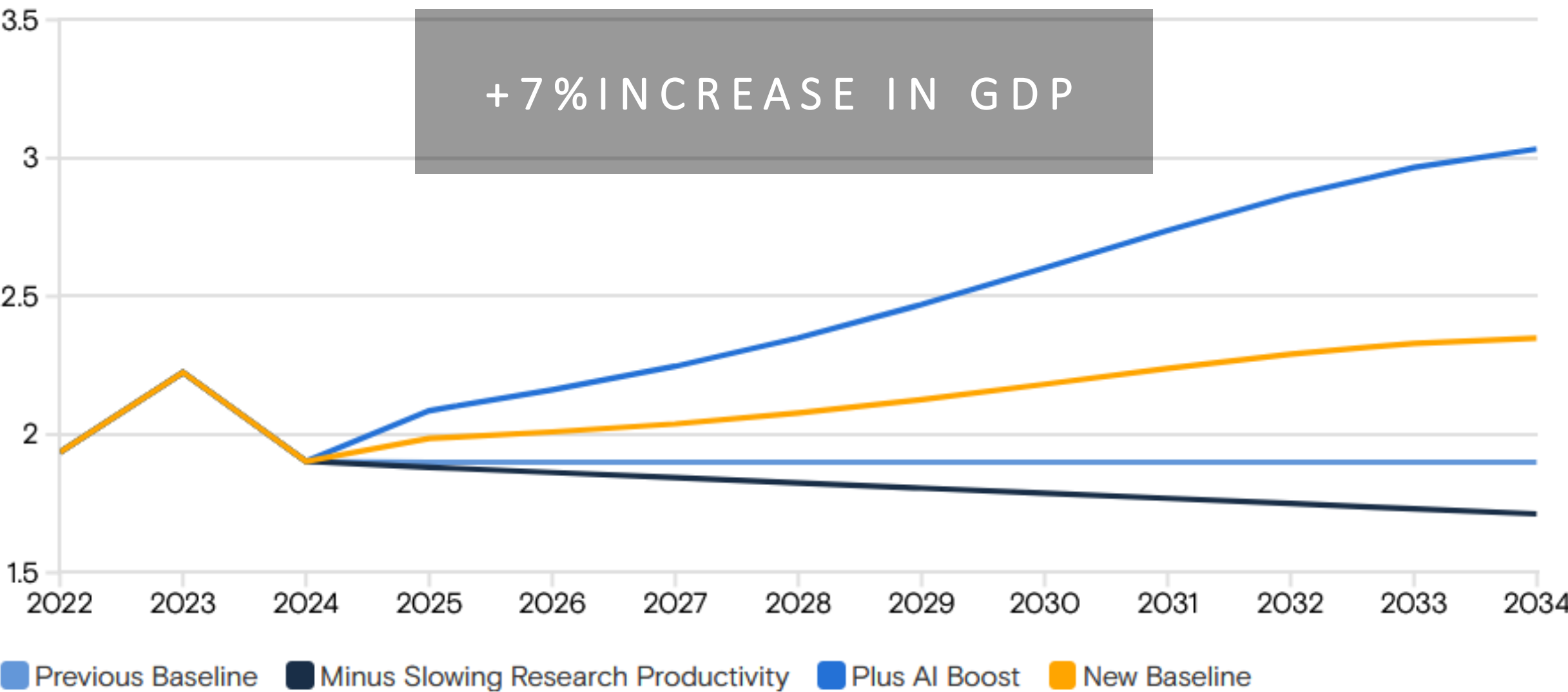
Share of working hours in selected industries in the U.S. that could be automated/augmented by the use of AI



Tasks with high potential for automation can be transformed by AI with little human involvement, tasks with high potential for augmentation require more human involvement

Source: Accenture

GS GDP growth scenarios: US



Source: Goldman Sachs Research
New baseline shows AI boost minus slowing research productivity, net of prior technology trend.
All aggregates computed using FX country weights.



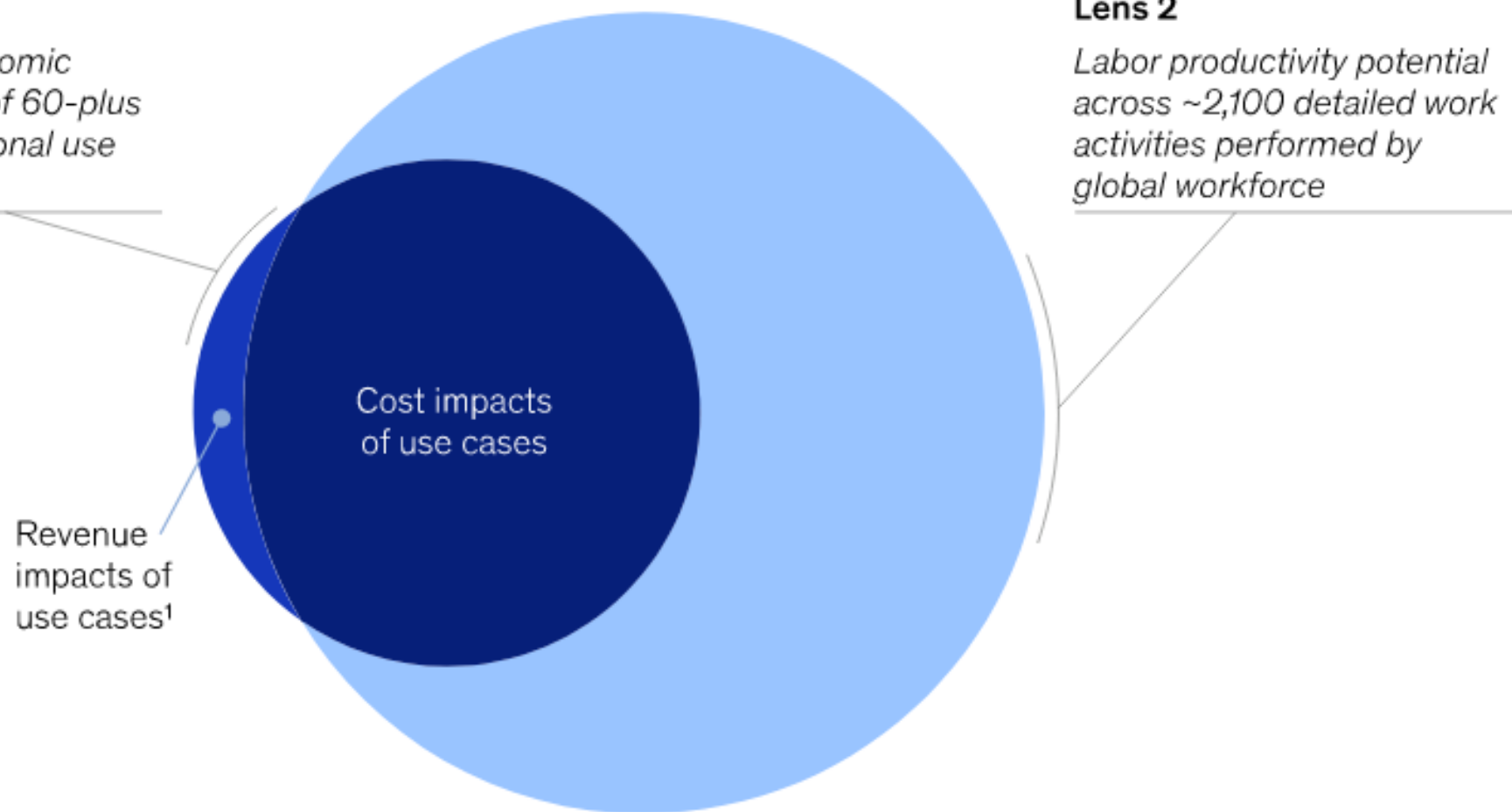
The potential impact of generative AI can be evaluated through two lenses.

Lens 1

Total economic potential of 60-plus organizational use cases¹

Lens 2

Labor productivity potential across ~2,100 detailed work activities performed by global workforce



¹For quantitative analysis, revenue impacts were recast as productivity increases on the corresponding spend in order to maintain comparability with cost impacts and not to assume additional growth in any particular market.



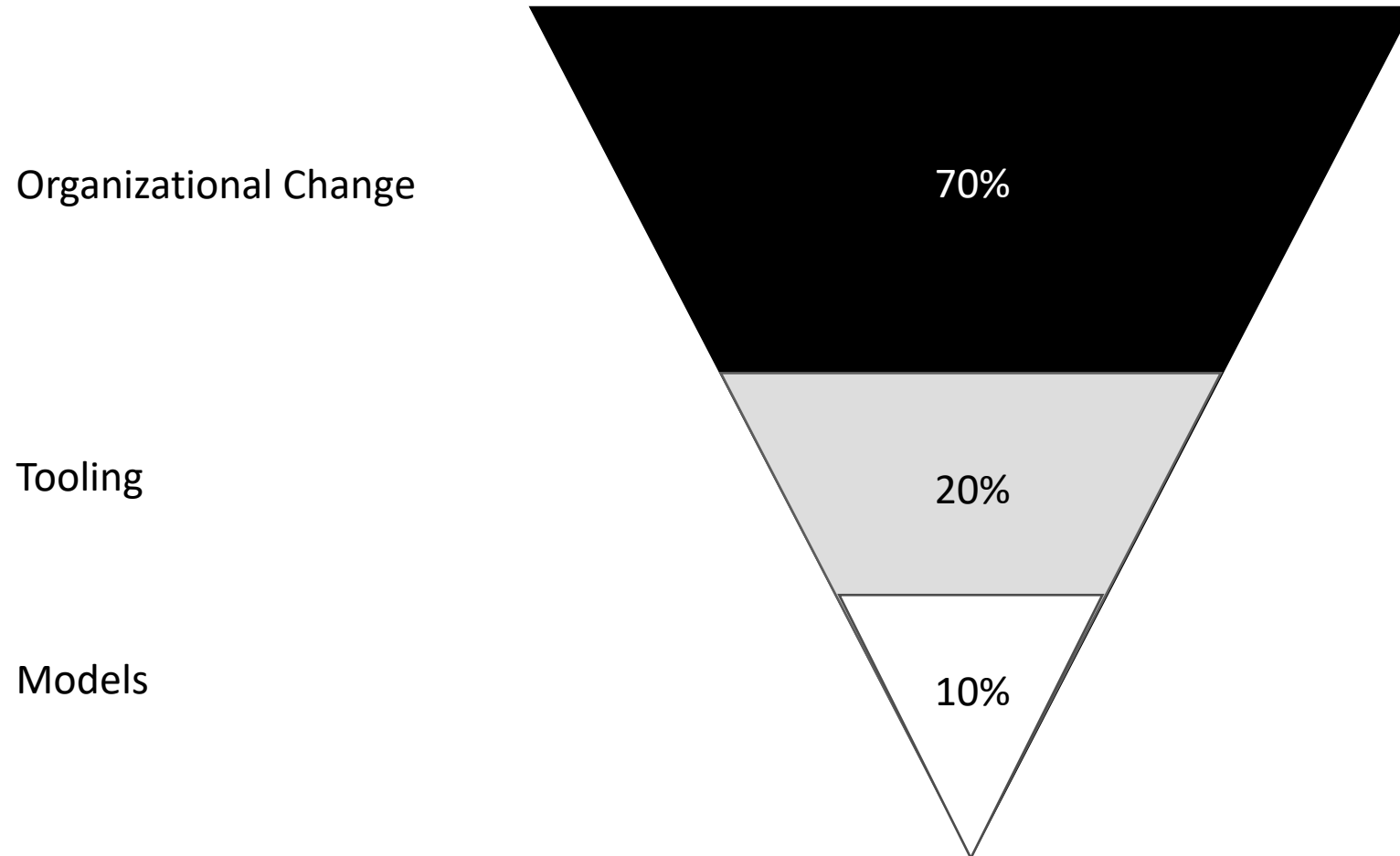
AI UNLOCKING TRANSFORMATIONAL BENEFITS

- Productivity
- Sharper decision-making
- Creativity and new revenue potential



OBSESSED WITH VALUE

INVERTED PYRAMID OF AI INVESTMENT



FAIL FAST

SCALE FAST



THANK YOU

Arun Nandi



REFERENCES

- <https://www.mckinsey.com/capabilities/quantumblack/our-insights/how-to-unlock-the-full-value-of-data>
- <https://www.mckinsey.com/capabilities/quantumblack/our-insights/how-to-unlock-the-full-value-of-data-manage-it-like-a-product>
- <https://deloitte.wsj.com/cio/purple-people-at-the-heart-of-cognitive-tech-1452142924>
- <https://www.mckinsey.com/ua/~media/McKinsey/Business%20Functions/McKinsey%20Digital/Our%20Insights/Designing%20data%20governance%20that%20delivers%20value/Designing-data-governance-that-delivers-value-NEW.pdf>
- <https://hackernoon.com/the-ai-hierarchy-of-needs-18f111fcc007>
- <https://ourworldindata.org/artificial-intelligence?insight=the-last-decades-saw-a-continuous-exponential-increase-in-the-computation-used-to-train-ai#key-insights>
- <https://mitsloan.mit.edu/ideas-made-to-matter/how-generative-ai-can-boost-highly-skilled-workers-productivity>
- <https://www.bcg.com/publications/2022/5-rules-for-fixing-ai-and-machine-learning-for-your-business>