



The Future of Higher Education in the world of AI

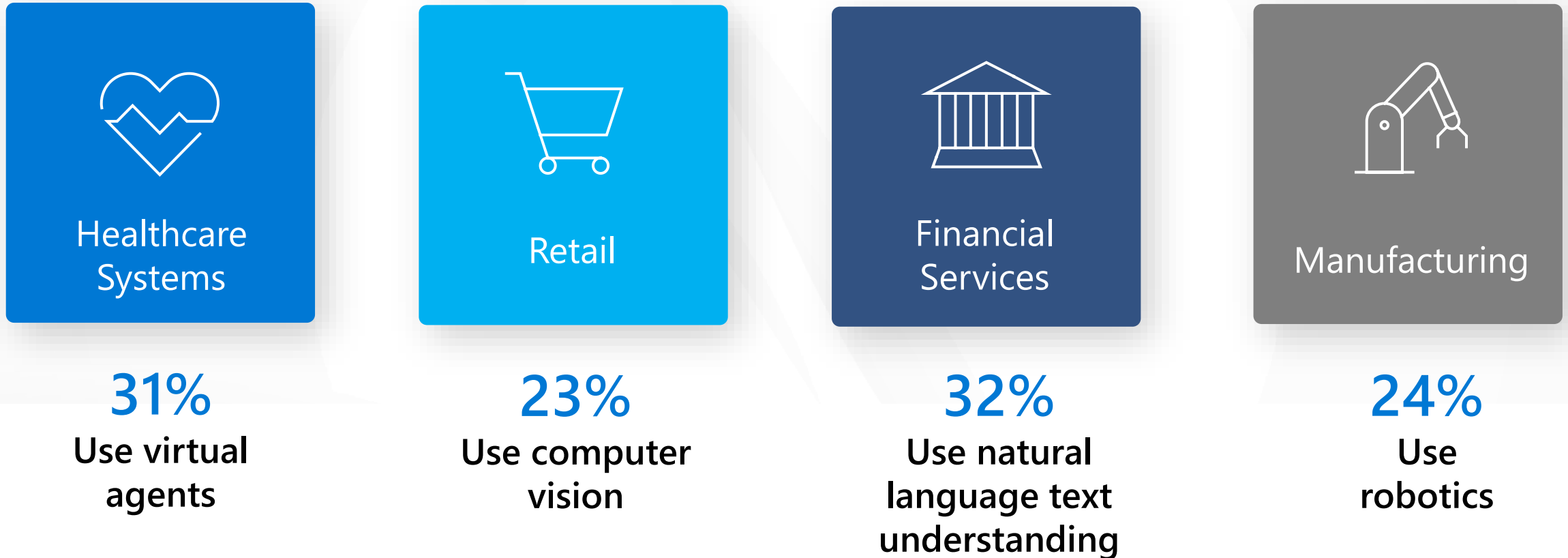
Empower every learner and educator
on the planet to **achieve more**

Microsoft Indonesia



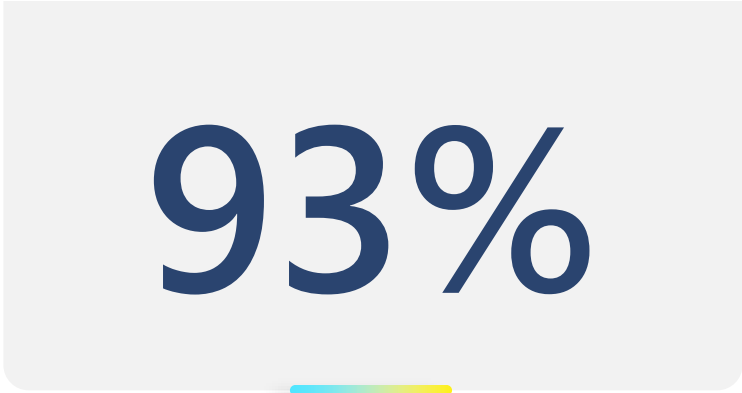
Industries are accelerating adoption of AI

AI is being embedded in standard business processes



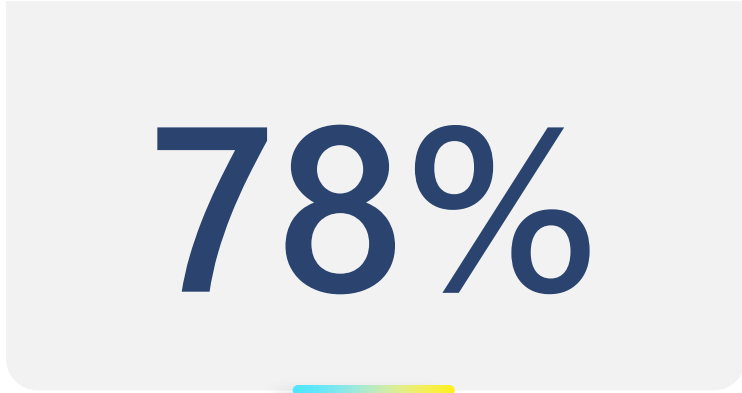
Students will become workers, managers, and leaders in these industries and more

Education professionals can benefit from AI

A light gray rounded rectangle containing the text '93%'. Below the rectangle is a horizontal bar with a color gradient from blue to yellow, which is partially filled to represent the percentage.

93%

knowledge workers in Indonesia use generative AI at work, one of the highest rates globally (75%)

A light gray rounded rectangle containing the text '78%'. Below the rectangle is a horizontal bar with a color gradient from blue to yellow, which is partially filled to represent the percentage.

78%

of AI users are bringing their own AI tools to work, often without company guidance.

AI can transform education



53% of educator skills
need to be performed
by humans, 45% could
be augmented by AI

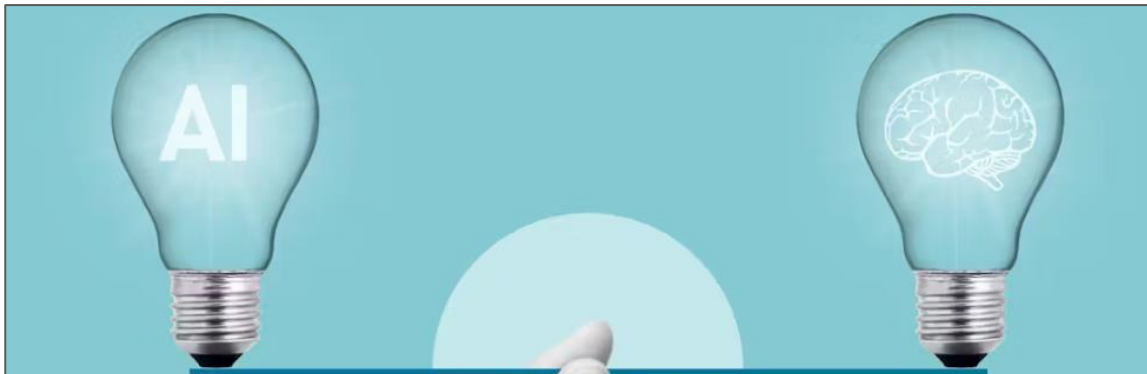
For every \$1 an
organization invests in
AI, it is realizing an
average return of

\$3.42



of leaders say people will
need new skills to
prepare for AI

there will always be two sides to a coin



Penggunaan AI oleh mahasiswa rentan risiko: perlu penguatan etika

Published: August 28, 2024 8.20am BST

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Artificial intelligence (AI) telah memberikan akses informasi tanpa batas dalam waktu singkat, sehingga memberikan kemudahan dalam hal pendidikan. Dengan adanya AI, mahasiswa dapat mengumpulkan berbagai informasi sekunder yang dibutuhkan untuk pengerjaan tugas dalam waktu lebih cepat daripada pencarian artikel manual.

Namun, AI juga dapat menimbulkan beberapa persoalan, seperti bocornya data pribadi, bias teknologi dalam penanganan mentalitas manusia, serta kurangnya tingkat keaslian karya apabila mahasiswa bergantung penuh terhadap AI dalam pengerjaan tugas.

Author



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Disclosure statement

Albert Hasudungan does not work for, consult, own shares in or receive funding from any company or organisation that would benefit from this article, and has disclosed no relevant affiliations beyond their academic appointment.

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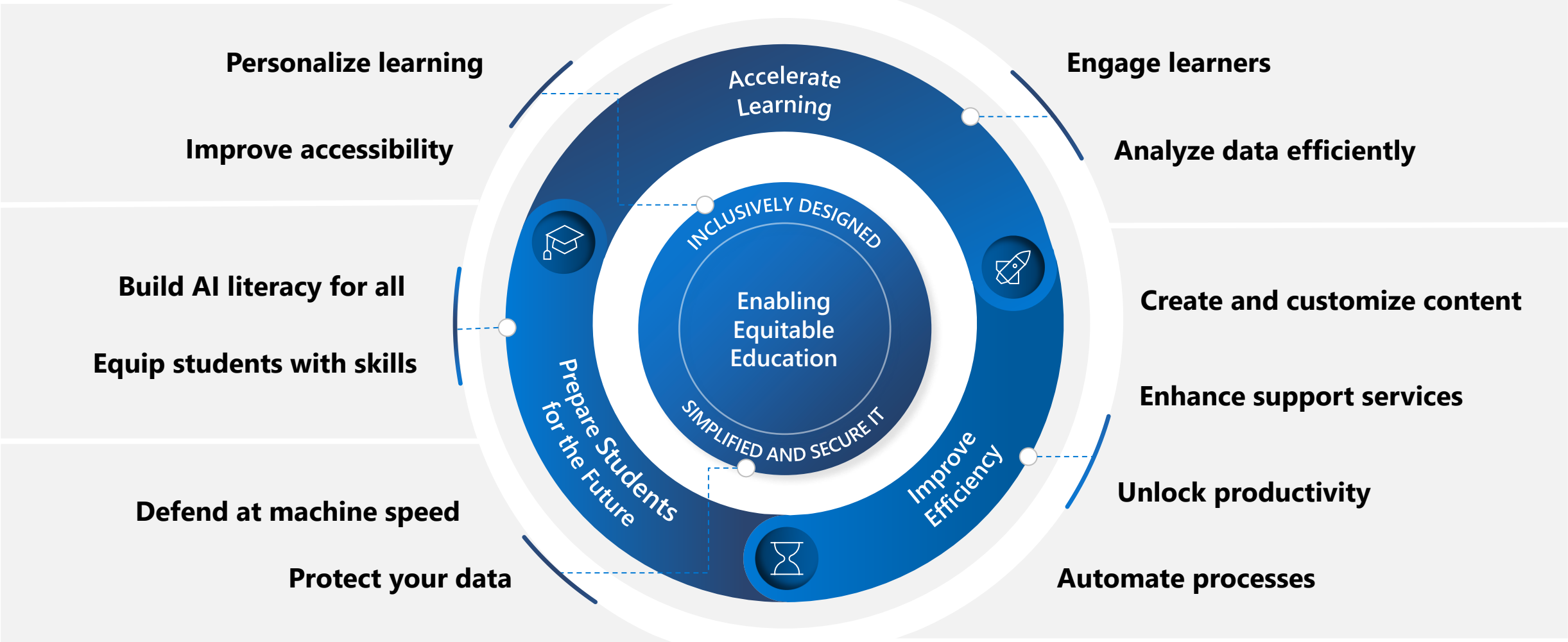
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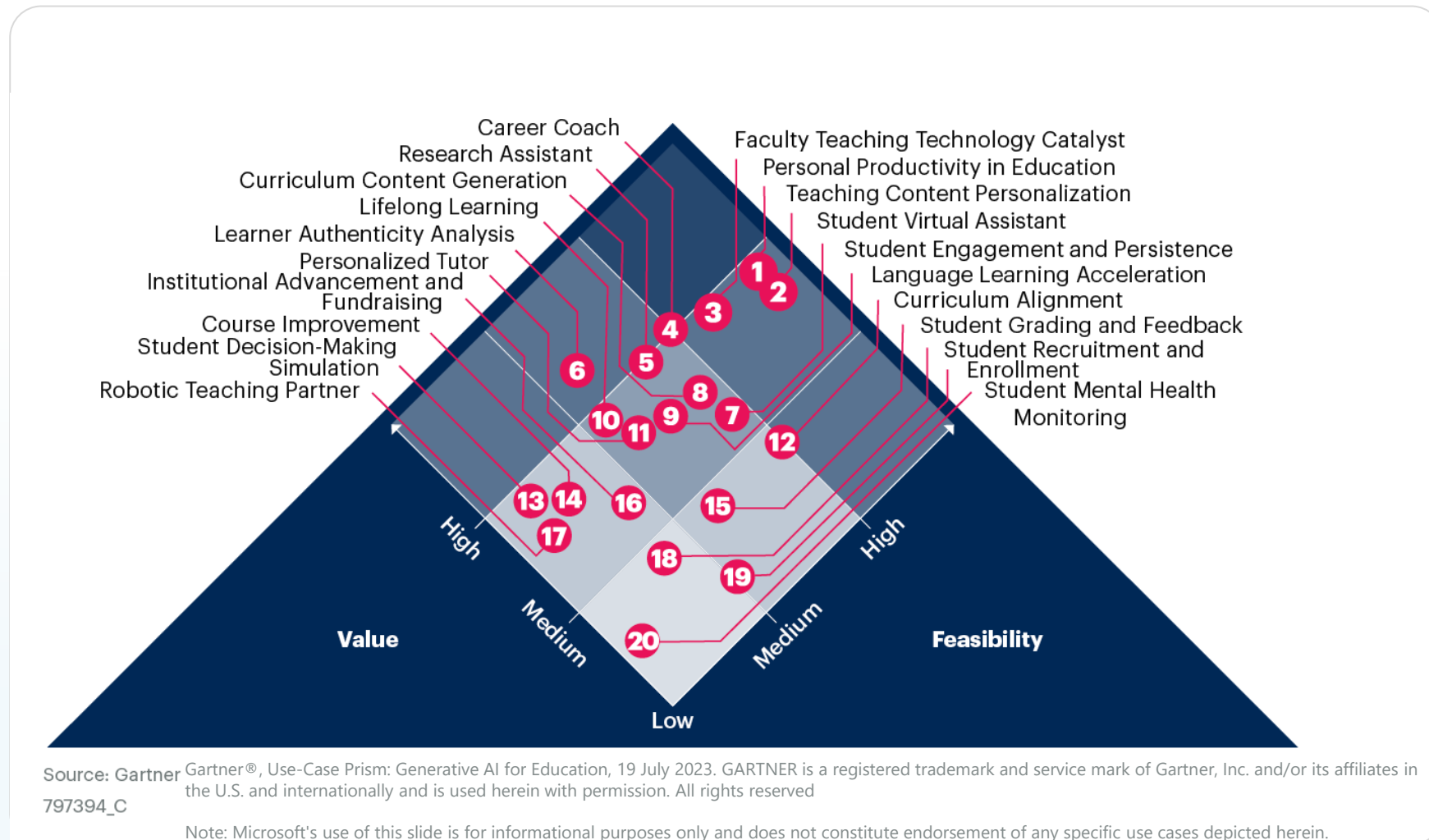
A- A+



Opportunities for AI in Education



Generative AI Use-Case Prism for Education



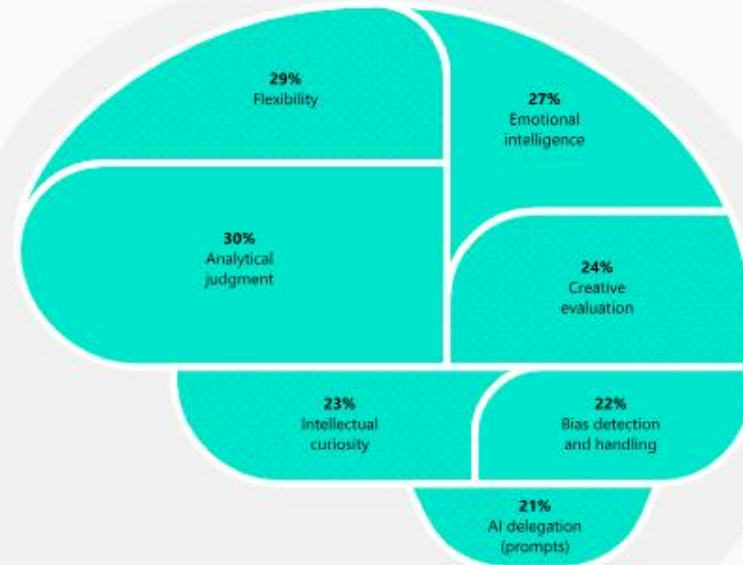
AI Requires New Skills for a New Way of Working



82% of leaders say their employees will need new skills to be prepared for the growth of AI.

Source: 2023 Work Trend Index

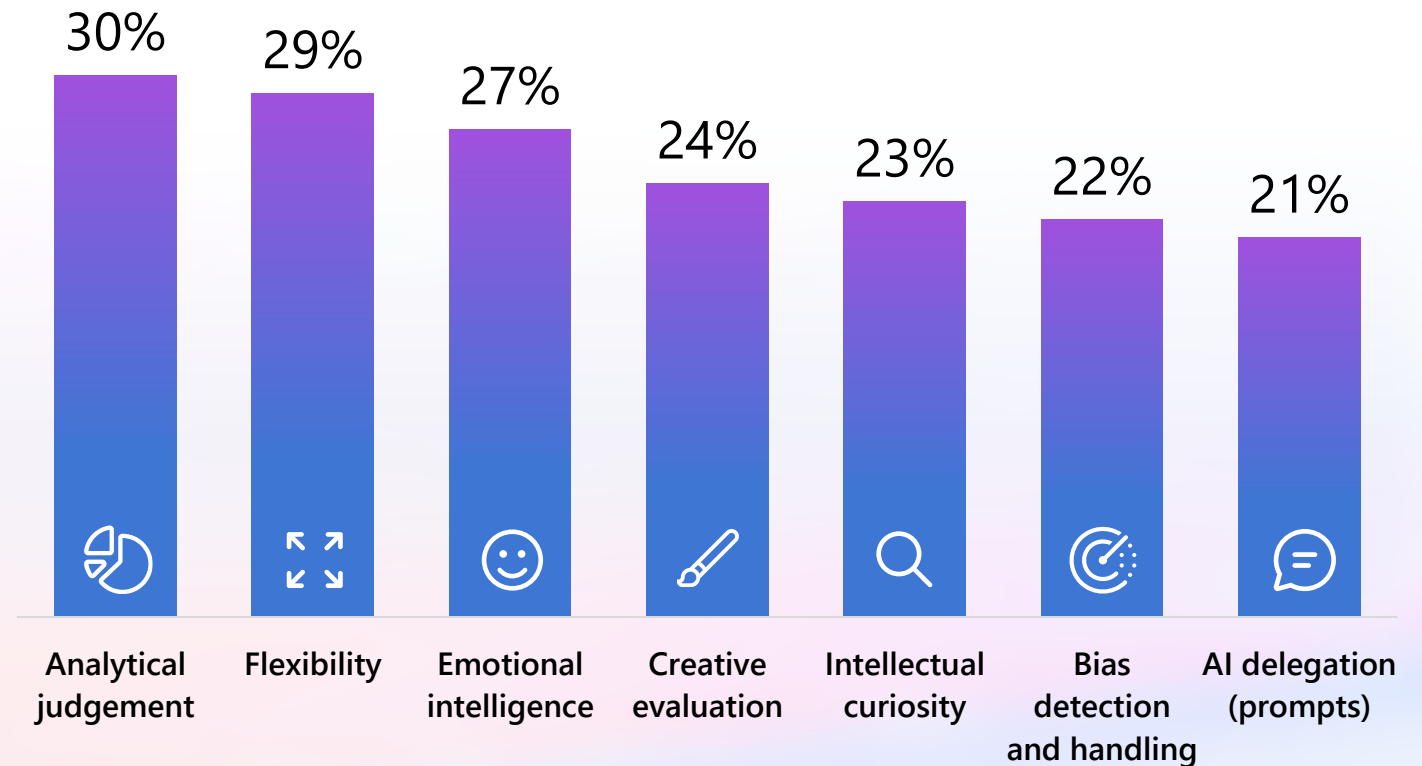
How does the AI era of work impact how we teach and what we need our students to learn?



Employees need AI aptitude



of leaders say employees
will need new skills to
prepare for AI



Everything changes with Generative AI



Students are creators and evaluators of content, not just consumers



Curriculum/Content

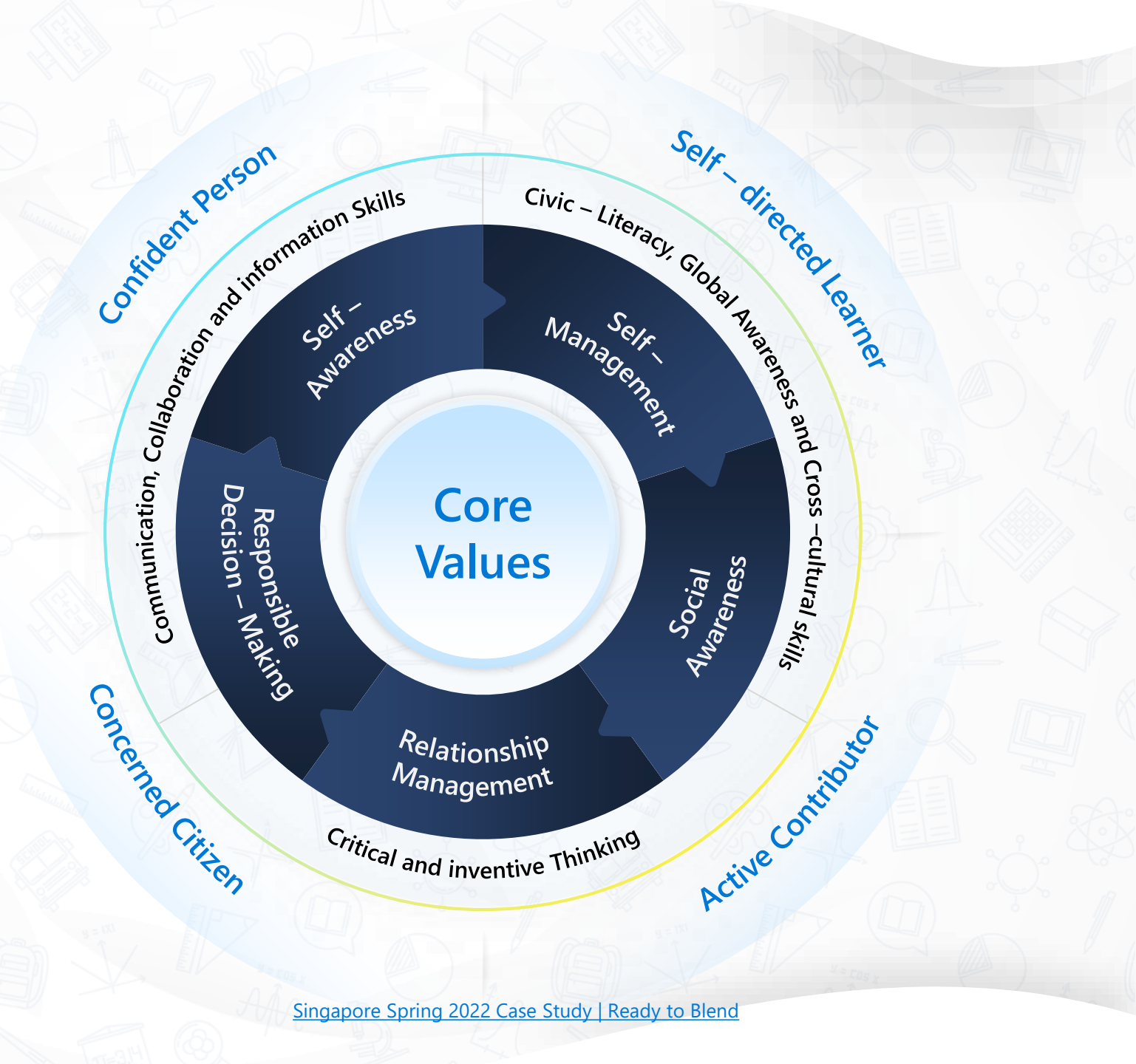


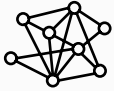
Pedagogy/Andragogy



Assessment

Future of Education: Student Outcomes





Novel and Accelerated Research with Generative AI

Letter to the Editor | [Published: 19 April 2023](#)

GPT-4: a new era of artificial intelligence in medicine

[Ethan Waisberg](#) , [Joshua Ong](#), [Mouayad Masalkhi](#), [Sharif Amit Kamran](#), [Nasif Zaman](#), [Prithul Sarker](#), [Andrew G. Lee](#) & [Alireza Tavakkoli](#)

[Irish Journal of Medical Science \(1971 -\) \(2023\)](#) | [Cite this article](#)

Accelerating Innovation With Generative AI: AI-Augmented Digital Prototyping and Innovation Methods

June 2023 · [IEEE Engineering Management Review](#) PP(99):1-5

DOI: [10.1109/EMR.2023.3272799](#)

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Generative Artificial Intelligence GPT-4 Accelerates Knowledge Mining and Machine Learning for Synthetic Biology

Zhengyang Xiao, Wenyu Li, Hannah Moon, Garrett W. Roell*, Yixin Chen*, and Yinye J. Tang*

• [Cite this](#): ACS Synth Biol. 2023, 12, 10, 2973–2982
Publication Date: September 8, 2023
<https://doi.org/10.1021/acssynbio.3c00310>
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Generative AI is dreaming up new proteins

Move over, chatbots and image generation. AI-powered protein design is having a moment

by [Laura Howes](#)

April 10, 2023 | A version of this story appeared in [Volume 101, Issue 12](#)

OPINION | [Published: 08 August 2023](#)

How to Harness Generative AI to Accelerate Human Learning

[W. Lewis Johnson](#) 

[International Journal of Artificial Intelligence in Education](#) (2023) | [Cite this article](#)

Synthetic Data Generation by Artificial Intelligence to Accelerate Research and Precision Medicine in Hematology

Saverio D'Amico¹, Daniele Dall'Olio², Claudia Sala³, Lorenzo Dall'Olio², Elisabetta Sauta¹, Matteo Zampini¹, Gianluca Asti¹, Luca Lanino¹, Giulia Maggioni¹, Alessia Campagna¹, Marta Ubezio¹, Antonio Russo¹, Maria Elena Bicchieri¹, Elena Riva¹, Cristina A Tentori¹, Erica Travaglino⁴, Pierandrea Morandini¹, Victor Savevski¹, Armando Santoro¹, Iñigo Prada-Luengo⁵, Anders Krogh⁵, Valeria Santini⁶, Shahram Kordasti⁷, Uwe Platzbecker⁹, Maria Diez-Campelo¹⁰, Pierre Fenaux¹¹, Torsten Haferlach¹², Gastone Castellani², Matteo Giovanni Della Porta¹

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PMID: 37390377 PMCID: PMC10569771 (available on 2024-06-30) DOI: [10.1200/CCI.23.00021](#)

Accelerating Climate Resilient Plant Breeding by Applying Next-Generation Artificial Intelligence

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<https://doi.org/10.1016/j.tbiotech.2019.05.007>

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Abstract

Breeding crops for high yield and superior adaptability to new and variable climates is imperative to ensure continued food security, biomass production, and ecosystem services. Advances in genomics and phenomics are delivering insights into the complex biological mechanisms that underlie plant functions in response to environmental perturbations. However, linking genotype to phenotype remains a huge challenge and is hampering the optimal application of high-throughput genomics and phenomics to advanced breeding. Critical to success is the need to assimilate large amounts of data into biologically meaningful interpretations. Here, we present the current state of genomics and field phenomics, explore emerging approaches and challenges for multiomics big data integration by means of next-generation (Next-Gen) artificial intelligence (AI), and propose a workable path to improvement.

Authors:

Harfouche, Antoine¹; Jacobson, Daniel A.¹; Kainer, David¹; Romero, Jonathan C.¹; Harfouche, Antoine H.¹; Mugnozza, Giuseppe Scarsola¹; Moshellon, Menachem¹; Tuskan, Gerald A.¹; Keurentjes, Joost JB¹; Altman, Arie¹

Speeding Up the Engineering of Interactive Systems with Generative AI

Author:  Albrecht Schmidt [Authors Info & Claims](#)

EICS '23 Companion: Companion Proceedings of the 2023 ACM SIGCHI Symposium on Engineering Interactive Computing Systems • June 2023 • Pages 7–8 • <https://doi.org/10.1145/3596454.3597176>

Published: 27 June 2023 [Publication History](#)

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Research professionals are benefiting from AI

> 25%

Of researchers use AI
to help them write
manuscripts

> 15%

Of researchers use AI
to help them write
grant proposals

Source:

Van Noorden, R., & Perkel, J.M. (2023, October 10). "AI and science: what 1,600 researchers think".
Nature. <https://www.nature.com/articles/d41586-023-02980-0>

Five core pillars of AI readiness



**Business
Strategy**



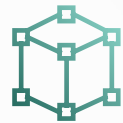
**Technology
Strategy**



**AI Strategy
Experience**



**Organization &
Culture**



**AI
Governance**

aka.ms/AI-Success-Whitepaper

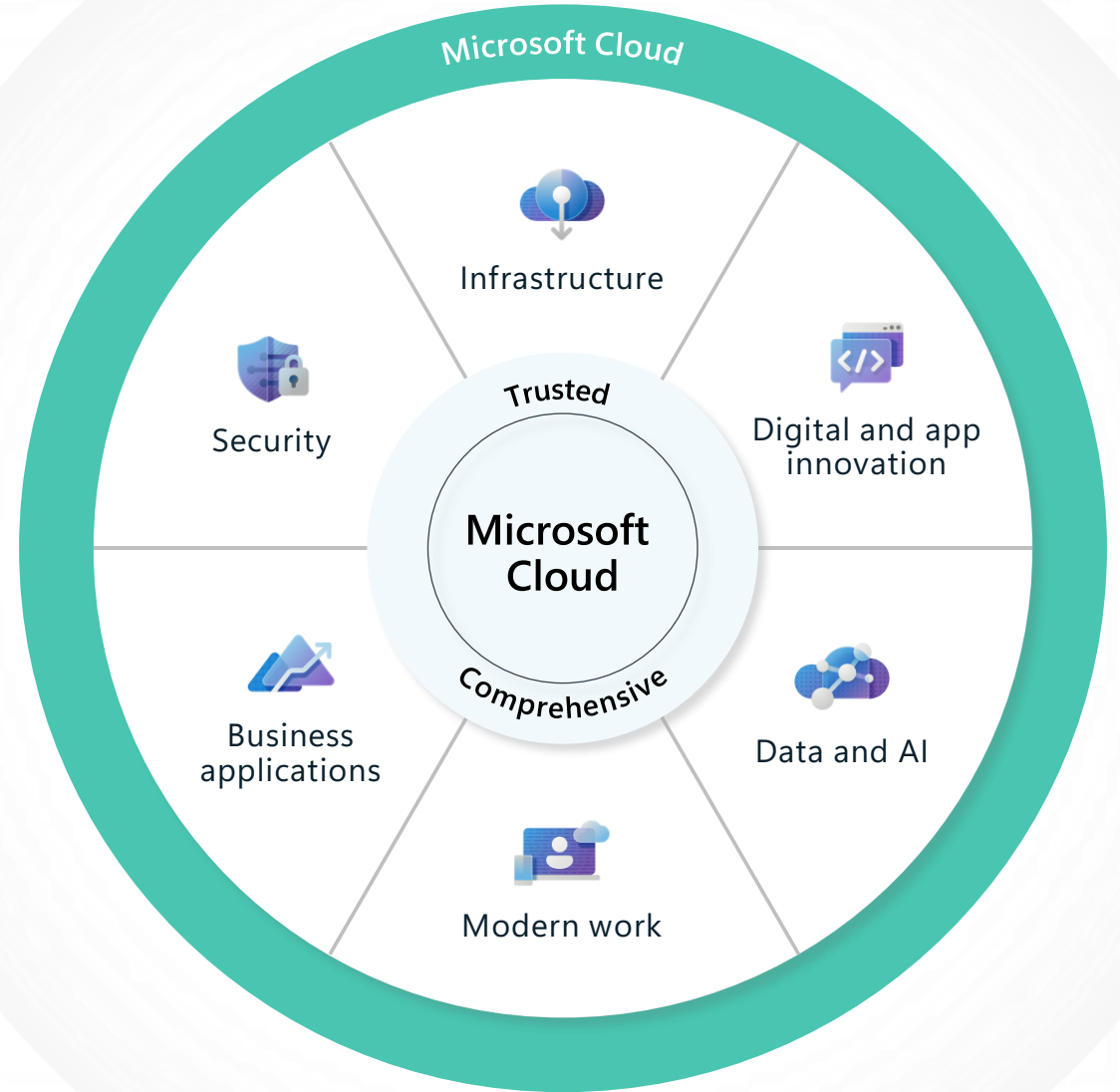
Enabling AI transformation

Enhance learning experiences with AI-powered tools from Microsoft

Unlock productivity across your organization with Microsoft Copilot

Build your AI capability with an open AI platform and partner ecosystem

Co-innovate with trust and safeguard your organization



Top Trends Impacting Education World-wide

1

Accessible, Flexible,
Equitable digital
learning environments

2

Data Analytics and AI
for productivity and
student success

3

Cyber Security and
Threat Prevention

4

Role based,
personalized user
experience for faculty,
staff, and students

5

Application and
Infrastructure
Modernization

6

Certifications/
Skilling for Educators
and Learners
Work force Readiness

Globally, we are being called to envision the “Future of Education”

AI is part of every education discussion



“

There is no better time to reimagine education and how technology can support that transformation.”

Satya Nadella

February 2023