University of South Australia

Future of Big Data

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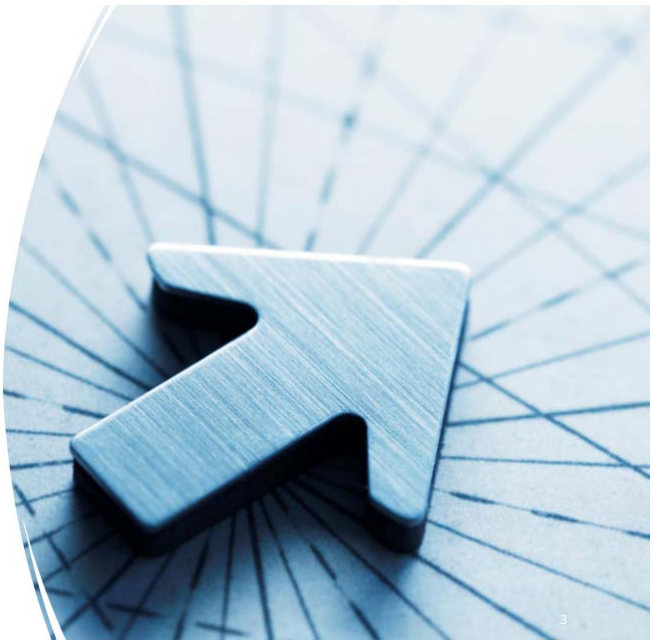
What's next for Big Data?

Big Data trends in 2021



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The six Vs of big data

Big data is a collection of data from various sources, often characterized by what's become known as the 3Vs: *volume, variety and velocity*. Over time, other Vs have been added to descriptions of big data:

VOLUME	VARIETY	VELOCITY	VERACITY	VALUE	VARIABILITY
The amount of data from myriad sources.	The types of data: structured, semi-structured, unstructured.	The speed at which big data is generated.	The degree to which big data can be trusted.	The business value of the data collected.	The ways in which the big data can be used and formatted.

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TechTarget

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AI and automation

- Need for **Responsible AI**
- **Gartner** prediction for **automation**:
- 'By 2025, customers will be the first humans to touch more than 20% of the products and produce in the world'.

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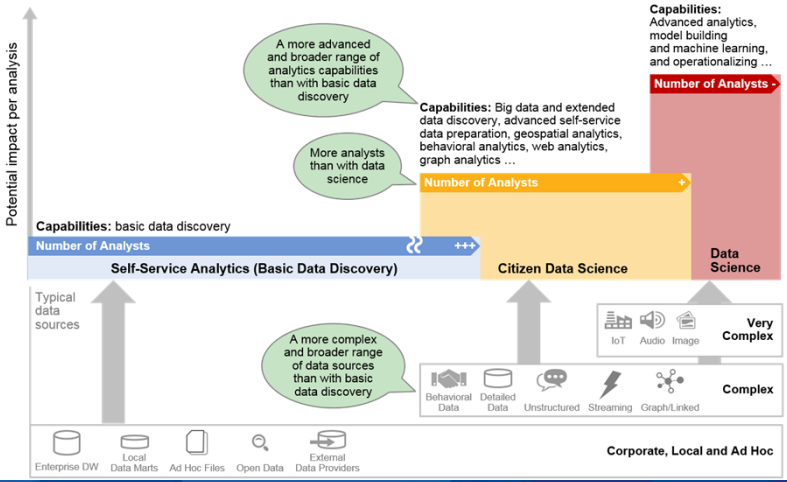
Citizen Data Science

Citizen Data Science Augments Data Discovery and Simplifies Data Science (G00314599)

Democratising Data Science



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New ways to explore and interpret data

- **Data visualisation**
- **Natural Language Processing** (NLP)
- **Extended Reality** (XR),which is comprised of Virtual Reality (VR) and Augmented Reality (AR)

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Graph analytics

- Analysis of **relationships among entities**, e.g. customers, products, operations and devices.

E.g. Insurance fraud detection

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What about Hadoop?

Rising stars:

Spark

presto

ICEBERG

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Cloud data warehouse engineering

- Database solutions for the cloud.
- From **data lake** to **data lakehouse**:
  - Architecture that features attributes of both the data lake and the data warehouse.

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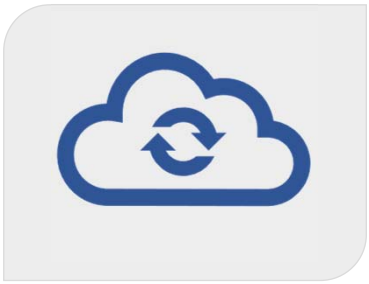
Distributed cloud

- **Public cloud infrastructure** can be run in multiple **different locations**:
  - Cloud provider's infrastructure
  - On premises
  - Other cloud providers' data centres
  - Third-party data centres



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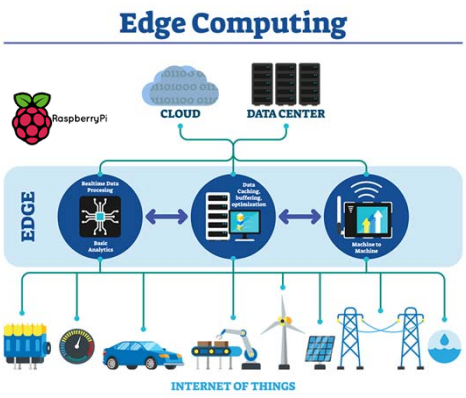
Edge computing platforms

- **Hyperscale cloud providers** moving to distribute their cloud capabilities closer to the edge.
- Software and hardware that enable a **zero-touch**, **secure**, **distributed** computing architecture.
- Applications and data processing at or near the edge.



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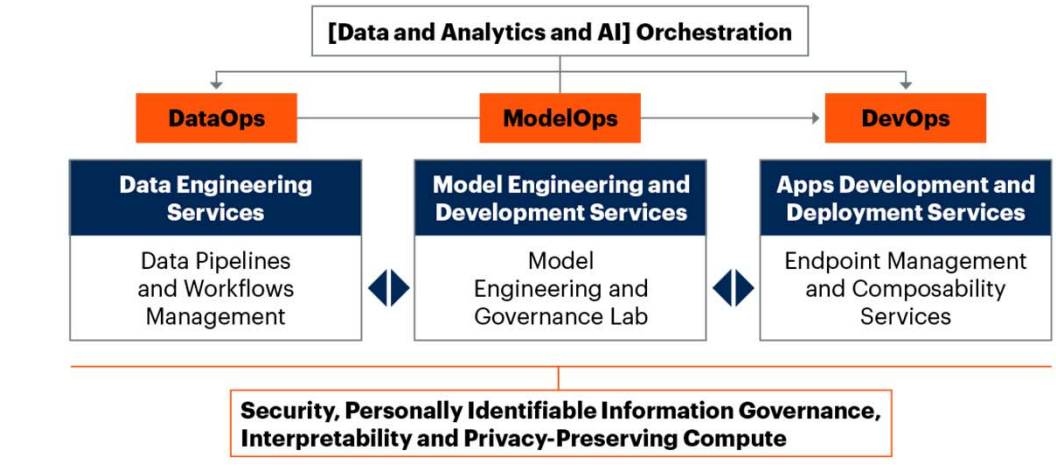

Source: Gartner
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Gartner

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Interested in working with Big Data?

Then consider this…

- Know what the major vendors are doing
- Follow fast-moving innovators
- Understand and translate business need
- Practice the focus on analytical goals
- Keep an eye on bold predictions
- Be ready for disruption and change

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