* Big data refers to extremely large and diverse collections of structured, unstructured, and semi-structured data that continues to grow exponentially over time
* Big data is used in machine learning, predictive modeling, and other advanced analytics to solve business problems and make informed decisions.
* Tracking consumer behavior and shopping habits to deliver [hyper-personalized retail product recommendations](https://cloud.google.com/blog/products/ai-machine-learning/ikea-uses-google-cloud-recommendations-ai) tailored to individual customers
* Monitoring payment patterns and analyzing them against historical customer activity to [detect fraud in real time](https://cloud.google.com/blog/products/databases/how-ravelin-scales-fraud-detection-with-bigtable)
* Combining data and information from every stage of an order’s shipment journey with hyperlocal traffic insights to [help fleet operators optimize last-mile delivery](https://cloud.google.com/blog/products/maps-platform/introducing-last-mile-fleet-solution-maximize-what-your-fleet-can-do-start-finish)
* The Vs of big data

**Volume**

As its name suggests, the most common characteristic associated with big data is its high volume

**Velocity**

Big data velocity refers to the speed at which data is generated

**Variety**

Data is heterogeneous, meaning it can come from many different sources and can be structured, unstructured, or semi-structured

In addition to these three original Vs, three others that are often mentioned in relation to harnessing the power of big data: **veracity**,**variability**, and**value**.

Making big data work requires three main actions:

* **Integration:**Big data collects terabytes, and sometimes even petabytes, of raw data from many sources that must be received, processed, and transformed into the format that business users and analysts need to start analyzing it.
* **Management:**Big data needs big storage, whether in the cloud, on-premises, or both. Data must also be stored in whatever form required. It also needs to be processed and made available in real time. Increasingly, companies are turning to cloud solutions to take advantage of the unlimited compute and scalability.
* **Analysis:**The final step is analyzing and acting on big data—otherwise, the investment won’t be worth it. Beyond exploring the data itself, it’s also critical to communicate and share insights across the business in a way that everyone can understand. This includes using tools to create data visualizations like charts, graphs, and dashboards.