SNS COLLEGE OF ENGINEERING

Kurumbapalayam(Po), Coimbatore – 641 107

Accredited by NAAC-UGC with 'A' Grade

Approved by AICTE, Recognized by UGC & Affiliated to Anna University, Chennai

Department of Artificial Intelligence and Data Science

Course Name – Foundations of Data Science
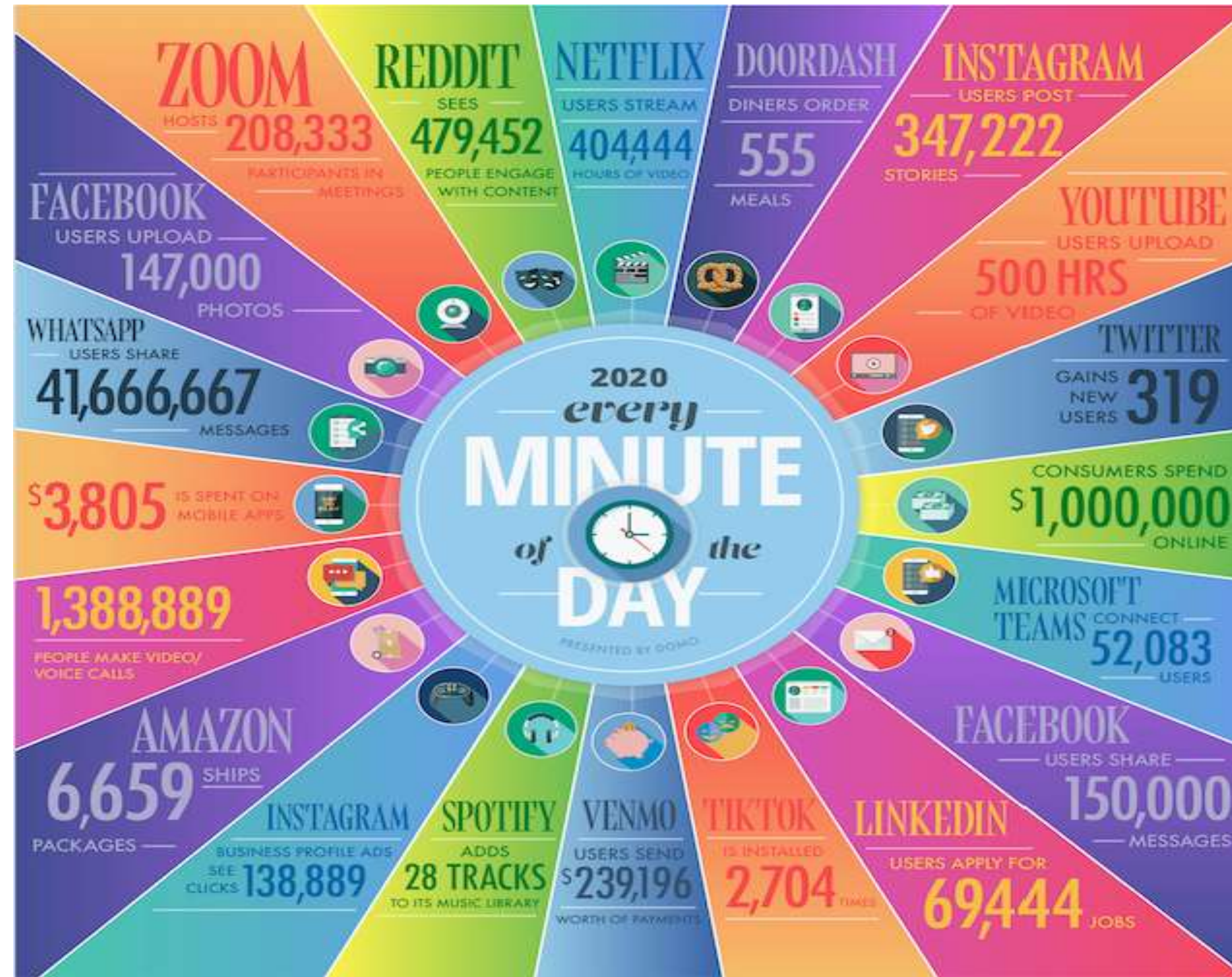
III Year / V Semester
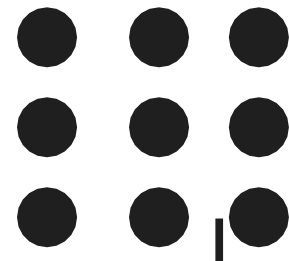
Unit 1 – Introduction

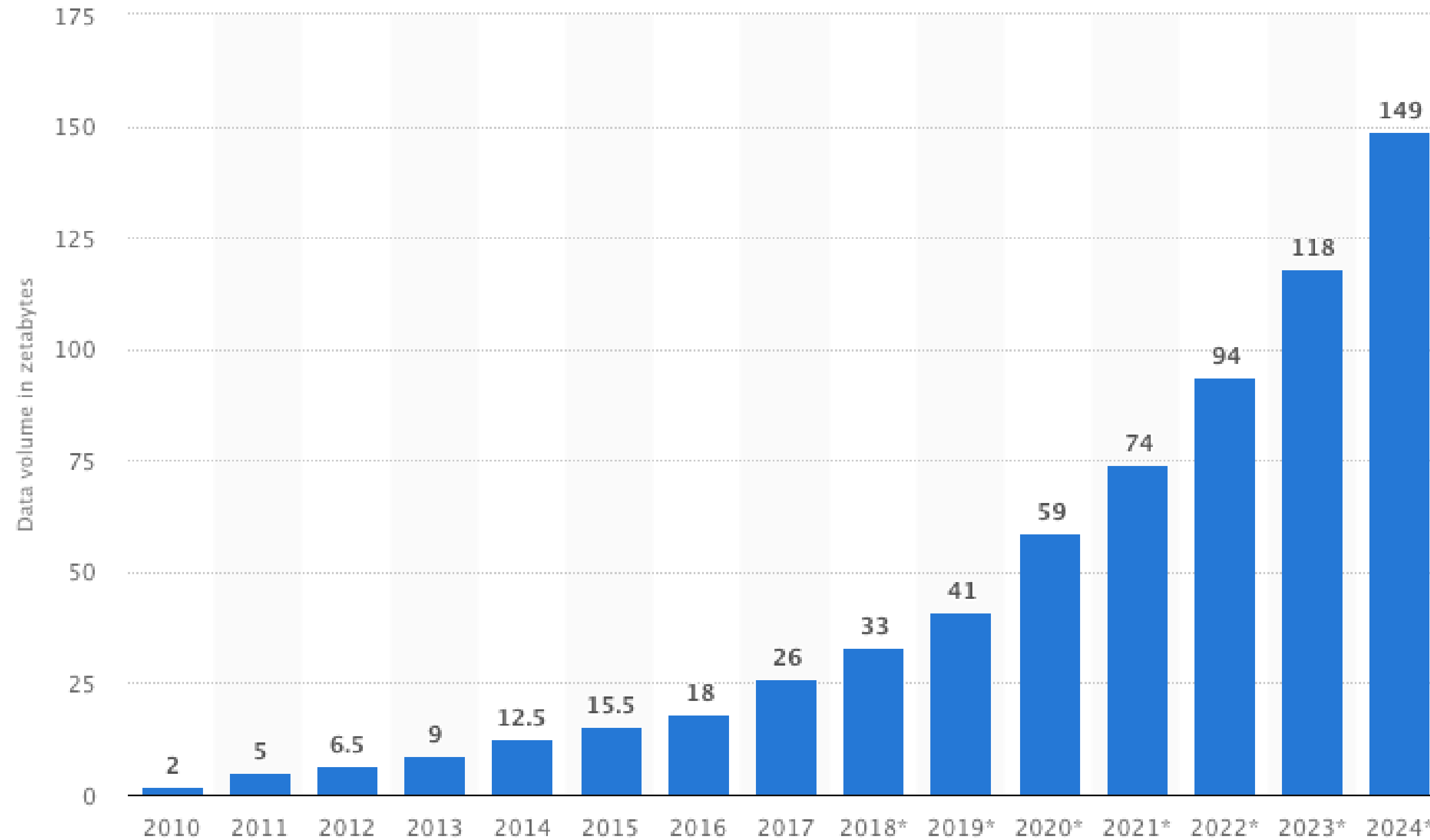Topic 5: Big Data Characteristics

How Big is Big Data?

Data Never Sleeps

How Big is Big Data?

What to do with Big data?

- Advance analytics

- Business Intelligence

- Better Informed Decisions

- BI to increase sales, profit, customers

- Identify Business Risks

- Predict New Business Opportunities

What are organizations expecting from Big Data?

Decrease in operational cost	72.6%
Data driven culture	69.4%
New avenues for new innovations & disruptions	64.5%
Accelerate the speed for new capabilities & services	64.8%
Launch new products & services	62.9%
Monetize Big Data through increased revenue	54.8%
Transform Business for future	51.6%

Big Data Characteristics

- V's of Big Data

- In early 3 V's
  - Volume
  - Velocity
  - Variety

- Commonly 4 V's
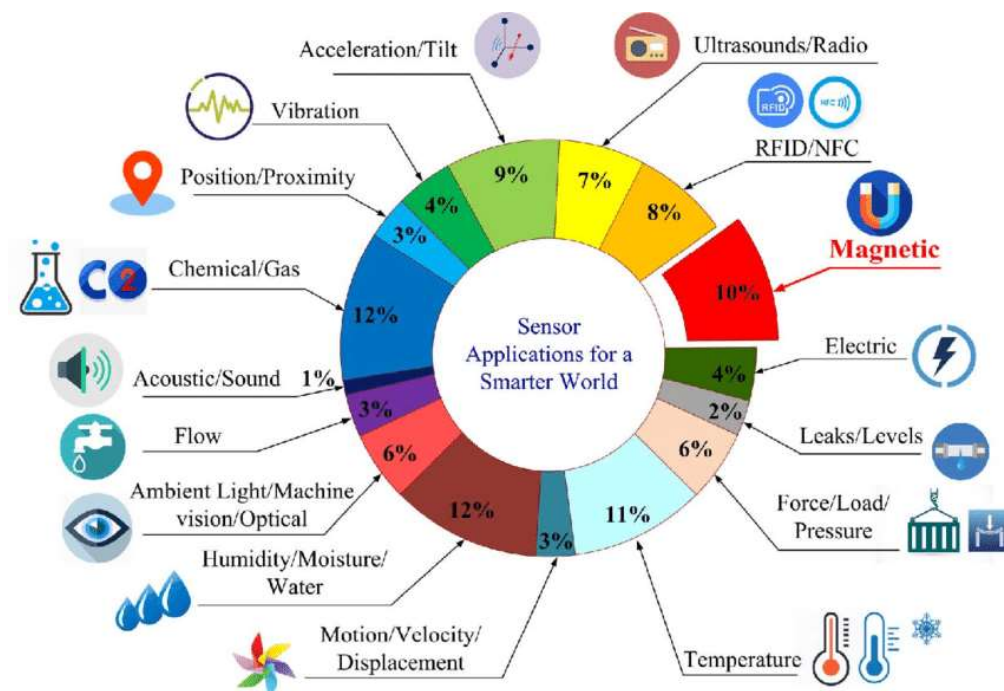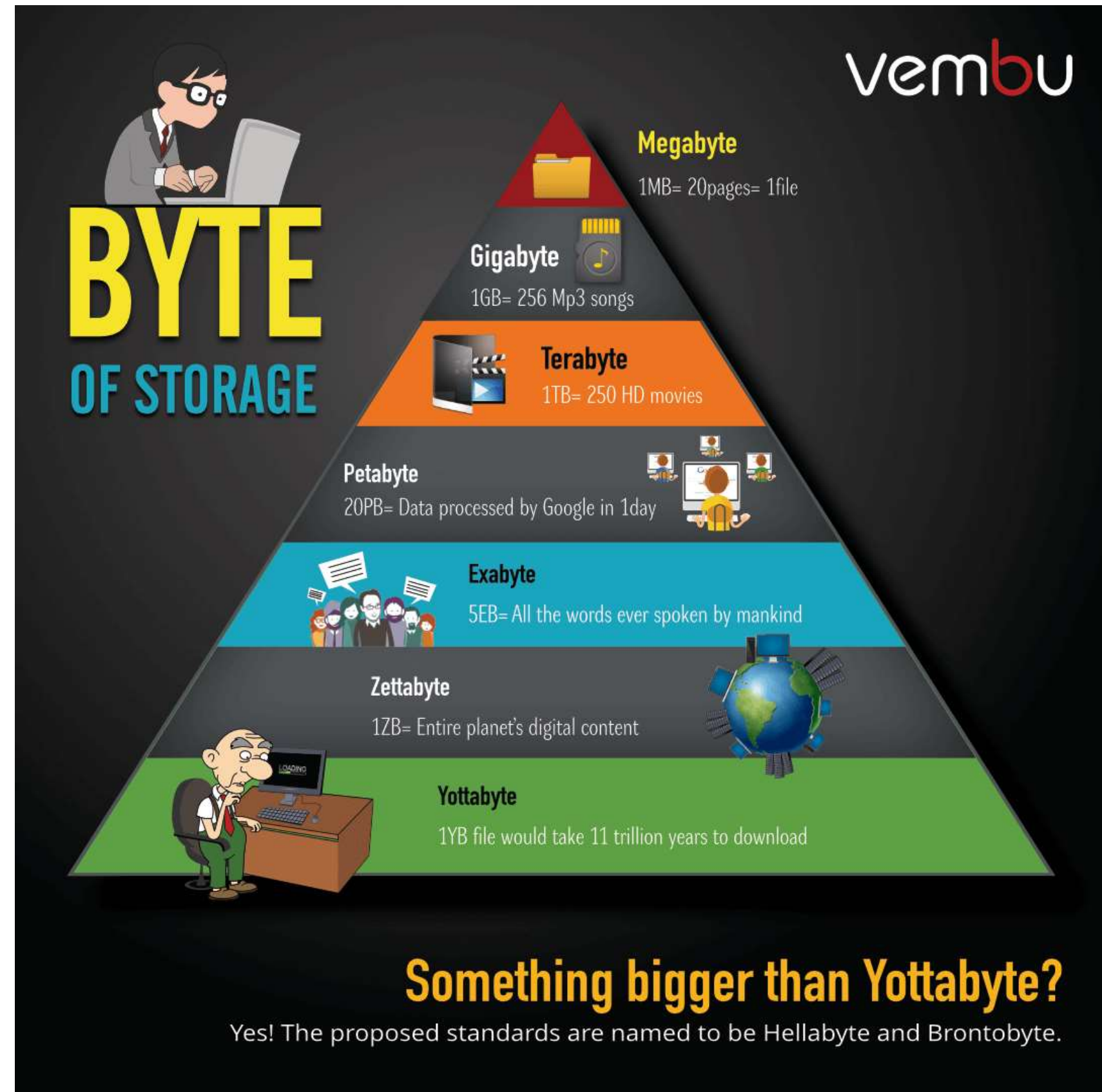 - Veracity

- And now 5 V's
  - Value

Big Data Characteristics

Volume
- Amount of Data Generated

Sources
- Social Media
- IoT Sensor Data
- Mobile Devices (Smart Devices)
- Financial Records
- Stock Market
- Weather data

Volume
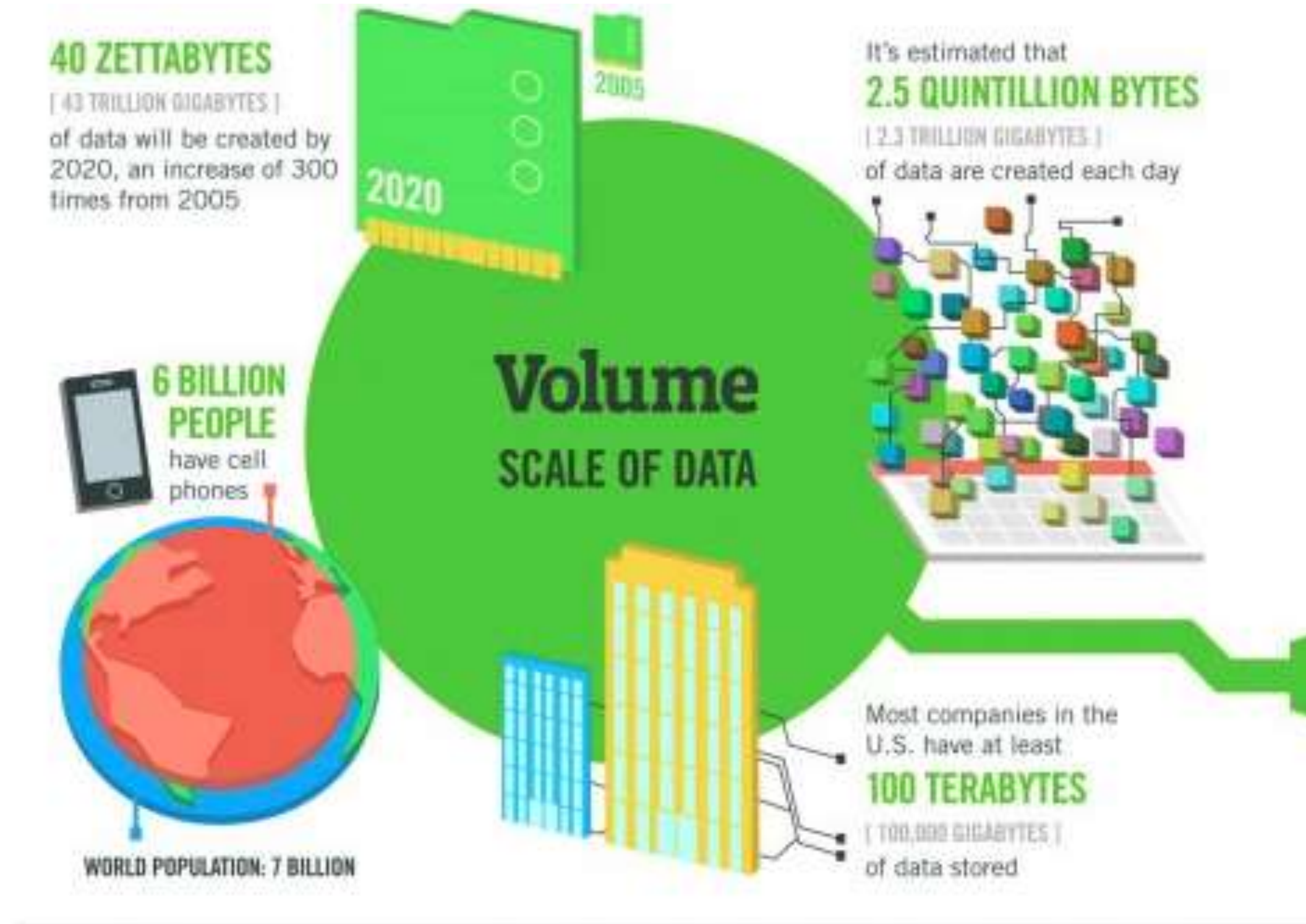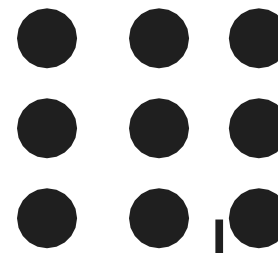
Big Data Characteristics

Velocity
- Rate at which data is received
- Speed at which data is generated
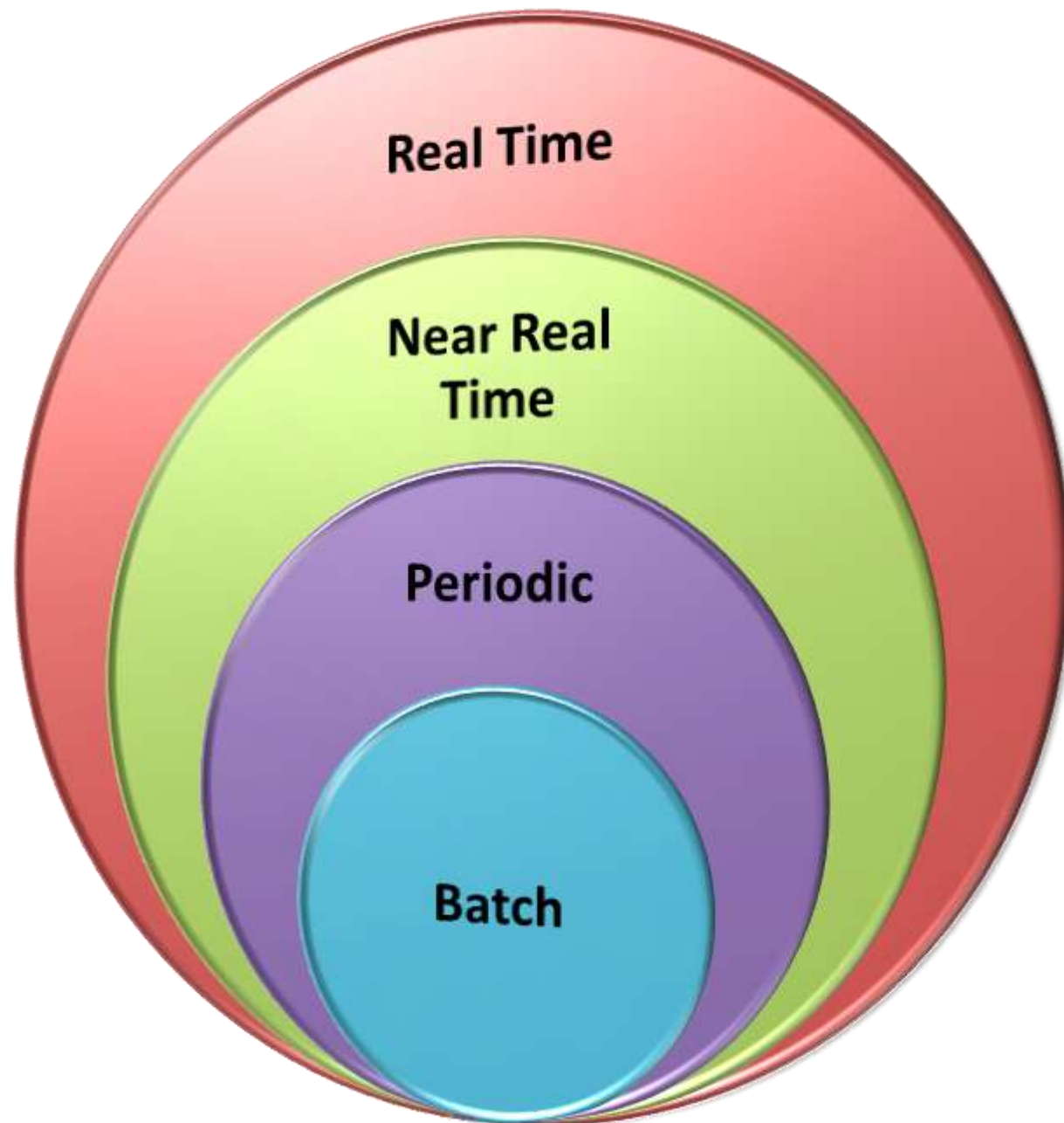
Big Data Characteristics
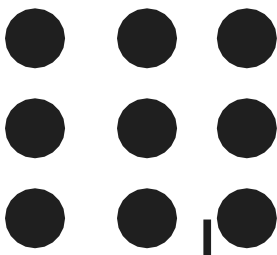
Velocity
- Climate control,
- Social Media
- Health care,
- Stock exchange predictions,
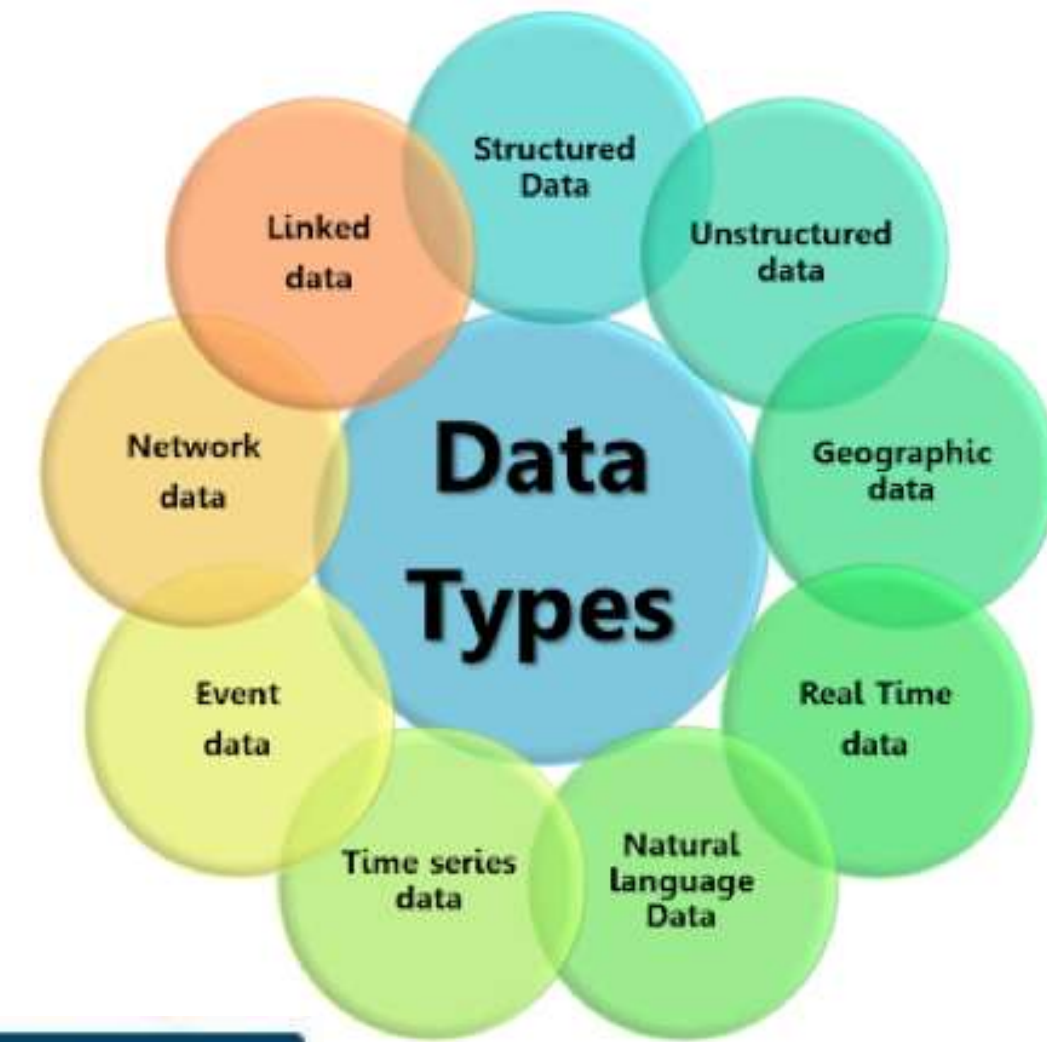- Banking transactions and
- IoT
- Transportation

Big Data Characteristics

Variety
- Different types of Data
- Various forms of data

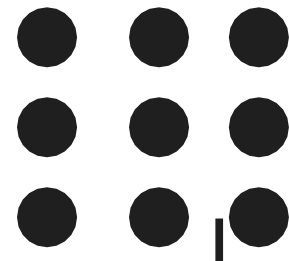The variety of data is categorized as follows:
- Structured – RDBMS
- Semi Structured – XML, HTML, RDF, JSON
- Unstructured- Text, audio, video, logs, images

Big Data Characteristics

As of 2011, the global size of data in healthcare was estimated to be

150 EXABYTES
[161 BILLION GIGABYTES]

30 BILLION PIECES OF CONTENT
are shared on Facebook every month

By 2014, it's anticipated there will be

420 MILLION WEARABLE, WIRELESS HEALTH MONITORS

4 BILLION+ HOURS OF VIDEO
are watched on YouTube each month

Variety
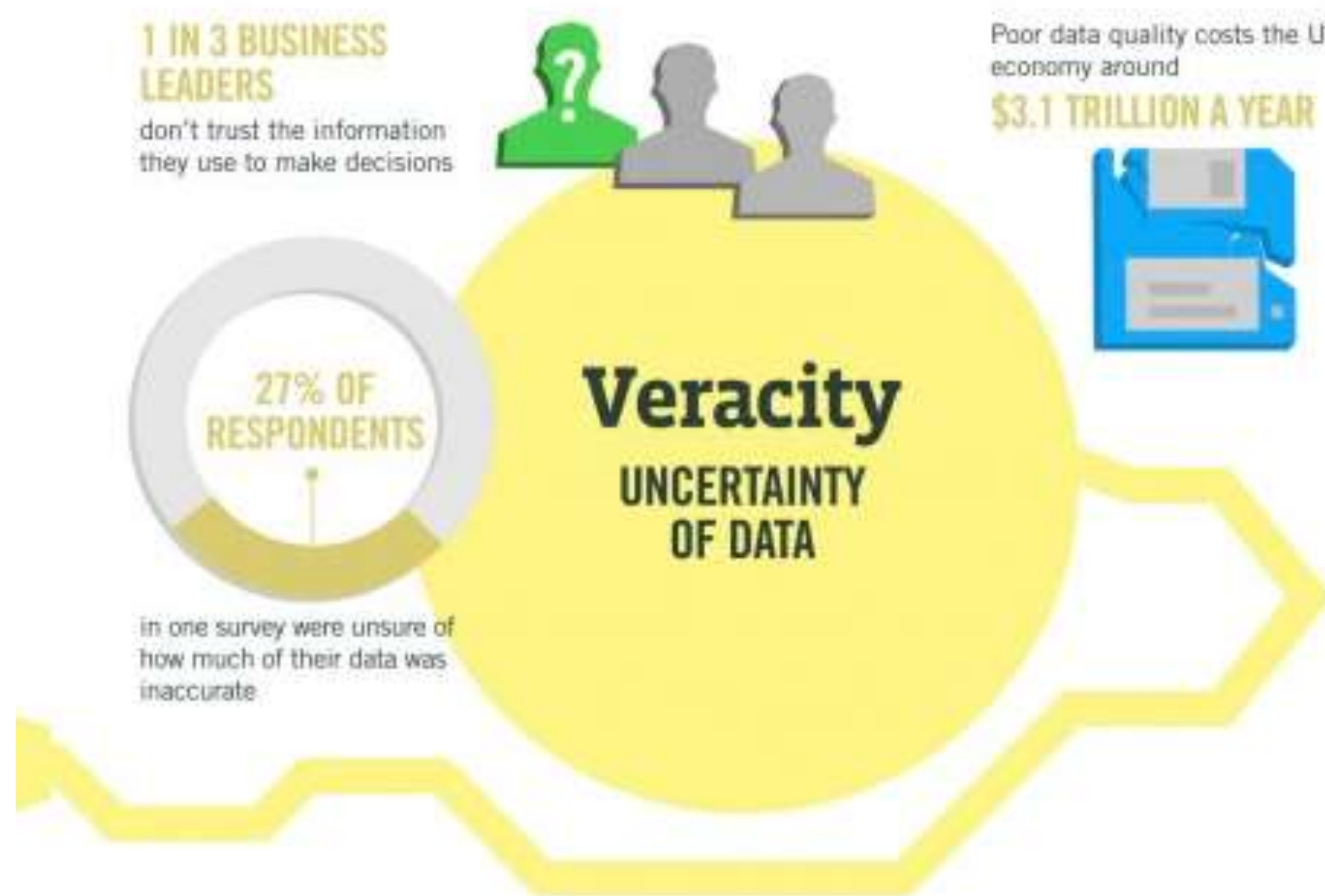### DIFFERENT FORMS OF DATA

400 MILLION TWEETS
are sent per day by about 200 million monthly active users

Big Data Characteristics

Veracity
- Uncertainty
- Inconsistent or Incomplete
- Data quality is Unreliable
- How Accurate? Accuracy
- Truthfulness of data
- Data from different sources

Big Data Characteristics

Value
- Social or economic value that the data might create.
- Represents benefit of data to your business
- Business Intelligence
- Insights
- Informed decision making

THANK YOU