

The background is a dark, textured surface with a complex network of thin, yellow lines connecting various blue, three-dimensional cubes of different sizes. The cubes are scattered across the frame, some appearing sharp and in focus, while others are blurred, creating a sense of depth and movement. The overall aesthetic is modern and technological.

Data Driven Decision Making

COVID-19 looks a lot closer to the season flu than to previous coronavirus outbreaks

■ Fatal cases ■ Non-fatal cases



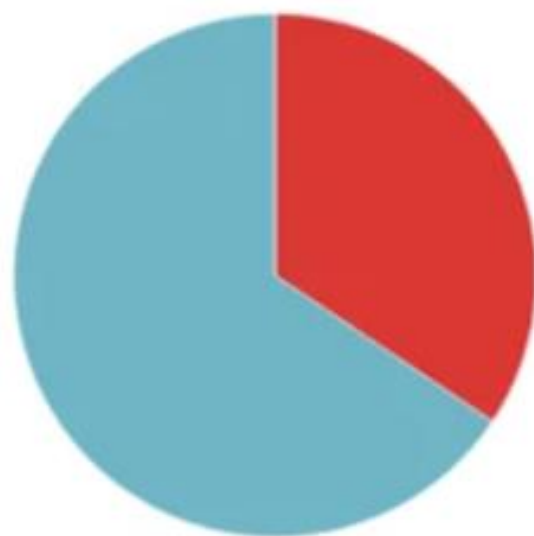
COVID-19
Fatal cases:
3.4%



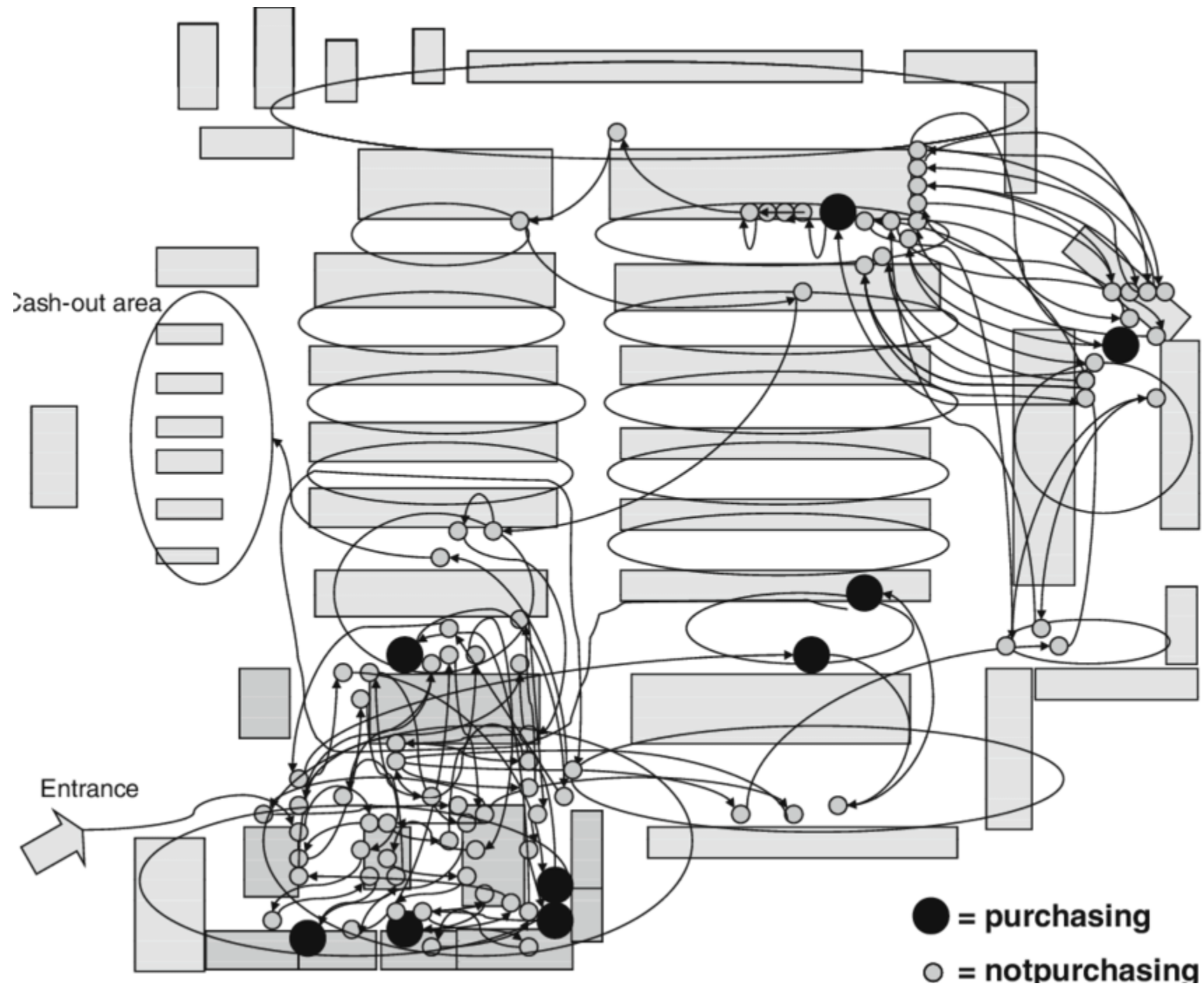
Seasonal flu
Fatal cases:
0.1%



SARS
Fatal cases:
10%



MERS
Fatal cases:
34%



The Process



Types of Analytics

Descriptive

Prescriptive

Predictive

Number

Class



40 ZETTABYTES

[43 TRILLION GIGABYTES]
of data will be created by
2020, an increase of 300
times from 2005

2020

2005

Volume SCALE OF DATA

It's estimated that
2.5 QUINTILLION BYTES

[2.3 TRILLION GIGABYTES]
of data are created each day



Most companies in the
U.S. have at least:

100 TERABYTES

[100,000 GIGABYTES]
of data stored



**6 BILLION
PEOPLE**
have cell
phones



WORLD POPULATION: 7 BILLION

The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015,
4.4 MILLION IT JOBS
will be created globally to support big data,
with 1.9 million in the United States



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



Variety DIFFERENT FORMS OF DATA

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



400 MILLION TWEETS

are sent per day by about 200
million monthly active users



The New York Stock Exchange
captures

**1 TB OF TRADE
INFORMATION**

during each trading session



Velocity ANALYSIS OF STREAMING DATA

Modern cars have close to

100 SENSORS

that monitor items such as
fuel level and tire pressure



By 2016, it is projected
there will be

**18.9 BILLION
NETWORK
CONNECTIONS**



**1 IN 3 BUSINESS
LEADERS**

don't trust the information
they use to make decisions



In one survey were unsure of
how much of their data was
inaccurate

Veracity UNCERTAINTY OF DATA

Poor data quality costs the US
economy around

\$3.1 TRILLION A YEAR



2017 *This Is What Happens In An Internet Minute*



2018 *This Is What Happens In An Internet Minute*



Case Studies of Big Data Success





Retail: Personalized Marketing and Inventory Management

Big Data Utilization

Retailers leverage big data to gain insights into customer preferences and behaviors, enabling personalized marketing strategies.

Personalized Marketing Campaigns

Personalized marketing campaigns tailored to individual customers improve engagement and drive sales, enhancing the shopping experience.

Optimizing Inventory Management

Effective inventory management through data analysis ensures that retailers meet customer demand while minimizing excess stock.

Finance: Fraud Detection and Risk Management



Real-Time Fraud Detection

Big data analytics enables financial institutions to detect fraudulent activities as they occur, enhancing security measures.



Risk Assessment

Data analytics plays a crucial role in assessing risks associated with financial transactions, improving decision-making processes.



Enhanced Security and Compliance

Utilizing big data analytics ensures better security and compliance for financial institutions, protecting them from potential threats.



Healthcare: Predictive Diagnoses and Treatment Plans

Role of Big Data

Big data plays a crucial role in healthcare by enabling providers to analyze vast amounts of patient data for better outcomes.

Early Diagnoses

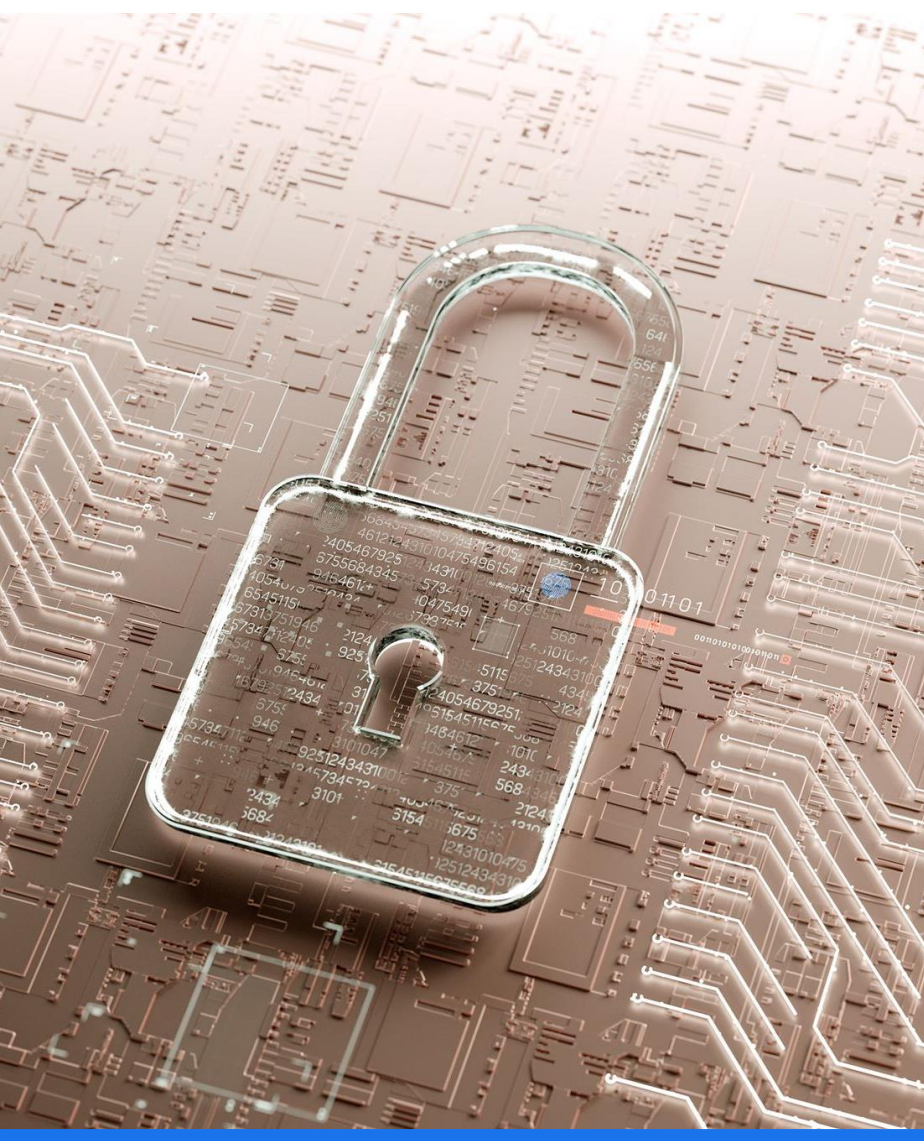
Predictive analytics allows for early diagnoses, helping healthcare providers identify diseases before they become critical.

Customized Treatment Plans

Using patient data trends, healthcare providers can create customized treatment plans that cater to individual needs.

Challenges and Future Trends in Big Data





Data Privacy and Security Concerns

Growing Privacy Concerns

As more data is collected, businesses face increasing concerns about consumer privacy and data misuse.

Importance of Data Protection

Implementing strong data protection measures is essential to safeguard sensitive information and uphold customer trust.

Compliance and Trust

Maintaining compliance with regulations is vital for businesses to build and retain trust with their customers.



Skills Gap and the Need for Data Literacy

Rising Demand for Data Literacy

The workforce increasingly requires data literacy skills to analyze and interpret data effectively, impacting decision-making processes.

Bridging the Skills Gap

Organizations need to invest in training programs that develop employees' data analysis and interpretation skills to remain competitive.

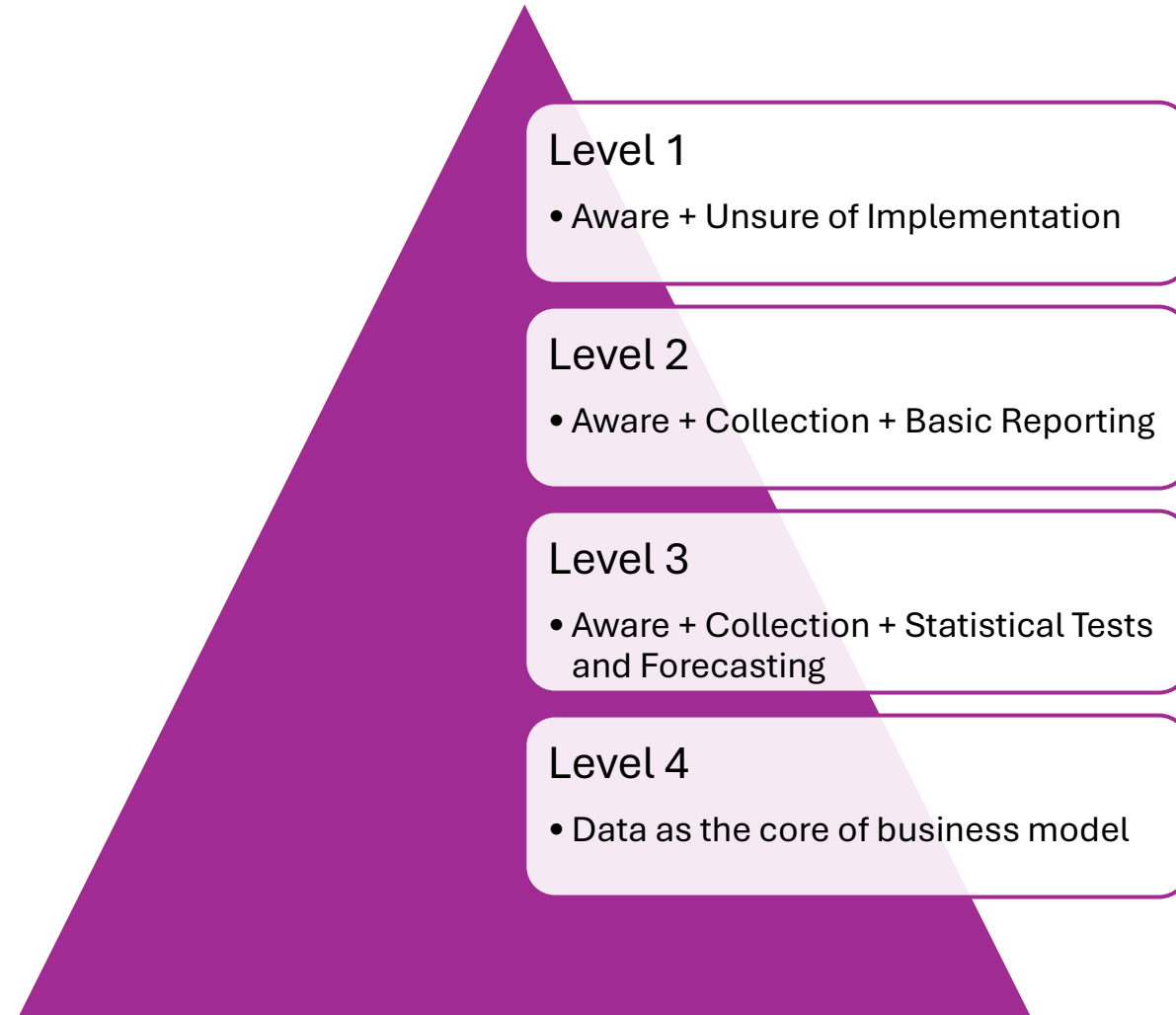
Impact on Organizations

Enhancing data literacy within organizations leads to improved efficiency, innovation, and informed decision-making.

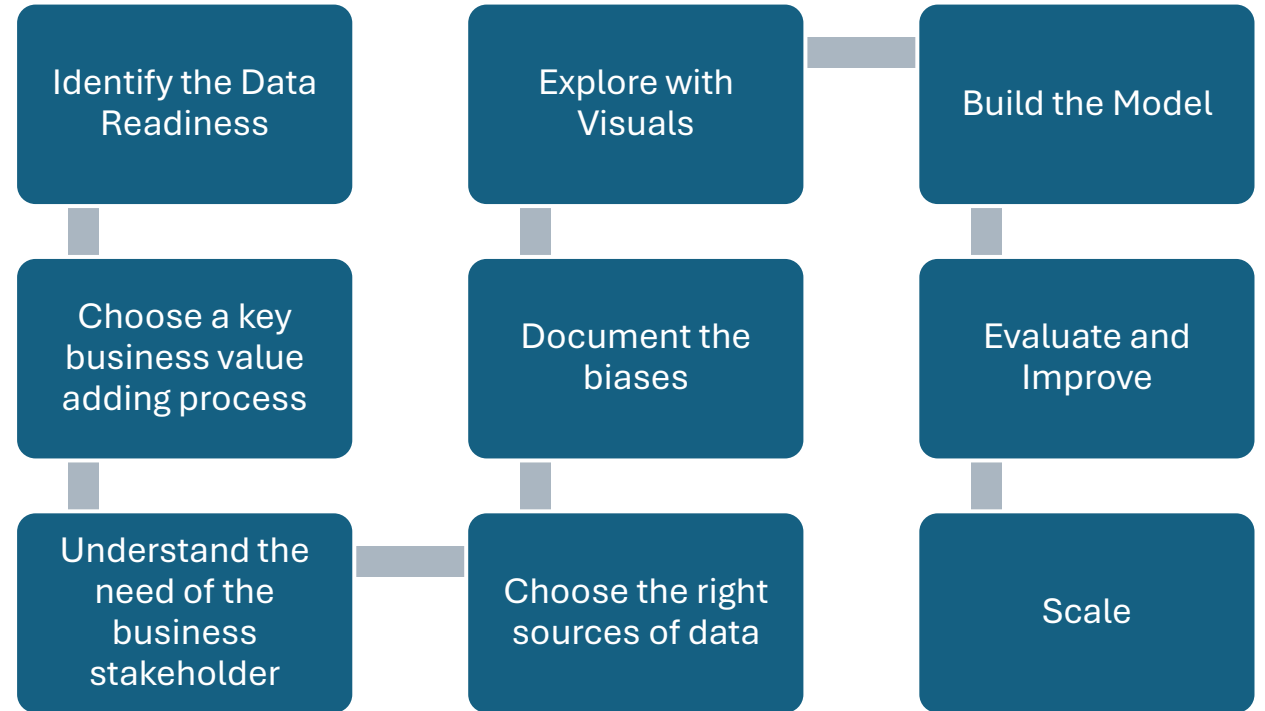
IMPLEMENTATION



Organizational Data Readiness Levels



Implementation Approach



Unfortunately,
Challenges Abound

CS135050



“That Chief Executive.”

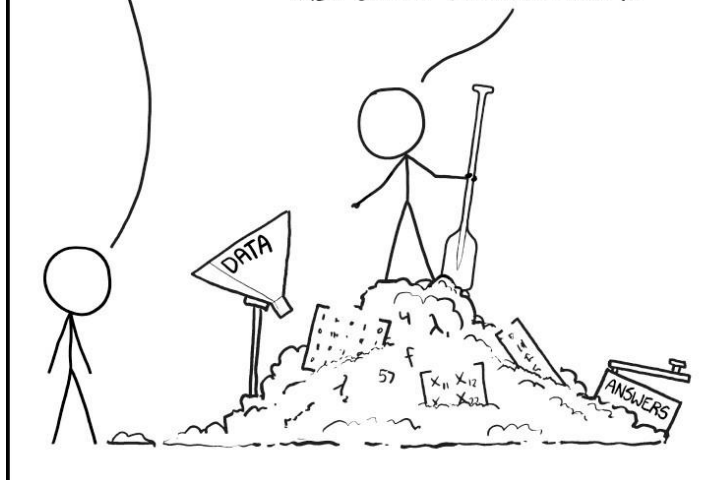


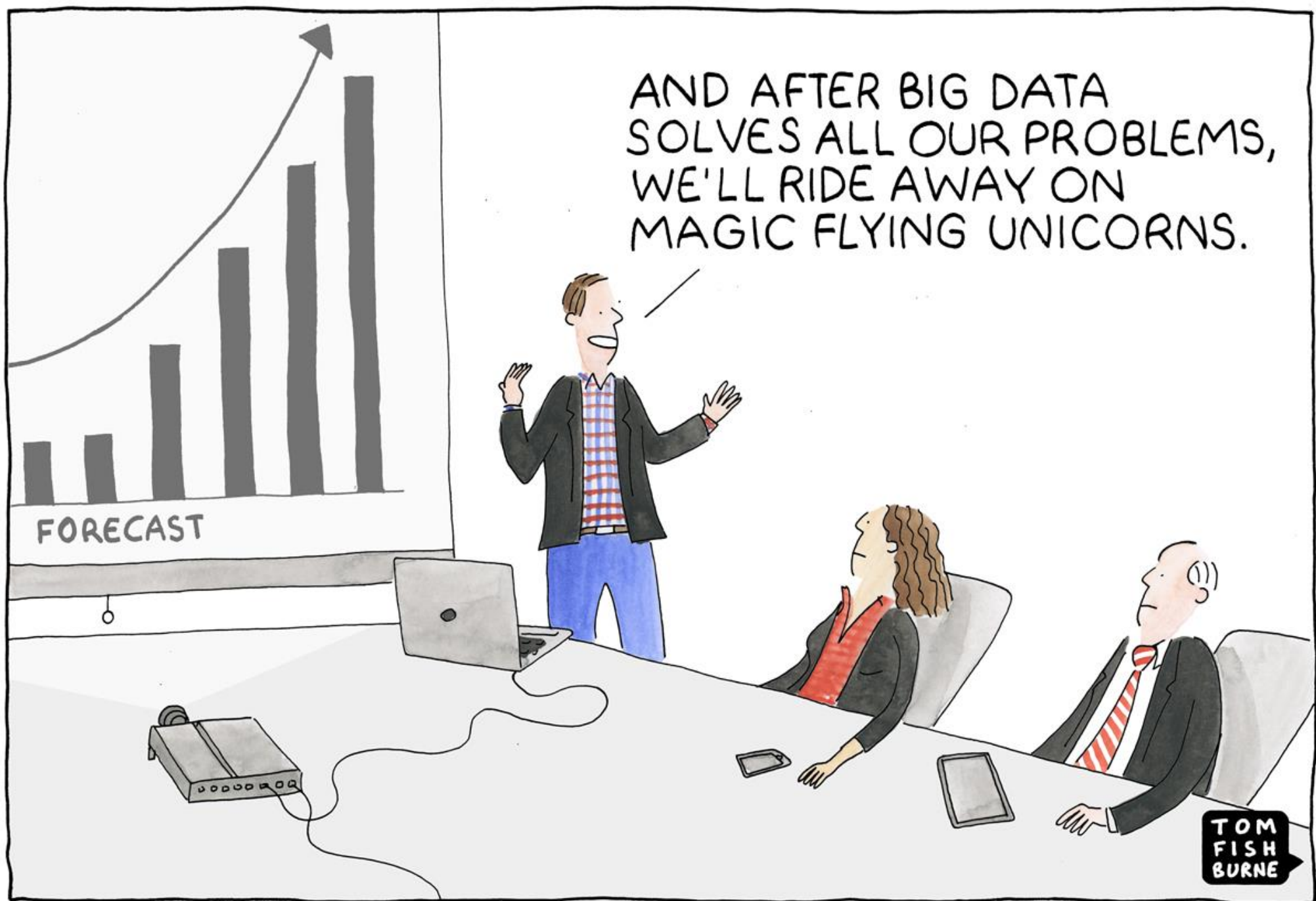
THIS IS YOUR MACHINE LEARNING SYSTEM?

YUP! YOU POUR THE DATA INTO THIS BIG
PILE OF LINEAR ALGEBRA, THEN COLLECT
THE ANSWERS ON THE OTHER SIDE.

WHAT IF THE ANSWERS ARE WRONG?

JUST STIR THE PILE UNTIL
THEY START LOOKING RIGHT.







Thank You

saqiful@gmail.com

<https://www.linkedin.com/in/saqifulalam>