



Data Analytics

The key to unlocking value for organisations

***In God we Trust
Everyone else has to
bring data!***

Useless facts to provide Context.

1,000 kB = one megabyte (MB)

1,000 MB = one gigabyte (GB)

1,000 GB = one terabyte (TB)

1,000 TB = one petabyte (PB)

1,000 PB = one exabyte (EB)

1,000 EB = one zettabyte (ZB)

1,000 ZB = one yottabyte (YB)

2.5 exabytes of data produced every day
which is equivalent to



530 million songs



150 million iphones



5 million laptops



90 years of HD video

4.4 zettabytes in 2013

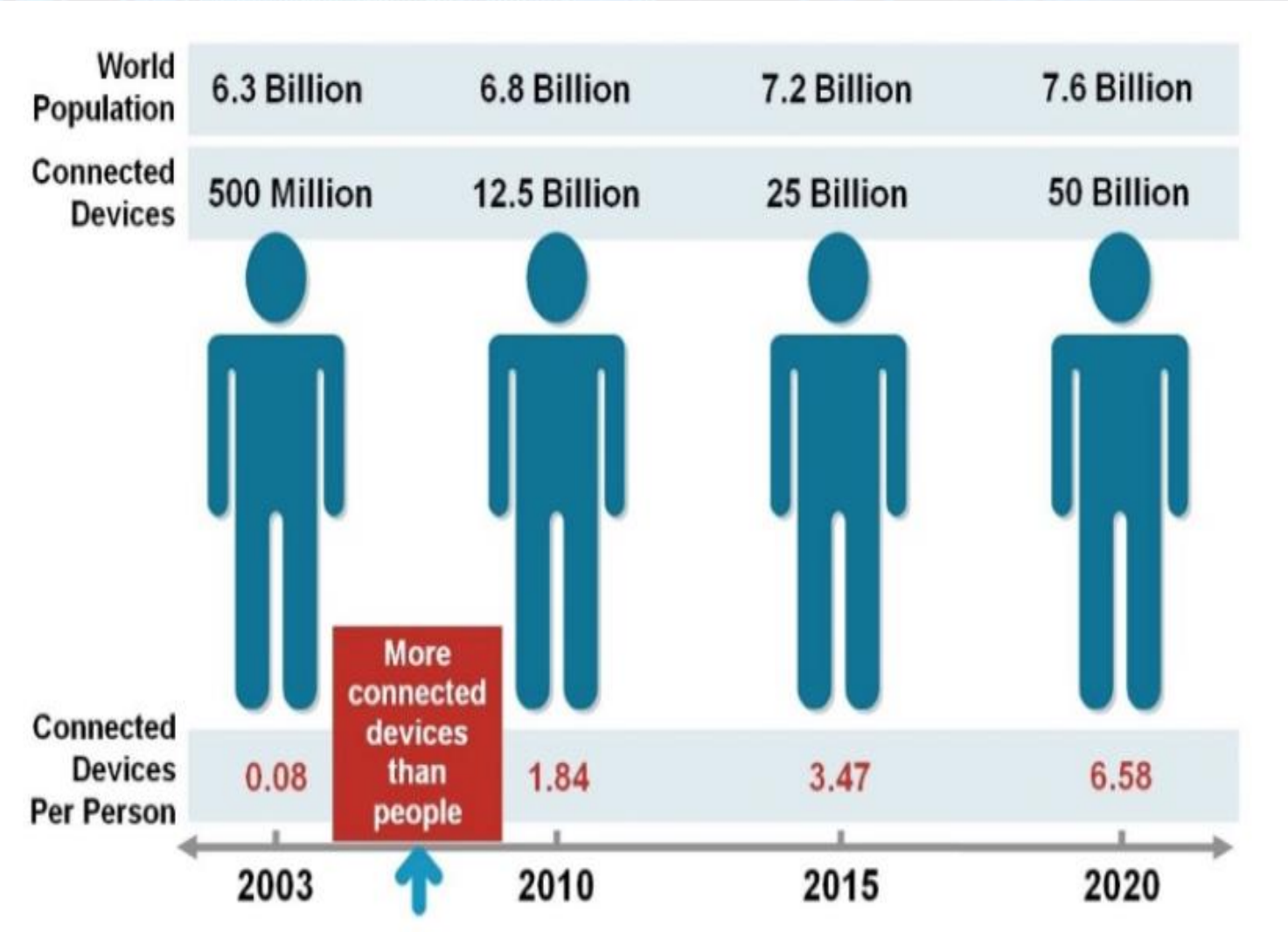
75 zettabytes by 2020.

Compelling Reasons for Data Analytics

Disruption - new market entrants attack brands in existing markets to attract customers at a faster rate than ever before in history.

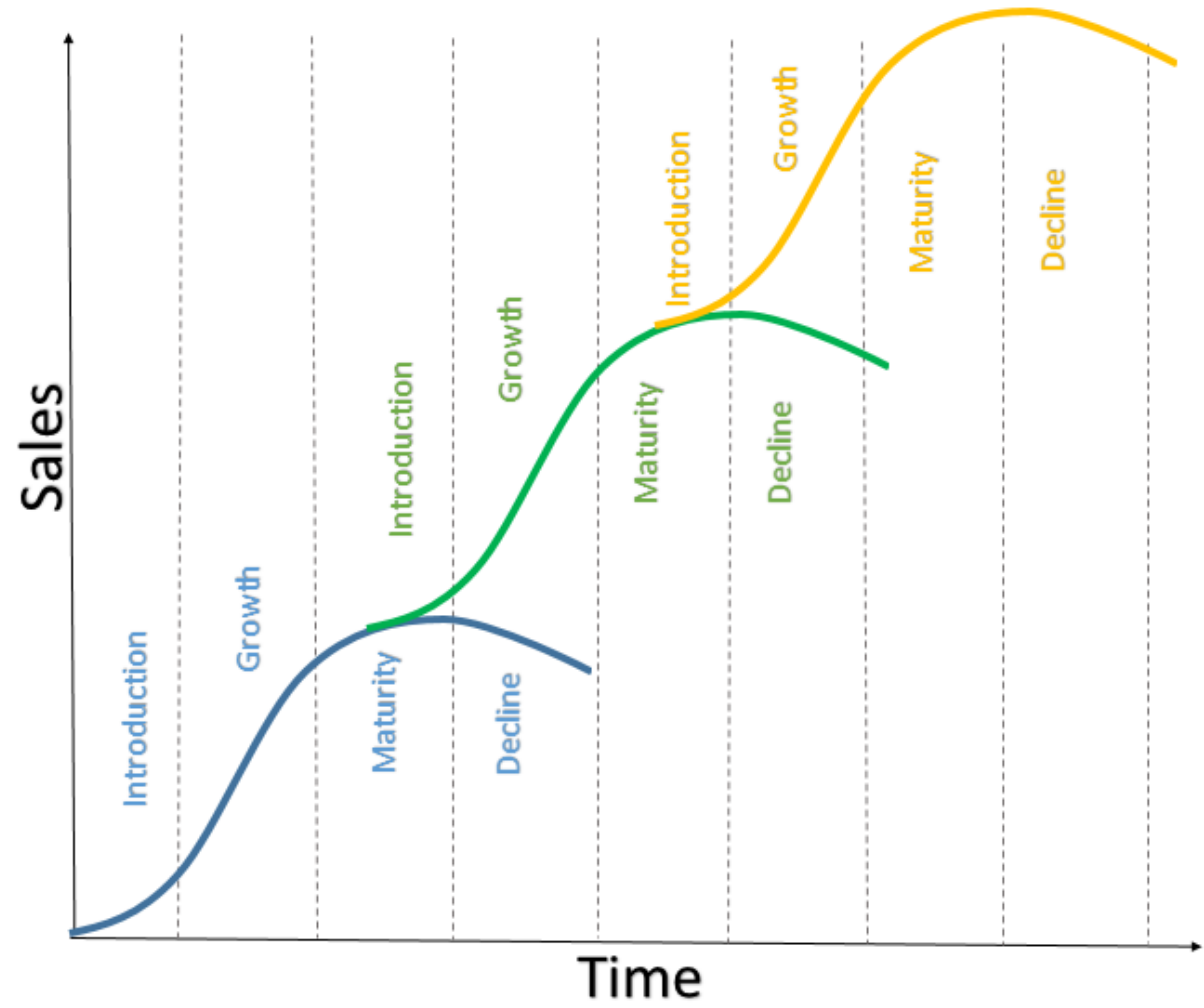
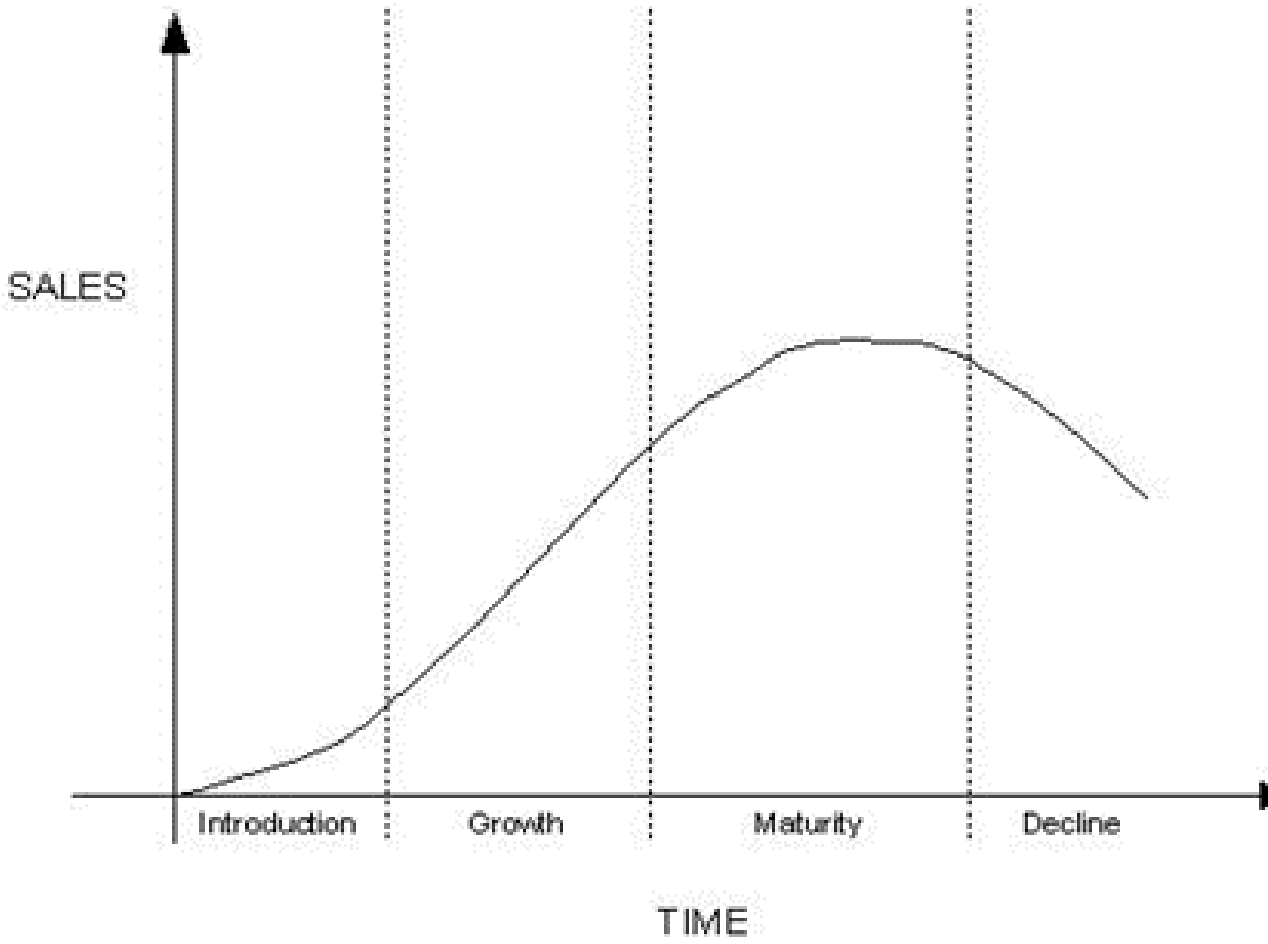
Mobile phones have overtaken PCs as the most common web access device

Connected devices producing data are growing at an incredible rate



Disruption and uncertainty

Changing the product/service lifecycle



Compelling Reasons for Data Analytics

90% of the worlds data has been created in the past 3 years.

More data has been created during this time than in the entire history of the human race. (IBM)

Data v Information

An important distinction to make is the difference between Data and Information.

Data = raw facts and statistics

Information = data that is accurate and timely; specific and organised for a purpose; presented within a context that gives it meaning and relevance; and can lead to an increase in understanding and decrease in uncertainty.

Data Analytics therefore is data that has been interpreted and then presented in a meaningful context to allow business to make better, more informed decisions.

Data Analytics – Technical Definition

“Data Analytics refers to qualitative and quantitative techniques and processes used to enhance productivity and business gain.

Data is extracted, acknowledged and bifurcated to identify and analyse behavioural data, techniques and patterns. It can be dynamic according to a particular business’s need or requirement. Data Analytics is a broader term that has analysis as a subhead and analytics is basically the concepts used to do the analysis.”

Data Analytics – Real World Definition

Data Analytics is the science of extracting trends, patterns and useful information from business data.

It is a kind of business intelligence that is used for gaining profits and making better use of resources. This can also help in improving managerial operations and leverage organisations to next level.

Who can benefit from Data Analytics

Business Practitioners

- Accountants
- Business Owners
- General Managers and Business Managers
- Chief Officers – CEO, CFO, CRO, CHRO
- Boards of Directors

Assurance Practitioners

- External Auditors
- Internal Auditors
- Risk Managers
- Compliance Managers

Assurance – Audit (Internal & External)

- Evidence not Assumptions
- 100% review of full data sets to find exceptions and then drilling down into the detail
- Audit Sample selection
- High Risk Transactions
- Missing Journals
- Payroll Testing
- AP and AR Testing
- IT Controls Testing



Assurance – Internal & External Audit

Data analytics can improve accountability by helping management focus on controls more effectively in the real higher risk areas, rather than in areas management believes are higher risk.

Understanding – Business Owners and Accountants

- Data Analytics can assist management to achieve better results now by streamlining operations and cutting waste, without making fundamental changes to the business?
- Businesses are increasingly managed using evidence provided by data analytics rather than assumptions derived from experience.
- Data Analytics ‘evidence’ not only looks at the past, it can create forecasts based upon different scenarios that can provide indications of future performance, potential issues and risks.

Insights – General & Senior Managers

- Analytics encourages smart decision-making. Data gives managers the power to make accurate, faster and more efficient decisions than ever before.
- Analytics provides clearer insights. Static graphs give a snapshot of the past. Data Analytic dashboards are the window into business performance and business opportunity.
- Analytics keep you updated. Change and disruption in industry, technology, is occurring at the fastest rate in history. Analytics protects business from unpredictability to enable innovation and pre-empt products/services according to your consumer's needs and preferences.
- Analytics offers efficiency. With the ability to gather large amounts of data at a fast rate and present it in a visually appealing way, managers can formulate decisions to help achieve specific targets and goals.

Performance & Strategy – Board, CEO, CFO ...

Boards and Executives are making data analytics central to their organisation's strategic development:

- According to 61% of CEO's their "collective future vision is one where technology and data enabled capabilities will be the future of business decision making".
- 78% of respondents report feeling strongly that the analysis of big data could potentially fundamentally change the way their company does business
- 71 percent feel strongly that data will create new revenue streams and lines of business within three years.

Data analytics is becoming the key to steering organisations in the right direction

[Source: PwC's 20th CEO Survey](#)

Case Study: Payroll

Background:

- Client with 30,000 employees and contractors.
- Issue – Spiralling Payroll Costs and reduced service delivery

Findings:

- Multiple ‘ghost employees’ and employees whose records had not been properly adjusted
- Overtime collusion and exploitation
- Sick Leave exploitation

Benefits to Client:

- Annual saving in excess of \$10 Million
- Better service delivery

Case Study: Asset Management

Background:

- Issue – Concern around asset downtime and maintenance costs

Case Study: Asset Management



| Country | Revenue | Profit |
|-------------|---------|--------|
| ENGLAND | 100% | 100% |
| JAPAN | 100% | 100% |
| SINGAPORE | 100% | 100% |
| HONG KONG | 100% | 100% |
| AUSTRALIA | 100% | 100% |
| NEW ZEALAND | 100% | 100% |
| SWITZERLAND | 100% | 100% |
| IRELAND | 100% | 100% |
| GERMANY | 100% | 100% |
| CANADA | 100% | 100% |
| USA | 100% | 100% |
| INDIA | 100% | 100% |
| CHINA | 100% | 100% |
| FRANCE | 100% | 100% |
| NET | 100% | 100% |

Case Study: Asset Management

Background:

- Issue – Concern around asset downtime and maintenance costs

Findings:

- Weather conditions had a measurable effect
- Driver had measurable impact on asset performance and maintenance
- Predictive Maintenance program introduced

Benefits to Client:

- Annual asset maintenance cost of approx \$300,000 / asset
- Over 150 assets in class – total annual savings approx \$45 Million
- Better service delivery

Case Study: Asset Management

Data Analytics Dashboards

| Country | Revenue | Profit | Assets |
|-------------|---------|--------|--------|
| ENGLAND | 100 | 15 | 100 |
| JAPAN | 80 | 12 | 80 |
| SINGAPORE | 60 | 9 | 60 |
| HONG KONG | 50 | 7 | 50 |
| AUSTRALIA | 40 | 6 | 40 |
| NEW ZEALAND | 30 | 4 | 30 |
| SWITZERLAND | 20 | 3 | 20 |
| INDONESIA | 15 | 2 | 15 |
| CHINA | 10 | 1 | 10 |
| USA | 5 | 0.5 | 5 |
| TOTAL | 380 | 56.5 | 380 |

The challenges

Data:

- 80% of time is spent preparing and cleaning data for use

Tools:

- Minimum of up to four different tools required

Training:

- Extensive training required in relation to use of tools

Insights:

- Knowing what to drill into is critical

Does anyone have any Questions?