### Getting ready for the health data explosion

Christoff Raath April 2016



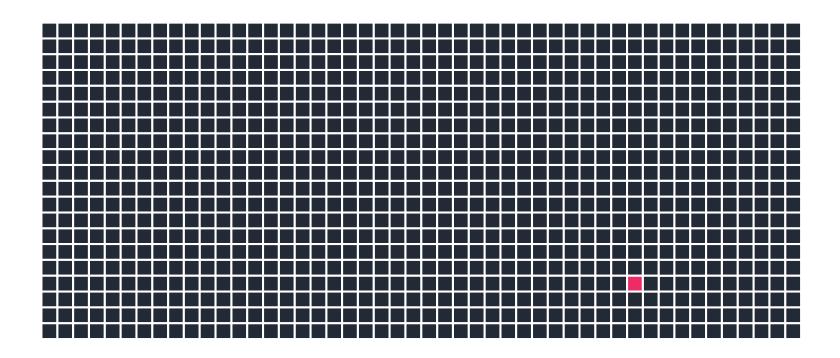
#### analysis paralysis

"Too much information is worse than too little information.

Now that we've entered a knowledge economy, this is an acute problem for many."

- Malcolm Gladwell

The inability to identify opportunities is compounded over time due to information overload and persisting blind spots





#### The traditional actuary



Aggregated data



Relies on arms-length IT teams



Requires financial / IT experts to reconcile to management accounts

#### The data-driven actuary



Detailed line-level data



Physically in touch with lowestlevel data interactions



Direct reconciliation between data and financials



Interface with multiple systems. Each with its own peculiarities.





















**Sanlam** 

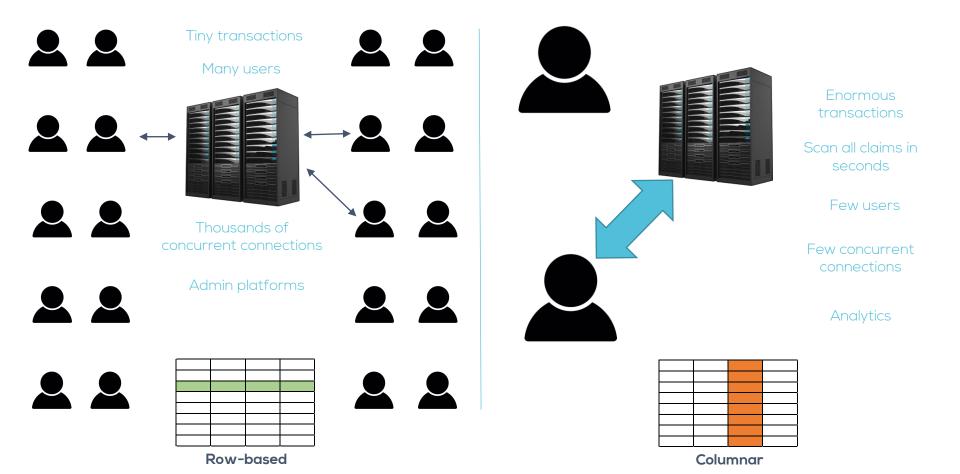






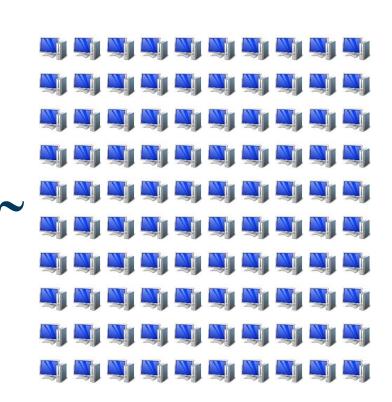
#### Transactional optimisation

#### Analytical optimisation



#### Insight Cloud Processing Capacity ~ 100 workstations





7.5
GB/s
persistent

50 GB/s

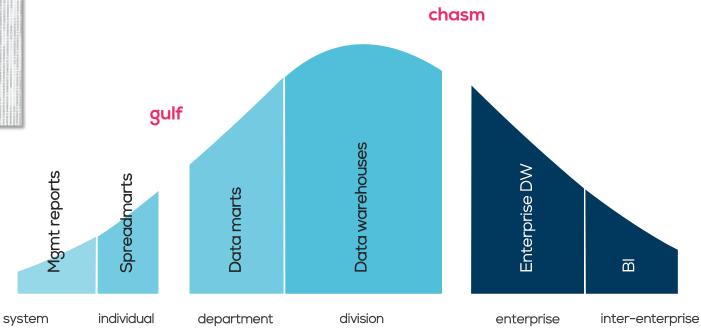
#### We know how to handle large volumes of data

1 Petabyte's data processed over last 6 months



# The Economist The economist The economic shift from West to East Genetically modified crops blossom. The right to east cats and dogs. The data deluge AND HOW TO HANDLE IT: A 14-PAGE SPECIAL REPORT.

#### The DW Maturity Model Adoption Curve

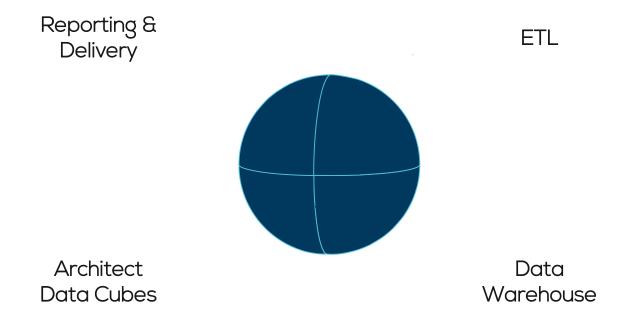


business value

## B

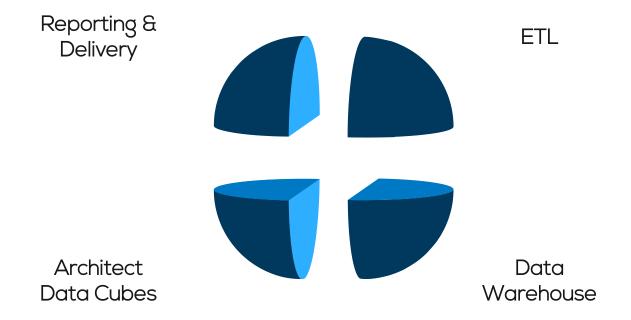
An actuarial approach to Business Intelligence

#### Insight Data Warehouse Architecture



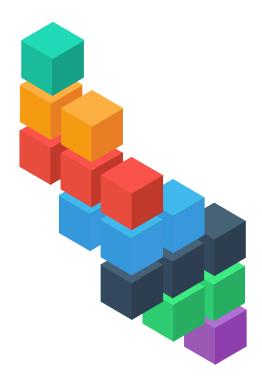


#### Tiered architecture for maximum flexibility





#### Architect Data Cubes





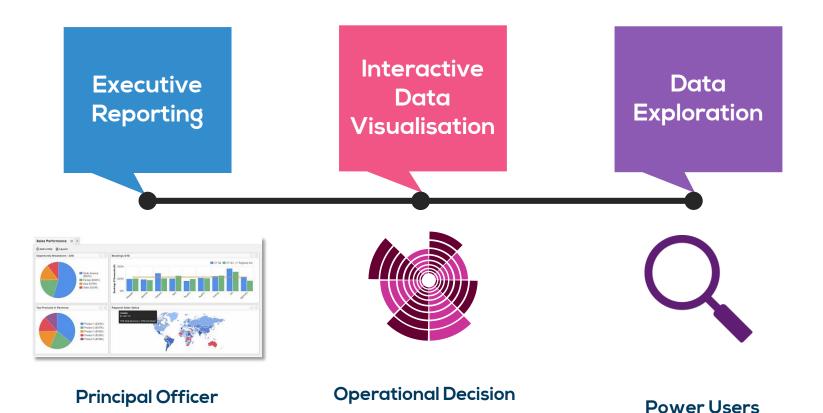
Tabular

**Multi-dimensional** 



#### Audiences

**Executives** 



**Makers** 



#### Delivery mechanism

MS Solutions

Mobile delivery













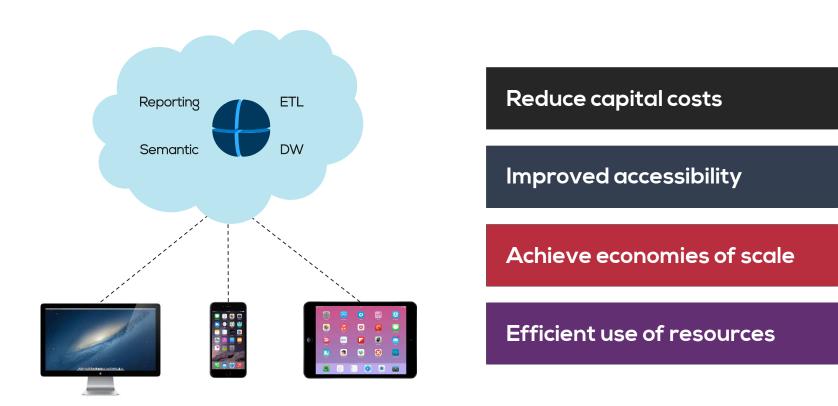


#### The Insight Cloud allows for uninterrupted access to information



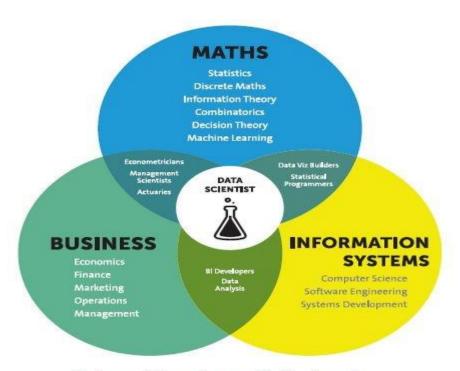


#### The Insight Cloud allows for uninterrupted access to information





#### Data Scientist vs Traditional BI Developer



Business analytics requires a combination of expertise across business, information systems and mathematics.

#### 3 Vs of Big Data

#### VOLUME

- Terabytes
- Records
- Transactions
- · Tables, files

#### 3 Vs of Big Data

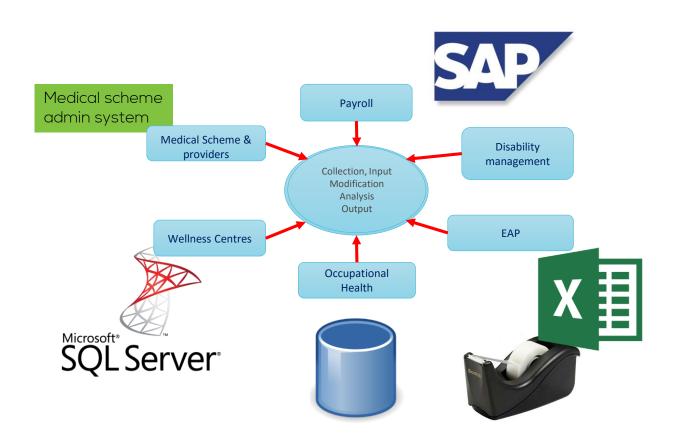
- Batch
- Near time
- · Real time
- Streams

- Structured
- Unstructured
- Semistructured
- · All the above

VELOCITY

VARIETY

#### Dealing with "dirty data"



#### Audiences

Executive Visualisation and Exploration

Power user

- Readily available
- Standardised
- Accurate
- No customisation

- More interactive
- Slice and dice
- Safe environment
- Intuitive
- Some limitations
- Data discovery

- Completely open
- Raw processing power
- Sky is the limit
- Expertise required