

# Data-Driven Decision-Making – DDDM for Business Leaders and Managers

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# OPPORTUNITIES, CHALLENGES & REALITIES



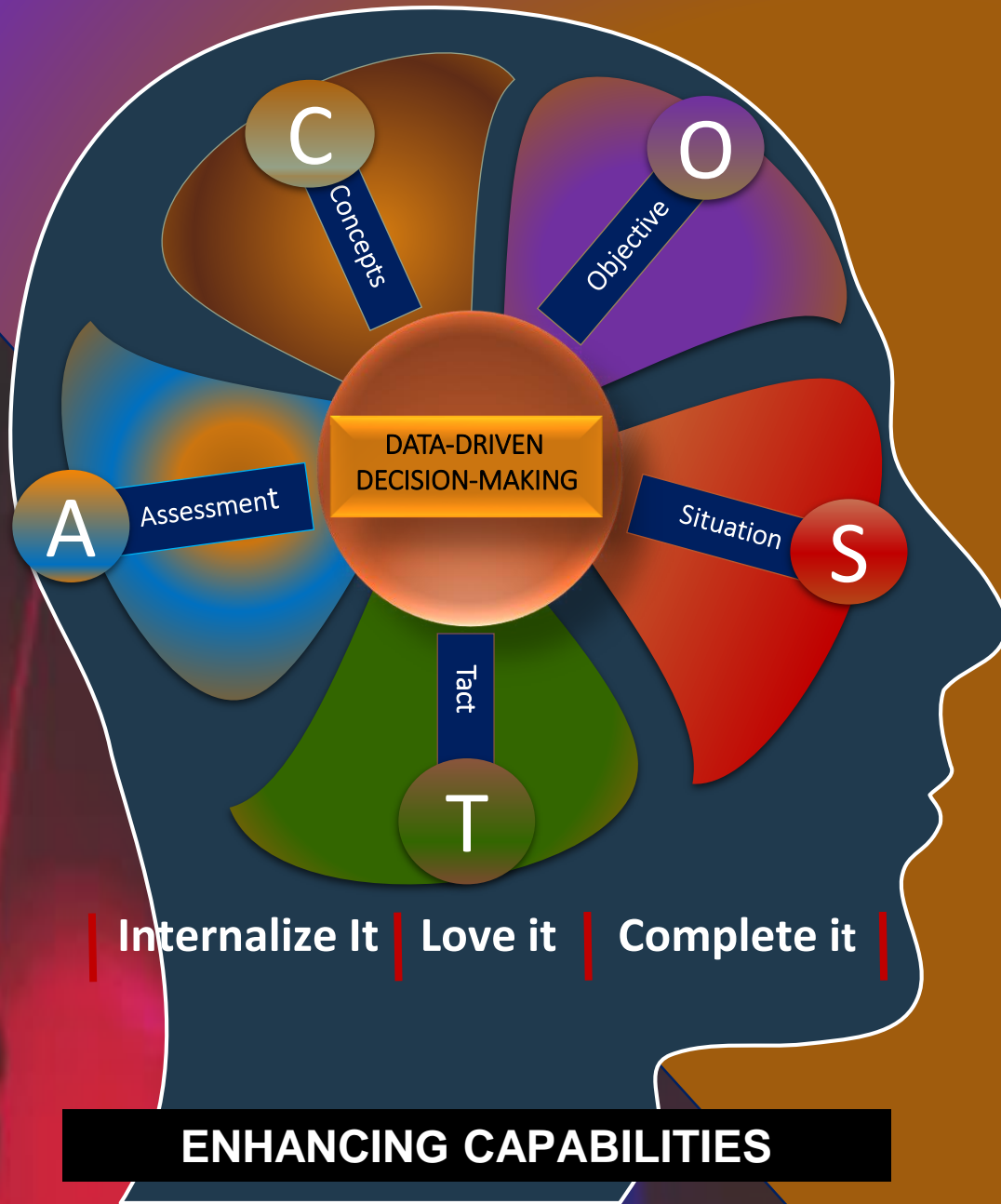
# DDDM Benefits for Business Leaders & Managers

A study by Xia and Gong (2014) revealed that DDDM benefited companies with:

- Improved business decision-making processes (78%)
- Faster reporting (81%)
- Improved customer service (56%)
- Increased company revenue (49%)

## Research Question

How can business leaders and managers enhance decision-making process through application of data driven techniques using the COSTA QDA with webQDA software?

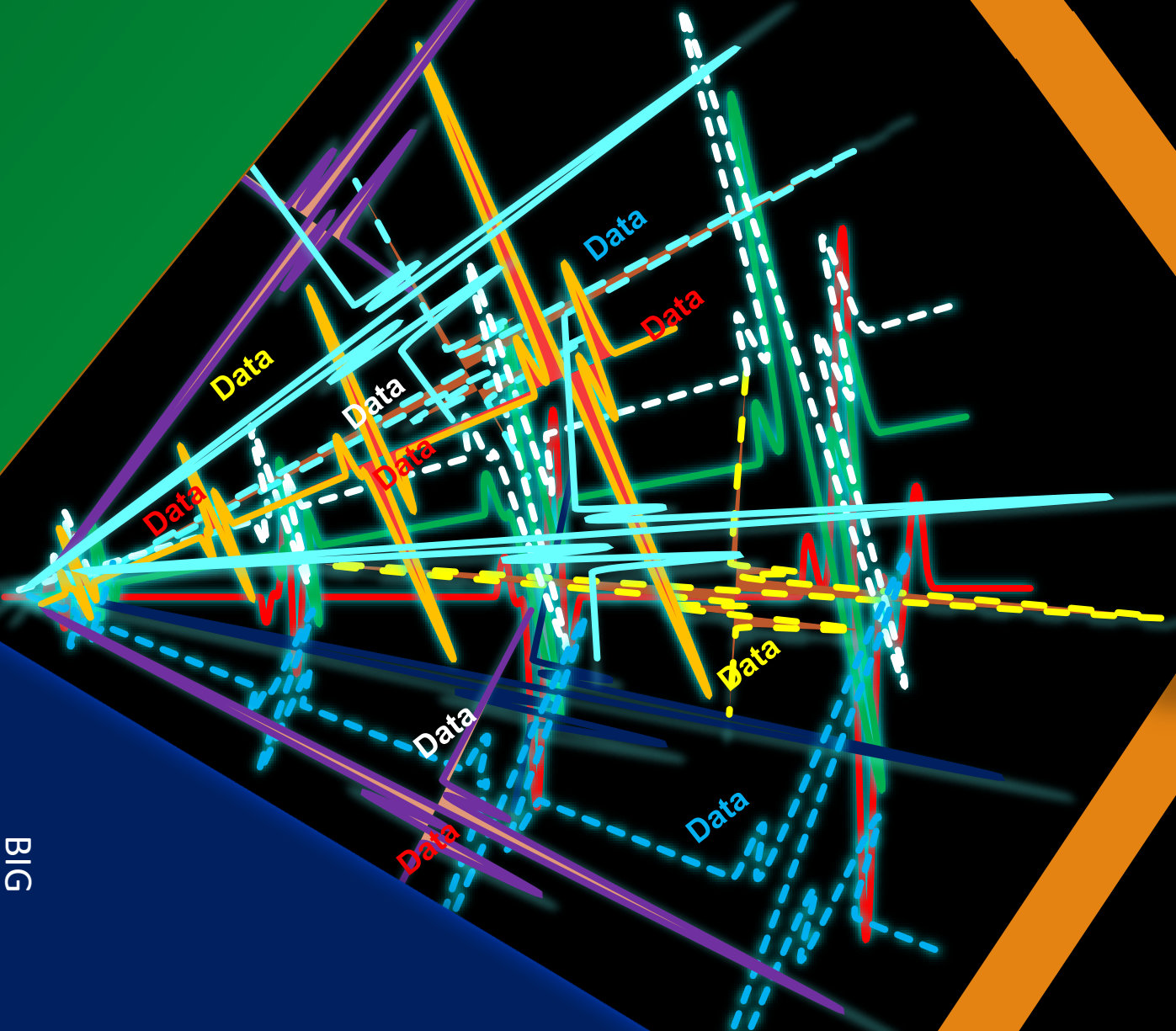


GROWING IN KNOWLEDGE  
WHILE  
GROWING KNOWLEDGE



BIG  
DATA

BIG  
QUALITATIVE  
DATA



REPORTS

DIGITAL MEDIA

SOCIAL  
NETWORKS

PRAGMATIST

- QUAL + quan
- QUAL - quan

# Big Data Defined

- **Extent and magnitude of data, including:**
  - Significance
  - Complexity
  - Sophistication
- **It is about the result of data transformation, regardless of the content size.**

(Frizzo-Barker, et al., 2016).

# Big “Quali” Data Defined

- Descriptions of big data have similar connotations with descriptions of big **qualitative** data in as far as expressions of large data are mentioned as characteristics (Brower, et al., 2019)
- “Big Quali” has been emerging steadily in: **Education, Business and Healthcare**  
(Eta, Kallo & Rinne, 2018)  
(Brower, et al., 2019)  
(Mayberry, 2016)

# Why Businesses Need DDDM

- Improve on their operational efficiency
- Explore new ways of doing business
- Launch new products or services (doing something completely new)
- Co-creation of value with and for customers

# Data Analytics

- General terms that covers different processes and techniques of data transformation.
- Data transformed to information
- Behavior of data provides some ideas (insights) about the population being studied or phenomenon being observed
- Meaningful information extracted out of volumes of mass information
- Meaningful information crucial for making informed decisions

# Why Big Quali - DDDM

- Decisions are only good when based on information
- Real-time, credible information is crucial for helping organization remain relevant
- Storage decisions and costs
- Security issues

# Methods

- Mapping Review
- Made popular by the Evidence for Policy and Practice Information Coordinating Centre attached to the Institute of Education
- Useful for Evidence-Based Research (EBR)
- Vital resource for policy makers

(Grant & Booth, 2009; EPPI Centre, 2006)

# Mapping Review Methods

- Experienced steady growth
- Successful and stronger framework to provide sound and rigorous evidence-based studies on “Big Quali”
- Mapping review was also described as one of the relevant methods for South Africa's postgraduate study

(Academy of Science of South Africa, 2010; Grant & Booth, 2009)

# Purpose of Mapping Reviews

**The development of this methodology was deliberately intended to:**

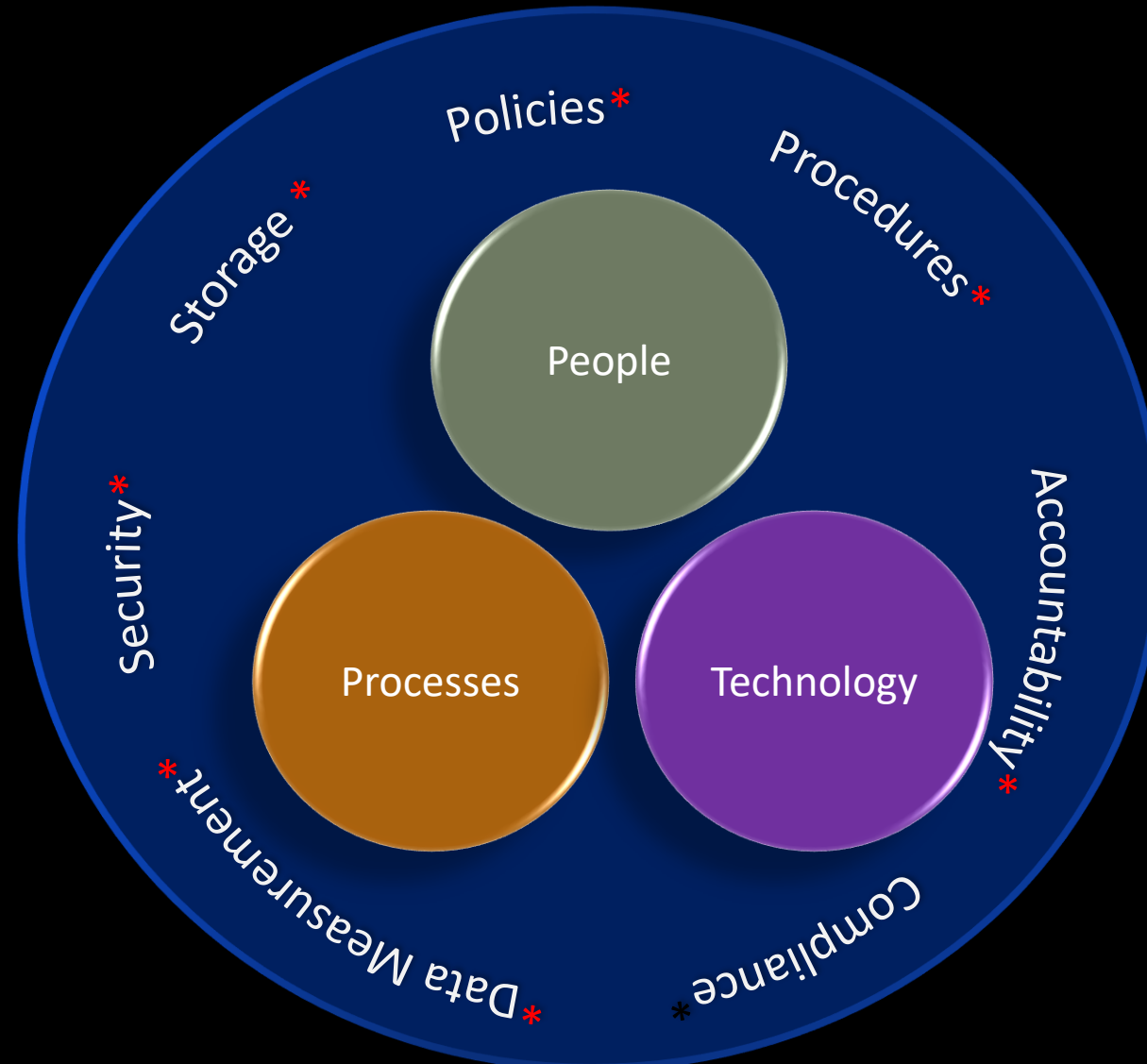
- map existing data
- thematize current literature
- define gaps and
- make suggestions for areas where more study was required

(Grant & Booth, 2009)

# Decisions about Data Governance - Capabilities

- Data Quality
- Data policies
- Regulatory Framework
- Regulatory Compliance

# The PPT of Data Governance



# Data Governance - People

- People will need to acquire requisite skills that enable them to perform in the era of digital transformation (DX)
- Skilled people in DX - organisational enablement in:
  - providing users with accurate and credible real-time data
  - with high levels of **accuracy**, **confidentiality** and **security** for optimum decision-making

(Jia, et al., 2015)

# The future of the World of Work

- Automation of the world of work arrived early – COVID-19
- By 2025 – employers will be dividing roles between humans and robots
- 85 million jobs threatened
- Administrative and manual roles for both blue and white collar sectors will be replaced
- 97 million jobs possible

WEF,2020



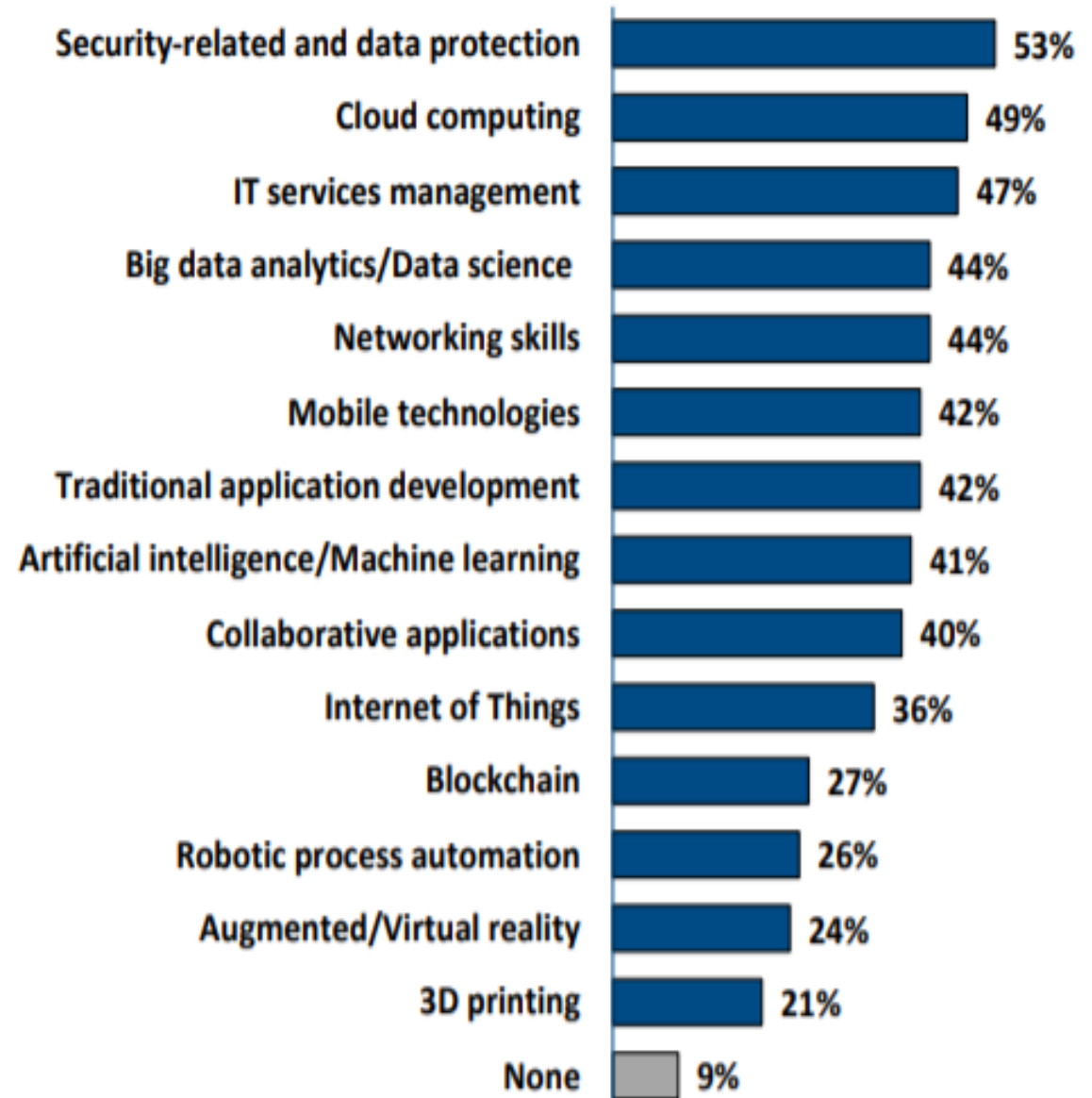
Currently lacking and future skills requirements in South African businesses - source: Future of Work Skills Research (2019)

## Critically Required Skills

- Data Security/Protection 53%
- Cloud Computing 49%
- IT Services Management 47%
- Data Science 44%

Source: Future of Work Skills Research (2019)

## Currently Needed Lacking Skills



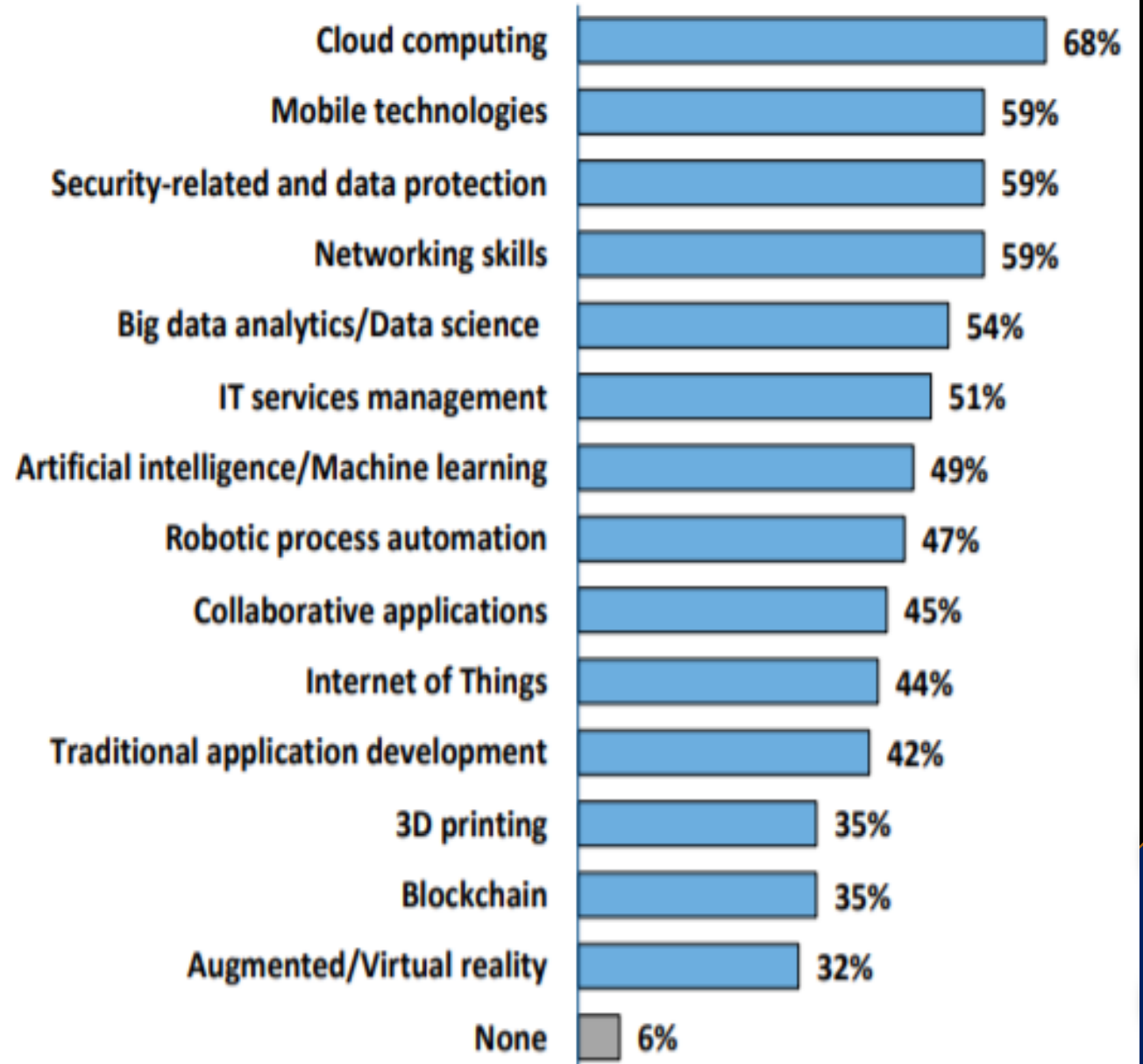
Skills for the future in South African businesses - source: Future of Work Skills Research (2019)

## Critically Required Skills

- Cloud Computing 68%
- Mobile Technologies 59%
- Data Security/Protection 59%
- Networking Skills 59%
- Data Science 54%

Source: Future of Work Skills Research (2019)

## Skills Likely to be Needed in Near Future



# Decisions about Data Analytics - Capabilities

- Encapsulates fundamental processes that help turn knowledge into **actionable insights** for smarter and quicker **decision-making**  
(Delen & Ram, 2018)
- Involves **discovery of meaningful** and **insightful information** and **new knowledge** inherent in data being analysed for this purpose  
(Sivarajah, Kama, Irani, & Weerakkody, 2017).

# Decisions about Data Analytics - Capabilities

## Descriptive Analytics

## Predictive Analytics

## Prescriptive Analytics

### Purpose

- Provide information about what happens in the organisation.
- Provide understanding

- Provide a futuristic perspective
- Help understand possible results

- Provide information about what can be done
- Help decision-making

### Key Questions

- What happened?
- What is happening?

- What will happen?
- Why should and will it happen?

- What should be done?
- Why should that be done?
- How should it be done?

# Decisions about Data Analytics - Capabilities

## Descriptive Analytics

## Predictive Analytics

## Prescriptive Analytics

Enabling tools

- Dashboards
- Scorecards
- Business Reports

- Data mining
- Text mining
- Web mining
- Media mining
- Machine Learning

- Optimization
- Simulation
- Decision-Making

Outcomes

- Well defined Business Problem and Opportunities

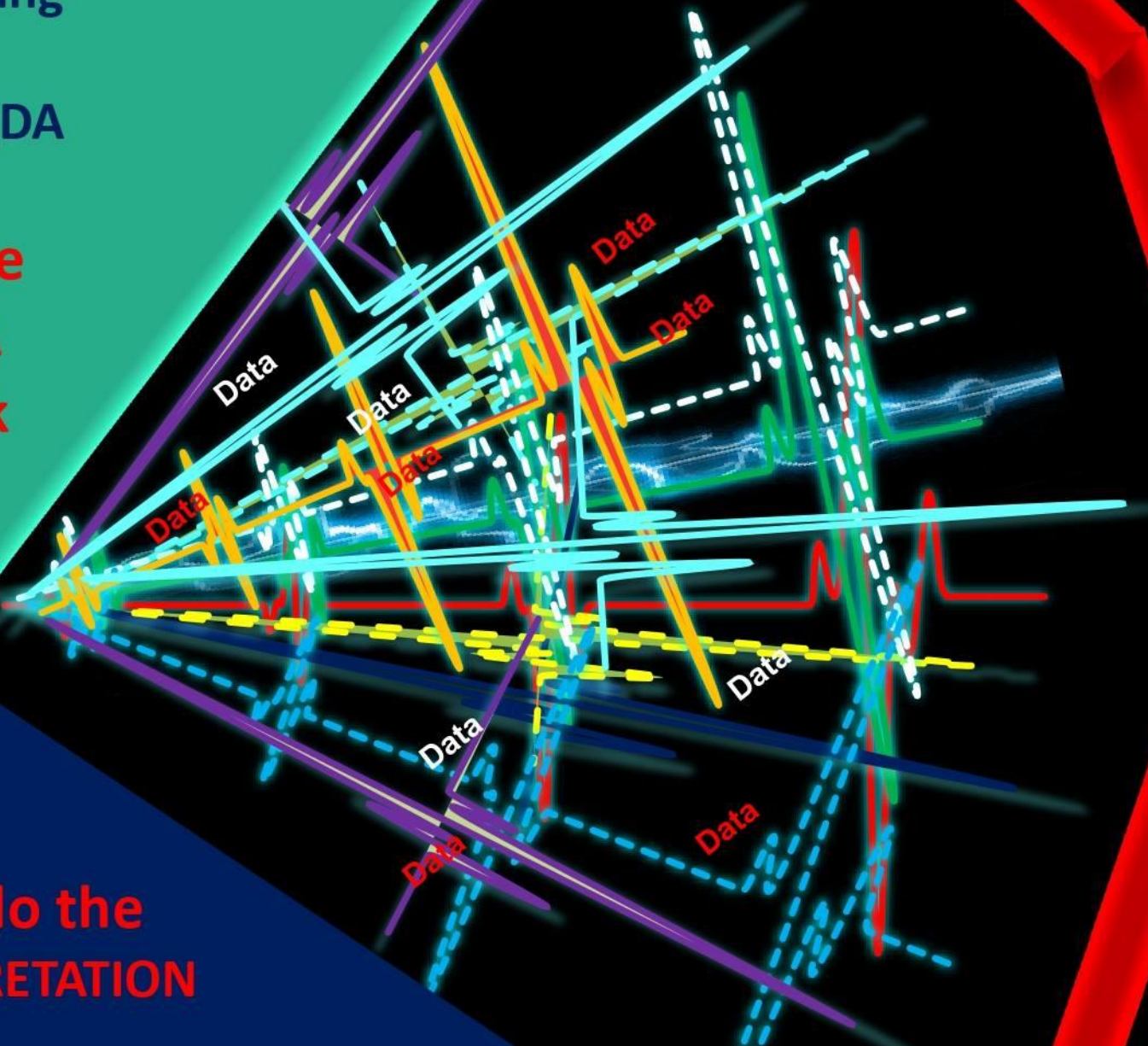
- Well defined projections for future impacts

- Proactive business decisions and futuristic actions

Introducing  
the  
COSTA QDA

Let the  
**DATA**  
speak

You do the  
**INTERPRETATION**



We do the **ANALYSIS**  
Ask us how, visit [www.vleresearch.net](http://www.vleresearch.net)



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Legitimize  
Conclusions

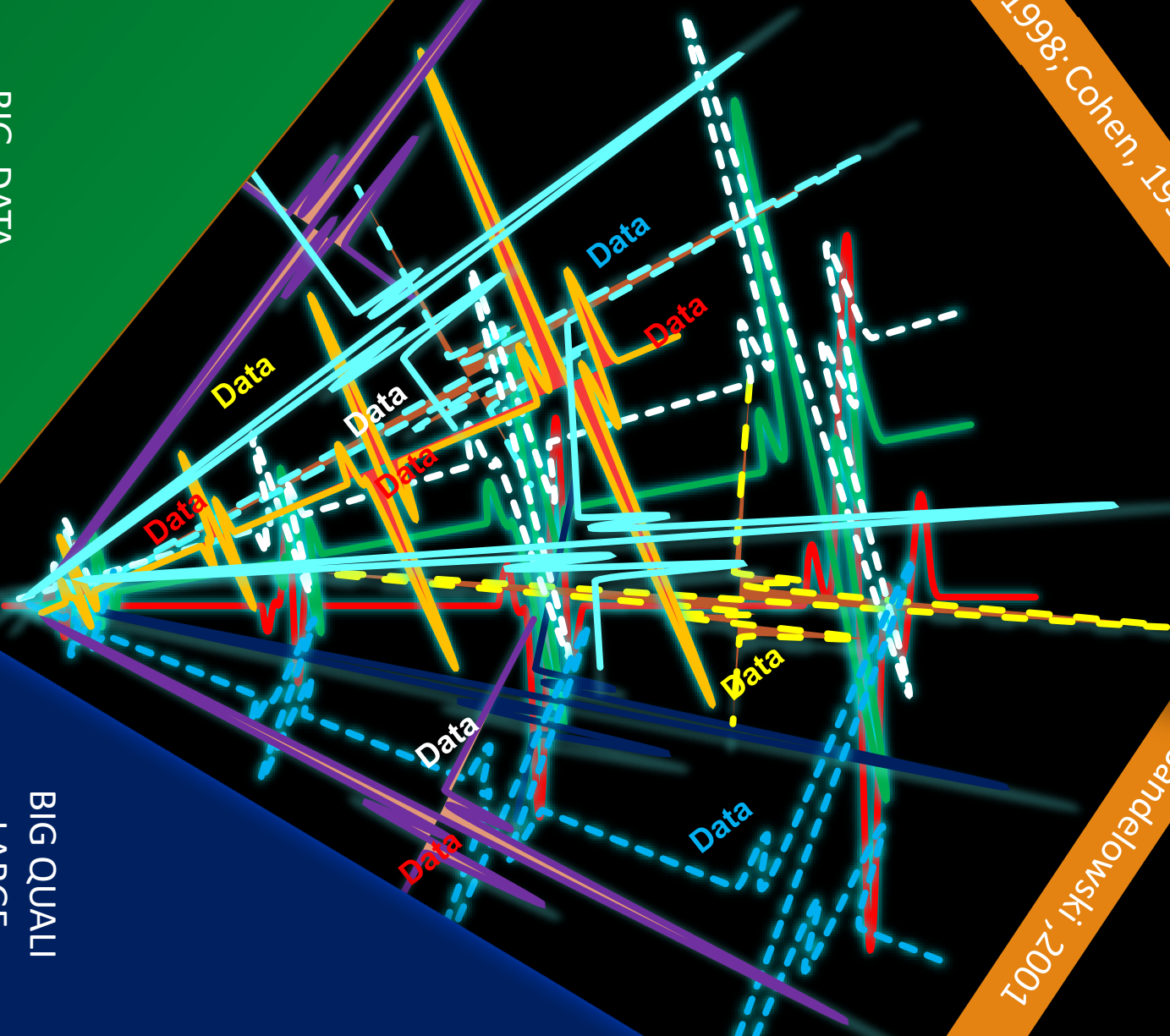
Effect and  
Estimation

Precision of  
Accounts

Onwuegbuzie & Daniel;

Tashakori, 1998; Cohen, 1998;

Sandelowski, 2001



BIG DATA  
LARGE VOLUMES OF DATA  
SOURCES, NUMBERS &  
STATISTICS

BIG QUALI  
LARGE  
VOLUMES OF  
TEXTUAL DATA

^ Sources

- Internal Sources
- External Sources
- Notes

^ Coding

- Free Codes
- Tree Codes
- Descriptors
- Classifications

^ Questioning

- Most Frequent Words
- Text Search
- Matrices
- Code Search

^ Management

- Users

Edit 
 Hide Coding 
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-

The text here presented was written essentially, with excerpts from the proceedings of CIAIQ2016 (Congresso Ibero-Americano em Investigação Qualitativa) held in Porto/Portugal and also the 9th World Conference for Graduate Research in Tourism, Hospitality and Leisure (2017) held in Cartagena/Spain (Rodrigues, 2016, 2017).

**Visual methodologies in education have a potential for engaging students in a process of self-reflection in an effort to change behaviours.** This essay aims to explore the benefits of image-based methodologies, such as reflexive photography, in tourism educational environments, based on an exploratory exercise undertaken with students in the Tourism Graduation of the Polytechnic Institute of Beja. A group of students participated in a field experience, involving reflective thought, critical dialogue and action, aiming to examine their impressions and perceptions about a small city named Beja, located in the south of Portugal, Alentejo region with the goal of assessing their opinions. It is believed that educational tools like this could provide sufficient stimulation to engage learners in knowledge discovery, and simultaneously develop new skills. Additionally, some thoughts under the experiential learning theory are briefly explored based on the idea that knowledge continuously derived from the experience of the learner.

Free Code 1

The use of visual medium for research was first proposed by Collie in the field of anthropology and social scientists started to realize that interviews respond to photographs without hesitation (Hurworth, 2003). In fact, the adoption of photography as a research method has been successfully addressed by a number of researchers (Goldman, 1995; Schwandt, 1990; Utman, 1997). This study marked the beginning of

**Encode**

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<input type="checkbox"/> Tree Codes	0	0
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<input checked="" type="checkbox"/> Sub-categoria C1	8	4
<input type="checkbox"/> Categorias A e B	0	0
<input checked="" type="checkbox"/> Categoria D	0	0
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<input checked="" type="checkbox"/> Sub-Categoria D2	1	1

## Tree Codes

## Sources

## Coding

Free Codes

Tree Codes

Descriptors

## Classifications

## Questioning

## Management



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<input type="checkbox"/> History of Acquisition	21	5		28/10/2020 22:37:17
<input type="checkbox"/> Extent of land	7	4		28/10/2020 22:38:37

Details

50 items

# Counting in Qualitative Research

## 1. Becker's Quasi-Statistics

- Occurrences related to **instances** such as:
- Usually
- Some
- Most

(Maxwell, 2010; Maxwell & Chmiel, 2014, p. 10).

# Benefits of Counting in Qualitative Research

- 1. Explicit accounts**
- 2. Precision of accounts**
- 3. Extent and Magnitude of phenomenon**
- 4. Internal Generalization**

(Maxwell, 2010; Maxwell & Chmiel, 2014 p. 10).

# Benefits of Counting in Qualitative Research

- 1. Establish the significance of a research project,**
- 2. Documenting what is known about a problem**
- 3. Sample description**

(Sandelowski, 2001)

# Benefits of Quasi-Statistics in Qualitative Research

- 1. Labor and complexity of QLR**
- 2. Documentation, verification and Testing of interpretation of findings**
- 3. Target events and experiences**

(Sandelowski, 2001)

# Possible next steps

Empower employees through skills revolution

Reach out to your costumers through robust “networked” engagement

Optimize operational efficiency

Upgrade technology

Remodel and restyle your products

# DDDM MODEL

