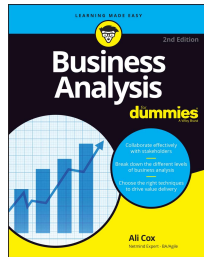
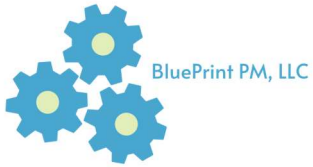


Business Data Analysis and Analytics





Ali Cox
alison.cox@blueprintpm.com



- ICAgile Certified Professional

- ACC – Agile Coaching
- ATF – Agile Team Facilitation
- AHR – Agility in HR
- EPO – Enterprise Product Ownership
- PO – Agile Product Ownership

- SAFe SPC

- Certified Scrum Master

- Team Kanban Practitioner

- Management 3.0 Facilitator

- LEGO® Serious Play® Method Facilitator

- Flow Framework Professional

- Business Analysis Certifications

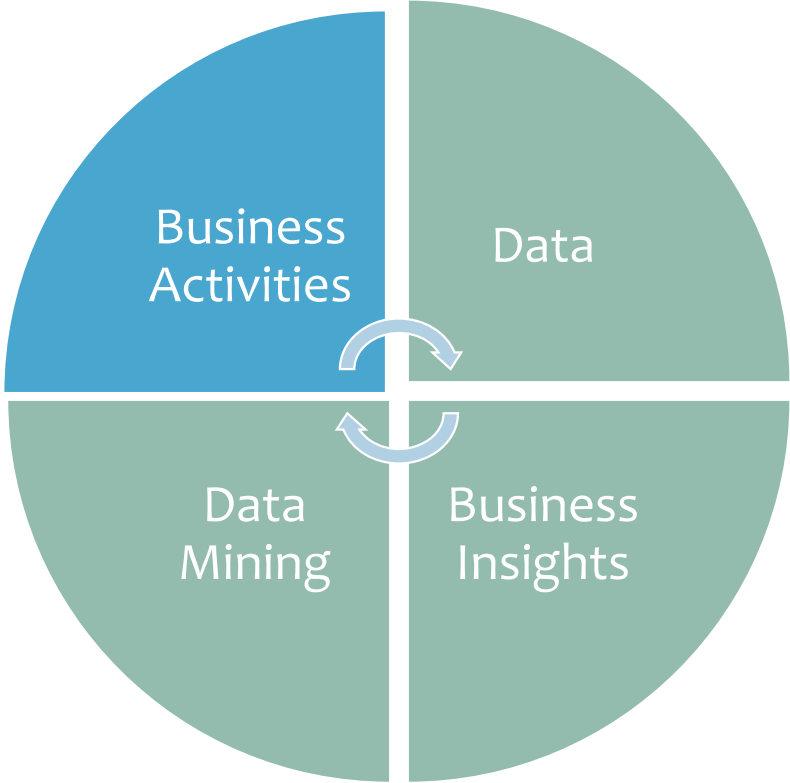
- IIBA-CBAP – Business Analysis Professional
- IIBA-AAC – Agile Analysis
- IIBA-CBDA – Business Data Analytics
- IREB-CPRE – Professional in Requirements Engineering
- PMI-PBA – Professional in Business Analysis
- PMI PMP – Project Management Professional
- Senior Trainer for B2T Training (b2ttraining.com)



Learning Objectives

- Discuss data versus data analytics
- Understand the basics of business data discovery: entity, attribute, relationship
- Gain exposure to the entity relationship diagram and its importance
- Learn about the risks of NOT understanding your business data
- Learn the definition and importance of data analytics and its roles
- Understand the relationship between the scientific method and data analytics
- Learn about the five business data analytics practice domains

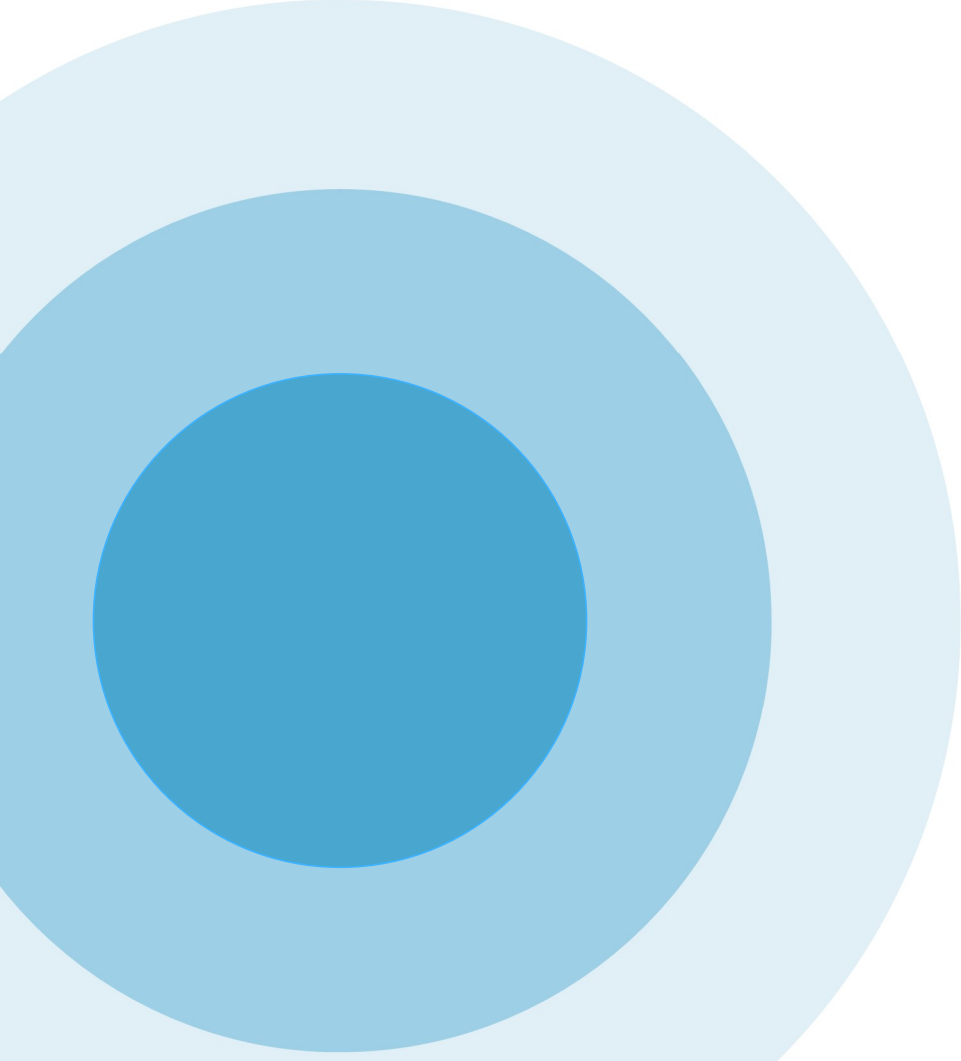
Generate patterns and intelligence



What is data?

Data is defined as a collection of **unorganized** facts or **observations** that can be **processed** to obtain **valuable information**.





Business Data Analysis

First, help the business understand its own data

Discover, document, and deliver via solutions...

Entity: uniquely identifiable ‘thing’ about which the business needs to track information. A data entity could be a person, things, or concept. Examples:

- Customer
- Policy
- Plane
- Department

Attribute: a detailed piece of data captured that further describes the entity.
Examples:

- Customer email address
- Policy number
- Plane capacity
- Department current manager



Customer

- First Name
- Last Name
- Email....



Plane

- Model
- Capacity
- Max speed

First, help the business understand its own data

Attribute metadata that is good to know:

- Is it unique?
- Is it mandatory or optional or conditional?
- Does it have specific valid values or a range of values?
- Definition
-

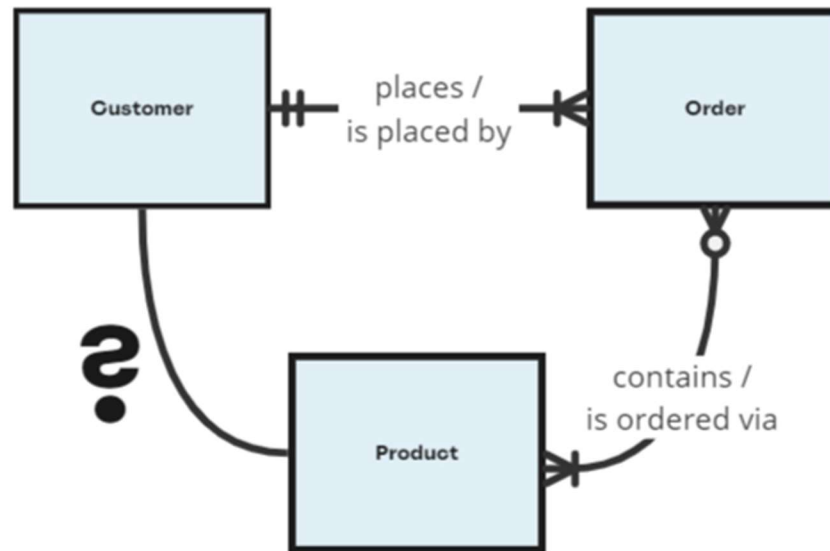
Example:

- Is Employee ID unique within your company? What if it weren't?
- Is a patient identifier unique within a medical practice? What if it weren't?
- What if your social security number isn't unique? What bad things could happen?

First, help the business understand its own data

Relationships between entities contain **at least two** business rules

Consider drawing a diagram (Entity-Relationship Diagram, aka ERD) to have a picture of your data:



Determine what documentation to build

Examples of useful data documentation:

- **Data dictionary** (or at least a **glossary**): define your data and know where it lives
- **Data model**: documentation with diagrams for entities/attributes/relationships
- **Data maps and ETL information** (extract/transform/load): map data between systems or from a legacy system to a new system





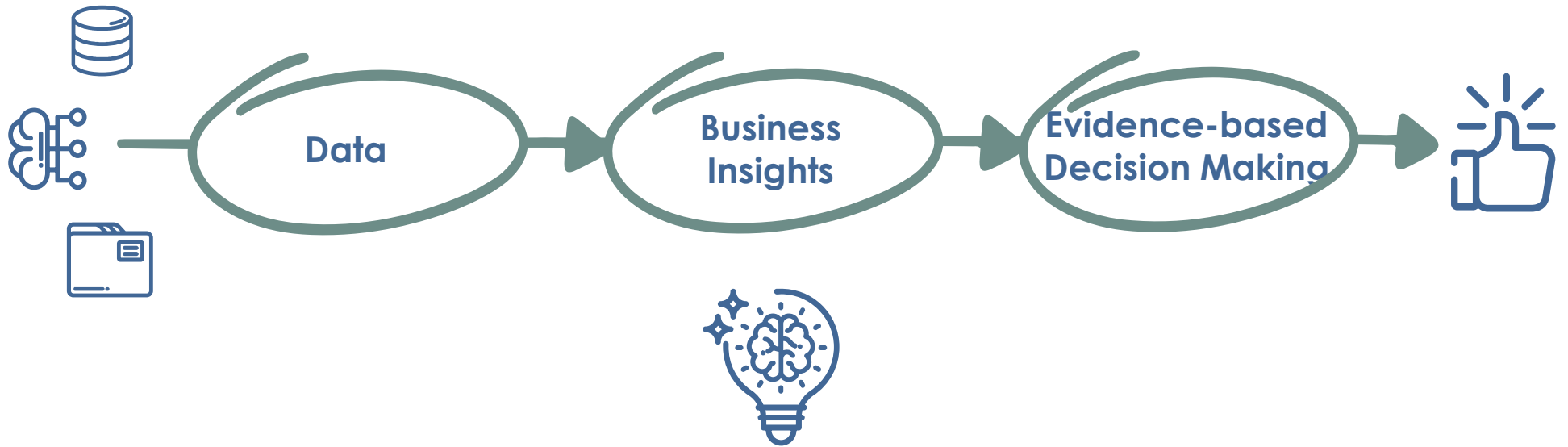
Business Data Analytics (BDA)

Data Analytics – IIBA definition

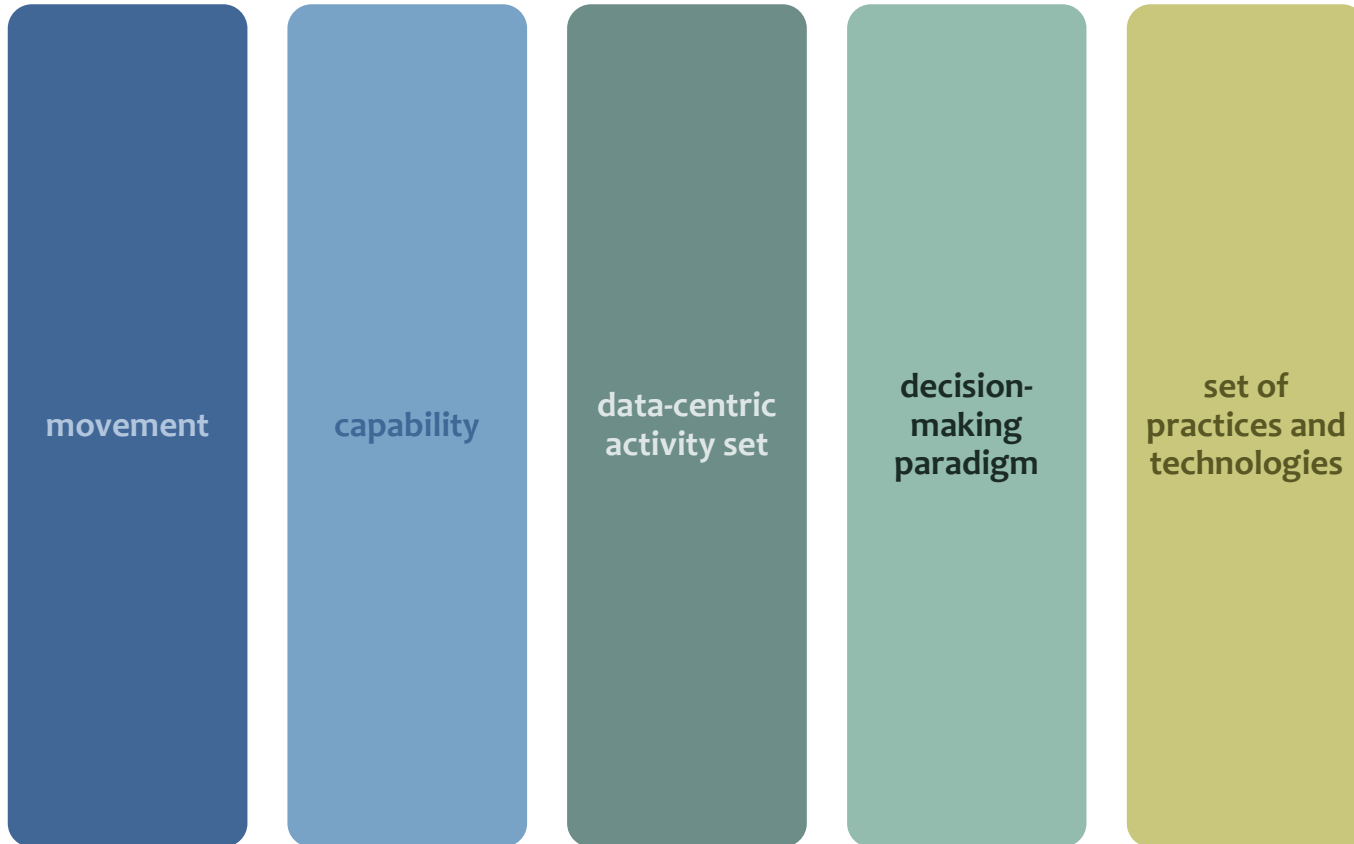
Business data analytics is a specific set of **techniques, competencies, and practices** applied to perform continuous **exploration, investigation, and visualization** of business data.



Business Data Analytics



Perspectives of data analytics as a....



Perspectives – BDA as a movement

Data usage across the organization aids in:

- **Transparency**
- Adoption of **data-driven** management
- Discovery of **market** needs
- Uncovering **variabilities** in processes or services
- Performance **improvements**
- Adoption of **sustainable** practices



Perspectives – BDA as a capability

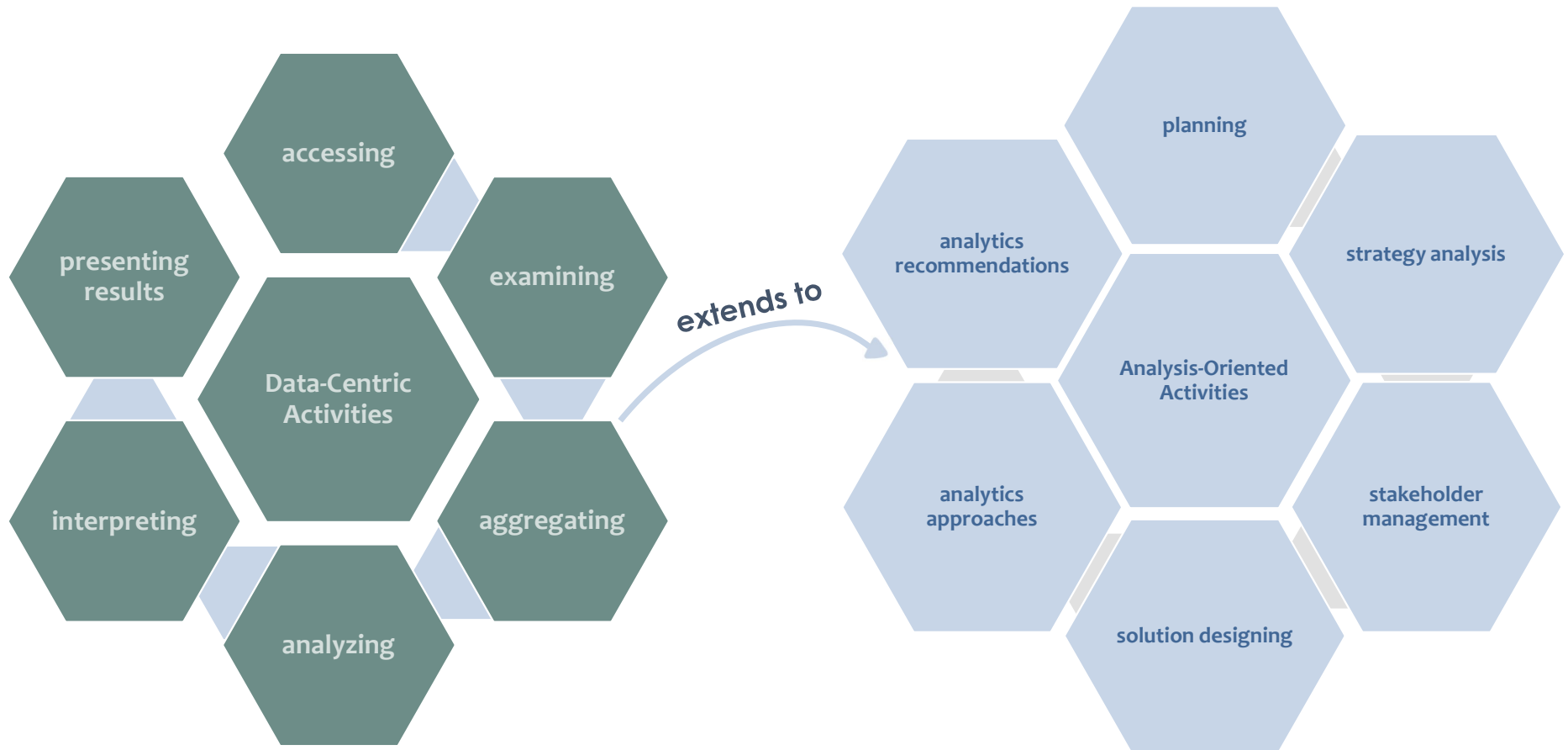
It's not just the analytics

Competencies that BDA contributes to are those such as:

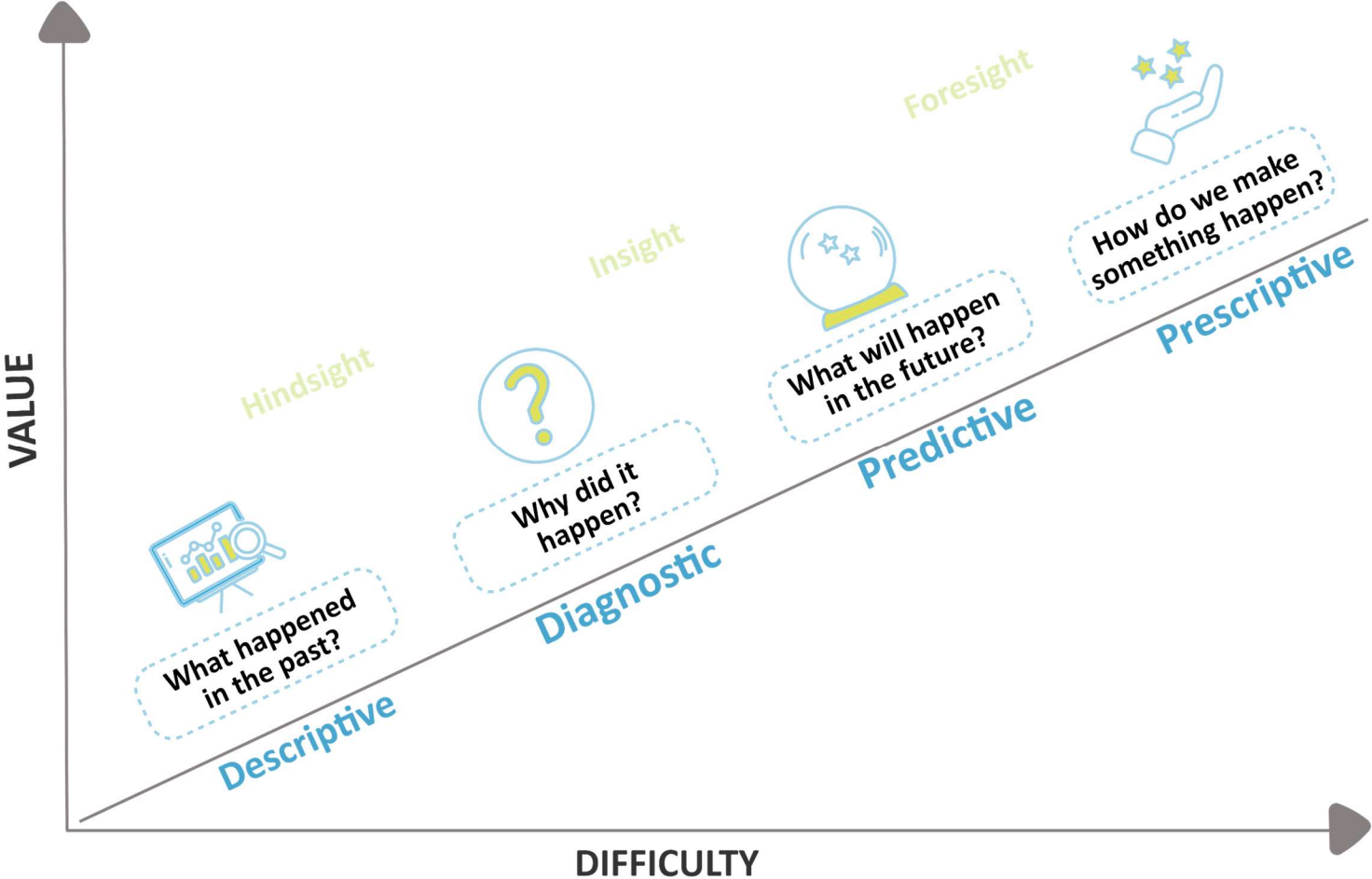
- **Innovation**
- Creation of **culture**
- **Process design**



Perspectives – BDA as a data-centric activity set



Analytics Methods

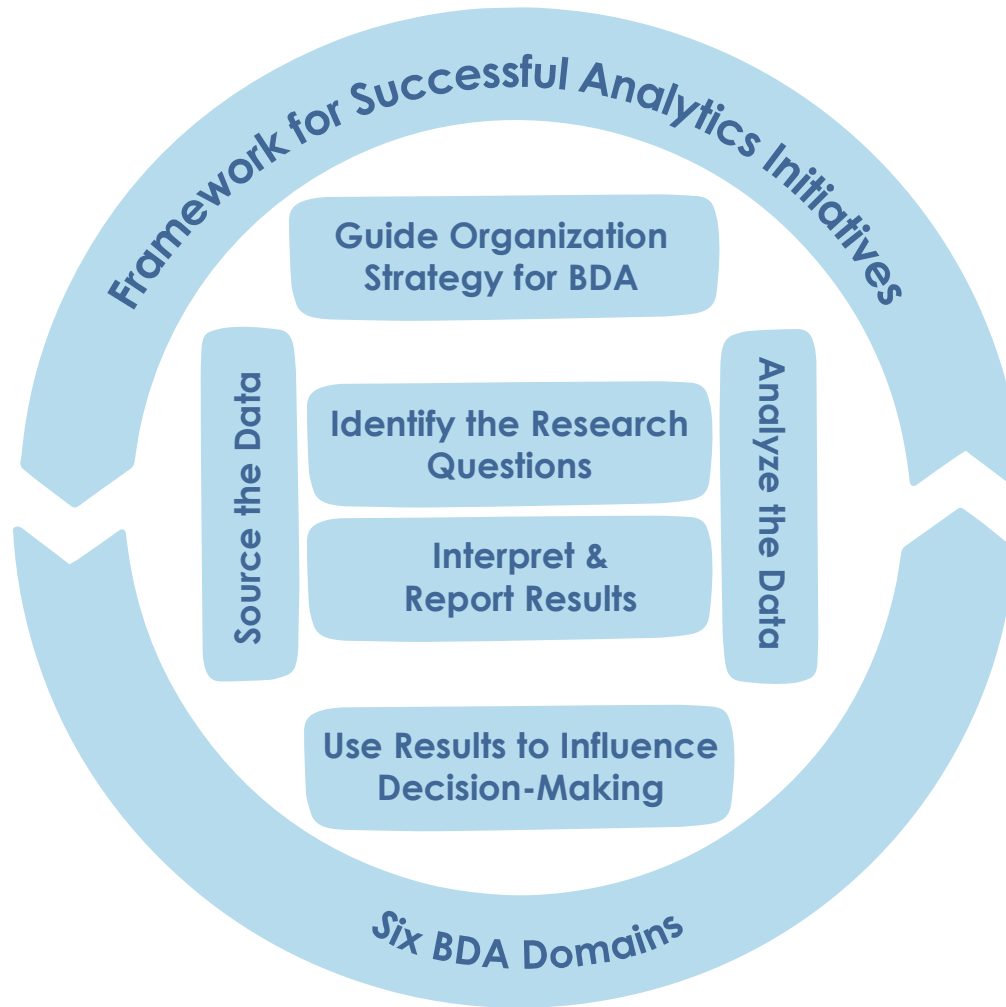


Perspectives – BDA as a decision-making paradigm

BDA:

- Is a mechanism for **informed decision-making** across the organization.
- Uses **evidence-based** problem identification and solving.
- Beats “intuition” when making decisions!
- Is a **collaborative** technique that strikes a balance between business experience and analytics.

Perspectives – BDA as a set of practices and technologies



Effective decision-making

Data analysis impacts decision-making by:

- Enabling discovery of what **products/services** we should offer
- Helping discover **improvements, efficiencies, and innovations**
- Improving our understanding and planning for **risks**
- Helping identify areas for **growth** and **market reach**



How do we accomplish effective use of analytics?

- Ask foundational **questions** around the purpose of the data analytics
- Determine how **enterprise data** is organized and managed
- Understand how **data quality** is managed
- **Understand** and **communicate** analytic results
- Generate **insights** into projects and initiatives

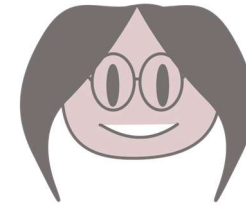
Data Analytics Roles



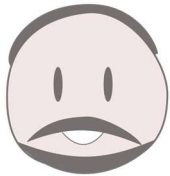
Data Engineer



Analyst



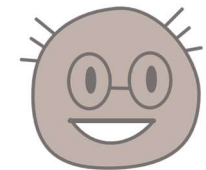
Statistician



**Applied machine
learning engineer**



Data Scientist



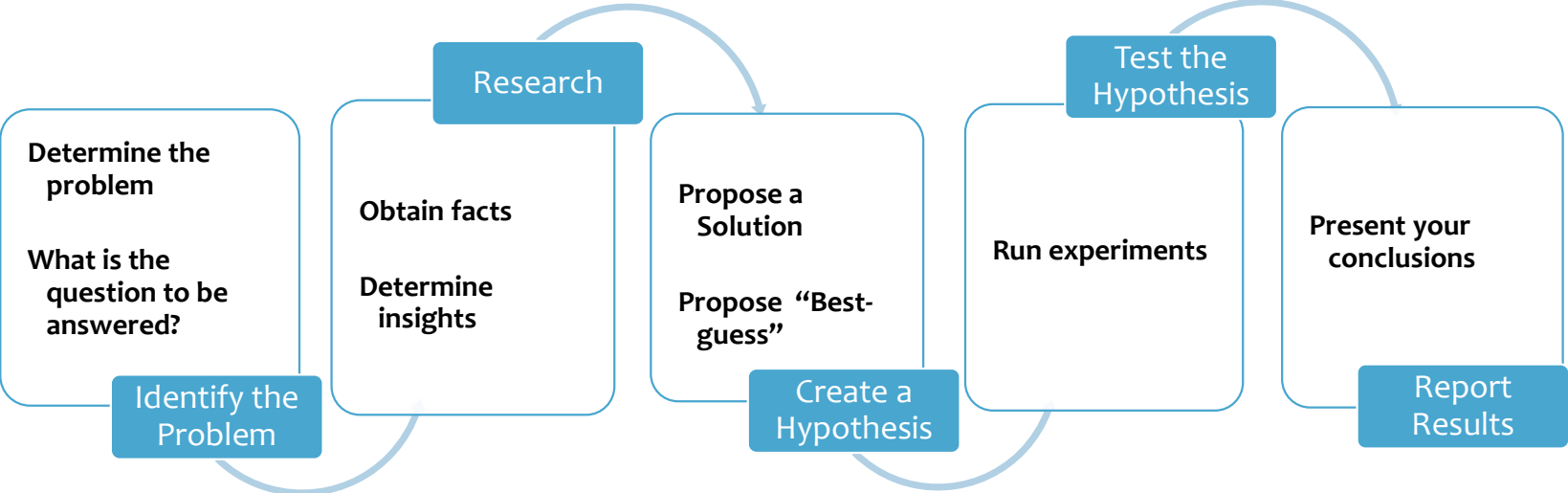
Decision Maker

The business analysis focus of Business Data Analytics

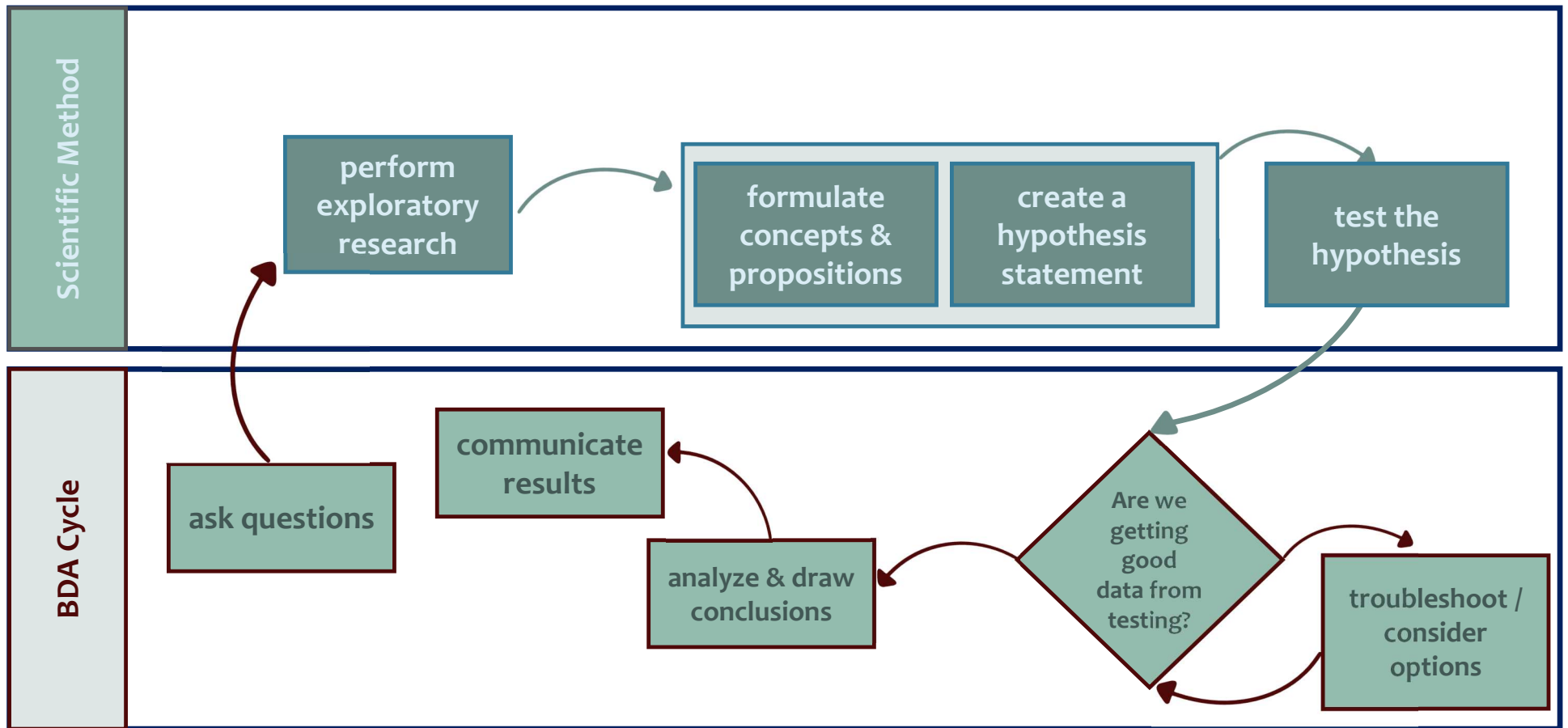
Typically, the BA focus is on effective **decision-making** rather than the technical side of analytics.

- The **investigation** of a proposed business decision or hypothesis
- Asking important **questions**
- Pulling **insights** from business data

The scientific method



The Scientific Method Combined with the BDA Cycle



In summary

A good approach for deriving valuable conclusions from business data includes, but is not limited to:

- Gaining a **shared understanding** of the business data
- Understand what **problem** we are trying to solve and what **decisions** we need to make
- Get the right **people**/roles involved
- Use the **scientific method** to determine the conclusions needed to make good decisions

What else? Maybe some good **story-telling**.... but that's for another time!

Thank you!

For training, mentoring, or other help with business data analysis, data storytelling, and/or the CBDA exam, please feel free to contact me personally at alison.cox@blueprintpm.com or DM me on LinkedIn (aliorrcox)

You can also check out www.b2ttraining.com for course offerings.

Online References

- Biddix, Dr. J. Patrick. [Writing Research Questions](#). ResearchRundowns. July 20, 2009.
- Chibana, N. [Data Storytelling](#). Visme.
- [Data Sampling](#). SearchBusinessAnalytics. September 2018.
- Devaux, E. [Graph Visualization: Why it Matters](#). Linkurious. September 2017.
- Dykes, Brent, Data Storytelling: [Data Storytelling - The Essential Data Science Skill Everyone Needs](#), Forbes, March 2016
- Enochson, Heyden. [27 Examples of Key Performance Indicators](#). OnStrategy. 2018
- Excel team. [Breaking down hierarchical data with Treemap and Sunburst charts](#). August 2015. Microsoft.
- Excel Tips. [A Step-by-step Guide on Creating a BULLET Chart in Excel](#). Trump Excel. May 2015.
- [Funnel Chart](#). FusionCharts.
- Oetting, J. [Data Visualization 101: How to Choose the Right Chart or Graph for Your Data](#). HubSpot. May 2018.
- [Percentiles, Percentile Rank & Percentile Range: Definition & Examples](#). Statistics How To. 2019.
- Saxena, A. Data as Storyteller: [Three Ways to Turn Your Analytics into Action](#). Dataversity. July 2018.

Good books dealing with data

- *Storytelling with Data: A Data Visualization Guide for Business Professionals* by Cole Nussbaumer Knaflic
- *Storytelling with Data: Let's Practice!* by Cole Nussbaumer Knaflic
- *Data Points: Visualization That Means Something* by Nathan Yau
- *Calling Bullshit: The Art of Skepticism in a Data-Driven World* by Cal T. Bergstrom
- *How Charts Lie: Getting Smarter about Visual Information* by Alberto Cairo
- *Better Data Visualizations: A Guide for Scholars, Researchers, and Wonks* by Jonathan Schwabish
- *HBR Guide to Data Analytics Basics for Managers* by Harvard Business Review
- *Business Analysis for dummies* by Ali Cox 😊