# A Unified Ethical Frame for Big Data

APPA Meeting

Vancouver

# A Unified Ethical Frame for Big Data

Big Data provides **unprecedented opportunities** to drive innovation in economies, healthcare, public safety, education, transportation, and almost every human endeavor.

Big Data also **creates risk** to both individuals and society unless effective governance is in place.

Governance must be sensitive to reticence as well as privacy. **Ethics must form the basis of decisions** that balance the incentives that come with free enterprise and the breadth of human rights impacted by Big Data.

# Values for an Ethical Frame

| Beneficial |
|---|

- Sense of purpose
- Define the benefits
- Parties who gain benefit
- Risk-Benefit balance

| Progressive |
|---|

- Materially better
- Measures
- Support innovation
- Consider risks

| Sustainable |
|---|

- Legal basis/permissions
- Influence of model(s)
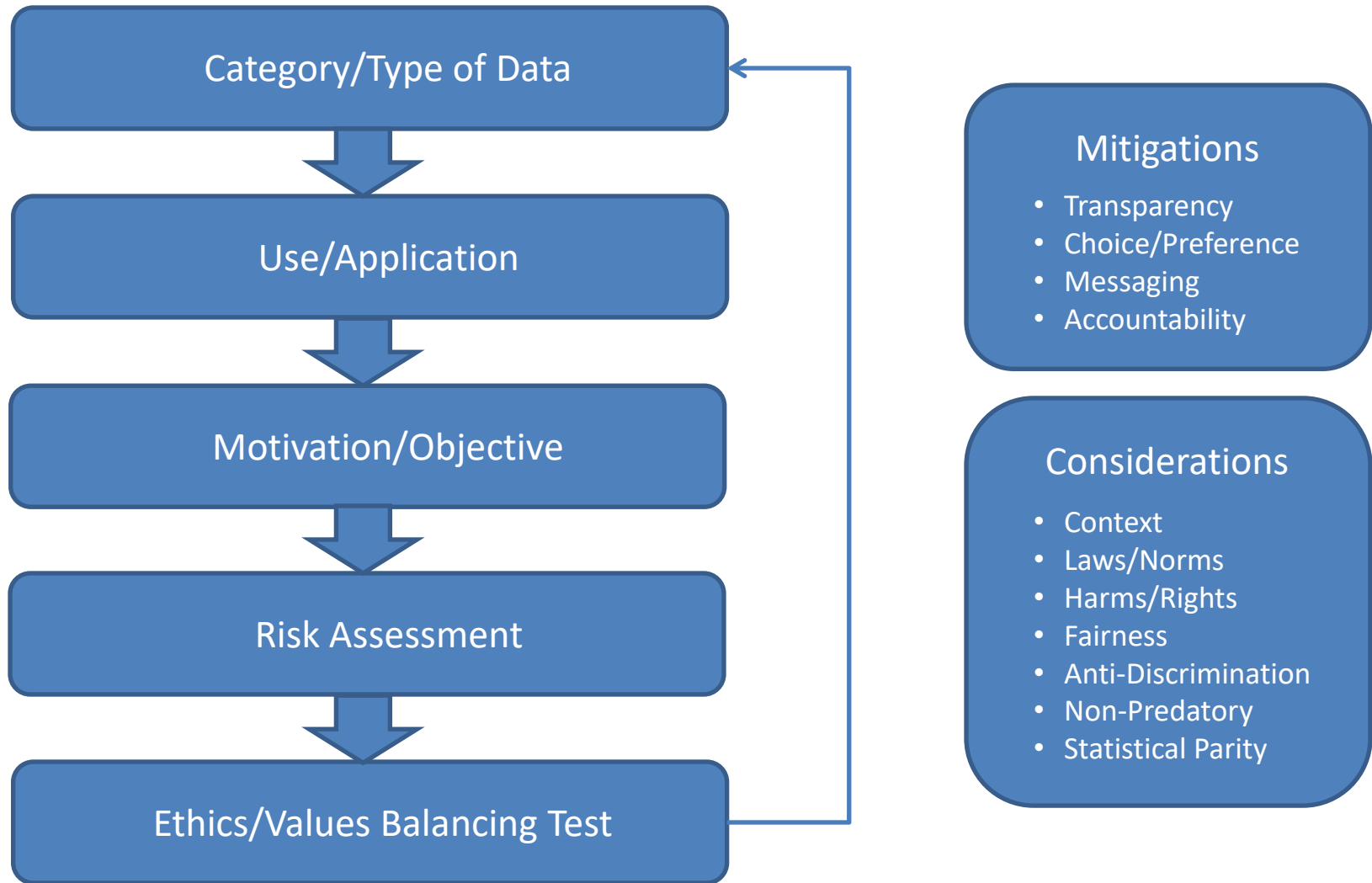- Longevity of insights
- Ability to refine/correct

| Respectful |
|---|

- Data origination/restrictions
- Context/Purpose
- Interests of all parties
- Expectations/Rights

| Fair |
|---|

- Insights/Applications
- Inferences/Discrimination
- Labeling/Predestination
- Compatibility/Legal Basis

# Assessing the Application of Big Data

# Chemistry as a metaphor in Big Data
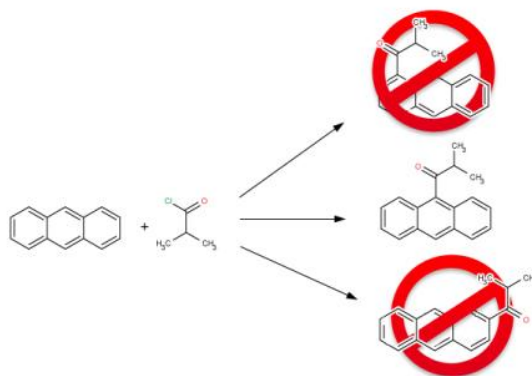
**Chemistry**
Chemistry can be defined as the study of matter and how that matter undergoes change.

**Chemical Change**
A chemical change is when 2 substances are mixed together to form something new.

**Chemical Reaction**
A chemical reaction is the result – positive or negative – and the starting point of assessing impact occurs before substances are mixed or combined.
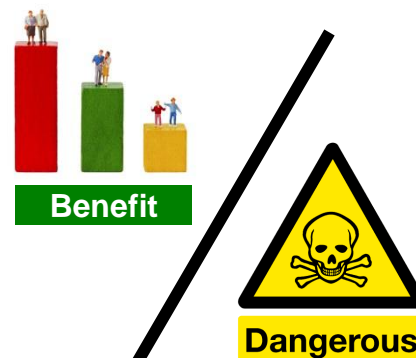
# Big Data

**Big Data**
Big Data can be defined as the study of data and how that data undergoes change.

**Data Change**
A data change is when 2 sets of information are mixed together to form something new.

**Data Reaction**
A data reaction is the result – positive or negative – and the starting point of assessing impact occurs before information is mixed or combined.