

Information Quality: An MIT Perspective *

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What is Data Quality?

- **Conventional View:**

Data Quality = Accuracy

- **MIT Research Finding:**

Data Quality Goes Beyond Accuracy

The Road to Information Quality

- Adopt a Customer perspective
- Manage information as a Product
- Adopt classical TQM principles
- It is a Journey ...

Data Production System: 3C's

Data **C**ollector

Role 1



Data **C**ustodian

Role 2



Data **C**onsumer

Role 3



Data Collection

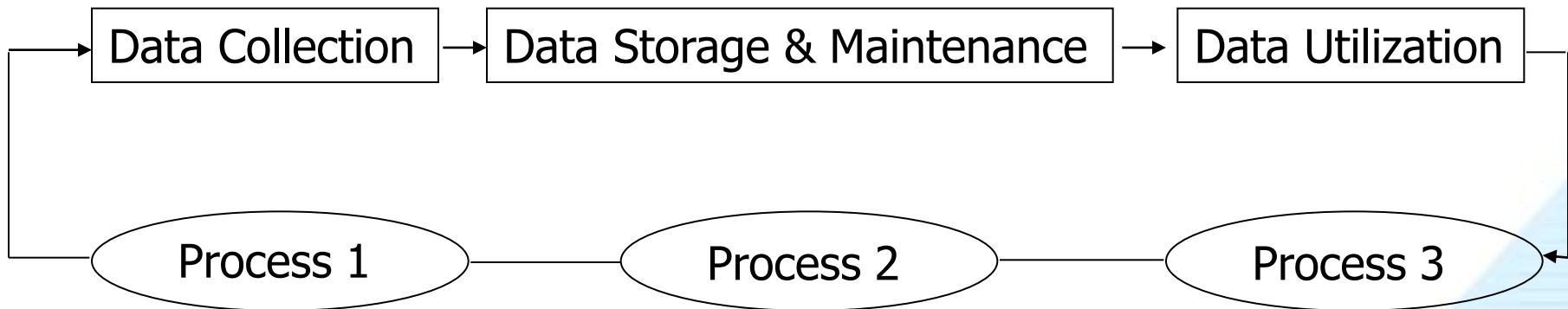
Data Storage & Maintenance

Data Utilization

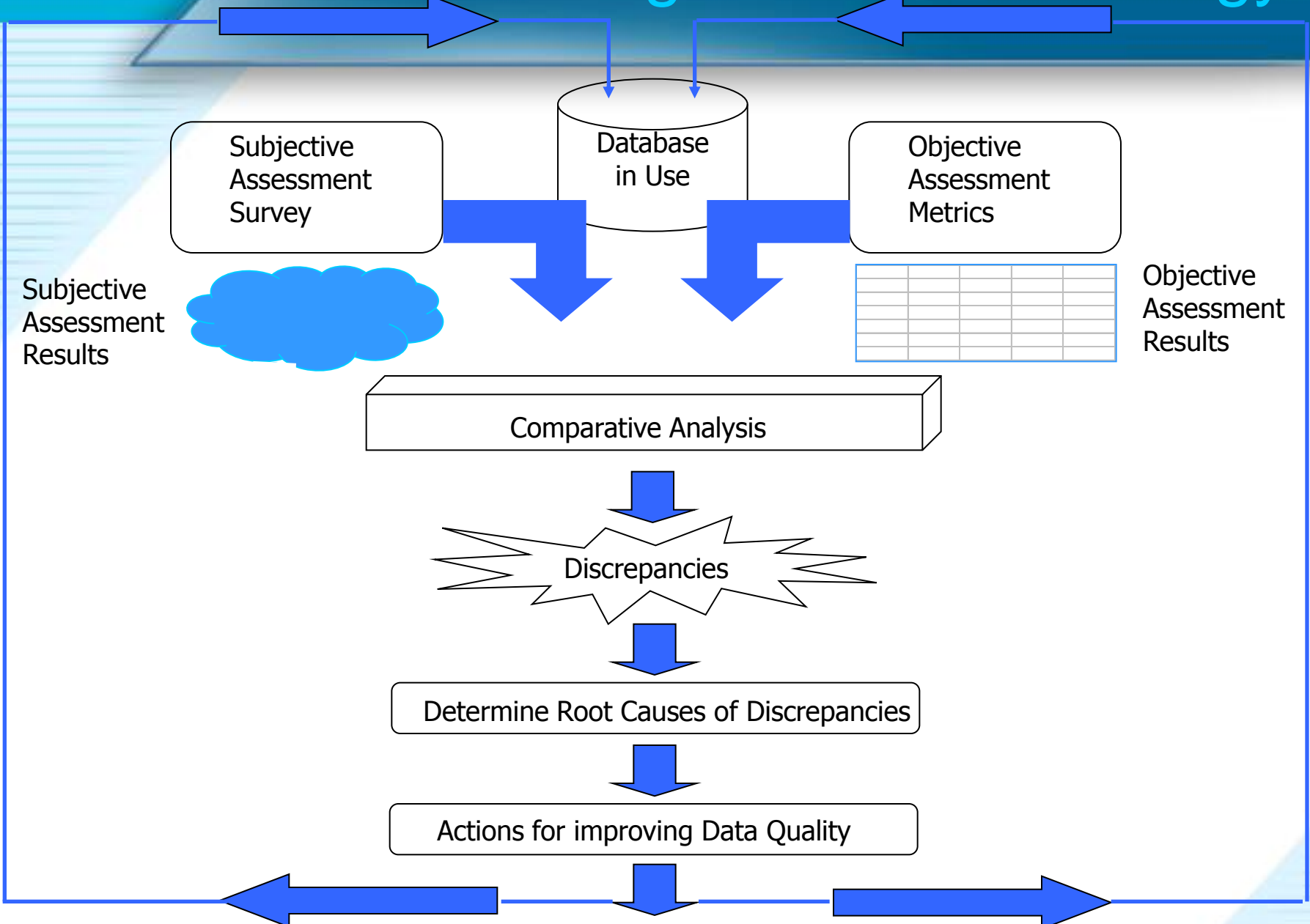
Process 1

Process 2

Process 3



Diagnostic Methodology



Subjective Assessment Results



Objective Assessment Results

Subjective Perceptions

- Assess the perceptions of stakeholders
- Survey based on multiple dimensions of data quality

Beyond Accuracy

Dimensions	Definitions
Accessibility	The extent to which information is available, or easily and quickly retrievable
Believability	The extent to which information is regarded as true and credible
Completeness	The extent to which information is not missing and is of sufficient breadth for the task at hand
Easy of Manipulation	The extent to which information is easy to manipulate and apply to different tasks
Free-of-Error	The extent to which the information is correct and reliable
Interpretability	The extent to which the information is in appropriate languages, symbols, and units, and the definitions are clear
Relevancy	The extent to which the information is applicable and helpful for the task at hand
Timeliness	The extent to which the information is sufficiently up-to-date for the task at hand
Value_added	The extent to which the information is beneficial and provides advantages from its use

- Domain Integrity
- Entity Integrity
- Column Integrity
- Referential Integrity
- User-defined Integrity

- Information Quality has many dimensions
- Some dimensions are **Objective** and others are **Subjective**
 - These distinct characteristics cause incongruities in the understanding of the quality of information between the IT department and other functional areas
 - To define IQ correctly, it is critical to understand both the information consumer's subjective perspective and the information manufacturer's objective perspective