



TARLETON
STATE UNIVERSITY™
Member of The Texas A&M University System

THERE IS VALUE IN DATA!

Leveraging Data You Already Have

- **LOGISTICS**
- **INTRO**
- **WHERE DOES DATA RESIDE?**
- **REPORTING / DATA MINING / ANALYTICS**
- **TOOLS TO EXTRACT VALUE**



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INTRO

- **Toby Buckalew**
Interim Chief Information Office – Tarleton State University
 - Experience in multiple industries over 30 years
 - Multiple Segments of Healthcare
 - Military Retail Industry
 - Mortgage Banking Financial Services
 - Higher Education
 - Consulting



WHERE DOES DATA RESIDE?



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THE BEGINNING OF WISDOM...

- Data - Merriam-Webster

1. :factual information (such as measures or statistics) used as a basis for reasoning, discussion, or calculation



WE ARE SURROUNDED BY DATA

- Data is everywhere!
 - SIS/ERP
 - HR System
 - Payroll System
 - Financial System
 - CRM
 - Housing
 - Dining
 - Reports



WE ARE SURROUNDED BY DATA

- Where is it Stored?
 - Open Database
 - Closed Database
 - PDF Reports
 - Excel Reports
 - Files on a Computer
 - On-Premise
 - In the Cloud



...BUT USUALLY IN A NON-ORGANIZED FORM



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THE BEGINNING OF WISDOM...

- Correlation - Merriam-Webster

1. :a relation existing between phenomena or things or between mathematical or statistical variables which tend to vary, be associated, or occur together in a way not expected on the basis of chance alone



EXTRACTING VALUE - CORRELATIONS



EXTRACTING VALUE



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EXTRACTING VALUE

- Ask the series of increasing specific questions
- Do not ignore what data you have
- Define what data will answer your questions
- Find where that data resides – in all systems
- Determine how to extract, clean, and bring it together



EXTRACTING VALUE – MISSING DATA

- If you find you do not have the data – **START COLLECTING IT!**



DATA DANGERS

- Garbage In / Garbage Out (GIGO)
- Making Data-Informed Decisions based upon Bad Data = Bad Decisions
- Find and Document the Source of Truth
- Have a Governance Process to Manage and Clean Your Data



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REPORTING / DATA MINING / ANALYTICS



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REPORTING

- Shows what happened
- Presents data/information in a way that is easily consumed
- Periodic presentation of organizational status



DATA MINING

- Not something you see – something you do
- Process of extracting information and identifying patterns from raw data
- Not normally visualized
- Can use Artificial Intelligence (AI) and Machine Learning (ML)



ANALYTICS

- Explains why something happened or why it is happening
- Involves questioning, analyzing, extrapolating, and interpreting data
- Primary purpose to provide insights needed for making data-informed decisions
- Almost always visualized

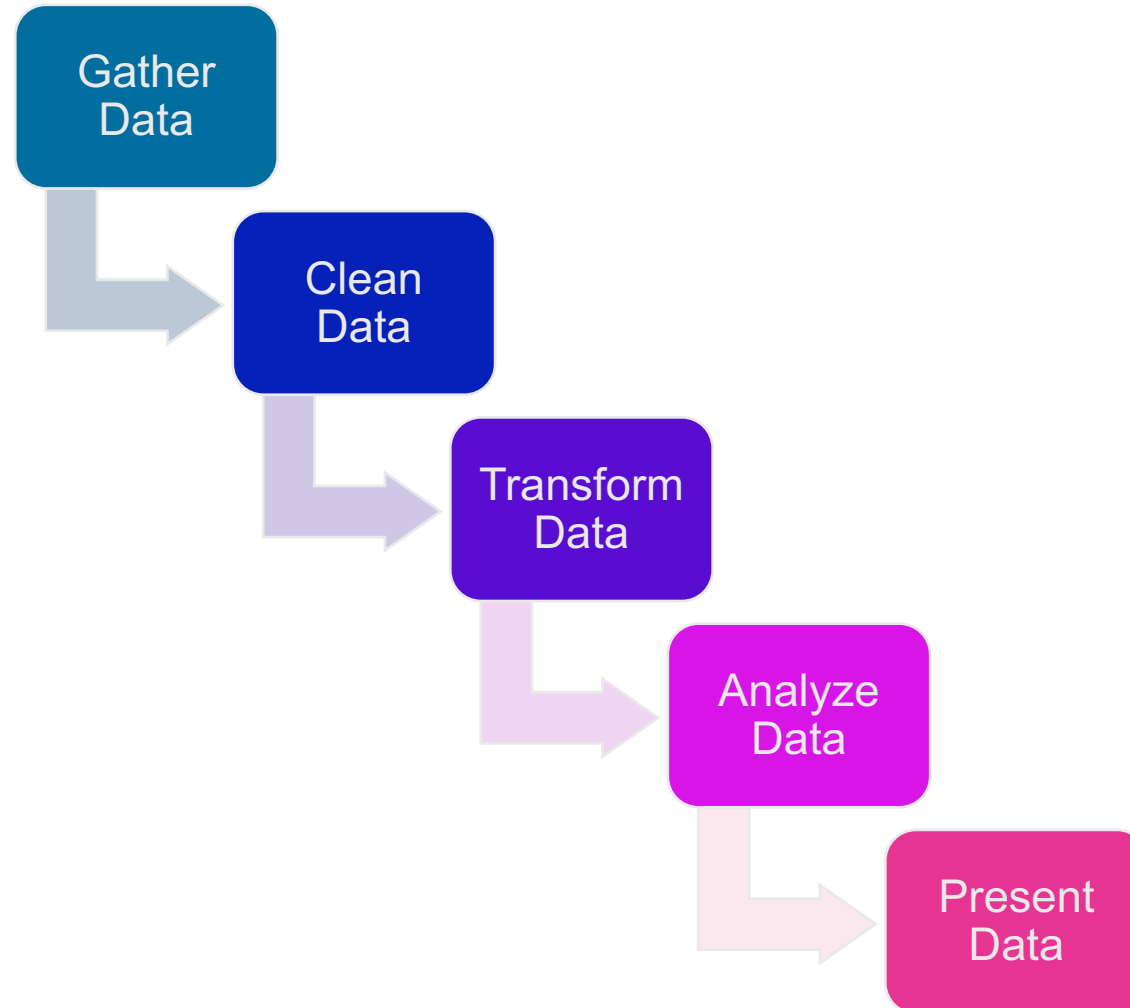


DATA PROCESS – FIRST STEPS

- Data Catalog
- Data Governance
- Where/How to Consolidate Disparate Data



DATA PROCESS – PROCESS STEPS



TOOLS



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STANDARDIZE YOUR TOOLSET!

STOP!

**DO NOT CHASE SHINY
OBJECTS!**



RIGHT TOOLS

- Define what you will do / Goals / Expectations
- Find the tools that will meet those needs
- Look within for tools teams are familiar with
- Beware the “everything needs a hammer” approach
- On-Premise or In-Cloud



TYPES OF TOOLS

- Reporting - Dashboards
- Data Cleaning / ETL (Extract, Transform, Load)
- Data Analysis
- Data Warehouse



DATA WAREHOUSE

- Central data storage location providing a clean repository of disparate data sets available for rapid reporting and data analysis



SUMMARY



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SUMMARY

- You are surrounded by data – but is it segregated and value is locked within
- Reporting, Data Mining, and Analytics – three distinct things with different purposes
- Data Catalog and Data Governance should be some of the first parts of any data strategy or project
- Find the right tools for your organization
- Data Warehouse



TOBY BUCKALEW



TARLETON
STATE UNIVERSITY™
Member of The Texas A&M University System



Buckalew@Tarleton.edu

TBuckalew@ColumbiaAdvisory.com