60 by 25 NETWORK

Informing **Action**

Improving **Outcomes**

Activity Guide

Analytics Terms and *Notes to Self*

Analytics

- Descriptive analtyics (metrics)
- Diagnostic analtyics
- Predictive analtyics
- Prescriptive (advisory) analytics

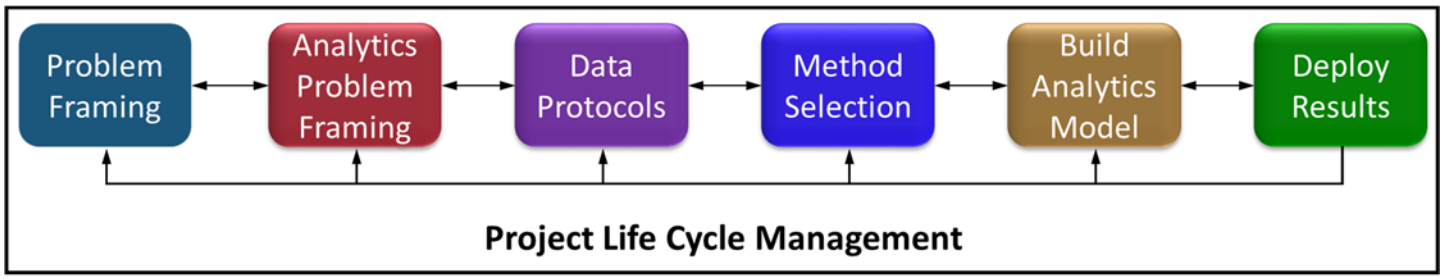
Evidence-Based Practices

- Scientific literature
- Organizational data
- Professional experience
- Stakeholder concerns

Components of Data Analytics

- Technology
- Algorithms
- Methodology
- People
- Industry

Summary of Data Analytics Methodology



Step 1: Problem Framing

- Identify and refine the problem
- Identify stakeholders
- Refine problem statement and delineate constraints
- Determine the value and benefit of answering the question
- Agree on the problem statement or research questions

Step 2: Analytics Problem Framing

- Reformulating the problem statement as an analytics problem
- Develop a proposed set of predictors and relationships to outputs
- Define the key metrics of success
- Agree on proposed analytic solution to the problem

Step 3: Data Protocols

- Identify and prioritize data needs and resources
- Identify means of data collection and acquisition
- Determine how and why to combine, rescale, clean, and share data
- Determine the documentation and reporting of findings

Step 4: Method Selection

- Identify available problem solving approaches
- Select model testing approaches

Step 5: Build Analytics Model

- Test relationships among predictors and outcomes
- Examine and evaluation model fit of analytic models (i.e., run analyses)

Step 6: Deploy Results

- Deliver findings
- Support dissemination
- Support ongoing data use

Step 7: Project Life Cycle Management

- Document the process so results can be replicated
- Ensure that the project and resulting model are providing usable results
- Recalibrate, update, and maintain the analytic model to ensure the intended impact
- Support training activities so personnel know how to use results for continuous improvement
- Evaluate the outcome(s) of the project now and over time

Activity 1

What do you want to know?

Questions and Actions

- What questions do you have about work in your community?
- What actions would you take if you know the answer to those questions?

Stakeholders

- Who should be involved in helping answer those questions?
- Who should be involved in taking action after you get the answers to those questions?

Activity 2
Create an analytic model

Choose one of the questions identified in Activity 1; draw an analytic-model below

- Identify the outcome(s) for the question
- What are the drivers (factors) that influence the outcome?
- What is the relationship(s) between the drivers and outcomes?
- Can you provide rationale or justification for those relationships?

Activity 3
What am I missing?

For the analytic-model created in Activity 2:

- Re-examine the relationships between the input (driver) factors
    - Should other inputs be added to the model?
- Re-examine the relationships between the model's inputs and outcomes
    - Are there any unmeasured (third) variables that could change the nature of those relationships?

Activity 4
Got Data?

Name of outcome or driver variable	Source or potential source of data	Do you currently have access to the data for this variable?	Is the data for this variable representative of target population?	Data issues with this variable (e.g., missing or incomplete data, have the right level of data)?

Last things to think about