# Agenda

- Phases of a Data Journey
- Activity: Where are you
- Solutions
- Activity: Solutions
- Next Steps

# Where are you in your Data Journey?

- How confident do you feel that you are a data driven organization/your org's use of data?

- What does use of data look like in your organization?

- Do you understand what it means to be a data driven organization?

# Why Data and Analytics?

from *"Decision Driven Data Gathering"*

## Data is limited
- Data only used for required reporting
- Simple questions are difficult to answer
- Data gathering and reporting are very manual

## Data is not leveraged
- Data is inconsistent and inaccurate
- Data is not used as part of planning
- Reporting on inputs and simple stats

to *"Data Driven Decision Making"*

## Data is ubiquitous
- Data tools are part of day to day work
- Simple questions are easy to answer
- Funder and other standard reporting is automated

## Data is insightful
- Data is consistent, accurate, and relevant
- Data used to predict outcomes for decisions
- Analytics over reporting, planning over measuring

# The Phases of Data Analytics

# Phases of the Data Analytics Journey

*An organization's approach to data evolves over time*

|  | Data Focus | Driver | Key Question | Tools |
|---|---|---|---|---|
| **Phase 0** | Immediate | Fulfill requests | **Where is the data?** We understand the need to do more with data but not exactly what that means | Paper, Email, Excel |
| **Phase 1** | Present | Data capture | **What is the data?** We are able to answer simple operational questions about the data | Excel, Individual databases |
| **Phase 2** | Past | Reporting | **What is the data telling us about what is going on now?** standard metrics/business rules/reports are precalculated so staff can spend time on more value adding data work | Data warehouse, dashboards |
| **Phase 3** | Future | Analytics | **What is the data telling us about what we should do?** Data is a core part of how we plan out our work because it is very easy to get to. Our educated guesses are now more data supported, our gut feelings easily can be validated and fleshed out with data analytics | Business Intelligence, Data Science |

# Pillars of Data and Analytics

*Organizational effectiveness built on foundation of high-quality accessible data*

Shifting from needing to focus on data capture to being able to focus on data analytics

| Pillar | Goal | Elements |
|--------|------|----------|
| **Data** | High quality data that is accurate and impact focused | Data quality, measuring over counting |
| **Tools** | Self-service tools that automate standard tasks to allow staff to focus on value-adding data work | Program/operational databases feeding to Organizational/strategic data warehouse |
| **People** | Staff upskilled to understand the mechanics of how to use tools and what it really means to be data driven | Data literacy, statistics literacy, data ownership |

# Phases of Data Sophistication

|  | Data | People | Tools |
|---|---|---|---|
| **Phase 0** | Driven strictly by funder reporting requirements | Staff only answering questions when being asked by external partners | Paper, Excel |
| **Phase 1** | "Widget counting" of volume of work | Data is an afterthought, considered administrative overhead. | Excel, SAS tools, |
| **Phase 2** | Impact measures of effectiveness | Staff are driving development of measures/metrics monitoring current performance | Operational databases for data capture and program reporting, dashboards |
| **Phase 3** | Dynamic approach to Data Driven Decision Making | People use data as an integral part of their day to day work and future planning ("data as email"), data science team providing capacity for complex analytics | Centralized data warehouse and business intelligence tools |

# UnidosUS Data & Analytics Evolution

| Time Period | Data | People | Tools |
|---|---|---|---|
| Pre 2021 | • All data is tracking inputs not outcomes and is very manual | • Very manual effort to create basic reports means no capacity for analytics | • Excel is main tool<br>• need to "know who to ask" |
| Fall 2023 | • Centralized Affiliate IDs introduced<br>• Data stored in structured data models to make it easier for individual program use of data | • Operational Systems replacing excel make it easier for affiliates to enter data and UUS staff to monitor data | • More systems in place to capture data in centralized system<br>• Central data infrastructure being built out to separate data reporting from data capture systems |
| Fall 2024 | • DVP Learning & Impact hired<br>• Program data begins to be more outcome focused | • Data professional development for staff<br>• Data governance being put in place | • Operational program automatically fed to central Juntos data system<br>• Affiliate program data dashboards |
| Future 2026 | • All data is directly driven by organizational goals | • Staff making full use of analytics to drive decisions | • AI tools used to easily find relevant unstructured data |

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# Where are you in the Matrix?

| | Data | People | Tools |
|---|---|---|---|
| **Phase 0** | Driven strictly by funder reporting requirements | Data only answering questions when being asked by external partners | Paper, Excel |
| **Phase 1** | "Widget counting" of volume of work | Data is an afterthought, considered administrative overhead. | Excel, SAS tools, |
| **Phase 2** | Impact measures of effectiveness | Staff are driving development of measures/metrics monitoring current performance | Operational databases for data capture and program reporting, dashboards |
| **Phase 3** | Data Driven Decision Making | People use data as an integral part of their day to day work and future planning ("data as email"), data science team providing capacity for complex analytics | Centralized data warehouse and business intelligence tools |

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# Solutions

# Solutions: Focus on foundations

|  | Data Focus | People Focus | Tools Focus |
|---|---|---|---|
| Phase 1 focus | Data Quality | Identify "Data Person" | Replace Excel |
| Phase 2 focus | Measuring Outcomes | Staff Wide training on using tools properly | Separate data capture and reporting. Gen AI |
| Phase 3 focus | Data driving decisions driving data | Data science team | Business intelligence over reporting, Predictive AI/ML |

# Phase 1

# Tools

- Excel is a good start but is not a solid foundation for decision making

- Databases implement structure
  - Easier to automate (eg precalculated metrics/applied business rules)
  - Improved security (role base access to data)
  - Improved data quality (data model mirrors business model)
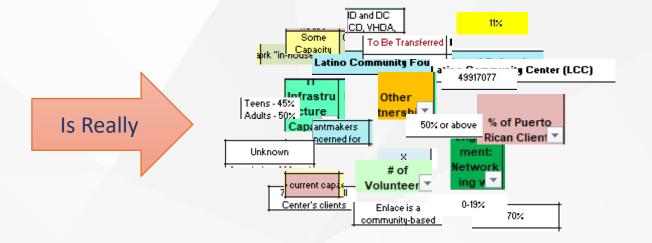
# Tools: Excel is a good starting point

"Structure" of Excel is strictly visual but doesn't actually exist

- Easy to create and start thinking about structure

- Hard to use for more than simple aggregations



Is Really

# Tools: Database is solid foundation

Defined data models enable self-service reporting, security, easier data entry and export, and correlation of data between systems
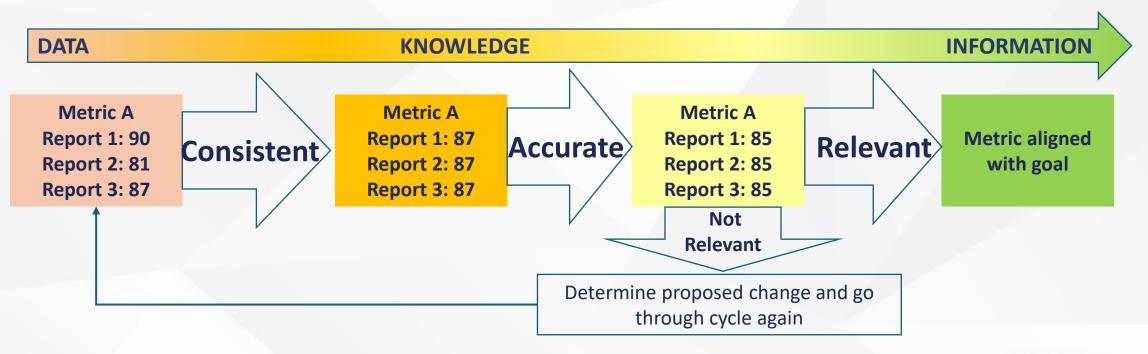
**Affiliate Data Center**

# Data: Data Quality

Data quality is a cycle, not an end state



DATA → KNOWLEDGE → INFORMATION

**Metric A**
Report 1: 90
Report 2: 81
Report 3: 87

**Consistent**

**Metric A**
Report 1: 87
Report 2: 87
Report 3: 87

**Accurate**

**Metric A**
Report 1: 85
Report 2: 85
Report 3: 85

**Relevant**

Metric aligned with goal

Not Relevant

Determine proposed change and go through cycle again

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# Data: Data Quality is relative



**Reporting Infrastructure** → Effective Data → **Business Streams and various Analytics** → Effective Outcomes → **Overall Organizational Successes**

Not all of your data needs to be at the same level of quality.

Sole measure is whether or not it is sufficient to achieve a particular organizational goal

# People: Start with Data Person

Wrong data person/Right system
Efficiently ineffective

Right data person/Wrong system
Inefficient but effective
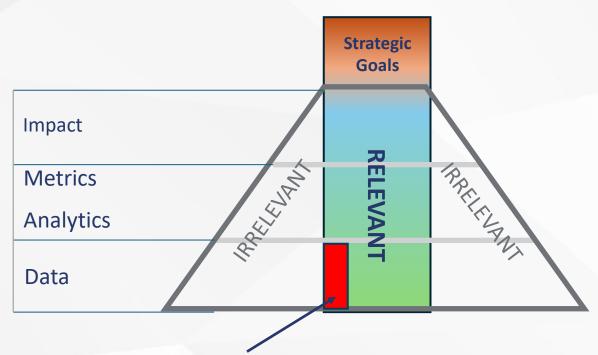




Start with program person with "data mentality" who can be trained on data tools/techniques rather than data person that needs to learn program.

# Phase 2

# Data: Measure impact

Strategic Goals

Impact

Metrics

Analytics

Data

IRRELEVANT

RELEVANT

IRRELEVANT

Some data is Relevant but too difficult to collect.

Are you gathering the right data?

- Serves Strategic Goals
- Is the cost of collecting it worth the benefit?

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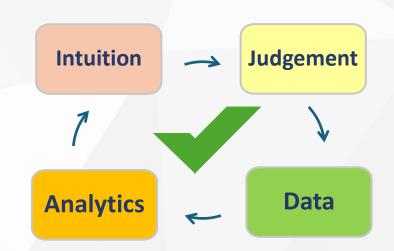
# People: Analytics does not replace Intuition
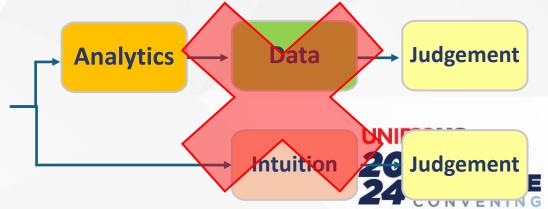
We hope to see something different from a new data tool/approach because we think the purpose of analytics is to replace "subjective" human judgement

Purpose of analytics is to support human judgement

- Data governance drives common language and structure between components

- Systems provide automation and reporting so that staff capacity can be spent on insights
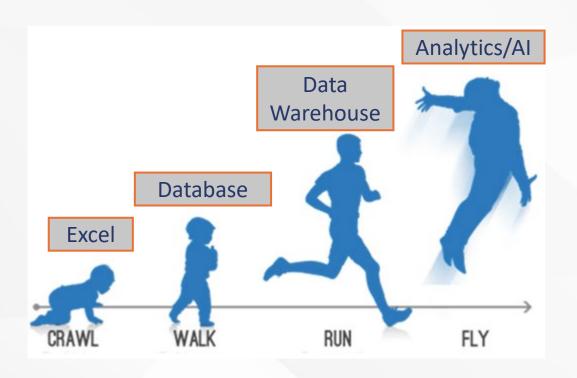


Intuition and data are part of a cycle, not two different paths

# People

Data tools must meet staff where they are to get to where we need to be



**Start with the familiar and grow:**

- Reporting system automation replacing manual work

- Staff training in use of data/tools will increase organizational data sophistication

- Staff spending time using data insights instead of creating reports

# People

Data Training

- Three target audiences: Leadership, Data saavy staff, and "regular" staff
- Training builds scaffold for staff to understand what being data driven actually means
- Formal Training and Informal opportunities (data working group, etc)

# Tools: Separate Capture and Reporting

### Data Capture System

| Date | Type | School |
|---|---|---|
| 24 August 2011 | Admit | 123 |
| 24 June 2012 | Withdrawal | 123 |
| 24 June 2012 | Admit | 456 |
| 10 October 2012 | Withdrawal | 456 |
| 11 October 2012 | Admit | 789 |

### Data Reporting System

| Admit Date | Withdraw Date | School |
|---|---|---|
| 24 August 2011 | 24 June 2012 | 123 |
| 24 June 2012 | 10 October 2012 | 456 |
| 11 October 2012 | 1 January 3030 | 789 |

- Designed to make **data input** easy
- Lists of every potential option
- Data organized by how it is input

- Designed to make **pulling data** easy
- NO DATA ENTRY: All data pulled from data capture system
- Data organized for multiple ways it needs to be reported
- Precalculated Metrics and common business rules

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# Tools: Structured Flexibility for Reporting

Generally two ways we need to analyze assessments

- Single view of all assessments for a student – data in columns
  - Each row a single student for a particular school year

- Comparing one run of an assessment with another – data in rows
  - Each row a single assessment for a single student for a particular school year

| Student | A1 Q1 | A1 Q1 | A1 Q3 | A1 Q4 | A2 Sem 1 | A2 Sem 2 | SY |
|---|---|---|---|---|---|---|---|
| 123 | 90 | 80 | 70 | 100 | 76 | 87 | SY1415 |
| 456 | 60 | 70 | 80 | 90 | 65 | 86 | SY1415 |

| Student | Assessment | SY | Score |
|---|---|---|---|
| 123 | A1 Q1 | SY1415 | 90 |
| 123 | A1 Q2 | SY1415 | 80 |
| 123 | A1 Q3 | SY1415 | 70 |
| 123 | A1 Q4 | SY1415 | 100 |
| 456 | A1 Sem 1 | SY1415 | 65 |
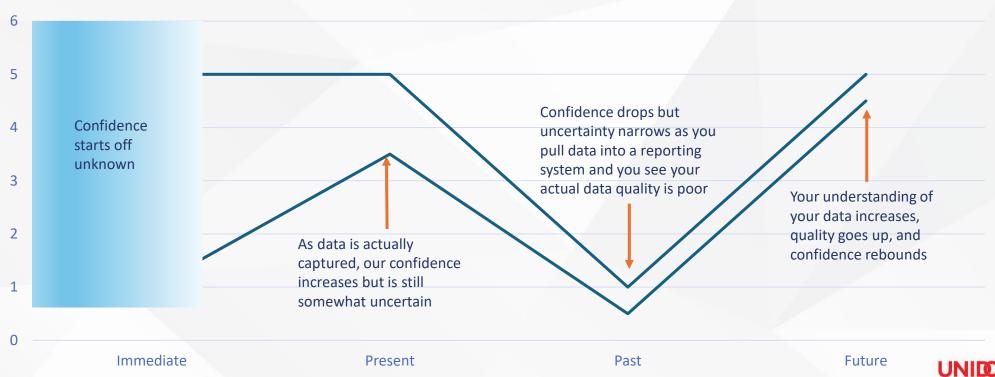
All traceable back to same original data load so potential for different answers is minimized

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# People/Tools: Data Confidence

Confidence evolves over time so set expectations when putting new system in place.
"Garbage in is Garbage out" – realization usually starts with seeing "Garbage out"



Confidence starts off unknown

As data is actually captured, our confidence increases but is still somewhat uncertain

Confidence drops but uncertainty narrows as you pull data into a reporting system and you see your actual data quality is poor

Your understanding of your data increases, quality goes up, and confidence rebounds

Immediate    Present    Past    Future

# Gen AI 1.0: Supercharged Knowledge Management

"Supreme Court Clerks"



**Staff**



**Gen AI tool**





**Corpus of validated information**

# Phase 3

# Phase 3

| Pillar | People |
|--------|--------|
| Data | Dynamic approach to data driven decision making |
| People | People use data as an integral part of their day to day work and future planning ("data as email") |
| People | data science team providing capacity for complex analytics |
| Tools | Centralized data warehouse and business intelligence tools |
| Tools | Predictive AI/ML |

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# Activity

For each area (Data, People, Tools) add at least one post it with:

- A roadblock to making changes and getting to the next phase (on charts with post its)

- A solution that your organization has implemented in the area (New flip chart)

# What is your next step?

Share one thing your organization can do in the next few months.

# Contact information

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# UnidosUS Data Platform
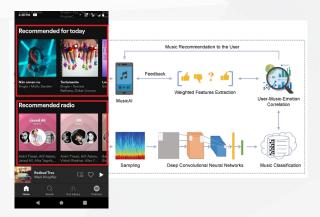
# Juntos Design Analogy – Songs & Albums



Data scattered around organization (music albums scattered around store)



Data Tagged at file level by component, program, affiliate, etc (Music tagged at album level by genre, singer, album, etc)



Data tagged & searchable at record level (music tagged & searchable at album and song level)



Predictive analytics aids in developing best plan (Predictive analytics aids in presenting best recommendations)

Data Quality doesn't matter

Data Quality is critical

# High level data platform architecture