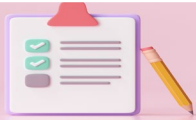


**Human Capital Federal Data Strategy Support
U.S. Census Bureau Data Maturity Assessment Results**

FEDCASIC Meeting

April 16, 2024

U.S. Census Bureau Data Maturity Model and Assessment



Background



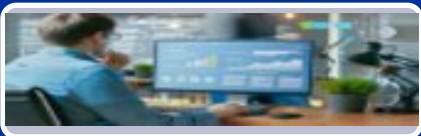
Advanced Analytics Capability Maturity Model



Overall Findings



Key Findings and Insights by Subcategory



Next Steps: Business Ecosystem

Background

Data Maturity Assessment

OMB stipulates Data Maturity Assessments allow an organization to

1. evaluate itself against documented best practices,
2. determine gaps, and
3. identify areas to prioritize for improvement

OMB requires Data Maturity Assessments to analyze agency policies, procedures, and operations related to data and data infrastructure, including

1. data governance
2. data management
3. data culture
4. data systems and tools
5. data analytics
6. staff skills and capacity
7. resource capacity
8. compliance with law and policy

The results of a maturity assessment feed into the data governance and management processes to

1. inform investment decisions and
2. prioritize subsequent actions

Source: [The Federal Data Strategy 2020 Action Plan](#)

Source: [Welcome - Federal Data Strategy](#)

Commonly Used Data Maturity Models

⑩ There are several different data assessment maturity model tools that can be utilized to best support the needs of your organization.

Federal Maturity Model

1

- Helps agencies understand their current state and provides tactical steps for achieving long-term goals
- Provides a common language and framework to help promulgate common solutions and best practices across federal agencies toward advancing data driven decision making
- Five levels of maturity – ranging from low capability to high capability
- Categories include: Data Governance, Data Culture, Data Management, Data Personnel, Systems/ Technology and Analytics Capability



Advanced Analytics Capability Maturity Model (A2CM2)

2

- Model is from the Analytics Center of Excellence (ACE) within the Social Security Administration (SSA) and was created based on the OMB guidance on data maturity models
- Four key parts: Attributes, Categories, Subcategories, and levels of maturity
- Attributes include: Analytic Opportunities, Data, Analytic Techniques, People, Technology, and Culture
 - 19 categories and 59 subcategories within each attribute
- Five evidence-based levels of maturity ranging from no capability to continuous improvement:
 - 1- No capability, 2- Ad-Hoc Capability, 3- Formal Standardized Capability, 4- Consistent Monitored Capability, 5 - Ongoing Improvement of Capability

Capability Maturity Model Integration (CMMI)

3

- The Official Information Systems Audit and Control Association (ISACA) defined appraisal method to evaluate an organization’s processes to provide ratings related to organizational capability and performance
- Provides a set of processes and activities for conducting appraisals relative to the CMMI model
- The first version of the CMMI was released in 2002 and built upon the Capability Maturity Model (CMM), which was developed from 1987 to 1997
- Categories include: Data Governance, Data Management Strategies, Supporting Processes, Data Quality, Platform and Architecture and Data Operations
- CMMI has Capability levels 0-3 and Maturity Levels 0-5

Gartner

4

- Enterprise Information Management (EIM) maturity model released in 2008 and updates were made to it in 2016
- Provide guidance to organizations that are serious about managing information assets
- Six categories include: Align Data and Analytics to Business outcomes, Manage the data and analytics function, Create and Maintain Analytic Content, Develop data and Organizational Talent, Integrate and Manage data and Create the Data and Analytics vision strategy
- Goals of the model: Unified Content, Integrated Master Data Domains, Seamless Information Flows, Meta Data Management and Semantic Reconciliation, and Data Integration Across the IT Portfolio



Advanced Analytics Capability Maturity Model (A²CM²)

Data Maturity Assessment

CULTURE

Identifies the set of organizational mechanisms that reinforce, communicate and share the importance of advanced analytics to support evidence-based decision making.

TECHNOLOGY

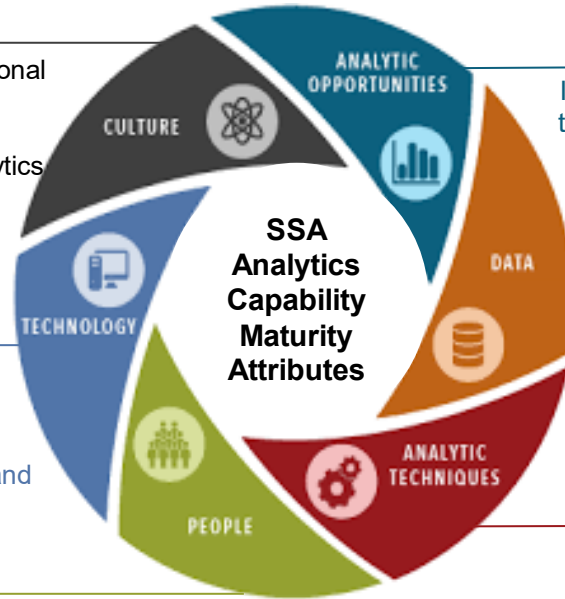
Identifies the optimal ways to leverage new and existing technologies including applications, data platforms, and infrastructure to perform advanced analytics projects.

PEOPLE

Identifies the set of human capital programs required to develop a talented and capable team of advanced analytics practitioners.

GOVERNANCE

Represents an exercise of authority and control (planning, monitoring, and enforcement) over the management of data asset.



ANALYTIC OPPORTUNITIES

Identifies new and existing use cases to further apply advanced analytics to improve organization mission and operations.

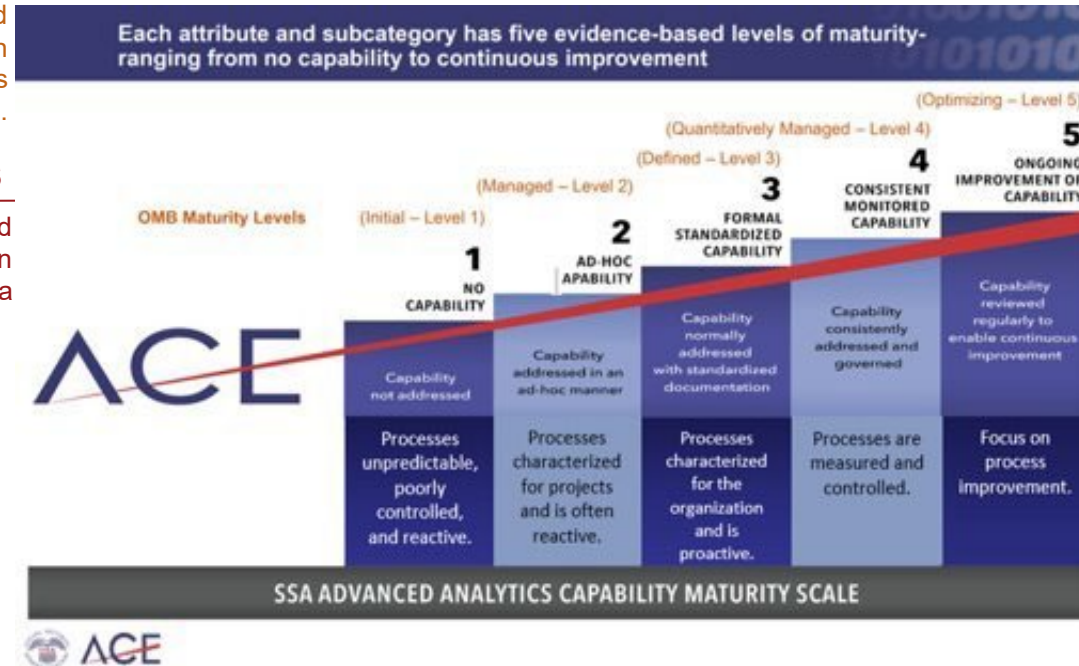
DATA

Identifies opportunity to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects.

ANALYTIC TECHNIQUES

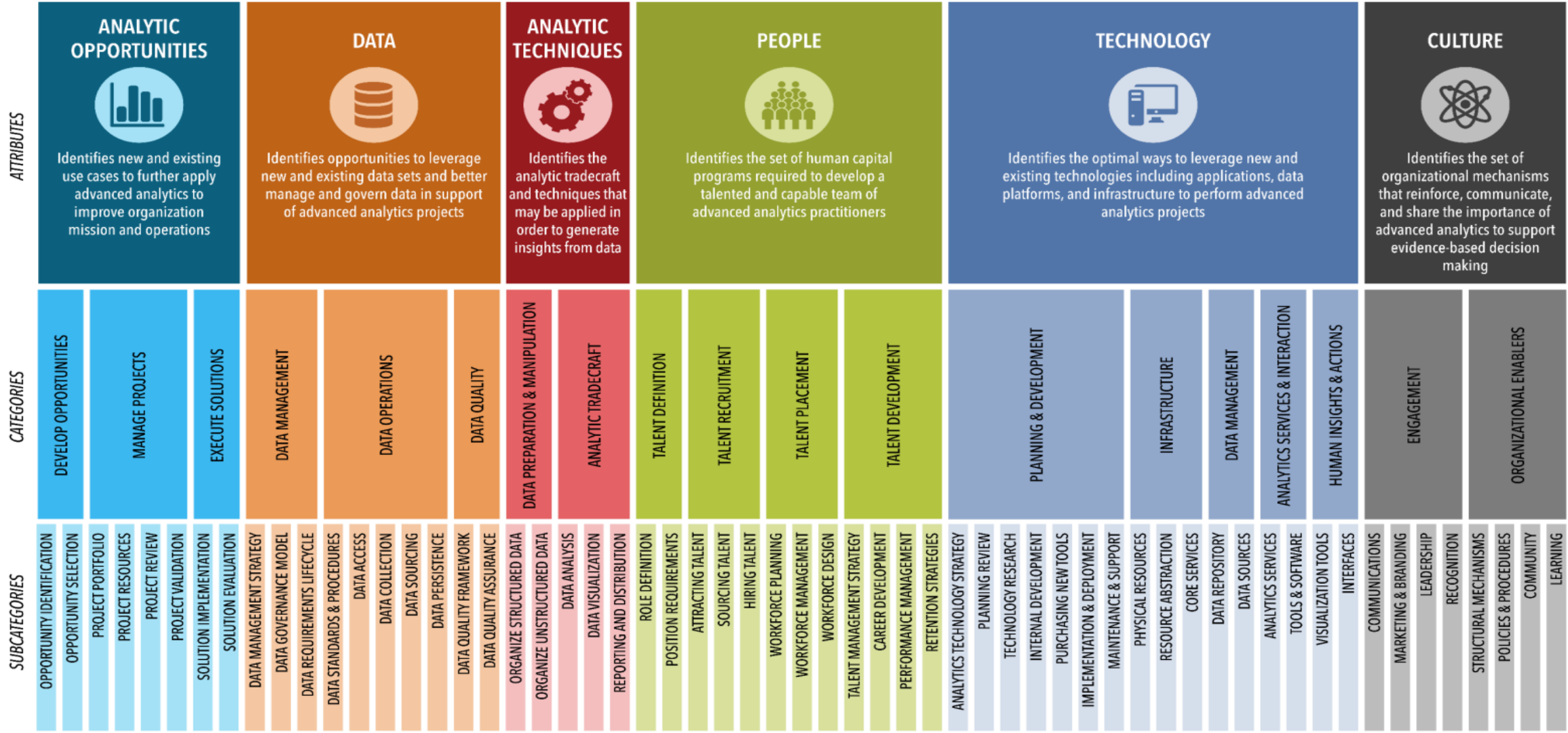
Identifies the analytic tradecraft and techniques that may be applied in order to generate insights from data

Sources: Social Security Administration Analytics Center of Excellence



SSA's Advanced Analytics Capability Maturity Mode

ADVANCED ANALYTICS CAPABILITY MATURITY MODEL (A²CM²)



OMB Data Maturity Mapping Matrix

OMB Guidance

1. Data governance
2. Data management
3. Data culture
4. Data systems and tools
5. Data analytics
6. Staff skills and capacity
7. Resource capacity
8. Compliance with law and policy

OMB	SSA				OMB	SSA				
	Attribute	Category	Definition	Subcategory		Attribute	Category	Definition	Subcategory	
1. Data governance	1. Data	Data Management	The establishment and supervision of how data is managed, organized, and governed in the organization, including goals, oversight structures and formalized processes to support ongoing data management.	1. Data Management Strategy 2. Data Governance Model 3. Data Requirements Lifecycle 4. Data Standards and Procedures 5. Data Access 6. Data Collection 7. Data Sourcing 8. Data Persistence	5. Data analytics	3. Analytic Techniques	Data Preparation and Manipulation	The organizing of structured and unstructured data to support the analytical model, and evaluation of those support capabilities relative to analytical and operational requirements.	1. Organize Structured Data 2. Organize Unstructured Data	
		Data Operations	The administration of data related business practices (harvesting, acquiring, storing and transforming data) in order to ensure the highest level of efficiency within the organization (correct format, location, accessibility, etc.).	9. Data Quality Framework 10. Data Quality Assurance			5. Technology	Analytic Tradecraft	The analytic, visualization, and reporting techniques of the organization in support of data-driven decisions or actions.	3. Data Analysis 4. Data Visualization 5. Reporting and Distribution
2. Data management	2. Data	Data Quality	The processes, criteria, and approaches used to ensure the delivery of consistent, accurate, complete, and timely data to end user applications across the enterprise.	1. Communications 2. Marketing and Branding 3. Leadership 4. Recognition 5. Structural Mechanisms 6. Policies and Procedures 7. Community 8. Learning	6. Staff skills and capacity	4. People	Analytics Services and Interaction	The advanced analytics technologies used to unlock the value of data to generate business insights that were not previously recognized.	13. Analytics Services 14. Tools and Software	
		Engagement	The communications and organizational techniques which drive workforce engagement in advanced analytics, build momentum for advanced analytics, and recognize staff for using and leveraging analytics.	9. Data Quality Framework 10. Data Quality Assurance			5. Technology	Human Insights and Actions	Visualizations and interfaces which can be used to synthesize and communicate the organization's data.	15. Visualization Tools 16. Interfaces
3. Data culture	6. Culture	Organizational Enablers	The organizational programs and structures that support and nurture advanced analytics throughout the organization, such as cross-business teams, town hall meetings, and networking events.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services 11. Data Repository 12. Data Sources 13. Analytics Services 14. Tools and Software 15. Visualization Tools	7. Resource capacity	5. Technology	Talent Definition	The identification of required advanced analytics skills, work activities, and position requirements in order to provide the most value to the organization.	1. Role Definition 2. Position Requirements	
		Planning and Development	The process for planning, developing, procuring, implementing, and maintaining advanced analytics technology.	16. Interfaces			8. Compliance with law and policy	Talent Recruitment	The processes used to acquire and hire high-quality advanced analytics talent by recruiting effectively, improving the external image of advanced analytics for the organization, and building relationships with critical partners to attract advanced analytics talent.	3. Attracting Talent 4. Sourcing Talent 5. Hiring Talent
4. Data systems and tools	5. Technology	Infrastructure	The foundational layer of an advanced analytics solution to allow for a secure, low-risk deployment of servers and hosting services.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services 11. Data Repository 12. Data Sources 13. Analytics Services 14. Tools and Software 15. Visualization Tools	8. Compliance with law and policy	2. Data	Talent Placement	The placement of appropriate advanced analytics talent to support long-term business goals and mitigate workforce risks.	6. Workforce Planning 7. Workforce Management 8. Workforce Design 9. Talent Management Strategy 10. Career Development 11. Performance Management 12. Retention Strategies	
		Data Management	The secure repository for data of all types and origins, making them available for a wide breadth of analyses.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services			5. Technology	Talent Development	The targeted programs and plans designed to motivate, shape, and grow the advanced analytics workforce of the future.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services
		Analytics Services and Interaction	The advanced analytics technologies used to unlock the value of data to generate business insights that were not previously recognized.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services			5. Technology	Planning and Development	The process for planning, developing, procuring, implementing, and maintaining advanced analytics technology.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services
		Human Insights and Actions	Visualizations and interfaces which can be used to synthesize and communicate the organization's data.	1. Analytics Technology/Strategy 2. Planning Review 3. Technology Research 4. Internal Development 5. Purchasing New Tools 6. Implementation/Deployment 7. Maintenance/Support 8. Physical Resources 9. Resource Abstraction 10. Core Services			5. Technology	Infrastructure	The foundational layer of an advanced analytics solution to allow for a secure, low-risk deployment of servers and hosting services.	11. Data Repository 12. Data Sources
5. Data analytics	1. Analytic Opportunities	Develop Opportunities	The identification and selection of advanced analytic opportunities, which will result in business process improvements, system enhancement proposals, policy modifications, or increased operational effectiveness and efficiency.	1. Opportunity Identification 2. Opportunity Selection 3. Project Portfolio 4. Project Resources 5. Project Review 6. Project Validation 7. Solution Implementation 8. Solution Evaluation	6. Culture	6. Culture	Data Management	The establishment and supervision of how data is managed, organized, and governed in the organization, including goals, oversight structures and formalized processes to support ongoing data management.	1. Data Management Strategy 2. Data Governance Model 3. Data Requirements Lifecycle	
		Manage Projects	The approach used to review, govern, oversee, and authenticate advanced analytics projects in alignment with the organization's goals and objectives.	1. Opportunity Identification 2. Opportunity Selection 3. Project Portfolio 4. Project Resources 5. Project Review 6. Project Validation 7. Solution Implementation 8. Solution Evaluation			2. Data	Data Operations	The administration of data related business practices (harvesting, acquiring, storing and transforming data) in order to ensure the highest level of efficiency within the organization (correct format, location, accessibility, etc.).	4. Data Standards and Procedures
		Execute Solutions	The methods by which solutions are measured, implemented and examined over time.	1. Opportunity Identification 2. Opportunity Selection 3. Project Portfolio 4. Project Resources 5. Project Review 6. Project Validation 7. Solution Implementation 8. Solution Evaluation			6. Culture	Organizational Enablers	The organizational programs and structures that support and nurture advanced analytics throughout the organization, such as cross-business teams, town hall meetings, and networking events.	5. Structural Mechanisms 6. Policies and Procedures

SSA Model

1. Analytic Opportunities
2. Data
3. Analytic Techniques
4. Culture
5. Technology
6. People

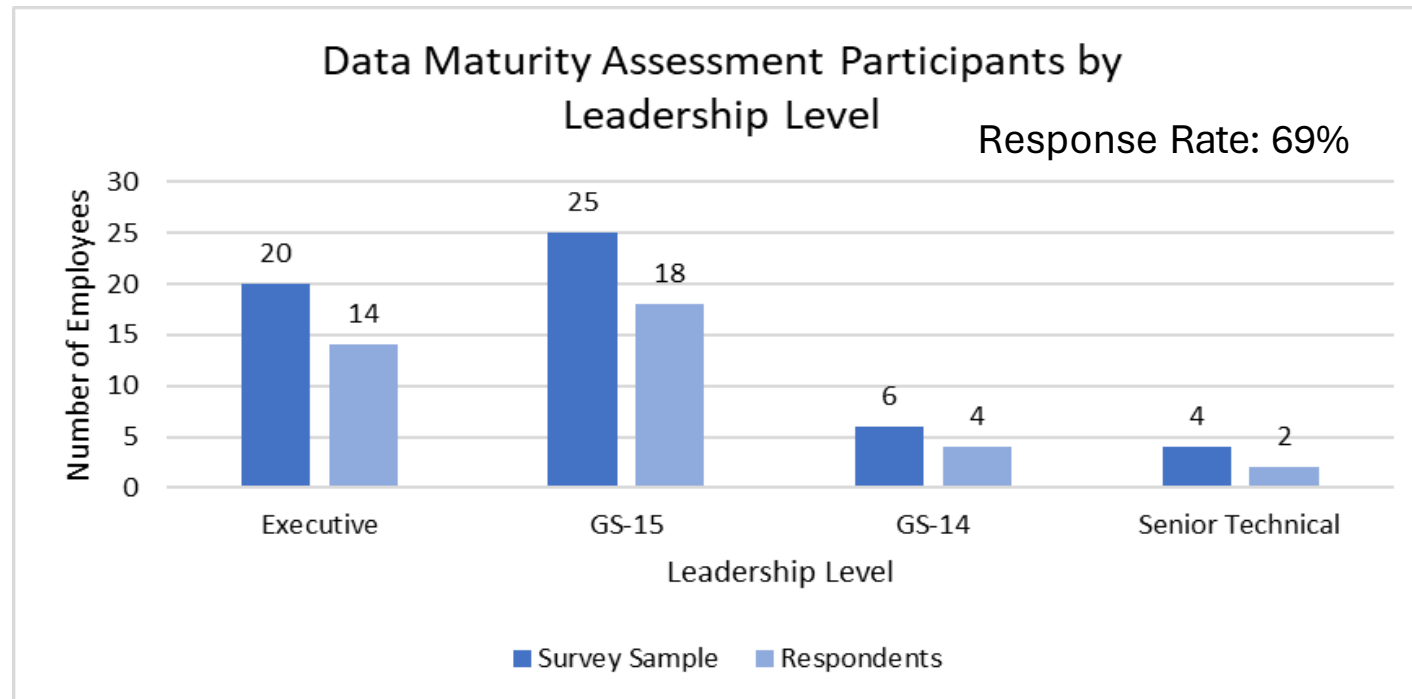
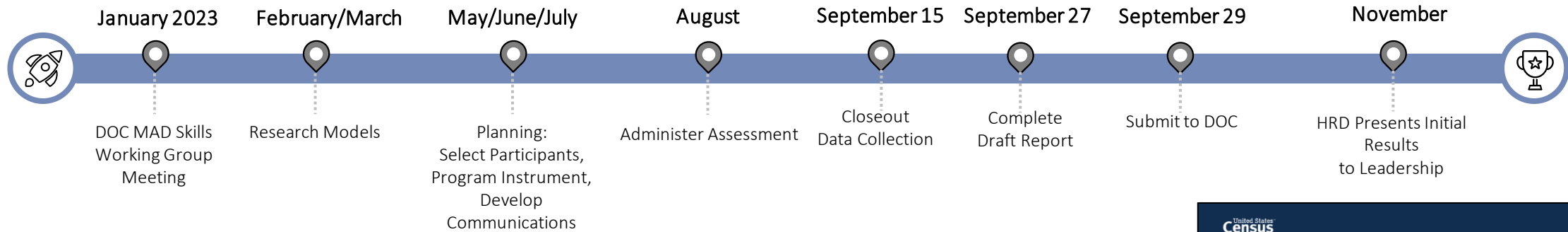
Census Bureau's Data Maturity Assessment Using SSA's Advanced Analytics Capability Maturity Model (A²CM²)

A benefit of the A²M² model is that it provides definitions and a common frame of reference for what is meant by each level of maturity for each subcategory.

Data		<i>Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects</i>								
CATEGORY	DEFINITION	SUBCATEGORY	DEFINITION							
Data Management	The establishment and supervision of how data is managed, organized, and governed in the organization; including goals, oversight structures and formalized processes to support ongoing data management	Data Management Strategy	The goals, objectives, and regular processes for prioritizing data management across the organization							
		Data Governance Model	The framework and processes used to maintain, control, monitor and protect the use of data by individuals and applications							
		Data Requirements Lifecycle	The processes of identifying, analyzing and verifying the business and operational requirements for data including how the logical and physical architectural components are							
Data Operations	The administration of data related business practices (harvesting, acquiring, storing and transforming data) in order to ensure the highest level of efficiency within the organization (correct format, location, accessibility, etc.)	Data Standards and Procedures	The existing policies, requirements and business ontologies, and change man							
		Data Access	The processes and policies for request							
		Data Collection	The methods by which data is accessed in alignment with privacy and security co							
		Data Sourcing	The processes for acquiring data from sourcing requirements, procurement, a							
		Data Persistence	The methods by which data is aggrega							
Data Quality	The processes, criteria, and approaches used to ensure the delivery of consistent, accurate, complete, and timely data to end user applications across the enterprise	Data Quality Framework	The formal structures and processes u users across the organization							
		Data Quality Assurance	The regular systematic processes of d needs involving a combination of meth							
			Data	<i>Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects</i>						
				CATEGORY	SUB-CATEGORY	Level 1	Level 2	Level 3	Level 4	Level 5
			Data Management	Data Management Strategy	A data management strategy does not exist	Data management strategy may be defined for some of the organization or has been developed for small advanced analytics projects	A formal data management strategy exists for the entire organization	A data management strategy exists and is developed in alignment with stated business objectives	A data management strategy is maintained AND implementation is continuously reviewed to identify opportunities for improvement	
			Data Management	Data Governance Model	Structures to govern data management practices do not exist	A structure for the governance of data management practices exists, but roles are not defined, processes are ad hoc, and metrics are inconsistent	A formal data governance model exists, including structures, roles, processes, mechanisms, and metrics	A data governance model exists, is compliant with regulations, and is monitored/enforced by an enterprise-wide body	An enterprise-wide data governance model is continuously adjusted based on strategy, regulatory requirements, and performance metrics	
			Data Management	Data Requirements Lifecycle	Processes for data requirements collection do not exist	Data requirements are collected to meet immediate needs OR data requirements collection is inconsistent	Formal processes for data requirements collection exist OR data requirements are collected proactively	Standardized process for data requirements collection exists AND requirements are developed as part of future planning	Data requirements lifecycle is reviewed regularly and refined as needed to plan for data requirements over a multi-year timeframe	
			Data Operations	Data Standards and Procedures	Data is compliant with formal policy (e.g., privacy, security) but definitions and rules related to the use of data do not exist	Data may be defined in a data dictionary and model, but the rules related to the use of data do not exist OR are not applied in compliance with formal policy	Data format is standardized AND the organization has formal processes or standards for data updates, data description, and data exchange formats	A comprehensive set of data standards is enforced across the enterprise, including format and exchange standards	Data standards create ease of data exchange (with common definitions) AND are reviewed regularly to identify opportunities for enhancement	
			Data Operations	Data Access	Data access is highly restricted AND there are no clear data access processes	Data access is granted ad hoc across the organization OR data access processes or policies are inconsistently applied	Data access includes a formal request process and access is governed by a comprehensive organization-wide data access policy	Data access is broadly defined across the enterprise and monitored for security concerns	Data access is reviewed regularly to ensure that data is as accessible as possible while securing critical information	
			Data Operations	Data Collection	Data collection is not performed in consideration of advanced analytics needs	Data collection for advanced analytics is performed due to project failure or external driver AND processes for collecting data exist but are ad hoc	Formal processes to access and capture data exist and data collection are proactively managed and planned for in compliance with privacy and security concerns	Data collection is governed and managed AND data requirements are considered as part of the collection planning process	Data collection is conducted in alignment with the data management strategy in advance of business needs and supported by automated processes (e.g., ETL), which are continuously improved	
			Data Operations	Data Sourcing	Processes for sourcing data do not exist	Data is sourced/harvested to meet immediate needs (reporting, external requests, etc.) AND there is no consistent process for developing service-level agreements (SLAs)	Data sources are reviewed regularly and proactively AND there is a standard process for developing SLAs	Data sourcing/harvesting is integrated into future planning of business needs AND data sourcing providers are actively managed to ensure quality	Continuous identification and evaluation of current and potential data sources to improve advanced analytics in support of business needs	
			Data Operations	Data Persistence	Data persistence processes do not consider advanced analytics needs	Data storage format in systems reflects short-term needs such as reporting requirements or external requests OR data formatting is done manually and inconsistently	Format in which data is stored is designed to meet ongoing business needs and proactively plan for future requirements AND data munging is done in preparation for analytics activities	Data is stored in a format to meet the broadest advanced analytics needs, often prior to the articulation of specific needs	Data is formatted and stored in systems to meet the broadest advanced analytics needs AND the organization continuously evaluates processes to better support its advanced analytics needs	

Overall Findings

Timeline, Methodology, & Instrument



B1. Data Management Strategy

DATA	Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects.
Data Management Strategy	The goals, objectives, and regular processes for prioritizing data management across the organization.

Which statement most accurately reflects your program area's level of maturity for **Data Management Strategy**?

- 1. A data management strategy does not exist.
- 2. Data management strategy may be defined for some of the organization or has been developed for small advanced analytics projects.
- 3. A formal data management strategy exists for the entire organization.
- 4. A data management strategy exists and is developed in alignment with stated business objectives.
- 5. A data management strategy is maintained AND implementation is continuously reviewed to identify opportunities for improvement.
- N/A

B2. Data Governance Model

DATA	Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects.
Data Governance Model	The framework and processes used to maintain, control, monitor and protect the use of data by individuals and applications.

Which statement most accurately reflects your program area's level of maturity for **Data Governance Model**?

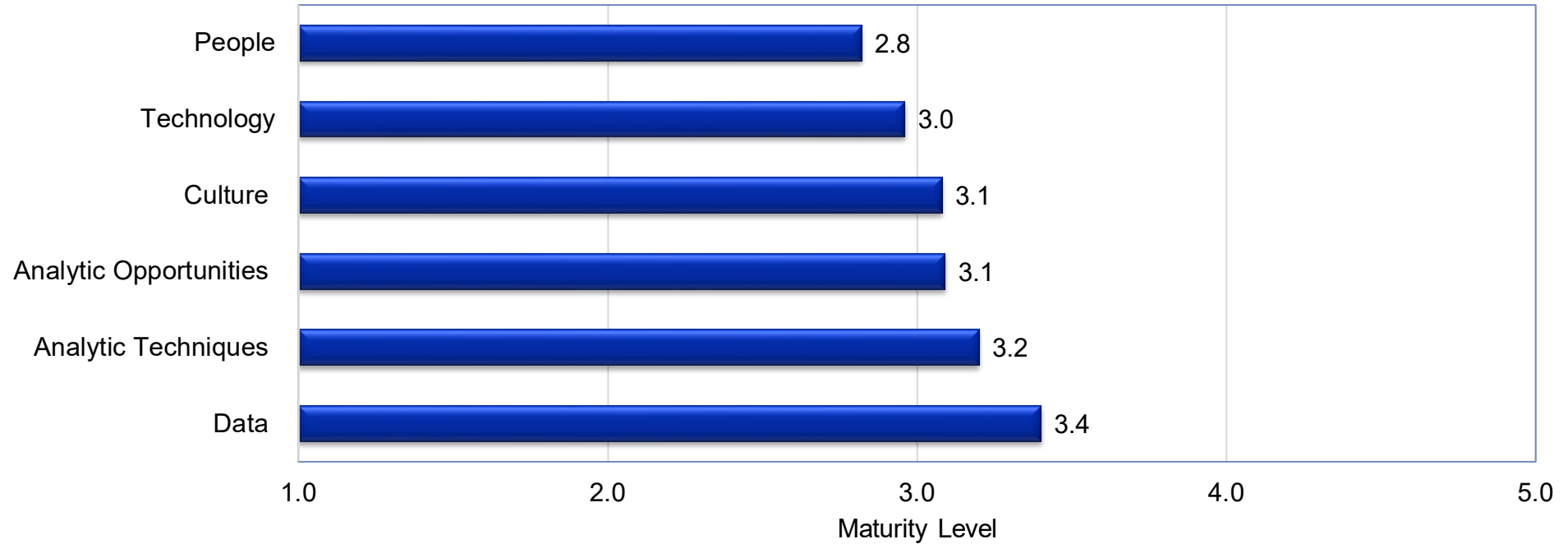
- 1. A data management strategy does not exist.
- 2. Data management strategy may be defined for some of the organization or has been developed for small advanced analytics projects.
- 3. A formal data management strategy exists for the entire organization.

Overall Data Maturity Results

The Census Bureau's Data Maturity is Level 3: Formal standardized capability normally addressed with standardized documentation.

Overall Data Maturity Score: Level 3

Average Data Maturity Score by Attribute




Overall Data Maturity Results

The Census Bureau's Data Maturity is Level 3: Formal standardized capability normally addressed with standardized documentation.

Overall Data Maturity Score: Level 3

SSA Attribute	Maturity Level	Maturity Rating
Data	Level 3	3.4
Analytic Techniques	Level 3	3.2
Analytic Opportunities	Level 3	3.1
Culture	Level 3	3.1
Technology	Level 3	3.0
People	Level 3	2.8

SUMMARY OF STRENGTHS



DATA

- ✓ Data governance
- ✓ Data management
- ✓ Data operations (data collection)



ANALYTIC TECHNIQUES


- ✓ Planning and development



CULTURE

- ✓ Leadership engagement


OPPORTUNITIES FOR IMPROVEMENT



TECHNOLOGY

- ✓ Infrastructure
- ✓ Data Repository

Continued collaboration with program area SMEs and our OCIO Directorate to ensure that we have the right people to implement enhancements to our infrastructure.



PEOPLE

- ✓ Talent sourcing, recruitment, and hiring
- ✓ Talent management

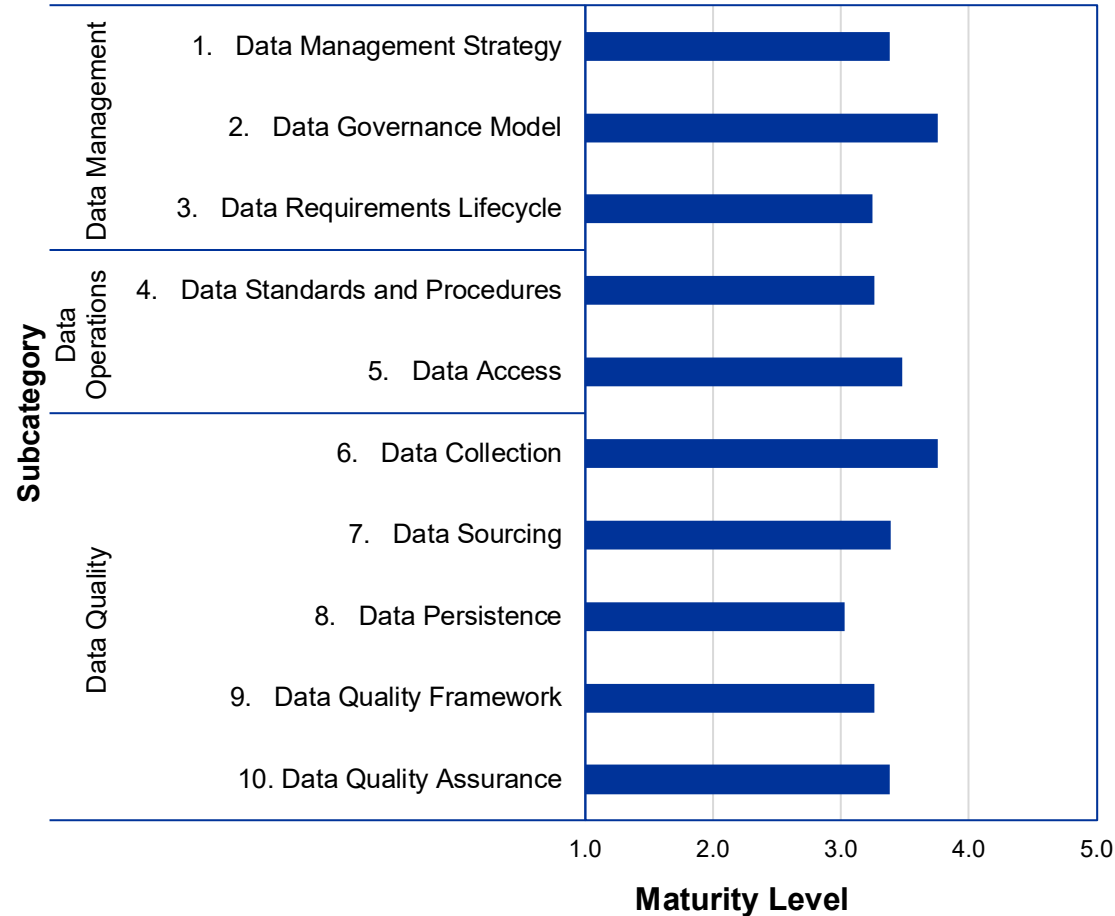
Better align recruitment efforts with Universities and professional organizations' events using a strategic approach.

Key Findings and Insights by Subcategory


Data Maturity Rating: Level 3

Definition. Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects.

Data Maturity Score: 3.4




SUMMARY OF STRENGTHS



DATA GOVERNANCE MODEL


- ✓ A data governance model exists, is compliant with regulations, and is monitored/enforced by an enterprise-wide body.



DATA COLLECTION

- ✓ Data collection is governed and managed and data requirements are considered as part of the collection planning process.

OPPORTUNITIES FOR IMPROVEMENT



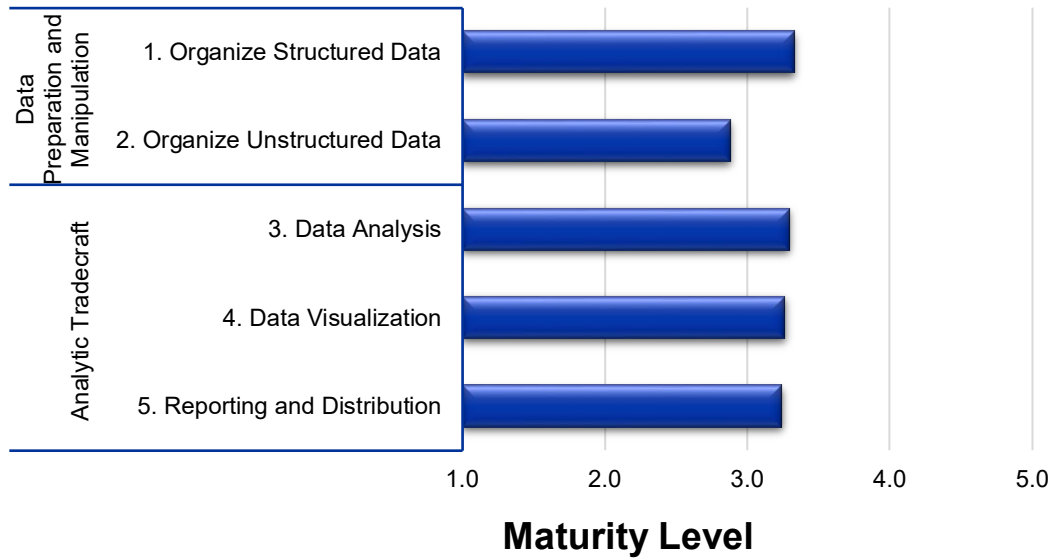
DATA PERSISTENCE

- ✓ **Level 3.** Format in which data is stored is designed to meet ongoing business needs and proactively plan for future requirements AND data munging is done in preparation for analytics activities.
- ✓ **Level 4.** Data is stored in a format to meet the broadest advanced analytics needs, often prior to the articulation of specific needs.


Analytic Techniques Maturity Score: Level 3

Definition. Identifies the analytic tradecraft and techniques that may be applied in order to generate insights from data.

Analytic Techniques Maturity Score: 3.2




SUMMARY OF STRENGTHS



ORGANIZE STRUCTURED DATA


- ✓ **Level 3.** Analytic techniques are available to support the development of attributes for exploratory analysis AND additional techniques are considered only to meet reporting needs.



DATA ANALYSIS & DATA VISUALIZATION

- ✓ **Level 3.** Data analysis methods include discovery analytics and may include predictive models for structured data or advanced statistical methods for explanatory analytics are used.
- ✓ **Level 3.** There are multiple, automated visualization techniques and guidance for how to visualize for the end-user.

OPPORTUNITIES FOR IMPROVEMENT



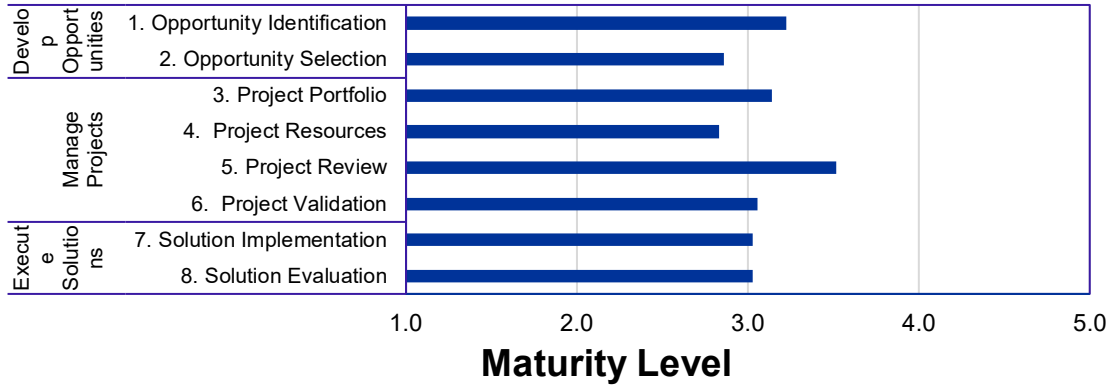
ORGANIZE UNSTRUCTURED DATA

- ✓ **Level 3.** Analytic techniques are available to categorize unstructured data to support a variety of applications across multiple domains and additional techniques are considered only to meet immediate needs.
- ✓ **Level 4.** Analytic techniques are available to support downstream analyses and summarization and additional techniques are considered regularly in preparation for business needs.

Analytic Opportunities Maturity Score: Level 3

Definition. Identifies new and existing use cases to further apply advanced analytics to improve organization mission and operations.

Analytic Opportunities Maturity Score: 3.1



SUMMARY OF STRENGTHS

PROJECT REVIEW

- ✓ **Level 3.** Policies, procedures, and metrics exist to review projects in a regular and repeatable way.

OPPORTUNITY IDENTIFICATION

- ✓ **Level 3.** A process exists for both leaders and staff to review potential opportunities that occurs on a regular basis.

OPPORTUNITIES FOR IMPROVEMENT

PROJECT RESOURCES

- ✓ **Definition.** The process (business case) by which an organization invests time, money, and people in advanced analytics projects, the evaluation of business benefits, and the allocation of time, money, and people as needed for the portfolio of projects.
- ✓ **Level 2.** For each opportunity, the process to manage resources is conducted differently or management of resources is incongruent with current and future needs.
- ✓ **Level 3.** Resources are identified and made available for analytics projects in a standard process, which utilizes a business case.

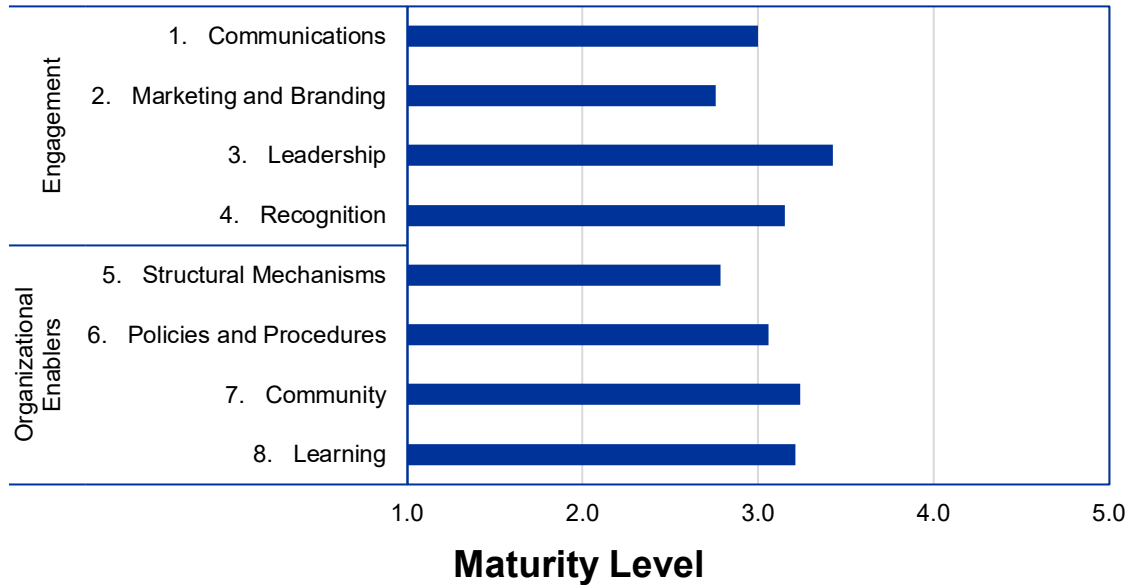
OPPORTUNITY SELECTION

- ✓ **Definition.** The mechanisms for reviewing and choosing advanced analytics projects, to include the process to develop and refine criteria for advancement, the process to narrow opportunities to pursue as projects, and the metrics to evaluate the likely return on investment.
- ✓ **Level 2.** Selection criteria are developed in conjunction with opportunity or selection criteria result in poor opportunity selection.
- ✓ **Level 3.** Established selection criteria exists but are applied inconsistently.

Culture Maturity Score: Level 3

Definition. Identifies the set of organizational mechanisms that reinforce, communicate, and share the importance of advanced analytics to support evidence-based decision making.

Culture Maturity Score: 3.1



SUMMARY OF STRENGTHS



LEADERSHIP

- ✓ Leadership engagement



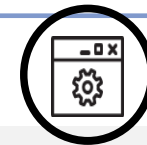
LEARNING

- ✓ **Level 3.** Formal learning opportunities (e.g., knowledge management sites, guidance documents, toolkits) in the area of advanced analytics exist but are not standardized.

OPPORTUNITIES FOR IMPROVEMENT

MARKETING & BRANDING

- ✓ **Level 3.** Formal marketing on the value of advanced analytics exists or advanced analytics marketing is attempting to reach all customers with a single message.



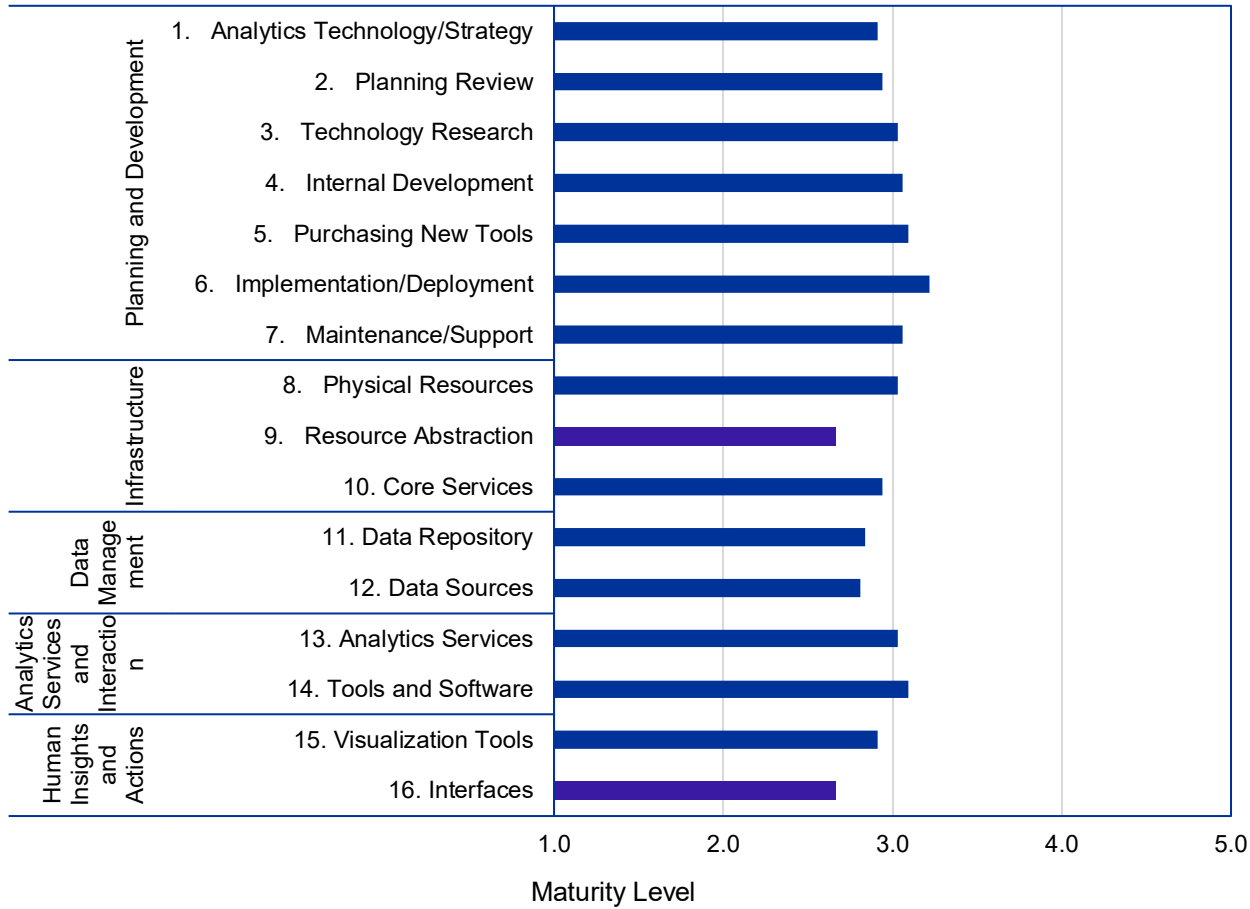
STRUCTURAL MECHANISM

- ✓ **Level 3.** The organization has formal structural mechanisms which support the use of analytics (e.g., cross organization analytic validation or project).

Technology Maturity Score: Level 3

Definition. Identifies the optimal ways to leverage new and existing technologies including applications, data platforms and infrastructure to perform advanced analytics projects.

Technology Maturity Score: 3.0



SUMMARY OF STRENGTHS

IMPLEMENTATION / DEPLOYMENT


- ✓ A standardized implementation/deployment plan for advanced analytics tools exists and includes processes for accessibility.



PURCHASING NEW TOOLS & SOFTWARE


- ✓ An enterprise standard selection process to vet and test new advanced analytics tools for purchase exists (e.g., sandbox).
- ✓ Open source and search tools exist to support interaction with data by advanced analytics practitioners.

OPPORTUNITIES FOR IMPROVEMENT



INTERFACES

- ✓ **Definition.** The interactive tools which provide dynamic interaction between users and advanced analytics tools.
- ✓ Interfaces exist to provide user alerts based on the results of advanced analytics tools.



RESOURCE ABSTRACTION

- ✓ **Definition.** Enterprise-wide resource abstraction e.g. virtual machines and data storage deployment) allows advanced analytics practitioners more individual control of their software configurations, without dividing the physical hardware (e.g., allowing multiple virtual connections to a cluster of machines).
- ✓ Resource abstraction has been orchestrated as per enterprise-wide architectural solution stipulations that adhere to security policies.

People Maturity Score: Level 3

Definition: Identifies opportunities to leverage new and existing data sets and better manage and govern data in support of advanced analytics projects.

People Maturity Score: 2.8

Average Data Maturity Score by "People" Attribute



SUMMARY OF STRENGTHS



ROLE DEFINITION & POSITION REQUIREMENTS

- ✓ Standard position descriptions to define work activities and qualifications for advanced analytics positions exist in coordination to broader talent management goals.



PERFORMANCE MANAGEMENT

- ✓ Objective performance measures and metrics exist for advanced analytics positions and are standardized across the organization.

OPPORTUNITIES OF IMPROVEMENT



RETENTION STRATEGIES

- ✓ **Level 3.** Engagement and motivation drivers have been identified with research and best practices AND the organization has developed retention plans to address the unique profile of advanced analytics practitioners.



SOURCING TALENT

- ✓ **Level 3.** The organization has an approach for profiling advanced analytics talent and prioritizing sources.

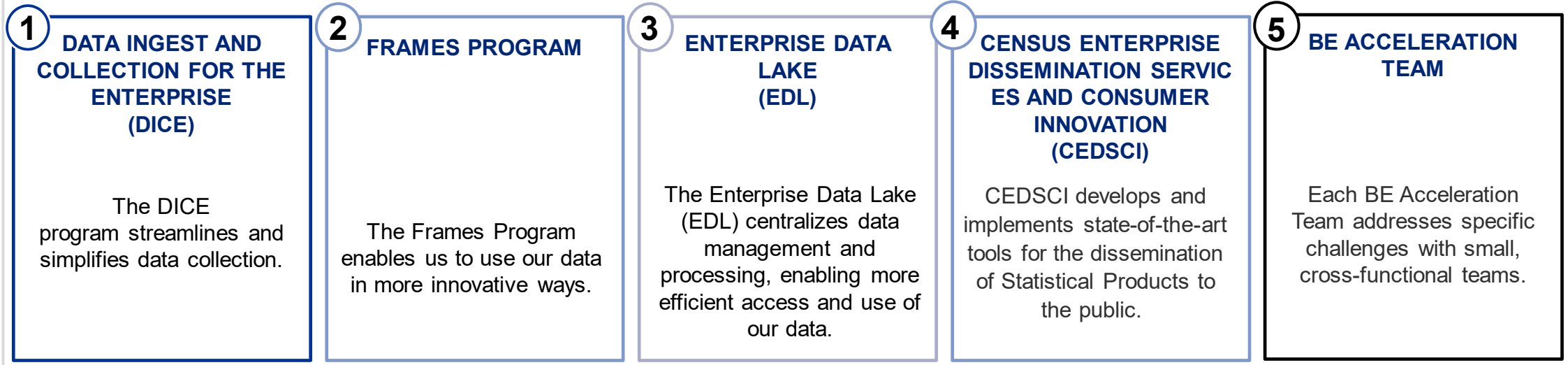
Next Steps

Next Steps: Implementation of Business Ecosystem

BUSINESS ECOSYSTEM

The Business Ecosystem allows us to adjust our focus from managing surveys and censuses to managing an ecosystem of data collection, processing, and dissemination designed to deliver the data products more efficiently.

PROCESS FLOW



Moving from Level 3 to Level 4

- ✓ Ensure that our standardized processes and policies are more consistently applied across the enterprise.
- ✓ Reaching out to participants from the assessment to learn about initiatives that are currently being implemented to support forward-movement towards our Business Ecosystem and to hear their perspectives on strengthening our data capabilities.