

Data Maturity Matrix – DRAFT - Version 2 – JULY 2020

Produced by the Data Integration Cluster

APLU Powered by Publics Initiative

Purpose: Evaluate and improve institutional data capacity. Share learning across institutions.

Context: Institutions leverage data to produce insights that inform strategic initiatives in order to meet institutional goals and support student success. Data maturity is an institution's ability to improve the organizational, procedural, and technical levels of its data infrastructure to leverage institutional data and produce insights. This tool is designed to help institution evaluate their maturity level as well as collect information on different maturity models to share in a broader community of learning.

The guiding questions to assess institutional data capacity:

- Are we collecting the right data?
- Who are the data stewards?
- What is the role of a chief data officer?
- How clean is the data?
- How do we distribute the data?
- Do we train campus constituents on how to use the data?
- How useful is the data?
- Do the data provide insights?
- Do we use data to monitor and evaluate the effectiveness of intervention and innovation?

Please select the level that describes your institution data maturity, from your perspective, at this time.

Data Maturity Matrix

Indicator description	Question	Level 1	Level 2	Level 3	Level 4	Level 5
Data Collection						
The data managers are clearly identified.	Are data stewards identified?	There are no official data stewards. Everyone independently collects/uses data.	There are no official data stewards; however, IT or similar group may act as unofficial data stewards. There are no official guidelines, but there is some understanding of how to work with stewards.	There are official data stewards at operational levels. There are some guidelines in place for working with data stewards.	There are official data stewards at senior- or executive levels.	There are official data stewards across all levels of the institution. All institutional groups (faculty, researchers, staff, and admin) have clear guidelines and understand how to work with data stewards and their delegates.
Data should be stored in a central repository that is shared across different stakeholders.	Are data stored in a central repository?	Data are not stored in a central repository. A central repository may not exist or there have not been scaled efforts to move to a central repository.	Most data are stored in a central repository. Accessing the central repository may involve multiple steps/parties. Only some parties on campus can easily access the repository.	All data are stored in a central repository. There are clear ways to access the central repository. Most parties on campus are familiar with how to use the repository.	All data are stored in a user-friendly central repository. There are clear ways to access the central repository. Most parties on campus are familiar with how to use the repository.	All data are stored in a user-friendly central repository with robust capabilities. There are clear ways to access the central repository. Most parties on campus are familiar with how to use the repository.

Include all data sources that relate to student engagement and success.	Are all relevant data sources available and accessible?	Data are not used for planning purposes. Limited data sources may be available to limited users.	Limited data sources relevant to student success are available to users but not into a central data repository.	Some data sources relevant to student success are incorporated into a central data repository or some data are available, but not in a central repository.	All data sources relevant to student success are incorporated into a central data repository and available to a limited number of users.	All data sources relevant to student success are incorporated into a central data repository and available to authorized users.
Maintain a data dictionary for all data elements used in reporting.	Is there a resource that provides users with data definitions?	Data definitions are not available.	Data definitions are available to a limited number of users.	Text documents are available but not in a central location for user.	Text documents are available centrally located for all users to access and are updated regularly.	Data definitions are available and regularly updated on the internet and searchable by users; training may be available to users on demand.
Data Quality						
Data are evaluated for quality and reliability.	Are there procedures to ensure quality.	No process to evaluate the data quality.	There is a process to clean the data and it is not used widely.	There is a process to clean the data and it is widely used.	There is a process to clean the data; there is a process to test the data for accuracy and reliability.	There is a process to clean the data; there is a process to test the data for accuracy and reliability; predictive models are validated.

Students are asked to update their information on regular basis.	Do students have a way to update their demographic information?	Student information is updated only if the student initiates the process and they must update their information in different offices/systems.	The process for students to update their information, requires that the student complete a form.	There is an online process for students to update their information, but that information is not propagated to other enterprise systems, and they are not prompted to update.	There is a student-friendly online process for students to update their information and that information is propagated to other enterprise systems.	There is a student-friendly online process for students to update their information and that information is propagated to other enterprise systems; students are asked to update their demographic information each time they register.
Self-reported data should be identified in the data dictionary and in the metadata (% of missing cases).	Do campus users know if data are self-reported?	No.	A limited number of users are aware of which data elements are self-reported.	The data dictionary identifies which data elements are self-reported.	The data dictionary identifies which data elements and some reports identify self-reported metrics.	The data dictionary identifies which data elements and the enterprise reporting tool will identify metrics that are based on self-reported data.
Data dissemination – Are the right data disseminated to the right people?						

<p>The institution has an enterprise reporting system for communicating information.</p>	<p>What tools are used for distributing data and communicating information?</p>	<p>There is no centralized tool for easy access to data. Data may be distributed on an ad-hoc basis.</p>		<p>The institution has a tool that disseminates information.</p>		<p>The institution has an interactive tool to help users engage with the data with interpretive language to understand its meaning allowing them to extract insights with access to data stewards and managers.</p>
<p>Different departments/units can create, or access custom reports designed for their needs in a timely manner.</p>	<p>Are there processes in place for units to develop reports unique for their unit?</p>	<p>There is no centralized tool for accessing unit level data. Data may be distributed on an ad-hoc basis.</p>		<p>Reports are created and available for users to drill down without additional support.</p>		<p>The institution's chief data officer meets regularly with the institution's business units to ensure that the reports that are developed are useful and relevant, and the data stewards provide anticipate needs and prepares data for those needs. A collective model is used to develop individual reports.</p>

<p>There are metrics on the number of times the report is used.</p>	<p>Are there analytics on how often a report is accessed and by whom?</p>	<p>Analytics on the use of the data may be available to the Chief Data Officer, but access is limited.</p>		<p>The information on the usage of reports is available, but it may not be shared with users on a regular basis and feedback is not collected about how to improve reports.</p>	<p>The Chief Data Officer monitors the use of individual reports and shares that information with business units on a regular basis through an automated feedback loop and collects information on the usefulness of the data. The CDO will make adjustments to the reporting portfolio based on this feedback.</p>
---	---	--	--	---	---

Culture – Do we have a data culture throughout the institution?

<p>The institution provides training to faculty and staff.</p>	<p>Are campus faculty and staff trained on how to use data?</p>	<p>Formal training is not available. Users must either learn on their own or from a colleague.</p>		<p>Training is available on ad-hoc basis and is voluntary. The training is not updated to reflect the changing needs of institutional data.</p>	<p>The institution requires training for all faculty and staff who have access to the data. Trainings are easily accessible and feedback on the trainings are used to improve training sessions. Faculty and staff learn how to access and use the data and how to follow up if there are issues or insights.</p>
--	---	--	--	---	---

<p>A data governance committee (DGC) oversees data collection and use.</p>	<p>Is there a data governance committee?</p>	<p>The institution has no data governance committee. Governance is ad-hoc or decentralized.</p>		<p>The institution has a data governance committee, but they don't meet regularly or review institutional policies or examine the use of data at the institution.</p>		<p>The institution has a data governance committee that is made up of officers from IT, IR, Academic Affairs, Legal, Student Services, etc. The DGC meets regularly, develops policy, and makes recommendations for improving data practices.</p>
<p>The reports are incorporated into the unit's workflow processes.</p>	<p>Are reports incorporated into individual departments' business processes?</p>	<p>Reports are not readily available at the department level. If a department wants the reports, they would have to create it themselves or make a request to see the data.</p>		<p>Reports are available at the department level but are not disseminated or used in a consistent manner.</p>		<p>The business units can demonstrate how the data are used in their business processes and decision-making. The reports are evaluated for their value and usability. This information is provided back to the DGC or the CDO.</p>

Data, insight, innovation, interventions are part of the institutional culture.	Are the insights derived from the data part of the discussions and decision-making?	Data may be available to departments, but most departments make decisions without common metrics and do not track their effectiveness of their decision-making.		Business units have the infrastructure to use the data, but no evidence is collected to evaluate the use.		Evidence exists that business units are using the data, insights are developed, interventions are linked to insights and metrics are tracked to evaluate progress and success based on interventions and initiatives. This evidence is shared with the DGC.
The data are used by leadership and incorporated into decision making.	Are insights drawn from the data and shared with key leaders?	Data are only available to institutional leaders on an ad-hoc basis.		Institutional leaders have access to data, but do not routinely use the data for making strategic decisions.		Institutional data are used in the strategic planning process and evaluated regularly to guide strategic initiatives and resources. Policies are changes or made based on information available to the institution.
Insights from the data lead to innovative interventions	Have insights led to interventions, discussion, or policy changes?					

Phase 2

Respond to each question with an open-ended respond that describes where your institution is from your perspective. This information will be synthesized and shared with each other to help institutions make strategic decisions about improving their data capacity and to learn from a broader community of practice.

DRAFT