Creating Change with Analytics: The Not-So-Secret Analytics Playbook Built By and For IR Practitioners

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University of North Texas

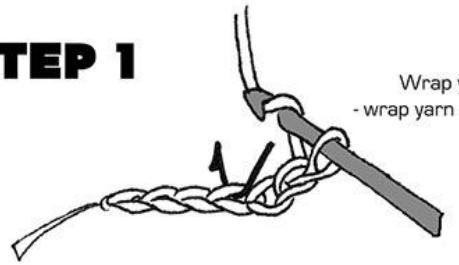
HOW TO CROCHET

Simple Illustrated Instructions

DOUBLE CROCHET (DC)

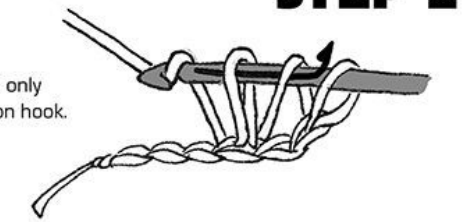
A commonly used stitch for crochet patterns.

STEP 1



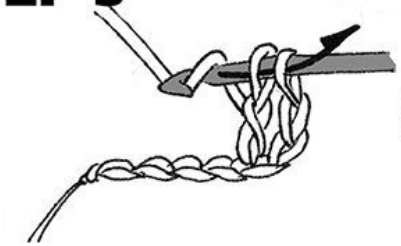
Wrap yarn - insert hook in work
- wrap yarn again and draw through work.

STEP 2



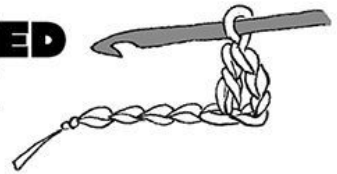
Wrap yarn again and only
pull through two loops on hook.

STEP 3



Wrap yarn once again and pull
through last two loops on hook.

COMPLETED STITCH



BRIMNES

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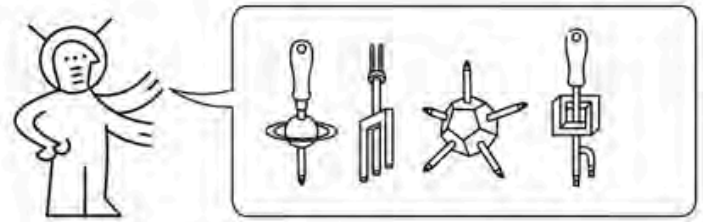
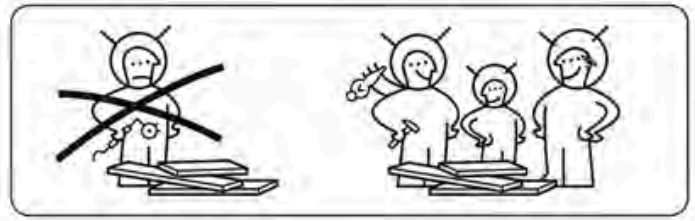
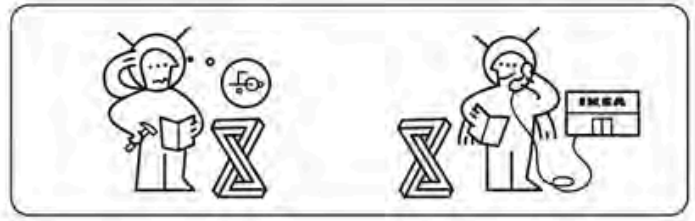
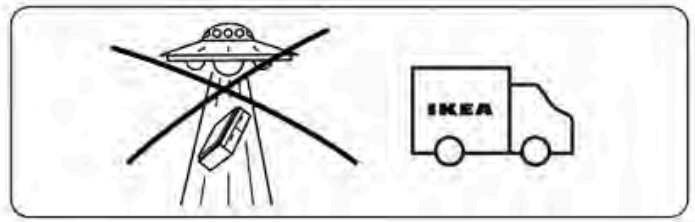
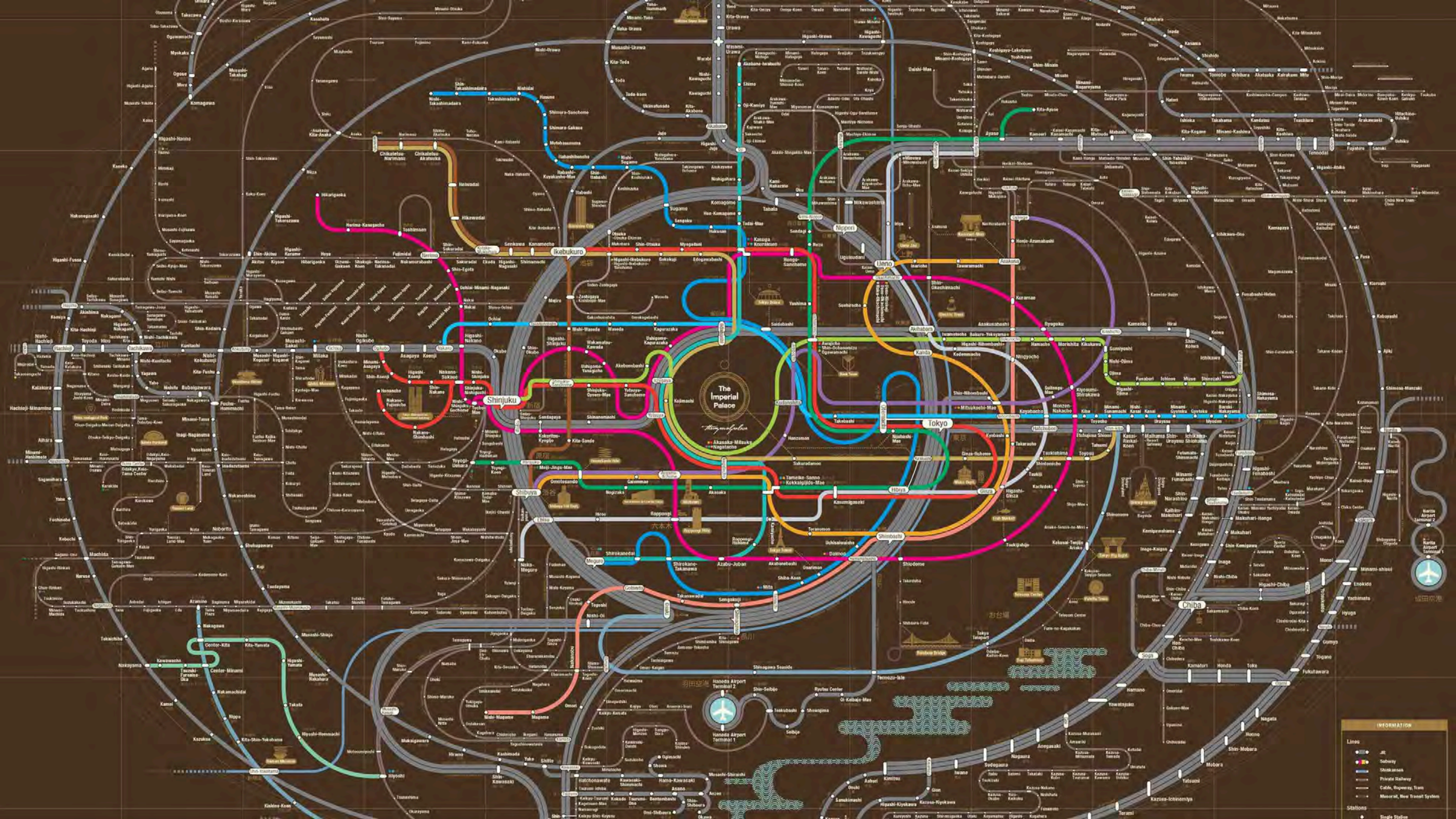








\+ Furniture for all.
** Design and Quality IKEA of Sweden.



The Imperial Palace
Tokyo
Shinjuku
Shibuya
Ikebukuro
Ueno
Nippori
Akihabara
Kanda
Shimbashi
Shinagawa
Meguro
Ebisu
Harajuku
Yoyogi
Takadanobaba
Sugamo
Komagome
Tabata
Yurakucho
Hamamatsucho
Tamachi
Chiba
Tachikawa
Hachioji
Haneda Airport Terminal 2
Haneda Airport Terminal 1
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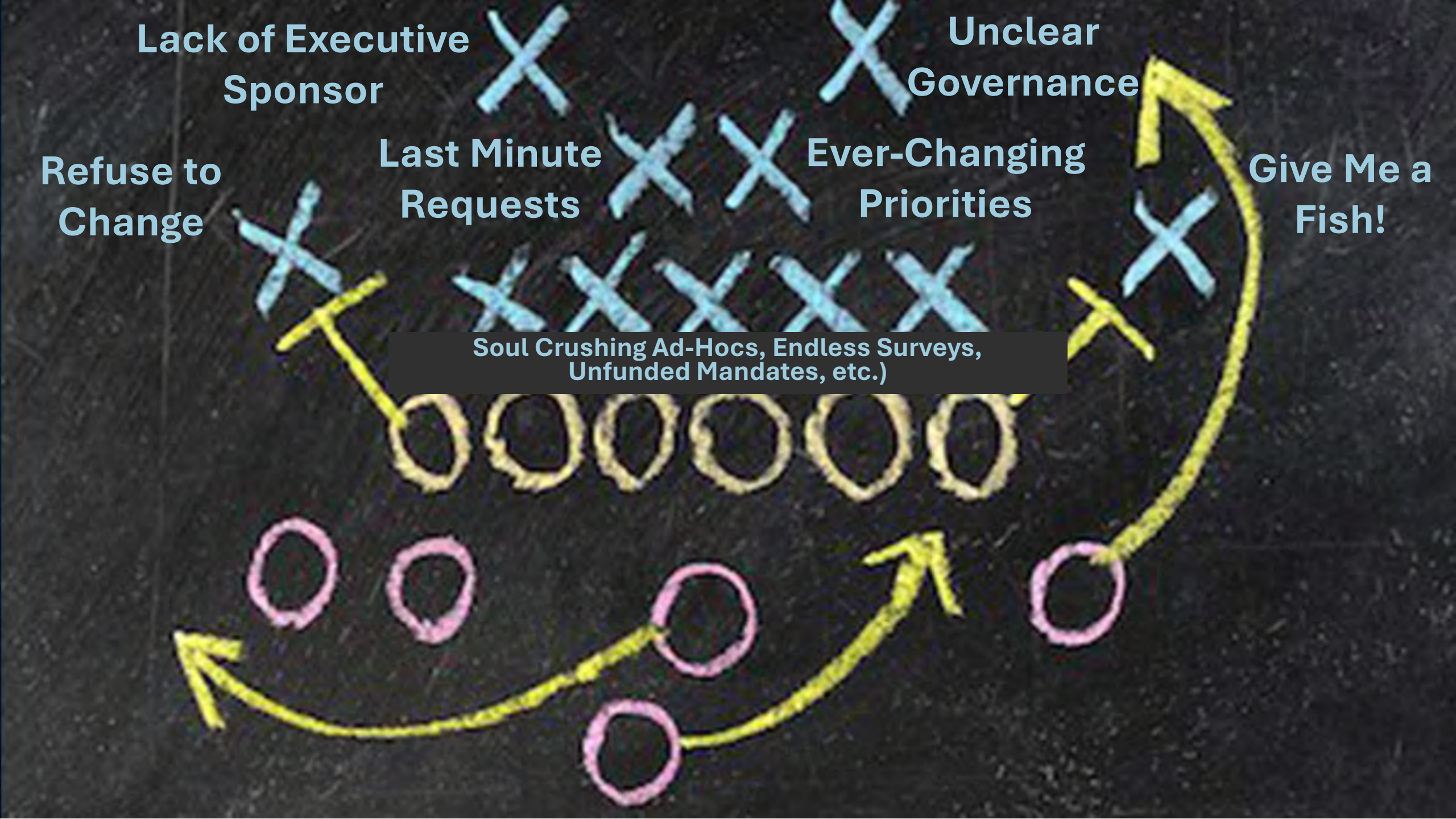
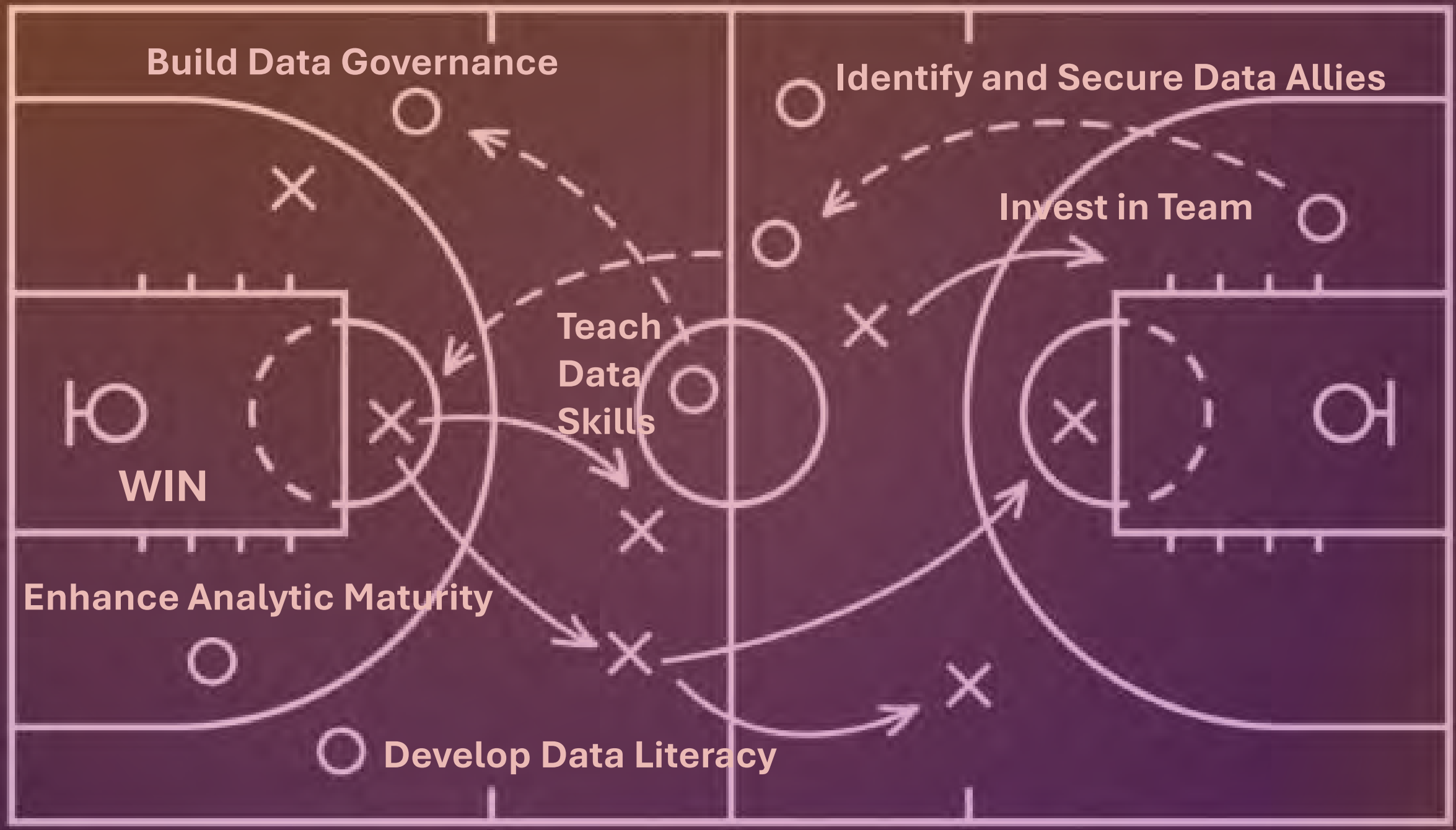
Subway
Shinkansen
Private Railway
Cable, Ropeway, Tram
Monorail, New Transit System
Stations
Single Station


Lack of Executive Sponsor
Unclear Governance
Refuse to Change
Last Minute Requests
Ever-Changing Priorities
Give Me a Fish!
Soul Crushing Ad-Hocs, Endless Surveys, Unfunded Mandates, etc.)


Build Data Governance
Identify and Secure Data Allies
Invest in Team
Teach
Data
Skills
WIN
Enhance Analytic Maturity
Develop Data Literacy


Data Strategy
Analytic Maturity
Meta-Data Repository
RACI Matrix
SME Burnout
Change Management
Legacy System Challenges
Machine Learning
SWOT Planning
Stewards and Owners
Tools and Training
Data Management
Staffing Roles
Digital Expertise
Ad-hoc Request Management

The Joint Statement on Analytics

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The Joint Statement on Analytics The Association for Institutional Research (AIR), EDUCAUSE, and the National Association of College and University Business Officers (NACUBO) stand together with a strong sense of urgency to reaffirm higher education's commitment to the use of data and analytics to make better strategic decisions.

As the leaders of three national associations collectively serving nearly 2,500 institutions and representing over 80 percent of postsecondary students in the U.S. (22 million students), we believe higher education must re-energize its efforts and unleash the power of data and analytics across higher education to support students and institutions.

What is analytics?

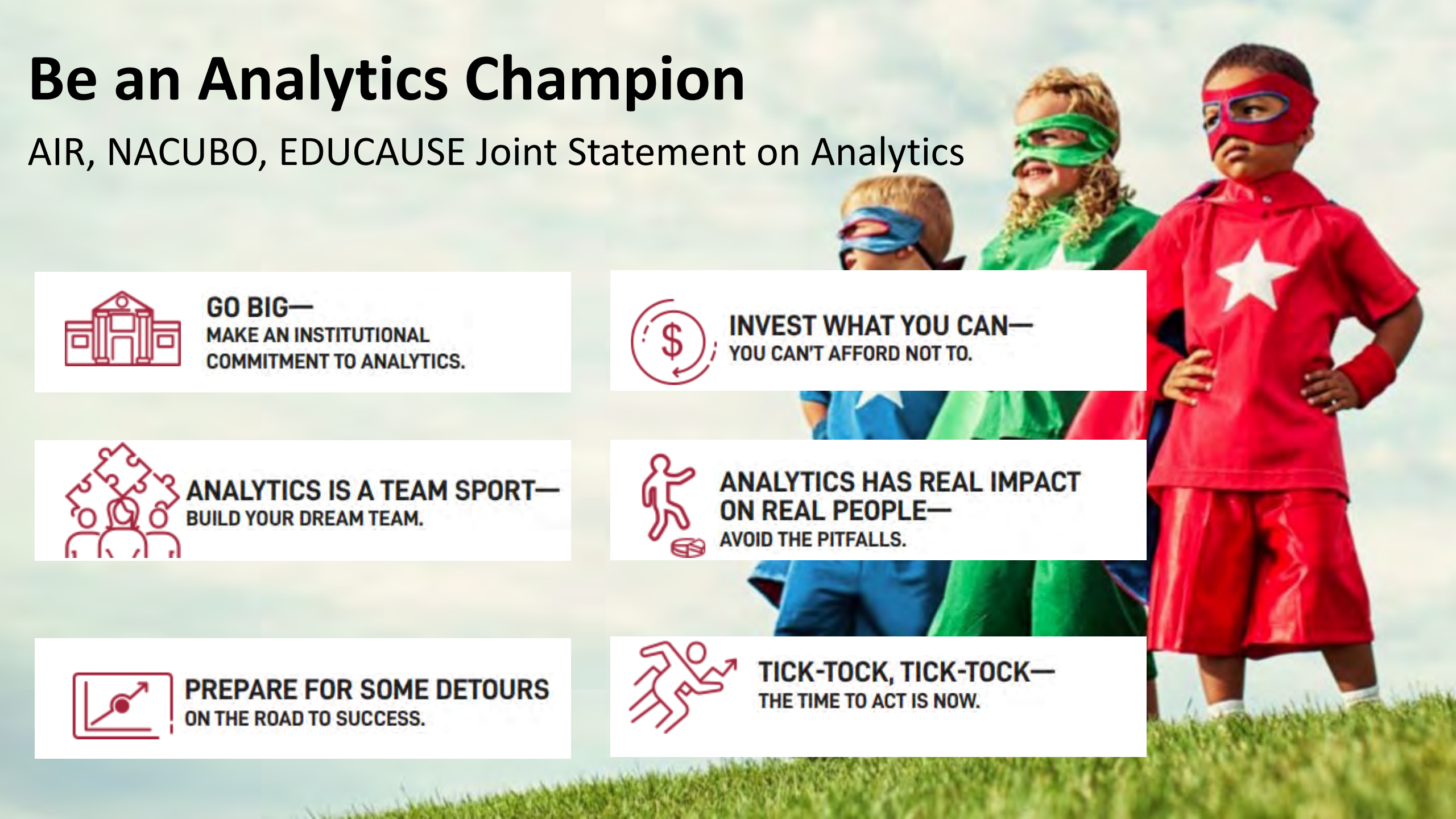
"Analytics is the use of data, statistical analysis, and explanatory and predictive models to gain insight and act on complex issues."

Analytics Can Save Higher Education.

Really.

Be an Analytics Champion

AIR, NACUBO, EDUCAUSE Joint Statement on Analytics



GO BIG—
MAKE AN INSTITUTIONAL COMMITMENT TO ANALYTICS.

INVEST WHAT YOU CAN—
YOU CAN'T AFFORD NOT TO.

ANALYTICS IS A TEAM SPORT—
BUILD YOUR DREAM TEAM.

ANALYTICS HAS REAL IMPACT ON REAL PEOPLE—
AVOID THE PITFALLS.

PREPARE FOR SOME DETOURS
ON THE ROAD TO SUCCESS.

TICK-TOCK, TICK-TOCK—
THE TIME TO ACT IS NOW.


2000 YEARS
LATER

“Higher education is navigating many challenges that could be better addressed by the strategic use of analytics,” said NACUBO President and CEO Kara D. Freeman. “But since using the data itself can be a challenge, our associations created this resource to help colleges and universities take some initial and important steps toward creating cultures and building capacities that will allow them to leverage analytics to the benefit of the institution, its students, and its mission.”

“As institutions of higher education continue to face complex challenges, the strategic use of data has never been more critical. The *Change With Analytics Playbook* is a transformative tool that will empower data leaders to foster a culture of analytics, drive data-informed decision-making, and ultimately enhance institutional effectiveness,” said Christine Keller, president of AIR

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2023 Brings Support from the Bill and Melinda Gates Foundation to Revisit the Statement to Provide Practical Guidance

Arcadia University

Elgin Community College
Bright Choice. Bright Future.

Jackson State University

Mercy University

University of Central Florida

UMBC

UNT University of North Texas

Lead IR Representative

Chief Financial Officer

Chief Information Officer

AIR Executive Director/CEO and Data Leadership Team

EDUCAUSE President/CEO and Analytics Lead

NACUBO President/CEO and Analytics Lead

Retreat in Washington DC

- What were common data and analytic challenges that cut across institutions?
- What hurdles or opportunities existed between IR, IT, and Finance in terms of data and analytic investment?
- What specific best practices could each institution volunteer to convert to an analytic play?
- What is the group’s perception on the likelihood of adapting to new technical realtities?

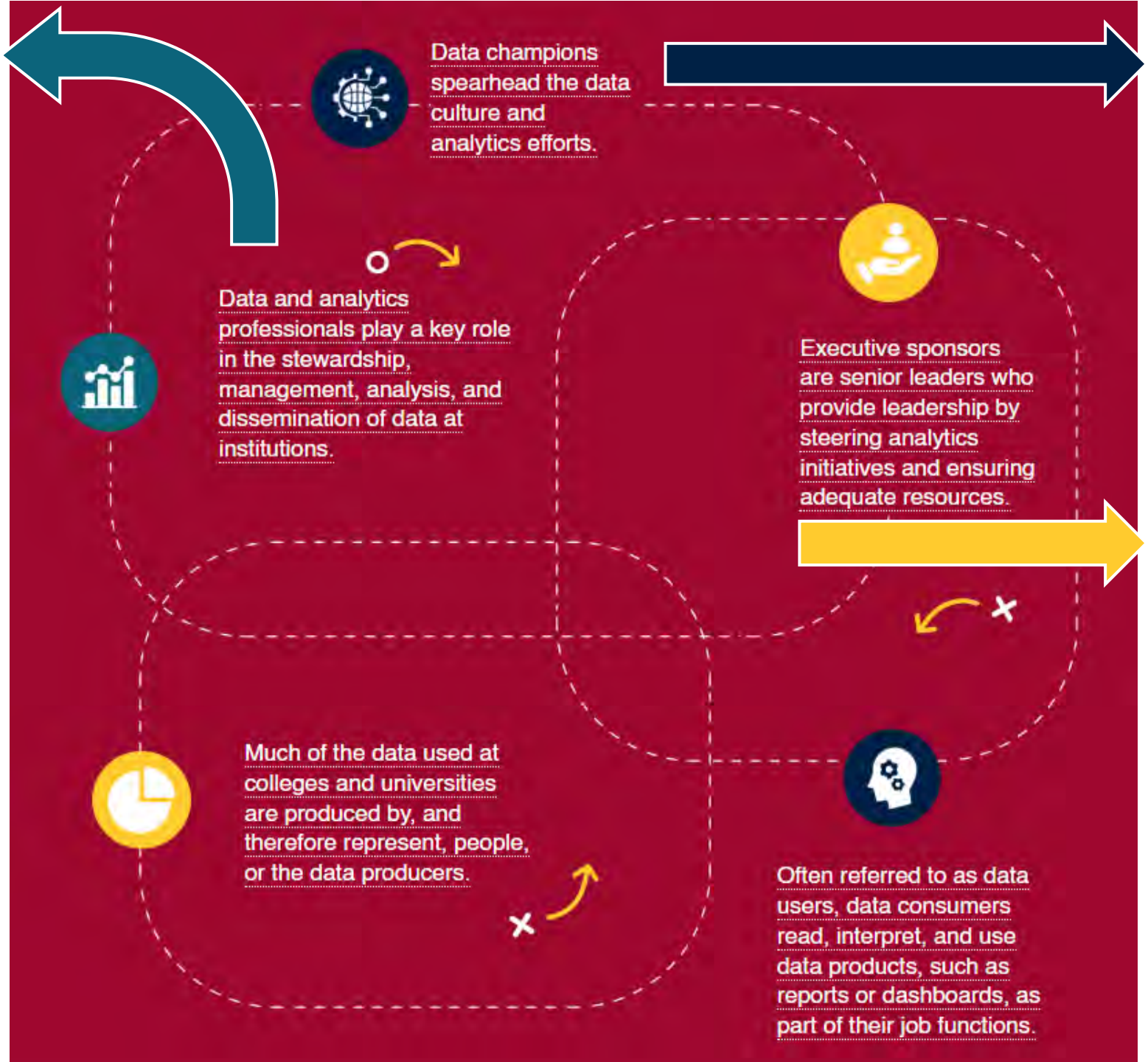
We Were Intentionally Split Up to Identify Opportunities and Address the Elephants in the Room.


SEVERAL
MONTHS
LATER...

https://changewithanalytics.com/

Data and Analytics Professionals:

Data and analytics professionals have roles in data stewardship and management, analysis, and dissemination. They likely work in IR/IE, IT, or BI. Most institutions have central administrative and staff roles dedicated to these functions, and many institutions have individuals with these roles distributed in various academic units and administrative departments. These individuals work closely with the data champion—serving as critical consultants to analytics initiatives, as well as carrying out day-to-day efforts.



Data Champions:

Data champions spearhead the data culture and analytics efforts. They work with the executive sponsor to ensure data and analytics efforts support institutional strategic goals, priorities, and needs. They also serve as conductors of analytics efforts—making sure other stakeholders know their data roles, responsibilities, and opportunities. Individuals in this role likely have senior roles at their institutions but may not have positions at the executive or cabinet level. They are likely to have backgrounds in IR/institutional effectiveness (IE), IT, or business intelligence (BI).

Executive Sponsors:

Executive sponsors are senior leaders who provide leadership by steering analytics initiatives and ensuring adequate resources, including time for various stakeholders to fulfill their data roles and for analytics initiatives. They hold the institution accountable for using data for decision-making but do not manage day-to-day efforts of most analytics efforts. Individuals most likely to serve in this role are presidents, chancellors, provosts, chief academic officers, and chief financial officers; however, depending on the institution's culture, someone in another senior role may serve as executive sponsor.

The Four Major Playbook Sections

Assess the Current State of Analytics

Create and Manage a Data Strategy Plan

Develop and Maintain a Data Governance Program

Build and Support a Data Literate Community

Plays

Conduct an Analytics Self-Assessment

Conduct a Needs Assessment Focus Group

Identify Strengths, Weaknesses, Opportunities, and Threats

Change With Analytics Playbook

Conduct an Analytics Self-Assessment

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Use a self-assessment tool to prompt discussion(s) about existing analytics capacity and culture to promote interdepartmental transparency, generate ideas, and advance analytics capabilities.

Play Summary

What — Assessment of the current state of analytics at the institution

Who — Data champion or an institutional leader to facilitate the play with a group of diverse stakeholders

How — Engagement in a self-assessment exercise

When — Early in the analytics journey when time can be devoted to the multistage effort the self-assessment requires, from preparation through analysis and, ultimately, to strategizing

Tips for Using an Analytics Self-Assessment Tool

- Self-assessments are designed to encourage internal dialogue, not benchmarking among institutions or units.
- Questions are written so that individuals select the response that best represents their view of their institution's capacity.
- No one person at the institution will know all the answers.
- Stakeholders with varying perspectives should complete the survey and discuss findings with the goal of understanding current institutional data capacity, capabilities, and readiness.
- By gaining an understanding of an institution's current capacity, leaders can build an analytics strategy that is realistic and grounded in the current realities.

Conduct an Analytics Self-Assessment in Six Steps

Step 1 Set Goals and Expectations

Step 2 Select an Existing Self-Assessment Tool or Combine Tools

Step 3 Determine Who Will Complete the Questionnaire

Step 4 Build and Distribute the Assessment Questionnaire

Step 5 Analyze and Discuss the Self-Assessment Data

Step 6 Discuss Findings and Consider Next Steps

Step 1: Set Goals and Expectations

Before selecting a tool or stakeholder participants, consider how findings from the self-assessment will be used. Although you can't have an exact plan before conducting the self-assessment, you should generally know how the assessment will inform your institution's strategy and have a general time frame in mind.

Before moving onto the next steps, ask yourself—

1. **What do we want to learn from this process?**
2. **How will what we learn inform our analytics strategy?**
3. **Who will come together to discuss the results?**
4. **How will we share what we learn?**
5. **Who should complete the assessment? What roles and/or departments do we need represented?**
6. **Who is not currently included in analytics efforts who could provide further insight into the institution's analytics capabilities?**
7. **Who will facilitate the discussion so that participants can fully engage?**

Step 2: Select an Existing Self-Assessment Tool or Combine Tools

Select a self-assessment tool (or parts of tools) based on institutional goals, the knowledge of participants, and the topics that are the most relevant to the institution.

Rather than selecting one self-assessment tool in its entirety, have institutions, with data champions at the lead, create their own self-assessment instrument by selecting assessment questions from multiple sources. Viewing multiple assessment tools as "question banks" can be valuable if a team wants to assess particular topics covered by different tools.

For example, an institution might combine questions from the EDUCAUSE Analytics Institutional Self-Assessment related to the technical elements of data management (i.e., data integration, enterprise architecture) with questions from NACUBO's Data Ecosystem Assessment Inventory related to leadership and culture.

Note

Note that the benefits of using an approach with questions from more than one assessment tool are that it provides feedback on the most important topics for an institution's context and that it could result in a shorter assessment questionnaire for participants.

Also understand that one drawback of using questions from more than one tool is that an institution will not receive the customized feedback available upon completion of tools such as the EDUCAUSE self-assessment tool.

Step 3: Determine Who Will Complete the Questionnaire

Depending on the goals of your assessment, you may opt to include a small group of individuals (perhaps only one existing unit or team) or a large group of stakeholders (perhaps a group representative of data and analytics professionals, as well as various data users).

We suggest using the guiding questions in the "Assembling and Managing Teams for Analytics Initiatives" as you determine who to include. Although that resource focuses on team development, the same questions for building a team can be used to help you include various perspectives in the self-assessment.

Step 4: Build and Distribute the Assessment Questionnaire

Keeping your goals and timeline in mind, select which questions to include in your assessment questionnaire.

Depending on how many stakeholders will be invited to participate, either choose to develop a physical (pen and paper) questionnaire or to create an electronic questionnaire using any appropriate survey software.

Make sure you are aware of any important dates or "busy times" for stakeholder groups you plan on including. Select a launch date and a due date that is considerate of their schedules.

When distributing the assessment questionnaire, be sure to clearly communicate your goals and relevant logistical information (i.e., when and how the results will be used).

Step 5: Analyze and Discuss the Self-Assessment Data

Compile the data from individuals who completed the self-assessment questionnaire. As you do so, ask yourself—

- Do you notice any trends? Are there areas where stakeholders from across the organization agree? Are there topics/concerns where individuals in different units or departments disagree?

Keeping your audience in mind, organize the findings in a way that will be conducive to group discussions. For example, you may wish to put findings in a PowerPoint presentation to walk through with a small group, or, if you know your stakeholders' time may be limited, you may wish to email a brief memo with findings.

Step 6: Discuss Findings and Consider What's Next

Either convene all participants to discuss the findings, or if a large share of stakeholders completed the questionnaire, convene a smaller, but representative, group of stakeholders.

During the discussion, share what the findings show and ensure there is ample time for stakeholders to react and discuss. Be sure to use some of the discussion time to consider what steps your institution might take next.

Depending on what you learned during the self-assessment process (both from the questionnaire and the discussion), determine next steps. See the next slide for suggestions.

Next Steps

After completing the self-assessment, you may be ready to **Create and Manage a Data Strategy Plan** and can turn to that section of the playbook.

If you need to further assess your institution's current situation before moving on, you may consider one or both of these plays as a next step:

Conduct a Needs Assessment Focus Group

Identify Strengths, Weaknesses, Opportunities, and Threats

The self-assessment process may have also pointed to challenges with data governance and/or data literacy at your institution, and the playbook has resources to support those areas, too!

The Four Major Playbook Sections

Plays

Set a Vision for Analytics

Develop an Analytics Strategy Road Map

Generate Buy-In for a Data Product

Change With Analytics Playbook

Generate Buy-In for a Data Product

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Use this play to encourage use of new data products.

Data Products

Data products are assets created for stakeholders from data.

Common data products include—

- Dashboards
- Static reports (online or paper)
- Excel spreadsheets (e.g., interactive data, charts, reports)
- Predictive modeling/machine learning (ML) algorithms
- Data visualizations (e.g., graphs, charts, maps)

Play Summary

What — An executable plan to garner support for data products

Who — Individuals in charge of identifying and/or developing new data products

How — Develop a four-stage plan that is modified, as necessary, as the institution's needs evolve

When — Prior to discussions, meetings, and presentations (formal and informal) regarding plans for current and future data products

Generate Buy-In for a Data Product in Four Phases

Phase 1: Getting Ready

- Determine user pain points
- Understand key stakeholders and institutional culture
- Develop a strategy for user adoption

Phase 2: Getting Leaders Involved

- Bring them along on the journey
- Avoid weaponization
- Be transparent with the methodology

Phase 3: Working With Your Team

- Build the data product as a team

Phase 4: Following Up

- Gather feedback to continuously improve

Phase 1: Getting Ready–Determine User Pain Points

Why?

Pain points are areas where data users are experiencing frustration. Before sharing data in a different way through a new product, seek to understand the pain points so you can focus on what needs changing. Eliminating pain points will also help stakeholders feel their concerns were validated and addressed.

How?

Examine the user experience for the existing process or method, from accessing the information to making decisions based on it. Where in the current process are users experiencing frustration? Are there opportunities for one-on-one interviews or focus group discussions to capture the emotions, motivations, future concerns, and current frustrations of users around this data?

Phase 1: Getting Ready–Understand Key Stakeholders and Institutional Culture

Why?

Making information widely available can be potentially controversial. Stakeholders will likely have different perspectives, expectations, and needs regarding a new data product. Understanding stakeholders will help you develop a product that is more likely to be accepted and used, as will understanding your institution's analytics culture and success with change management

How?

Determine the key stakeholders for your product. How might their perspectives vary regarding how they use and interpret it? Consider creating user personas to understand the needs of different user groups. What are each persona's specific needs and expectations? How have past data products or initiatives been received? What can be learned from past initiatives about successful change management?

Phase 1: Getting Ready–Develop a Strategy for User Adoption

Why?

Developing a data product requires that stakeholders can effectively use it. Buy-in will be more likely if you have a strategy for empowering them to understand and adopt the data product into their work processes.

How?

Build on your stakeholder analysis to design training and onboarding for users. Work with key stakeholders from across the personas created above to develop a sense of community about using the data product. Ensure users have contact information for people who can help them. Develop a tips and tricks guide for users.

Phase 2: Getting Leaders Involved–Bring Them Along on the Journey

Why?

Support from leaders can increase adoption and buy-in for your new data product. Having champions among institution leaders can smooth the way for new processes and encourage development of a data-informed culture.

How?

Determine the key leaders who should be engaged in the development of the data product. Which leaders might become champions of using the new product? Consider how you will help those leaders who have a harder time adopting this new product in their areas. How you will demonstrate the value of this data for decision-making?

Phase 2: Getting Leaders Involved–Avoid Weaponization

Why?
Faculty and their leadership may sometimes be concerned about how data could be used punitively. To counter that, take steps to offer transparency and show purpose about how data will (and will not) be used.

How?
Establish clear data usage policies to define how the data will be utilized. Consider how the purpose and boundaries around data will be communicated clearly to stakeholders across the institution. It might be helpful to engage with your data governance processes as you address this issue.

Phase 2: Getting Leaders Involved–Be Transparent With the Methodology

Why?
Transparency is key to avoiding surprises and building trust in the data, the process for creating a new model, and the details for how it will be used.

How?
Determine how the team will document and share the process of building and testing the data product. At which points will feedback be requested and integrated? How will the team articulate the methodology behind the data product in a clear and understandable manner for users with varying levels of expertise?

Phase 3: Working With Your Team–Build the Data Product as a Team

Why? Building a quality product requires input from across the spectrum of institutional offices and functions that will use it. Including stakeholders from across the institution will create the kind of diverse team needed.

How?
As you build your team, consider who needs to be included in developing the product based on your goals and the skills needed. Are there specific cross-functional team perspectives that would be valuable? How will knowledge and expertise be transferred within the team, ensuring that all team members can effectively collaborate and contribute to the project?

Phase 4: Following Up–Gather Feedback to Continuously Improve

Why?
The work isn't complete when the product is released. Regular cycles of feedback and iterative product updates and development allow continuous improvement as the product is improved over time.

How?
Review the experience of data users now that the data product is being used, from accessing the information to making decisions based on it. Where in the process are users experiencing frustration? How will you capture feedback to better understand user experiences? How often will the data product be reviewed and improved?

Example: University of North Texas (UNT) Dashboard Development – Getting Ready

Develop a Strategic Question

For any institution-wide dashboard, UNT's analytics leadership thinks through: What is the strategic question that the institution is trying to address?

In this example, that question was, "How can we produce a trusted data tool that will be embraced by stakeholders for use in decision-making?"

University leadership is seeking to understand how academic programs are contributing to true operational costs in order to make strategic decisions at every level.

Without the detailed information from this tool, faculty and staff often equate more students with excess discretionary funds, without accounting for additional faculty costs or other related additional operating expenses, such as advising, utility usage, and custodial services.

Understand Key Stakeholders and Culture

A plan was developed for how to approach stakeholders from the onset, built around validating their existing contributions.

The UNT finance team considered how different colleges within the university would interpret the financial information presented.

The UNT chief financial officer (CFO) emphasized that the contribution margin dashboard was only one tool in the tool belt, but an essential one. If a chair wanted to strategically expand programming in an area that had inadequate contribution margin production, in order to cover the additional loss, some other expense either needed to be scaled back or other surplus-generating areas expanded.

This data product was a building block toward a new holistic way of helping academic leaders look at programming decisions.

Develop a Strategy for User Adoption

UNT is developing how-to guides and short training videos to remind users how to navigate the data available in all their dashboards.

UNT offers short videos about data properties and how to read dashboards as part of its broader data literacy program. It also hopes to embed guides and videos directly into each dashboard for specific guidance when users most need it.

One feedback channel is UNT's Teams channel, to which all trained analytics users are automatically added. The channel is an immediate feedback loop for users to ask questions, get answers, and provide feedback to the analytics designers.

Example: UNT Dashboard Development – Getting Leaders Involved

Bring Them Along on the Journey

At UNT, the CFO and budget office staff began meeting with various academic deans and the provost to talk through the contribution margins tool while it was still in the development stage. They met again with several key representatives of the group before the tool was released to offer a preview and get feedback.

Several of the individuals who engaged shortly before the tool was released had provided input at the beginning of the process, so the insight in the model was seen as a solution to their requests and, thus, was more likely to be embraced.

Stakeholders were also again asked what other information they hoped to see and how they would use the data product.

Avoid Weaponization

Before the model was released, the CFO led robust discussions with leaders in academic affairs and with the president about the different value each program brings to the institution (e.g., reputation, research outcomes, starting salaries, production of graduates in societal high-need areas, and contribution margin). The contribution margin model is just one way to assess program outcomes and should not be considered in a silo.

Specific examples were provided. For example, in one academic program, the university had an excellent reputation, but margins were not favorable. However, the reputational gains far exceeded the unfavorable margins.

Ultimately, a certain number of programs need to have sufficient positive financial outcomes, or the institution will not achieve its mission.

The CFO led a conversation in the deans council regarding access to the model insights. The deans engaged in robust discussion regarding advantages and disadvantages to distribution of the information at different levels, and they were included in the decision about how much they would distribute.

The president and cabinet were shown the model and appreciated its insights.

Example: UNT Dashboard Development – Getting Leaders Involved (Continued)

Be Transparent With the Methodology

UNT was careful to document and share who was involved in each step of building and testing the model. Their contribution margins dashboard is tied back to the institution's ledger, and there is transparency about which data are being used and how.

The cross-team approach and the need for building trust and feedback along the way led to a longer time frame, but the time spent garnering buy-in was key to the success of the tool.

All data elements were governed using the institution's data governance dictionary. Teams partnered together to develop definitions and ensured that they were transparently documented.

Schematics were built for internal explanation purposes, as well as documentation around the models deployed.

Example: UNT Dashboard Development – Working With Your Team

The UNT Experience: Build the Data Product as a Team

UNT pulled together members of the budget office, including its finance analytics group, as well as staff from data, analytics, and institutional research (IR), to collaborate in building the contribution margins dashboard. Each area provided specific expertise on the data they knew best.

The university then validated the data with staff across the institution, including the academic finance team, student accounting, finance, etc.

Through this iterative process, UNT brought in additional voices and built trust, both in the validity of the model and in the process.

The Four Major Playbook Sections

Plays

Define Data Governance Roles

Write a Data Governance Charter

Facilitate a Data Steward Self-Assessment

Change With Analytics Playbook

Facilitate a Data Steward Self-Assessment

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Facilitate conversations with data stewards about their roles and responsibilities while empowering them to support the institution's Data Governance Program.

Play Summary

What

A self-assessment tool to promote discussion about roles and responsibilities among data stewards, as well as future training opportunities

Who

Data stewards and other key data and analytics stakeholders who need to understand the data steward role

How

Individual preparation in advance to review and add to the survey items, completion of the self-assessment by individuals, and discussion among data stewards and key stakeholders to understand data steward roles and address opportunities for future trainings

When

As part of an effort to Build and Support a Data-Literate Community, with encouragement to review the other plays in that section of the playbook

Note

Different institutions maintain different categories of data stewards. An institution will need to have a clear sense of data steward categories and roles to effectively use this tool.

Facilitate a Data Steward Self-Assessment in Three Steps

Step 1
Clarify Goals

Step 2
Identify Survey Items

Step 3
Adapt the Data Stewardship Self-Assessment

Step 1: Clarify Goals

Start by identifying the *why* of this play—

- **What is the purpose of using a data stewardship reflection tool in our context?**
- **What challenge are we trying to address?**
- **Who will participate in using this tool?**
- **How often will we distribute the tool?**

Step 2: Identify Survey Items

Create your assessment instrument by selecting questions from the following list

Section 1: Data Governance Familiarity and Responsibilities

- ❑ I am familiar with the institution's Data Governance Program
- ❑ I am familiar with the institution's Data Governance Policy and related policies
- ❑ I view data as an institutional resource, maintain broad institutional knowledge of data, and deeply understand datasets in my responsibility area, as well as how that data may be used across the institution
- ❑ The data asset(s) I steward are listed in a Data Asset Inventory and are current, clear, and complete
- ❑ I participate in development activities related to my role as a data steward

Section 2: Active Data Stewardship

- ❑ I am an active member of a Data Stewards Committee and share my questions and feedback to help move our team and the Data Governance Program forward
- ❑ I create functional data definitions and define and document processes that relate to usage
- ❑ Where necessary, I ensure that anyone else responsible for data is named, receives training, and follows data management practices
- ❑ I have added to the Data Dictionary terms, definitions, and other information for all terms related to data asset(s) in my area of responsibility

Step 2: Identify Survey Items (Continued)

Section 3: Data Management

- ❑ I know or can locate our key data definitions and standards
- ❑ I understand the policies and procedures in place for managing relationships with third-party solutions providers related to data
- ❑ My institution continuously ensures the accuracy, completeness, and reliability of data
- ❑ I follow policies and procedures for data storage and backup in a way that maintains accessibility, security, privacy, and institutional best interests
- ❑ I know how the institution manages data ownership and intellectual property rights

Section 4: Data Security and Privacy

- ❑ I understand the legal and regulatory requirements for data privacy and security
- ❑ I follow the institution's policies and procedures for ensuring data privacy and security
- ❑ I understand the risks associated with collecting and using data and how the institution mitigates those risks
- ❑ I follow institutional policies that address relevant national and international security policies, such as the Family Educational Rights and Privacy Act (FERPA), the Health Insurance Portability and Accountability Act (HIPAA), and the General Data Protection Regulation (GDPR)
- ❑ I follow institutional policies for sharing personally identifiable information (PII) data
- ❑ I understand how the institution handles third-party contracts and details related to data protection, ownership, security, and privacy

Step 2: Identify Survey Items (Continued)

Section 5: Records Management

- ❑ I understand and follow the institution's record management process
- ❑ I know who is responsible for maintaining and preserving data
- ❑ I know what data should be retained, for how long, and why
- ❑ I know where data are archived
- ❑ I understand how much storage will be needed for different data
- ❑ I understand the risks for future access to data (i.e., proprietary software, potential for obsolete file formats, password-protected systems, etc.)
- ❑ I understand our records management requirements, policies, and regulations
- ❑ I use the institutional systems and processes to manage archiving, saving, and deleting data consistent with requirements, policies, and regulations

Section 6: Open-Ended

- ❑ In the space below, please share any comments about your perception of the data steward role

Step 3: Adapt the Data Stewardship Self-Assessment

To adapt the tool for your institution's context, consider—

- Will we design our data stewardship reflection as a self-assessment Likert scale (with 5 = strongly agree, 1 = strongly disagree, for example)? Or will it be more of a yes/no or a checklist?
- What data governance policies and procedures should you review in order to align the list of responsibilities with the specifics from your institution?
- Where should the listed terminology be adapted to your context? For example, which terms for different types of data steward do you utilize?
- Are there any qualitative questions you'd like to add to your adaptation of the tool?
- How will you share the results with data governance leadership? Will results be included in a report to demonstrate overall self-perceived competence among data stewards?
- How will you share results with participants? What follow-up should take place to help train data stewards when gaps in understanding emerge?

Example: Arcadia University's Data Steward Self-Assessment

Below are the Data Steward Self-Assessment questions used by Arcadia University.

Strengths

- ❑ I am familiar with the university's Data Governance Program
- ❑ I am familiar with the university's Data Governance Policy and related policies
- ❑ I view data as an institutional resource, maintain broad institutional knowledge of data, and deeply understand datasets in their responsibility area, as well as how that data may be used across the university
- ❑ The data asset(s) I steward are listed in the Data Asset Inventory and are current, clear, and complete
- ❑ I participate in development activities related to my role as a data steward

Opportunities

- ❑ I am an active member of the Data Stewards Committee and share my questions and feedback to help move our team and the Data Governance Program forward
- ❑ I create functional data definitions and define and document processes that relate to usage
- ❑ Where necessary, I ensure that data guardians are named, receive training, and follow data management practices
- ❑ I have added to the Data Dictionary terms, definitions, and other information for all terms related to data asset(s)

Open-Ended

- ❑ In the space below, please share any comments about your performance as an Arcadia University data steward

How Arcadia University Utilizes This Resource

Arcadia University developed an internal Data Steward Self-Assessment and based it on the description of the data steward roles and responsibilities articulated in the university's Data Governance Policy.

Every April, Arcadia University asks all data stewards to participate in this voluntary, confidential self-assessment that takes approximately 10 minutes to complete via Qualtrics.

The Data Stewards Working Group shares the results from the self-assessment, with a focus on strengths and opportunities for growth.

- For example, when responses indicated that data stewards did not feel familiar with certain aspects of their responsibilities, specific trainings were developed to help clarify responsibilities
- At another point, results from the tool pointed toward a need to expand the Data Dictionary Working Group and empower data stewards to tweak definitions, as needed

Arcadia University aggregates and reports the results in its annual Data Governance Report, including a word cloud from the open-ended question.

The Four Major Playbook Sections

Assess the Current State of Analytics

Create and Manage a Data Strategy Plan

Develop and Maintain a Data Governance Program

Build and Support a Data Literate Community


Plays
Make Data-Informed Decisions
Tell a Story With Data
Help Data Consumers Understand Ethical Data Use
Work With Data Stewards to Reduce Bias

Change With Analytics Playbook

Make Data-Informed Decisions

changewithanalytics.com

air EDUCAUSE NACUBO

This play guides you through the process of data-informed decision-making leading to actionable steps.

Play Summary

What — A series of meetings to work through a set of steps for data-informed decision-making

Who — Key data and analytics stakeholders and institutional leaders looking to make data-informed decisions

How — Engagement in a series of meetings to determine the right question, interpret the analysis, make a decision, and determine next steps

When — Once an institutional vision and strategy for analytics have been determined and leaders are increasingly making data-informed decisions (relevant plays to complete before this one include Set a Vision for Analytics and Develop an Analytics Strategy Road Map)

Meeting #1: Determine the Right Questions to Ask

Consider—

- What problem are we trying to solve?
- Which program, department, or unit is our focus?
- Who is the focus (faculty, new transfer students, etc.)?
- What period of time are we concentrating on?
- What data sources will we use?

Example Questions:

- **Not actionable:** How many participants did we have in each of our student success programs this fall?
- **Actionable:** At which stage of each program did we see the greatest drop-off in participation among transfer students?

Beware of bias in questions

- Are there any groups that we are unintentionally excluding by how we've framed this question? Will this question help us be open to data-informed findings, or are we (unintentionally or otherwise) seeking to confirm our existing assumptions?

Preparing for the Next Meeting

Once you have determined an actionable question to ask, work with your data analysis staff to access and analyze the appropriate data.

Share the results with the stakeholders who attended Meeting #1 and ask them to review the results before your next meeting.

Keep in mind that, after looking at the data, you might need to go back and ask more detailed questions or otherwise change your question before proceeding. This back and forth is often necessary as you learn the best questions to ask to support your decision-making.

Meeting #2: Interpret the Analysis, Make a Decision, and Determine Next Steps

Interpret the Analysis

- What is this data telling us related to the question(s) you asked?
- What surprises us about the data?
- What is confirmed by the data that we already knew?
- What factors may explain some of the patterns we see?
- How might we eliminate or decrease bias in our interpretation of the data?
- Do we have all the data we need to understand what is happening, or do we need to reframe the question and start again at Step 1?

Make a Decision

- What are our options?
- How do the data lead to different decisions?
- How should our or others' experience impact the decision?
- How does our knowledge of the context impact our decision?
- How do the institution's (or those of the unit/department) strategic priorities factor into the decision?
- Do we understand enough data, experience, and knowledge to make a decision, or do we need to go back to Step 1 and rethink our question?

Determine Next Steps

- What response does this data warrant?
- Who should be informed of the decision?
- How do we move this to action?

Meeting #3: Review the Decision and the Process

Did the actions address the original problem?

- If not, why not?
- What should be done to address any outstanding issues?
- Was additional data needed?

Was the decision-making process effective?

- What went well?
- What should we do differently in future decisions?
- Should other stakeholders have been included?

Next Steps

Continue to develop a data-literate community at your institution through using these plays:

Generate Buy-In for a Data Product

Tell a Story With Data

Help Data Consumers Understand Ethical Data Use

Work With Data Stewards to Reduce Bias

Example: University of Maryland, Baltimore County's (UMBC's) Test-Optional Journey

Determine the Right Question(s) to Ask
UMBC went test-optional due to the COVID19 pandemic. Enrollment management, in concert with the provost and deans, asked: What was the impact of moving to a test-optional policy (a) on the size, composition, and academic quality of the university's enrollment funnel and (b) on indicators of academic quality and performance of cohorts admitted under this policy? A series of analyses informed whether the institution should continue this policy post-pandemic.

Gather the Data
Data were sourced from UMBC's data warehouse admissions, enrollment, and course registration tables. Cohorts were analyzed pre- and post-policy change.

Analyze the Data
The analysis progressed from a set of descriptive analyses to a set of multivariate analyses, examining several outcomes of interest. First, a five-year trend analysis was conducted to examine social demographic and outcome trends prior to the policy change. This was used as a point of comparison when examining data post-policy change. Next, a series of bivariate and multivariate analyses were conducted to understand any differences in the academic performance of test-optional and test-submitting students, controlling for various demographic characteristics. Ultimately, multivariate regression (linear and logistic) models were developed to understand factors contributing to credit accumulation, term academic performance, and retention while considering test-optional status.

Example: UMBC's Test-Optional Journey (Continued)

Interpret the Data
A first look at the data revealed substantively significant differences in pre-enrollment characteristics between test submitters and nonsubmitters, as there were more students coming from different high schools. Given these findings, UMBC examined early indicators of success, including withdrawal rates and early academic alerts. Results showed that test-optional admits were more likely than test submitters to withdraw midsemester from a course and to receive an early alert (early alerts are not mandated). These results prepared the enrollment management team, provost, and deans on what to expect for the first year of policy implementation.

Make a Decision
The decision for fall 2023 was to continue with test-optional admissions, since the first semester and first-year outcomes from the fall 2021 cohort demonstrated that submitters and nonsubmitters had comparable first-year cumulative grade point averages (GPAs) and were retained at comparable rates to the sophomore year. This was despite test submitters being more likely than nonsubmitters to earn more attempted credits, progress to a sophomore status (> 30 credits), and complete one's math general education requirement within the first 30 credits.

Determine Next Steps
UMBC felt it could attend to these issues with an established and robust set of intervention and outreach efforts through its Undergraduate Academic Affairs (UAA) division to identify priority audiences to engage with who would bolster academic performance and retention. The UAA is an essential partner in the ongoing analysis, and Institutional Research, Analysis, & Decision Support (IRADS) collaborates with UAA and enrollment management to calibrate and collectively discuss results to decide how to move forward.

Additional analysis makes it possible to understand changes over time in the first cohort post-policy, as well as subsequent cohorts under the policy change. As more data become available with more time in the system for the test-optional cohort, additional multivariate analyses will be conducted to understand the performance of cohorts under the test-optional policy during their tenure at UMBC.

Example: UMBC's Test-Optional Journey (Continued)

Review the Decision
UMBC's test-optional assessment plan is an iterative process, and with each cycle of assessment, UMBC innovates to account for new questions and outgrowth of organizational learning.

Review the Process
UMBC's team continues to examine outcomes associated with moving to a test-optional policy, including: (a) impacts on the size, composition, and academic quality of the university's enrollment funnel; and (b) changes in indicators of academic quality and performance of cohorts admitted under this policy using a series of analytical methods while controlling for test-optional status. The team is also examining longer-term outcomes, such as persistence to the sophomore and junior years, especially by majors. Currently, UMBC is examining how the social and academic indicators of students' high schools are related to students' decision to go test-optional and their performance at UMBC. This may inform partnerships between high schools and UMBC, as well as transition programs and advising to best support students' early success and long-term persistence.


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Special Thanks Again To:

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