Culminating **Artifact** Project for Data Driven Decision Making I

Getting Started with Data Driven Decision Making: A Workbook

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Directions

Could you use more help thinking through how to use data to help your organization make decisions? If so, you're not alone. Recent reports on how organizations are using data has shown that although most are relying heavily on data, a number are doing very little to measure their work.

Measuring may not be as difficult as you suspect. Experts agree that simply starting to track a few strategic metrics is a huge step toward a more data based decision making based culture. Once an organization has data that they can use to make decisions, they will often start to want more. A few, straightforward metrics can start the snowball rolling.

Getting started with data driven decision making isn't a trivial process, however. What metrics will be useful and actionable—but, not require a ton of time to collect and understand? How do you define and communicate data in order for your organization to make decisions? This workbook will help you to start applying what you have learned in this course, and will also help you to start answering critical questions.

Starting with a question of interest that you want to explore, either in your current organization or a future organization that you want to work with, this workbook will guide you through the process of using DDDM. You will start with the first worksheet and proceed in order through the entire workbook. The workbook will walk you through the process of choosing and refining initial metrics, defining how you will collect the data, and explaining how to disseminate that data for decision making.

Don't feel overwhelmed by data. The journey to data-based decision making, like any, begins with the first step. In this case, you will begin with the first worksheet. Once you start defining the metrics that will help your organization, you may find that it's easier than you thought!

After all of the workbook pages are complete, you will submit and upload the final completed version into Module 4.

This artifact project will become part of your e-portfolio in your Capstone course.

Introduction

Create an introduction section where you should fully describe the organization, your role, and the overall area of concern (Minimum requirement: 250 words).

I work at Laredo College, an institution of higher education Texas on the US/Mexico border that offers two and four-year degrees. I have been blessed to serve the Laredo College community for over thirteen years and have worked in several departments: I started at the Yeary Library, then I went to the Enrollment and Registration Center and finally I moved to the eLearning & Instructional Innovation Center. Throughout all the positions I have held, the main goal has been to provide exceptional service. Today, as the Technology & Multimedia Specialist at the eLearning Center, I am lucky to offer technical support to both students and faculty. The eLearning Center team oversees Canvas, the Learning Management System for the institution, and as a result serves the entire academic population of the College. We are responsible for assisting with Canvas and all associated technology. We are also continually looking and testing new technologies that can be implemented to assist faculty and students to meet their academic goals.

My overall concern is retention of students in online classes. Students enroll because they want to improve their lives. The mission of the College is to help these students succeed in their academic goals. One of the main challenges faced by students in virtual education is how to succeed in their classes and stay enrolled through the end of the semester. Many students end up dropping their classes after the Census Day, when they no longer qualify for a refund. When students drop after the census date, they lose out on the tuition money they paid for their classes. Furthermore, it creates frustration and stress because they are unable to complete their courses, and unfortunately for both the student and the college, many students do not return after dropping their classes. When students don’t complete their educational goals, it affects their self-esteem, earning power, and life prospects. Finally, the college also suffers the loss, through decreased enrollment which leads to reduced funding, placing stress on numerous departments.

1. Define Your Action Question

This workbook is designed to help you hone some of the metrics that will be practical and meaningful for you in a particular area. To focus your efforts more productively, start by identifying the general area you want to explore in more detail. Choose an item from the box to the right that resonates with you, or define your own based on a topic your organization is most interested in.

What is an area you want to explore?

Retention in Online Classes

Now, **define a particular action question** within that area. It's not going to be easy—your action question must be specific enough to be measurable and to help you decide how to move forward, but also important enough to really matter to your organization. Let's start by brainstorming.

What are some tactical questions you would ideally like to be able to answer in the area that would help your organization improve?

When do students start dropping their online classes?

Why do students drop their online classes?

Can we use data from the student drop form to improve retention rates?

Will changes in course design improve retention rates?

Does accessibility play a role in student retention rates in online classes?

POSSIBLE ORGANIZATIONAL AREAS FOR EXPLORATION

- *Recruiting clients*
- *Eficiency of a process*
- *Projecting future income*
- *A specific program*
- *Annual campaign*
- *Facebook outreach*
- *Email list-building*
- *Staff development*
- *Staff recruitment*

... Or choose your own

WHAT MAKES A GOOD QUESTION?

Stumped as to the type of question we're looking for? Try to think of something that will help your organization improve and that you can have an impact on—but that can also be tested and measured. For example, "How can we improve fundraising?" is too broad—it's not easy to pin down what you would specifically do to affect or measure it. "What's our email open rate?" is too narrow and it's not clear how it relates to organization goals. Look for a question that's both important and detailed enough to be testable, such as "Is our blog worth the time we spend on it?" or "How can we improve program attendance?"

Let us drill a little more deeply into those questions. Refer to the questions you defined above by number.

QUESTION	Will the answer to this question help you improve as an organization?		Will your actions as an organization affect the answer to this question?		Can numbers help you answer the question? (If yes, which KPI is useful?		Is the question testable? Can you create a hypothesis about a potential answer, and then test it?	
	Yes/ No	Why or why not?	Yes/ No	Why or why not?	Yes/ No	Why or why not?	Yes/ No	Why or why not?
1.	Yes	Identifying peak drop times can trigger action plans to increase retention, leading to increased funding and higher success rates.	Yes	The actions of employees in many departments determine whether a student will stay in an online course to the end the semester.	No	I could not find a KPI that is applicable to identifying time.	Yes	An educated guess can be made as to when students drop, and then the data can be pulled from Banner to validate/invalidate the hypothesis.
2.	Yes	Knowing the answer to this question will help identify areas of improvement in the areas of student service and academics	Yes	Once we understand why students drop, training plans can be put into place to improve the impact employees have.	Yes	The Customer Retention Rate KPI can be used to determine why students drop.	Yes	A hypothesis can be drafted as to the main reasons why student drop their online classes, and then data can be retrieved pulling the drop codes from Banner.
3.	Yes	Increasing the number of students who stay in their online courses throughout the semester will lead to increased funding and higher success rates.	No	The answer to this question relies on whether data can be used to improve retention and does rely on the actions of the organization.	No	This question involves the possibility of interpreting existing data and there is no KPI for that.	Yes	A theory can be developed as to the success of using existing data and then trials can be carried out to prove/disprove it.
4.	Yes	Increasing the number of students who stay in their online courses throughout the semester will lead to increased funding and higher success rates.	No	Course design is only handled by the eLearning Team, and the faculty.	Yes	After making changes to course design, we can pull drop rates from the next semester and compare for improvement. The Customer Satisfaction KPI can be used.	Yes	A hypothesis can be made, and then courses with high drop rates can be redesigned. We can then review the number of students who dropped to see if the retention rate improved.
5.	Yes	The answer to this question can potentially benefit the quality of instruction across all disciplines of instruction at the College.	No	The answer to this question relies on the available data.	Yes	The Customer Retention Rate KPI can be used to determine whether courses with accessible content improve student retention rates.	Yes	A theory can be developed and then the accessibility issues in courses with high drop rates can be resolved. We can then review the number of students who dropped to see if the retention rate improved.

Think through the answers you gave above. For one or more of the questions, were you able to answer “Yes” in all of the boxes? If so, pick one of those questions to explore with this workbook, or combine multiple questions together to define one overarching question. (Note that if you combine multiple questions into one, you need to plug it into the table above to make sure it fits all the criteria.) You must end up with an action question that will be the framework for the rest of this workbook.

Write your single action question here:

How can we reduce the number of students who drop their online classes?

Did you answer “No” to at least one of the criteria for all of your questions in the table above? If so, those questions will be difficult to answer using metrics. Brainstorm some other questions that are important but also measurable to get to a place where you can define an **acton question** that will be the framework for theremainder of this workbook.

2. What Does This Question Mean To Your Organization?

What would different people in your organization want to know about this question in terms of how it affects their own jobs? How much does each person care about the information at all? It's likely that there are a number of different perspectives about it. Not sure what people would like to know? Ask them...

In the mock organization chart below, do two things:

- In the small box in the upper left, define how important the information would be to each type of role in your organization (High, Medium, or Low).
- In the larger space in each box, list some of the key pieces of information that a person in that role in particular might be interested in seeing. Don't worry about what's possible or practical just yet, simply brainstorm what they'd ideally like to see.

FOR EXAMPLE High | Owner • Summary of attendance numbers • High level of demographics	High | **VP of Student Services** Tally of student responses as to why they are dropping their classes Total number of students who have dropped in each term	High | **Faculty** Fewer students dropping their classes Clear ideas for ways they can improve their instruction to increase retention	High | **Provost** Improved student satisfaction rates Improved student retention rates
Medium | **Dean of Arts & Sciences** Highlighted areas for improvement in instruction Improved student success rates	Medium | eLearning Center Director Highlighted areas for improvement in course design Fewer students dropping their online courses		

Now that you've thought that through, do a reality check: Do other people care about this question too? If you're the only person who really cares, is it an important question for your organization?

3. How Will You Know What the Right Metrics are?

Soon we'll define metrics to help you answer your question. Metrics provide a numerical yardstick to help you determine whether your efforts are making a difference—and if so, in what direction. Before we go too far down that road, think through how you'll judge whether the metrics will actually help you define what you really want to know.

There are different ways to think about this. Answer the questions below – this step will help you make the most sense of your overall action question. Write a brief description of what success will look like in this process.

1. **What specific decisions do you want to be able to make based on the answer to your question?**

   1. **We can hire 2 additional counselors assigned to online students who will track their progress and reach out to at-risk students before they drop.**
   2. **We can send students through mandatory counseling to see if intervention or arrangements can be made before they drop.**

2. **What things will you need to understand in order to feel you have real knowledge to address your question?**

   1. **What are the reasons students are dropping their online classes?**
   2. **Which classes are being dropped the most?**

3. **Will any answer to your question feel like success, or will you need to achieve a specific result to feel successful?**

   1. **Any answer will feel like a success, because it will point us in the right direction and show us where our processes can be improved.**

4. What Could You Measure?

There are a lot of different things you could measure for any given thing. Brainstorm the different actions you could take that might have an impact on your overall question and the metrics you could use to measure it. A metric is a number—often a KPI, a count, or a percentage—that measures your success in an area.

1. WHAT ACTIONS COULD YOU TAKE THAT WOULD HAVE AN IMPACT ON YOUR ACTION QUESTION?

Action	What **metric** could you use to measure this? At least one KPI should be used.	Who has the abilityto affect the measurement? Is it something you could change through your actions?	If you were to measure this, how many people in your organization would care?	To what extent would seeing a measurement for this help you improve your organization?	To what extent would your org's actions quickly result in a changeto the measurement?	Now sum upthe last three columns to create a Usefulness Score
	For instance, # participants, % satisfaction, # Units provided.	Who? And, Answer Yes or No about self.	1= Almost No One 5= The Whole Organization	1= Only slightly 5= Completely transformed	1= Very hard to see change 5= Actions visibly change metric almost immediately	
Determine the number of online classes that are dropped	KPI: Customer Retention Rate - # of classes that are dropped per semester	Instructors, Students Not Myself	3	3	4	10
Determine at what point in the semester do the drops happen	% of semester remaining when students drop	Instructors, Students, Counselors Not Myself	3	3	2	8
Identify which classes have a high drop rate	KPI: Customer Retention Rate - # of classes that have a high drop rate	Instructors, Students Not Myself	3	3	4	10
Determine the reason students drop	KPI: Customer Satisfaction Index - # of drops per drop code	Instructors, Students, Counselors Not Myself	3	3	3	9

2. WHAT ACTIONS COULD YOUR CONSTITUENTS TAKE THAT WOULD AFFECT YOUR ACTION QUESTION?

Action	What **metric** could you use to measure this? At least one KPI should be used.	Who has the abilityto affect the measurement? Is it something you could change through your actions?	If you were to measure this, how many people in your organization would care?	To what extent would seeing a measurement for this help you improve your organization?	To what extent would your org's actions quickly result in a changeto the measurement?	Now sum upthe last three columns to create a Usefulness Score
	For instance, # participants, % satisfaction, # Units provided.	Who? And, Answer Yes orNo about self.	1= Almost No One5= The Whole Organization	1= Only slightly 5= Completely transformed	1= Very hard to see change 5= Actions visibly change metric almost immediately	
Track at-risk students and intervene	KPI: Customer Retention Rate - # of students that are identified as at-risk	Counselors, Instructors Not Myself	3	3	4	10
Provide counseling to students prior to dropping	KPI: Customer Satisfaction Index - # of students that receive counseling prior to dropping	Counselors Not Myself	3	3	2	8
Improve course design of high drop rate classes	KPI: Customer Satisfaction Index - # of courses that are redesigned	eLearning Center, Instructors Myself	3	3	4	10

3. WHAT ACTIONS COULD OTHER PEOPLE TAKE THAT WOULD AFFECT YOUR ACTION QUESTION EVENIF THEY AREN'T IMMEDIATELY ASSOCIATED WITH YOUR ORGANIZATION?						
Action	What **metric** could you use to measure this? At least one KPI should be used.	Who has the abilityto affect the measurement? Is it something you could change through your actions?	If you were to measure this, how many people in your organization would care?	To what extent would seeing a measurement forthis help you improve your organization?	To what extent would your org's actions quickly result in a change to the measurement?	Now sum up the lastthree columns to create a Usefulness Score
	For instance, # participants, % satisfaction, # Units provided.	Who? And, Answer Yes or No about self.	1= Almost No One 5= The Whole Organization	1= Only slightly 5= Completely transformed	1= Very hard to see change 5= Actions visibly change metric almost immediately	
Seek out counseling before dropping	KPI: Customer Retention Rate - # of students that voluntarily see a counselor before dropping	Students, Counselors Not Myself	2	3	3	8
Student feedback	KPI: Customer Satisfaction Index - % Satisfied Students	Students Not Myself	2	4	5	11

Based on the rows where you have indicated the highest total score in the right hand column (and your gut reaction to how well the total score reflects reality), ***choose six that seem promising for exploring your action question***. For each, copy the **Metric**, from the second column, and the overall sum for that row into the table below.

Metric – Describe the metric fully	Sum (Usefulness Score)
Determine the number of online classes that are dropped KPI: Customer Retention Rate - # of classes that are dropped per semester	10
Identify which online classes have a high drop rate KPI: Customer Retention Rate - # of classes that have a high drop rate	10
Student feedback KPI: Customer Satisfaction Index - % Satisfied Online Students	11
Track at-risk students and intervene KPI: Customer Retention Rate - # of students that are identified as at-risk	10
Improve course design of high drop rate online classes KPI: Customer Satisfaction Index - # of courses that are redesigned	10
Determine the reason students drop online classes KPI: Customer Satisfaction Index - # of drops per drop code	9

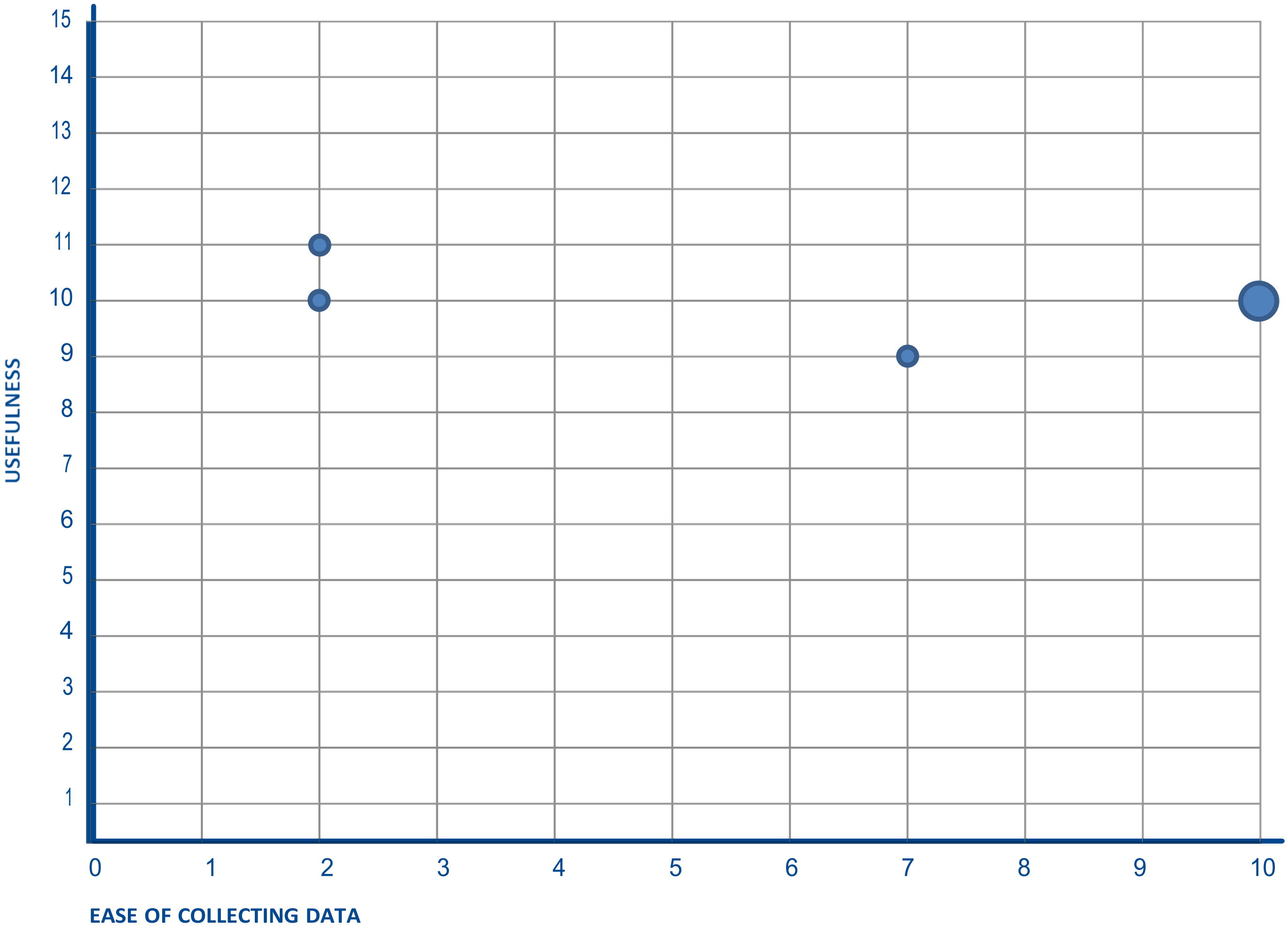
5. What Data Do You Have?

The next step in this process is to identify the data sources for the metrics you've said you'd like to track (if you can't collect the data, then you won't be able to track that metric). For each of the six **metrics** you defined on the previous page, think through the data you have (or can collect) that relates.

Metric (from previous worksheet).	What related data is currently **manually entered** into a system?	What related data is **automatically tracked** by a system?	What additional relevant data about actions, perceptions, or processes could be collected that is not currently collected?	What related data could you **get from other** organizations or public sources? Where could you get it?	Looking across what you've written for each column, score the overall ease of collecting data to get this metric. 1 = Would require vast new investment 10 = Already have it
KPI: Customer Retention Rate - # of online classes that are dropped per semester	Student drop codes are entered manually in the Banner Student Information System by Registration staff when students drop on/after the first day of class	None	None	Comparison data of the same metric from competing colleges	10
KPI: Customer Retention Rate - # of online classes that have a high drop rate	None	None	Course subject	Comparison data of the same metric from competing colleges	10
KPI: Customer Satisfaction Index - % Satisfied Online Students	None	None	Quality of students' personal situations/ home life, and family income	None	2
KPI: Customer Retention Rate - # of online students that are identified as at-risk	None	Passing/Not Passing grades are recorded automatically in the Canvas LMS	Level of education of students' parents	None	2
KPI: Customer Satisfaction Index - # of drops per drop code	Student drop codes are entered manually in Banner by Registration staff when students drop on/after the first day of class	# of drops is recorded automatically in Banner	Quality of students' personal situations/ home life, and family income	None	10
KPI: Customer Satisfaction Index - # of courses that are redesigned	The courses are redesigned manually in the Canvas Learning Management System (LMS)	None	Complexity of course subject, whether English is the students' first language	None	7

6. Find The Metrics That Make Sense For You

You've rated the usefulness of each metric (in Worksheet Four), and the difficulty of getting the data (in Worksheet Five). Now plot each metric using those two scores.



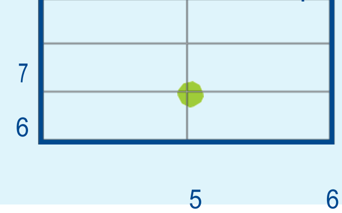
It likely makes sense to start with the metric that is closest to the top and right of the plot. Choose one metric (or a small number) that will provide you the biggest bang for the buck. As you grow comfortable with that metric, you may want to add more that also seem useful into the mix.

What Metric will you start with?

KPI: Customer Retention Rate - # of online classes that have a high drop rate

HOW TO PLOT YOUR METRICS

If your metric had a sum of 6 according to worksheet four, and a score of 5 according to worksheet five, then you'd plot that metric like this example.



7. The Metric Creation Process

Even if the data is readily at hand, the metrics won't create and distribute themselves. It's important to map out the flow of how the data will become an accurate metric—both to make sure you've thought it through, and to acknowledge the actual work that will be required to ensure success. Think through this process for your metric.

Data Sources?

Request reports from the Information Technology Department (IT) of student drop data from the Banner Student Information System

How is this data entered into a system?

Student drops are processed in Banner when students drop their classes – online through PASPort, in-person at the Registration Center, or when faculty drop them for non-attendance.

What's the incentive to ensure it's entered?

Students must drop themselves or request to be dropped or they will receive a failing grade in their course which will affect their Grade Point Average and financial aid eligibility.

Where is it stored?

Data from Banner is stored on a server at the IT Department.

Who creates the metric from the data?

The Associate Dean of Enrollment Management and Student Success as well as the Dean of Academic Innovation & Technology would be responsible for creating the metric from the data.

Who distributes it?

The Associate Dean of Enrollment Management and Student Success as well as the Dean of Academic Innovation & Technology would be responsible for distributing the metric from the data.

Who's in charge of this whole process?

The Vice-President of Student Success and Enrollment would oversee the process.

How will you spot check to ensure the metric accurately reflects reality?

When the reports are received from the IT Department, random records will be spot-checked for accuracy against the actual data reflected in Banner.

8. Define A Process for Using Them to Make Decisions

You not only need a process for creating your metrics—you need a process to actually use them. This is one of the most critical steps.

How frequently will you create the metrics?

Metrics will be measured after the Census Day for the course/term, and again after the last day to drop with a “W”.

Who will they be distributed to?

Metrics will be distributed to all Deans, Department Chairs (Academic and Workforce), and Faculty

In what meetings will they be used?

The metrics will be used in any meetings where student enrollment numbers, student retention rates, and the state report are discussed.

What decisions shouldn’t be made without them?

Decisions about how many online sections are offered per semester and which instructors should be assigned to teach online sections should not be made without this information.

How frequently will you plan to adjust your actions based on what the metrics say?

The metrics will affect how online courses are designed and will be evaluated before the course design period for each semester.

How frequently will you check in on whether the metrics themselves are an effective way to measure? and What you’re trying to measure?

The metrics themselves and reevaluation of whether the KPI still applies will be evaluated yearly during the time of year when the Institutional Effectiveness Department requires departments to complete their annual objectives. Overall evaluation of the success of the metric measurement process will also be taken on annually at the end of Summer Session II.

9. Create an Implementation Action Plan

Congratulations! You've defined a strategy to create and use metrics to measure a core question for your organization. But a strategy is one thing, and implementation is another. To speed you on your way to a successful rollout of your metrics, think through the implementation steps.

People You'll Need to Get Onboard

Who are the core individuals who will need to buy in? Think through both the official people who need to be onboard and the other people who might become barriers if they're not included. List them below. Then think through the right way to include them in the process: Email? Presentation? Discussion?

Person or Group	Method of Including Them
Director of Information Technology Department	Zoom Meeting, Email
Associate Dean of Enrollment Management and Student Success	Zoom Meeting, Email
Dean of Academic Innovation & Technology	Zoom Meeting, Email
IT Programmer	Zoom Meeting, Email
Registrar	Zoom Meeting, Email
Associate Registrar	Zoom Meeting, Email
Director of eLearning & Instructional Innovation Center	Zoom Meeting, Email
Vice-President of Student Success and Enrollment	Email
Provost	Email

Processes You'll Need to Define

On the previous worksheets, did you define processes for collecting, analyzing, or distributing metrics that need to be more fully fleshed out? If so, define what they are and how you'll put more detail around them. Maybe another meeting? More documentation? A larger project?

Process	Method of Defining
Request reports from the IT Department of student drop data from the Banner Student Information System.	Meeting with IT Programmer, to identify what information is needed and at what time.
When the reports are received from the IT Department, random records will be spot-checked for accuracy against the actual data reflected in Banner.	Meeting with eLearning Team to identify when and who will spot check the accuracy of the drop reports.
The Associate Dean of Enrollment Management and Student Success as well as the Dean of Academic Innovation & Technology would be responsible for creating and distributing the metric from the data.	Meeting to determine when the metric will be distributed.

Things You'll Need to Allocate a Budget For

Have you defined a process that involves things that you don't already have? For example, a survey tool, a bar code scanner, a new staff member, or maybe a consultant to think it all through? Itemize anything new that needs to be paid for, and what process you'll need to go through to select and purchase the product.

<table>
<tr><th>Item to Buy</th><th>Purchase Process</th></tr>
<tr><td colspan="2">No additional items will need to be purchased. All resources that are needed have been in place for years and are already in use at Laredo College. Existing resources that will be used are:
Banner Student Information System
ARGOS Reporting System
Staff</td></tr>
</table>

Other Things You'll Need to Make Happen

Are there other things that need to happen before you can move forward? List them here along with useful details.

Additional Step	Details
(2) Schedule meeting to introduce project	Send email requesting participants' availability and send the invitation to the meeting
(1) Approval from eLearning Director to start working on the project	Request approval to begin project and reach out to participants
(3) Verify acceptance by all parties to join project	At the end of the meeting to explain the project, verify that everyone is willing to participate
(4) Set schedule for meetings to determine finer points of process	Set a recurring meeting invite for a monthly meeting to discuss the project
(5) Work with IT Programmer to fine tune the report	Once the requirements for student data are determined, meet with the IT Programmer to create the report and make sure all data appears as needed

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Those are your next steps–but they're probably not in the right order.

Go back through that list and decide what you should do first: Talk to some people? Define a process? Put a number 1 next to that step. Determine what's next and put a number 2 next to it. Continue through the whole list until you have an entire action plan in approximately the correct order.

And then… go start with the first item on your list

Action Plan

Please offer a clear and concise implementation plan (Minimum requirement: 350 words).

First, approval must be obtained from the Director of the eLearning and Instructional Innovation to start working on the project. Request permission to begin the project and reach out to participants. It is always important to follow the chain of command when starting a large-scale project that will require participants from other departments and an extended timeframe.

After permission is granted, schedule a meeting with all participants to introduce the project. Send an email to request participants' availability. When a day and time is found that works for everyone, send the invitation to the meeting. Make sure to include the Zoom link. At the meeting, introduce the metric (KPI: Customer Retention Rate - # of online classes that have a high drop rate) and explain how it will be used to benefit Laredo College.

Next, verify acceptance by all parties to join the project. At the end of the meeting, double-check that everyone is willing to participate. Be sure to clearly state their role in the project and what they will be asked to do. Also, determine how frequently the group will meet regarding the process and agree on meeting times for the group. Set a recurring invitation for the meetings to discuss the project.

At the first meeting to kick-off the project, determine what student information from Banner, the Student Information System is needed on the report. Next, identify which Banner forms contain the information. Make a list of the fields that will need to be on the report and what forms will be used to retrieve the data.

Once the requirements for student data are determined, the following step is to work with the Programmer from the IT Department to create the report of student drop information. Create an example report in Microsoft Excel that serves as a model of how the data needs to be arranged. A few emails may be exchanged to refine the report. Once all data appears as needed, the Programmer will add the report to the ARGOS reporting system. At that time, the report will be retrievable at any time with live data directly from Banner.

Once the report is available in ARGOS, the creation phase will be complete. The metric will be ready for Laredo College Administration to use to make decisions regarding ways to reduce the number of students who drop their online classes.