EDUCAUSE: Data Analytics for Advisors Assessment Report

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EDUCAUSE: Data Analytics for Advisors

The Data Guidebook project is a Human Performance Technology (HPT) project that will be geared towards improving the performance of Higher Education advisors towards the ultimate goal of ‘Student Success’, often defined by student performance, retention and completion. It is being sponsored by Educause, a nonprofit association in the United States whose mission is "to advance higher education through the use of information technology.” The client self-identified need is for best practices related to knowledge management and support systems. Interviews were conducted from a number of exemplar and reference schools provided by Educause, documents and artifacts were analyzed and final recommendations were suggested. The key differentiators between the exemplar schools and the reference schools did not appear to be IT resource related but a more mature process and formalized interactions between organizational culture and job engineering.

Project Overview

Project Synopsis

Dr. Tim Chester, CIO of UGA, was approached by Educause about participation in the creation of the Data Guidebook. Educause is a nonprofit association in the United States whose mission is "to advance higher education through the use of information technology." Dr. Chester offered the opportunity to participate to John Tong, the author of this paper who will be acting as the HPT consultant for this project, and who also has domain knowledge from being the head of the Student Reporting department at UGA.

The Data Guidebook is intended to be a reference and guide to improving the use of data to improve advising at higher education institutions. The improved use of data in that domain will help institutions improve the retention and "success" of their students, usually interpreted as completion rates and better academic performance. There are 5 planned sections which will be written by contributing institutions. The project will be headed up by Nichole Arbino, the representative for Educause. Upon completion and editorial review, this publication will be available for all the member institutions of Educause under a Creative Commons license.

The Data Guidebook overview draft is listed in Appendix A. The consultant, and this project is specifically oriented around creating content for Section 3 of the Guidebook. Section 3 relates to the creation of reports and the practical use of data for advisement and was named after an EDUCAUSE article (Wheeler, 2017). Educause provided access to several Subject Matter Experts (SMEs) from exemplar schools, as well as access to reference schools, for data gathering. Participation is voluntary from the member schools and the information provided is up to the schools providing the information. Being sensitive in nature, NDAs were executed and specific schools are not mentioned in this write-up.

Context

To provide some context to the issue of 'Student Success', and the importance of Advising's role in the that success it is necessary to briefly review the problem of 'completion' in the American Higher Education environment. There are factors that have been building or decades that makes non-completion of degrees or students leaving without a degree extremely problematic with far reaching consequences for the student, the school, and the economy (Nadworny, 2019) (Deming, 2017). The following was gathered all directly from the National Student Clearing House (NSC Research Center, 2018) .

- According to the National Student Clearing House, on average, 58% of the students who started college in the fall of 2012 had earned any degree six years later. The completion varies by type of college, public vs private and 4 year vs 2 year. With 2 year colleges having the lowest completion rates at around 40% (Ma & Baum, Trends in Community Colleges: Enrollment, Prices, Student Debt, and Completion, 2016).
- The costs incurred are substantial, and by not completing, the student has already invested years and likely tens of thousands of dollars but will NOT be able to take advantage of the economic benefits of that investment. In other words, they'll be saddled by the debt, lost income from those years, but without the economic benefits the degree was supposed to confer.
- Unsurprisingly, these students are also significantly more likely to default on their loans. Resulting in worsening inequality as low income and minority students are more likely to not complete in that 6 year window studied.
    - Caucasian completion as a reference: ~67%

- Pell (low income) completion: ~30% (Baum & Scott-Clayton, 2013)
- Hispanic completion: ~49.6%
- Black completion: ~41%

There are a lot of contributing factors for the problem of non-completion. Most are outside the scope of this project, but at an institutional level it is easy to see why the focus on student success has become so important. At the front lines of this effort at improving student success are the academic advisors who are supposed to have regular contact with the students and are tasked with shepherding the students to successful completion of their degrees.

Early common interventions which can be considered 'low hanging fruit' involve keeping the student 'on track' for completion. This can be just making sure the students are aware of and maintain the course loads necessary for a timely completion, which has catchy names such as 'Fifteen to Finish' or the 'Momentum Year'. Others involve making sure that advisors and students know what will or will not apply towards their degree (and also part of that is change and refinement of Student Financial Aid to align with those requirements). Once the requirements are defined and the path towards completion is set, the next focus turns towards retention and support of the student until completion.

As stated earlier, the Data Guidebook is intended to act as a reference of best practices involving the use of IT for Advisors and Advising Leaders to use to improve student success. From the author's perspective this involves identifying the primary factors and practices that drive successful use of data from an advising perspective in exemplar schools. The client self-identified one of the primary needs as centered around improved reporting and analytics. As stated in the draft of the overview, getting data that may be 'dirty' or imperfect, but still actionable, into the hands of those who can make use of it (Wheeler, 2017). The rest of this

project document will revolve around data gathering and findings that will support or refute that self-identified need, and the differentiating factors of the exemplar schools as opposed to the reference schools.

Organizational Overview

Educause is a non-profit that comprises more than 2,300 colleges, universities, educational organizations, and corporations with over 16,000 active members. It sponsors a large number of volunteer efforts and research in wide areas of interest, generating research, providing networking opportunities and thought leadership via working groups, community groups, and communities of practice (EDUCAUSE, 2020).

As part of this study, Educause members have created a working group for the Data Guidebook comprised of 15 volunteer Higher Education institutions, separated into sub groups based on their achievements and focuses. Three primary Exemplar institutions were assigned to Section 3 of the Guidebook focused on the creation and effective use of data reporting for Advising purposes. Also available were a larger number of volunteer reference schools.

The exemplar institutions included public and private four-year institutions. One a large four-year public university. One a large public four-year college. One a private medium-large sized four-year private university. Each of these have received numerous awards and accolades for student success and several have received awards for institutional improvement and student specifically related to advising reform. The author also took advantage of available resources and contacts at UGA to add to the pool of knowledge for this report.

Organizationally, it should be noted that at all the institutions, advising, generally speaking is very ‘organic’ and loosely structured. Undergraduate advising is usually done by

professionals, Graduate and higher advising is usually done by faculty, but facilitated by office staff. There are additional 'Advising' staff that cater to specific needs such as career advising that are not included in this analysis. Being so loosely organized advising quality, resources and responsibilities accordingly also vary widely even within a single institution. In the data gathering and analysis, the author attempted to focus on commonalities and base resources that would be available to all the advising staff across a particular institution.

Project Objectives

The Data Guidebook is intended to be a reference and guide to improving the use of data to improve advising at higher education institutions. The improved use of data in that domain will help institutions improve the retention and "success" of their students, usually interpreted as completion rates and better academic performance. There are 5 planned sections which will be written by contributing institutions. Upon completion and editorial review, this publication will be available for all the member institutions of Educause under a Creative Commons license.

The Data Guidebook overview draft is attached as an addendum. Section 3 relates specifically to the practical use of data for advisement and it is the goal of this assessment to find the differentiating factors that contribute towards the improved advising effectiveness in exemplar schools compared to reference schools.

Data Collection Procedures and Rationale

The data collection for this project was conducted in two ways. The first was a document review, this looked at documentation on the official policies and procedures at all the institutions as well as artifacts such as example reports and resources provided to the advisors, advising leads and departments as related to advisement and student performance. The second was a series of

semi-structured interviews with exemplar schools, member schools as well as locally at UGA as well.

Document Analysis

The document analysis from the SME institutions, UGA and other comparative schools included documentation from their public facing pages, intranets, as well as were provided from the SME themselves. I began with high level requests such as policy on advisement, the types of advisement, and frequency of the advisement. From there, I asked about documents and artifacts that existed in support of advisement, and I initially left this vague to see what I was provided in case I was inadvertently limiting the type of information the institutions were willing to provide me, or perhaps there was a classification of document that I may not have known about. I was specifically interested in advising reports as well as resource documents advisors might reference or even provide to students with a specific need. Thankfully, not specifying a set of documents lead to an interesting document that the exemplar schools had which they called a responsibility matrix, which I will discuss below.

For this step a number of NDA were signed and consultation was made with several departments in all the schools. This took several weeks of work to move this forward. I am not able to include that documentation in the appendices because of the NDAs as well as due to the volume of documents that I accumulated. This provided a great perspective on how advising was handled at various institutions.

Semi-structured Interviews

The next tool I used were semi-structured interviews with the Subject Matter Experts (SMEs) provided by Educause as well as my own research with the staff at UGA. These all had positions of being leadership of academic advisors within their organizations, though reporting chains and

organization varied significantly. I have included the initial interview questions in **Appendix B**. These helped me have a standard set of topics that I could use to begin the discussion and cover their impressions of the tool set they had access to and their sentiments towards them. I also broke down the Guidebook Overview description into sections and asked their thoughts on those topics as well so I could provide a summary of best practices on those topics in case the client was set on those specific themes.

The interviews were conducted at UGA as well as with the SMEs provided by Educause over the course of approximately two months. Interviews with reference schools were scheduled similarly. I asked for permission to interview actual advisors but this was considered outside scope by the client and access was not provided. I feel that including some data from students and the advisors would be helpful to verify 'triangulation' of the best practices in case the perception of the effectiveness and the sentiment of the advising leadership is not representative of the advisors in the practice and the students receiving the advisement. Exemplar schools were chosen because they have received numerous awards and by all conventional metrics have done amazing things at their institutions, so though it would be more thorough, the client felt that the advising leadership would be the best resources to use as references for this document. This generated many pages of raw notes that covered specifics such as metrics and KPI, as well as general philosophies of advising at their institution. As we built rapport, I was able to ask more sensitive questions on topics such as institutional politics and resolution, and they even provided actual walkthroughs of their resources and processes. The raw meeting notes are included in **Appendix C**.

Results and Findings

The data gathered consisted of extensive document reviews as well as multiple rounds of interviews with the exemplar schools and reference schools to clarify and verify information. Documents are not available for review here as they are covered under NDA, but interview notes are available in the **Appendix C**. As mentioned above, the first round of document review was related to context and procedure to understand the role of advising and how contacts were initiated and processed. The second round of document reviews focused specifically on the resources that Advisors and Advising leads had available for their job duties.

I was able to acquire a great deal of information about the role advising plays in various institutions from the public facing pages. I asked for reporting structures and organization charts that helped me contextualize hierarchies for the various types of advisement, such as Career vs Academic vs Major advising. I did not find a significant indicator in procedures and general policies.

Asking for documentation that Advisors had access to related to job duties, I (as well as the client) was expecting to find some significant differences in sophistication or maturity that would provide the basis for the report objectives. However, I found that advising reports for use by advisors as well as advising leaders to be remarkably similar. Speaking as a subject matter expert on reporting and analytics, there wasn't a significant difference in the level of sophistication between exemplar schools and reference schools. The data was available on demand, and the 'freshness' of the data was not a factor, both exemplar and reference schools used a combination of transactional database access and Operational Data Store (ODS) or Warehouse, all refreshed nightly. Both types of schools also had comparable resource references or sometimes called an intervention inventory that listing resources and interventions that they

could refer students to, some had it as intranet pages, others built into their advising tools. This last set of documents provided a baseline of the types of information that is available to advisors and advising leads.

Further review I started finding differences between exemplar schools and reference schools in the level of detail on advising procedure and in particular policies and procedures for interdepartmental interactions. For example, reference schools would have a document on resources for perhaps resolving housing issues, exemplar schools would have that and also formalized channels for communication and a handoff and the aforementioned responsibility matrix documented to ensure that not only was there a seamless handoff between departments, but that the issue was tracked and resolved.

One of the themes of the HPT course is putting the cart before the horse and cases where the client provides a solution statement and not a needs statement (Stefaniak, 2021), and this is one of those cases. Though the goals for the document as a whole might be closer to being a proper HPT project with a needs statement as discussed in the client overview, this particular part of the assignment was not. The client as mentioned, was asking for how exemplar schools might be able to provide best practices in implementing an analytics system in support of advising. My findings are conclusively that is not the differentiating factor that makes these schools so successful. It is evident that what differentiates the exemplar schools from the reference schools is their maturity in process engineering that puts the student experience in the forefront.

In the client's view, the exemplar schools would have had more sophisticated analytics, better technology, or better implementations. However, analysis of advising reports and dashboards shows that at the advisor level, all the reports were equivalent. Reports from the exemplar and reference schools even containing the same fields and type of information, with the

same availability. Advising leadership and higher in exemplar schools did have some more sophisticated reports and technology that made visualization more ‘pretty’, but at the academic advisor level, where they interface with the student, all the advisors at all the institutions had equivalent. What made the exemplar schools more effective?

In the case of Advisement, Exemplar schools had documentation about interdepartmental responsibilities, handoffs and follow up rules that formalized responsibilities and channels of communication. Given a hypothetical student situation, an exemplar school might have a Teacher be able to trigger some sort of alert or flag for a student that they are concerned about. The advisor would then have a set of tools available to them to allow them to offer appropriate help to the student in subtle and not so subtle ways. It might be with the Residential Advisor (RA) at their dorm, or the school’s tutoring services, or other needs. Each of these resources would have a defined handoff and transfer of responsibility that is clearly spelled out and designed in such a way that it minimizes the opportunity for a student to ‘fall through the cracks’ where a student in need was ‘thrown over the wall’ to another department and the advisor stopped tracking.

Once again reinforcing that it’s not a technology gap, several of the schools interviewed, exemplar and reference even had the same reporting tool, advising platform and ERP. The difference was as mentioned, in the maturity of the business process in raising and addressing the needs. So, the first observed difference was maturity of the entire advising responsibilities and inter-departmental interactions.

The second observed difference is a difference in organizational culture that extended beyond the advising group between the exemplar schools and the reference schools. Though the maturity in interdepartmental cooperation and the formalized channels of communication and

handoff are the most obvious, this finding may actually be a foundational difference that enables the first finding. No intervention happens in a vacuum and a culture focused on the success of the student as opposed to a more individualistic perspective was another key difference between the schools. This is confirmed by approaching reference schools about the kind of interdepartmental cooperation that exemplar schools have enacted and the response was that in their current environment such coordination would be 'challenging'.

Client deliverables

There were two complementary goals from the analysis of the interview notes, documentation reviews, and discussions. The first was obviously the deliverable to the client. This is to take the form of a report that covers the most important aspects and best practices from the exemplar schools. The second are the results I am presenting in this paper. Initially it was hoped that the two deliverables would be fairly closely aligned, but the goals began diverging over the last few weeks of the semester as the project evolved over several status meetings with the client. The results for this assessment will be different than what will be delivered to the client, but the assessor and the client are in discussions about expanding the other sections of the Guidebook to include the findings of this assessment.

What the client is expecting is a document focused on the implementation and technical aspects of data analytics, which I am able to address from a position of authority playing that role at UGA, and also verifying details with the SMEs from exemplar schools. As part of helping make the Guidebook more engaging and effective as a tool, it was decided that we frame the best practices and recommendations in the context of a fictional case study that would be an aggregate of the journey several of the exemplar schools faced. Using experience gained from design studies and case study examples from the LDT program at UGA, I also contributed

heavily to setting up a case study which will act as a narrative tying all the sections together. The draft of the case study and character reference are included in **Appendix D**.

The client is very happy with the deliverables so far, and what remains to close out that project with the client is to continue to work with their Instructional Designer and assigned Editor to finalize the document through roughly mid-December. As I mentioned above, there is a divergence between treating this as purely an HPT evaluation with the high level goals of improving Student Success by identifying best practices, and the needs of the client that they contracted me to produce which is focused more tightly on the mechanics of implementation and reporting, but the client is quite happy with the processed notes I provided them. I have included a draft as it stands awaiting editor input in **Appendix E**.

The author expressed concern that what the key differentiators at the exemplar schools were actually not specifically technical or analytics, so there will be further discussions with the editors and ID to find the best places to present some of the findings from my interviews. Initial discussion with them about the observations are that the findings may be integrated with different sections of the overall larger document, in particular an additional section of the Culture chapter that originally was focused on Institutional leadership being ‘data driven’ to a larger organizational focus.

Recommendations

Exemplar schools were not always so, there was either a major change in leadership or a ‘crisis’ event that was triggered by a drop in their rankings or a major survey that indicated problems with the institution that provided the impetus to make a major cultural shift to the new model of student interaction. In most schools, individual functional areas (Registrars, Bursar, Financial Aid, Admissions, etc) and colleges are often siloed and the student interacts with each

department individually even though the departments often share a common software system that runs the school. In the exemplar schools there was a shift in focus where all the departments took the view from the student's perspective in designing their business processes and advising interventions to streamline things and make things easier for the student.

In the business world, this model matches closely to the Customer Relationship Management (CRM) model that has been popular for decades. In business, the CRM is a model of managing all the interactions with customers in a way that data can be collected and can be used to improve relationships, retention and sales growth. The CRM approach compiles data and coordinates different channels such as telephone, email, web site, support, marketing and social media to create a more wholistic view of the customer (Wikipedia, 2020). This would be akin to unifying the interactions of different functional areas of a Higher Education institution.

The focus of this project was identification of the key best practices that differentiated the advising performance of Exemplar schools, so a complete implementation plan is out of the scope for this or the Educause project. Even so, there are some commonalties of note in the journeys of the exemplar schools that may be helpful for institutions seeking to improve their student success with this approach.

- Though the mandate and the authority to begin this whole process began at the highest levels of leadership, Chancellors, Presidents, or Boards (top down). The implementation was focused bottom up. Interdepartmental working groups with representatives from many different disparate organizations that otherwise would have little reason to interact were brought together. Academic enhancement organizations and housing groups could interact, this new channel of communication and relationship could result in novel

collaborations. It reduced the barrier to those interventions by creating a venue and the relationship for those discussions to happen.

- They all were intimidated but they all started with a document or artifact that allowed them to focus on the crux of the 'problem', usually something like exit interviews, or the triggering news article, or ranking feedback. This began an HPT type project to improve performance of the organization to meet the needs of the student and the community. Full needs assessments, analysis, data gathering and other steps that were studied in this course were applied.
- The top few issues were identified, prioritized, and business processes were designed by the departments needed to contribute towards that intervention with a constant focus on the student and their ultimate success. As always, quick wins and low hanging fruit were scattered with more ambitious or involved interventions. Relevant to the Educause focus, if needed, technology was built to support the processes to make the interventions easier. This was the focus of the chapter written in **Appendix E**.

These best practices are not without cost. There was a significant organizational cost in gathering the working groups and the time for them to work on meaningful and hard problems. A review of the costs and the ROI of the culture shift and formalization of communication channels and interventions should be conducted as resources are always at a premium and with the looming fallout from COVID it may become even more of an issue. Over the last 10 years, Enrollment has steadily increased while as a whole Federal and State funding has decreased (State Higher Education Executive Officers, 2013), and unlike the last recession around 2009, many states and governors have demanded tuition freezes. These factors may mean that such

large-scale revolutionary changes may not be possible, and intuitions who wish to pursue this may need to look at incremental steps that could get them to a similar maturity.

Summary

The Data Guidebook project allowed the author to conduct an needs assessment project on the factors that contributed to the superior performance of Advising groups in Exemplar member schools. Though the focus of the Educause representatives was on the mechanics of implementing an analytics system (**Appendix E**), many insights were noted in the foundational differences between the Exemplar schools and Reference schools. First, that analytics capability, availability and data 'freshness' were not differentiating factors. What was immediately differentiating was the level of detail in the documentation of and interdepartmental coordination of advising interventions in the Exemplar schools. Further digging into the question of why and how that maturity came about lead to the second finding, which is there was a major cultural shift that mandated a focus on the goal of student success. This focus brought together interdepartmental working groups that could facilitate the creation of interventions that would otherwise have been 'challenging' if not impossible to implement without the relationships and platform that the working group created. It is the hope of the author that these observations will also find a place in the final Educause deliverable.

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APPENDICES

APPENDIX A: Data Guidebook Overview

EDUCAUSE 2020

Data Mapping & Identification Guidebook

The Data Mapping and Identification Guidebook will serve as a resource to help institutions establish or improve the culture, structures, and processes that enable access to high quality data used for making decisions in support of advising goals. To accomplish this, 5 major sections will be covered:

1. Culture of Data: Leadership and Learning Organizations
    a. Through a series of validation interviews, we learned that buy-in for a culture of data starts at the top of the institution. With buy-in also comes a responsibility that everyone at an institution is accountable for student success. Simply implementing a technology will not solve the problem - the people and process must also be in place to make it happen.
    b. According to the EDUCAUSE Core Data Service Student Success Maturity Index, more than half of respondents agreed that their institutions were using data effectively to make decisions.
2. Architecture and Integrations: What's the Big Deal?
    a. Data architecture and the integration of technology systems may seem like an exceedingly technical or tedious aspect of creating a culture of data on campus, but a strategic approach to the ways data is collected and stored is critical. Advising stakeholders and IT departments can partner.

   b. According to the EDUCAUSE Core Data Service Student Success Maturity Index, only 50% of respondents agreed that their institution effectively shares data related to student success among technology systems

3. The Value of "Dirty Data," and When to Do the Laundry
   a. The customary annual reports traditionally produced by Institutional Research, such as retention, graduation rate, career outcomes, are necessary but report on lagging indicators. Lagging indicators do not allow advising leaders to make real-time decisions to improve advising outcomes.
   b. "Dirty Data" are leading indicators that can be used to influence advising in the middle of a term. Because these decisions need to be made quickly, it may not be possible to get "perfect" data.
   c. At the same time, investment in systems, process, and policies that ensure that available data is high quality and appropriately presented for multiple purposes.
4. Who Gets the Data? Ownership & Governance
   a. What is the spectrum of data governance that can allow institutions to protect their data while also making it accessible to those who need it? While there is not a one-size-fits-all solution to data governance, there are several options that might make sense for different institutions.
5. Rosetta Stone: Speaking Each Other's Languages
   a. Collaboration is key when it comes to data mapping and identification; advising leaders, institutional research, IT and others might be at the table for these conversations. However, the variety of jargon in each department can make these conversations ineffective if one department doesn't understand the processes and

needs of their counterparts. A common language and understanding is necessary to ensure each party fully understands and can act upon these collaborations.

APPENDIX B: DATA COLLECTION TOOLS, INTERVIEW QUESTIONS

Being semi-structured, I have some initial questions and will branch out to interesting topics as I proceed. These interview questions were used in initial meetings with the SME, and also our advising leads here at UGA. We did not have access to Advisor interviews from the exemplar schools through this project unfortunately. Further discussions focused around the topics raised in the overview for Section three in the appendix above. This is reflected in the raw meeting notes below.

Warm up questions, very broad and general to get them used to talking:

1. Can you explain how Advising works at your institution/department?
2. How do you feel advising goes at your institutions?
3. What tools do you use for advisement?
4. Do you have any particular pain points or areas where you lack support? (What are they? Or What kind of interventions are hardest for you or your student?)
5. What does advisement usually look like for you? (How about in a given semester or school career?)

More specific to the interests of the client:

6. In the data you get, do you have timely information?
7. Do you have access to all the data you need to make appropriate decisions? (Obvious follow ups, what are you missing, or What do you use most often?)
8. What are the indicators that can be used to help advisement during a semester?
9. What systems or processes do you think work well/not well?
    a. Are there particular situations that you don't have resources to handle/deal with?
10. Is the data you have of good quality? Timely? Allow for exploration/discovery?
    a. This question about 'quality' is intentionally vague. I was using this to guide the discussion on what they considered to be important dimensions in data quality, completeness, accuracy, validity, etc…
11. What other tools/software do you have access to?

APPENDIX C: RAW NOTES from the Exemplar school SME interviews.

8/20 Initial discussion notes:

Value of Dirty Data

- Value of assumptions - this is done at that point in time, data may change, preliminary, etc - make that very visible in data viz, and in emails
- Operational data has a different purpose than reporting data and should be defined as such
- Leading indicators or formative measures that "scrappily" predict what final reporting data is going to look like. Were academic initiatives effective? Failing fast. Having dirty data points that you can track on a regular basis has been effective. False positives, false negatives - need to think critically about what dirty data is telling you?
- When you start down this path, it's dangerous to think you can drive decisions with this data. The value you will get: start to find out where all your dirty data is and why it's dirty, and set yourself on a path toward correcting it. Differentiate between "is question bad or is data bad"

9/10: MEETING WITH UGA HONORS ADVISING:

Information from Honors:

What applications do you use for advising? Which do you use for prep and which do you share with the students?

Applications used in Honors:

SAGE/Starfish -students and advisors
DegreeWorks -students and advisors
Athena -students and advisors
Honors Network -students and advisors
Argos – not used by all advisors no students

Athena - clear holds, view test scores
DegreeWorks - Audit for curriculum requirements. It is the primary advising tool.
-planner function for future terms
-use of planner varies by advisor and each student is different
-Student must meet every term with an advisor.

SAGE - Logistics mostly – sounds like starfish is the name of the product like Banner is Athena
-allows for a calendar to the students
-flags and tracking items for students
-can mark the students that are allowed to schedule advising with the advisor
-note taking functions
-calendar and appointment history

HONORS network is managed by ITOS
clunky and maybe home grown - kinda old 10 years, but grad portion only 6 years
the network is for
-calendar of honors events
-honors events registration
-mentor system
-honors graduation application
-student exit interviews

Argos is not used by most advisors. The more high level data is not available to the regular advisor. They don't really need it as advising is more of one on one direct communication.

What kind of data do you use in advising or to prepare for advising? Mostly degree works it is the primary tool
Is there additional data you would like to have? Not really then he mentioned the following are things they do manually.

Pull which honors students have taken or have not taken an honors course in X semesters.
Freshman not registered in an HONR course.

Are there additional applications you would like to have access to use?

nothing he is aware of on campus
GSU created a resource page of all the different items needed to advise. It has been awhile so does not remember it well.

What's provided by UGA (or EITS) vs Honors advising? All seem to be managed by EITS
Who do they report to? reporting structure? Steven is the led advisor in Honors; however, advisors do not report to Steven. All report to Marie Navaro who reports to David Williams.

The advising council is not part of a reporting structure and does not have any power. It is just an advising tool or group to help disseminate information and provide assistance. Most colleges will have advisors then a director or coordinator of advisors. Some only have one advisor and they just report to the dean or such. Some of them do not have a coordinator. All are different in structure. It mostly depends on the size of the college/number of students. Exploratory center advisors all report to Jennifer. *(might want to as Julia has more info on the Exploratory center. It mostly for freshmen and undecided majors.)*

how do they interface with the other advisors? individuals reaching out to other individuals across departments. No real group coordination
How do they do their job? Students schedule a meeting/appointment via SAGE or come/zoom to office hours for open appointments
Zoom or Teams? mostly Zoom for advising. AACC recommends Zoom. Slack for inter office comms

Couple of other random notes:

SAGE - and Paul in OIR were looking to make a diagnostic for the advisors
-it has a dashboard and it pulls in a bunch of data, more than he realized
-there is a tableau link at the bottom of the page in SAGE
- Steven does not use and not sure that it works *(might want to ask Julia more info on this interface.)*

Academic Advising Coordinating Council
Actual advisors are the ones who represent at this. The deans and directors are discouraged from coming. Only thing they vote on is their bylaws.
They discuss policy, but can't mandate or make a real change

Julia is basically just a liaison between AACC and the advisors.

Student must meet every term with an advisor.
User guide
https://sage.uga.edu/_resources/files/documents/sage-user-guide-2019.pdf
https://sage.uga.edu/SAGE_users_guide/ other guides for SAGE

9/11 Meeting with UGA Julia Butler Mayes

Advising meeting notes. 9/11 Julia Butler Mayes

Discussion topics: Overview of the project with Educause.

1. How advising is structured at UGA (Departmental/Grad/Undergrad/Career/Honors/etc).
    a. Decentralized, 6-10 years Almost no fac advisorsi n undergrads.
    b. Every school or college has own advisors.
    c. Pre-pam witten was much more decentralized. Little follow up after she left before it ended.

d. Advisors report to Dean, and advising office centralized to school. Used to be by major, Terry Franklin are outliers. Exploratory Advisory office, not connected. Reports to Julia. Intended terry/grady, or undecided.
e. Students meet with advisor every semester, case load recommended by necada, 200-300 ish. Advising holds. August-Nov and Jan/April for spring..
f. Advisors are split by major, even if all in same office.
g. All advising to 4 year advising. Move towards that.
    i. Franklin Dianne Miller , Lower division and Upper division.
    ii. Everyone else mostly same advisor.
h. Career and pre-professional advising is optional and in the career office. Reports to Alum.
i. Honors is considered a school or college for advising purposes. Franklin, Grady and Terry, primary advisor is Honors advisor.
j. Graduate is almost all Faculty advisors. How are you defining advising? Nuts and bolts perspective, fac members aren't the best choice. That's been done by staff.
k.

2. What tools you have and use.
    a. Tools:
        i. Degreeworks
        ii. Sage/Starfish
            1. What we use sage for:
                a. Create appts. And advisement student to advisor links
                b. Notes used. In a student's 'Folder'.
                c. Tracking items. Referral to the Career center for instance sends student info. Sign up for turoring appt. Auto emails to student. Action items to student.
                d. Experiential learning tracked in Degreeworks.
                e. They don't use Early alerts, with Faculty, ELC connection to Starfish, from a functional perspective it's possible, but faculty resistant.
                f. 2 graduate programs are interested in prototyping early alerts kind of thing. No UG programs are interest. New media institute and COE.
                g. Can faculty flag students? We have it , but no one but DAE only one other than advisors that do it. FA, Student care and outreach, career center.
            2. Biggest wishlist
                a. Wish there were an easier way to have a unified view of all the resources.
                b. Starfish has ability to pull data, Other than initial list of students when launched only new data comes from OIR. Asking for most recent list of requested data items.
                c. Student Registration timeticket, When they applied to graduate. Or updated anticipated graduation date.
                d. Got : Students have active advising hold, term they were matric from august from OIR.

e. Havngi t in starfish is so valuable vs others, is not in the individual, but you can see the caseload and filter by any of the information. That makes advising much more efficient. Can group action to all of them.

iii. Athena/Banner

iv.

b. Integrations
c. Security and Access
d. Etc.

3. Other tools or data that you may require.
4. Initiatives at UGA
    a. Students register themselves. Advisors don't go back after students, but there's a polisy in the bulletin they act as guide, but each student is responsible for their choices.
    b. Momentum year /15 to finish are here, but we don't have many of the same issues. Generally students come in with like 60 credit hours, dual enrollment AP, IB, placement ,etc. It's different than for complete college America.
    c. There is a mechanism that prevents UG signing up for more than 17 credits, but no minimum. Needs override.
    d. Transferring out, Philosophical. Majority of students have transferred at least once. Statistically. Moves, 2 year to 4 year etc…
    e. Biggest struggles : Advisors say it's time with students. Necada should revise recommendation of case loads. Advising is very different in different places, Like is it required or not, if not then they may only see half the students?
    f. UGA Requires advising. Consequently, other offices want to funnel it through the advising group all the time. Overloading advising contact or competing for time space, which is understandable but takes time.
    g. Academic Advisor Coordinating Council: 20 years now. Meets once a month in fall/spring. Mostly updates and discussions, few decisions made there as it's not much common across. Melissa Garber, FCS chair for this academic year.
    h.
5. Any high level thoughts you'd like to share with the working group.
6. Any questions you'd like for me to ask with the working group members.

9/23 Meeting with Educause SME:

- **Review each other's blurb and create iterative drafts of the content.**
- **Discuss Kal's findings from Nichole on editing style, process etc.**
- **IF time, review draft. If not enough time, that will be everyone's homework.**
- Notes:
- *Should students get the data to inform their own actions? (new topic on better further enhancement to the system, allowing agency)*
- *Engagement data from everything like dining hall passes, gym, etc, event swipes. Faculty are decision makers about policies.*

- *Advisors, what types of data do they get? What are the leading indicators that put students at risk. And tie it directly back to institutional resources for that intervention."Make it easy to do the right thing!" Timeliness and type of data, not just huge reports, but the resources available.*
- *Alerts and data MUST be acted upon. Alerts can be as real time as possible, but advisor must react to it and provide resources, or it's useless.*
    - *On the other hand, Advisors Attempt 3 contacts and then resolves it, it's equally on the shoulders of the student.*
- *Orange success example of flags:*
    - *Name, Who can raise, who clears, hwho views, who received, take action, definition, Academic/fac/college/advisor expectations. For example Instructor raises an alert, Advisor must then respond, and then the student must complete the circle.*
    - *Meta tracking, not just of raw data on students, but how is it handled. Saying: You improve what you measure.*
- *Rick: Get data from 'after the fact' into the Zone of Opportunity to be able to take action and influence the results.*
- *NACADA: Interventions are most effective when based on data and not anecdotal information. Cuseo (retention guru) If you have data, advisors can made solid recommendations. What can we present to help?*
- *Feedback to other institutions, advisors notice an instructor has significantly higher dw/lower gpa etc. (360 view of student success, what role does the institution play in the student success? Is it a particular instructor/department?)*
- *Prescriptive analytics vs Predictive analytics?*

9/16 Meeting with Educause SMEE:

- *Restating the section, what is the key business problem our section addresses? I am liking 'dirty data' tag line less and less as we go on.*
    - *If Advisors are using Predictive analytics, it's not Dirty Data, it's using algorithms and data to find that info.*
    - *'Dirty data' might not be the best descriptive, it's catchy but doesn't resonate.*
- *What are our learning objectives?*
- *Tagging sections of our notes that will be in more detail in other sections. We can nod to those topics and pass our crib notes to them.*
- *Before start of semester aim for providing data. Pre college characteristics, predictives etc.*
- *Curating, cleaning, presentation, etc?*
- *K: 9 years of data sent to Starfish to run the models to return by first of semester. Then afterwards, we have academic records, so that has to be cleaned and submitted for re-evaluation.*
- *R: Using data in the 'zone' closer to real time vs lagging indicators. Then we can act on the data to affect change before it's 'too late'. GOAL: Closer to real time 'zone' is better than later. (Answers What?)*
- *K: Roll out with Change Management in mind, else abysmal adoption and usage. (Tips on How to implement the new system.)*
    - *High adoption has benefits XYZ, Real time advising.*
    - *Include Students in the voices talking about systems.*
    - *'Fitbit Generation' We want feedback so we can have action and agency.*
    - *Include some faculty in the implementation, and have them champion.*

- *R: Utilization is a key, then how we apply the tool. Early alerts are key, it's the next step for gain.*
    - *Student affairs handles social, students and parents activating own alerts (academic advisement).*
- *J: Holds force scheduling problems sometimes (specifically forcing contact with Advisor who may get swamped) . Consider the number and application of holds. Force registration holds or not? (Special topic, use of holds, things to consider)*
    - *R: Use of holds as an indicator : Weekly holds, alerts.*
    - *Can automate holds? Bursars hold under a certain amount, Remove reg hold temp, but then Bursars works on agreement with the family.*
    - *Traditional data metrics vs non traditional. Can be applied strategically and thoughtfully in procedures and processes to make a different.*
- 2. Architecture (doesn't fit in our content)
    - *Kal: Common warehouse. Starfish has dashboards, fed from peoplesoft for instance.*
    - *Rick: Dashboard: from data in banner, Power BI provides data from IR. Advisors became sophisticated users of Argos (self service), Advising platform, EAB Navigate. Rick provides a common report distributed to advisors.*
    - *John: We have 'Transactional', the 'ODS', Student EDW, and OIR's DW. Moving towards all in OIR's DW to facilitate access and consolidating and reporting across systems. We have rudimentary Starfish implemented.*

9/9 Meeting with Educause SME

3. The Value of "Dirty Data," and When to Do the Laundry

A. The customary annual reports traditionally produced by Institutional Research, such as retention, graduation rate, career outcomes, are necessary but report on lagging indicators. Lagging indicators do not allow advising leaders to make real-time decisions to improve advising outcomes.

a. Use of leading indicators vs lagging indicators

b. Who is the audience? People who care, people who can do/know about the problem , people who can authorize and champion.

i. Maybe aiming higher for authority then can initiate from the top down and implement from the bottom up.

B. "Dirty Data" are leading indicators that can be used to influence advising in the middle of a term. Because these decisions need to be made quickly, it may not be possible to get "perfect" data. (*WHAT*)

. Retention Score. Components of the score to provide to advisors.

a. Proactive advisement (not 6 weeks into a semester).

b. How to use the leading indicators. Considerations.

. Transactional systems.

i. Missing information

ii. Uncertainty?

iii. "Dirty data"

c. "Where do we get this?"

d. "How do we build this?/What do we build with this?" (What)

. Identifying factors that may need to be considered. (surface vs underlying factors)

i. Declining GPA, a single failure grade. Credit completion ratios. Withdrawals (fall below 15, lose momentum to be able to keep on track). Financial eligibility factors (gpa, credit completion that will track for completion)

ii. Discussion of 15 hour students vs non. (is that causative or correlative kind of thing?) Looking at literature for 15 to finish data.

iii. *Top 10 most predictive classes? History 2010 (Rick's example), 80% get an a graduate, vs 40% that get a D. Factors, reading, time organization ,etc.*
iv. *Correlation engine discussions?*
v. *Pell grant eligibility? Transfer credit and gpa, zip code etc at entry. Demographics, 1st gen, ethnicity, gender, etc. Language factors.*
vi. *Rick has an example: priority registration. By college and student classification the registration year on year comparison through the cycle on a weekly basis, so it's leading not just surprised at census.*
vii. *"What goes on a dashboard?" Are we asking the right questions? Other factors that might be supporting or impeding progress… (FA?) FA often not part of the algorithm. Legal limitations for data.*

e. "How do we use this?" - Ethics, self fulfilling prophecies, equity issues.

.Kal has ethical use video.

i. *Examples of how this looks like in the real world. How things go 'bad'.*
ii. *Ways of approaching questions and interventions.*

f. "What's the most effective use of our effort?" (working downstream vs upstream) (WHEN)

.When to intervene, develop a relationship/contact?

i. *Methods of contact?*

g. EAB product has Risk prediction . Starfish vendor that provides retention score, but no FA can be in it. Our goal is to intervene before it's too late.
h. Is retention an issue with a professor or the student? (Nuance).
i. How do these tie into various initiatives: 15 to finish, and register early etc.
j. "Who should get this?" Retention and Student Success? College/Departmental Advisement?
k. Use of data in simple ways.

9/1 Meeting with Educause SME

C. At the same time, investment in systems, process, and policies that ensure that available data is high quality and appropriately presented for multiple purposes.

. Best practices.

a. Systems

.WHat software/integrations

i. *What processes are required, workflows (interdepartmental vs inside a department). Academic doesn't have all financial information, but notes are visible for instance (Kal). (Best practice of how)*
ii. *(Kal) Missing IT at the table for student success discussions if they are going to leverage platforms to scale, the student success ecosystem scaling without IT is not possible. Otherwise it's siloed to a college. Integrations. (Best practice for implementing)*
iii. *(Rick) The most sophisticated systems may mean nothing if it's not implemented and processes put in place to take advantage of it. 'Knowing and not taking action is worse than not knowing'.*
iv. *People, technology, processes, politics, = culture , and that is critical for the implementation and adoption.*
v. *Policies from other areas, is it accessible to all abilities for software/platform.*
    1. *Not punitive*
    2. ***Not as an eval tool for faculty***
    3. *Etc.*
vi. *You don't have to get permission to share data. (Rick). At UGA "Is there a reason to NOT share the data?" Visibility of data changes behaviour!*
vii. *'Good data provides more questions than you can answer.'*
viii. *How to ensure high quality:*
    1. *Rick: Spread it widely, more eyes will spot discrepancies. Also builds confidence. Invite input*

2. *"Define Dirty" It might be erroneous, but can validate it. Was it entered wrong? Was it processed incorrectly? (Ties back to governance, who 'owns' the data and responsible for accuracy?)*
3. *There is a constant effort to validate data. It's never 'done'. Look at other data points and 'known' and established data points.*
4. *Intuition. Feel for data from using it over time. Also more input into it. College looks at it, department looks at it, etc all the way down. The relationships matters greatly. Do not disregard years of experience.*
5. *Common data source/warehouse. Single source of the 'truth' or curated location?*
6. *When we provide data it often doesn't have notes/footnotes, for instance "Data FROM XXYYZZZZ" Data literacy considerations, when is it from, where is it from, how was it gathered etc.*
7. *Circle back and compare the results, Not just purely retention, but completion timeliness. (5% impact on US News for depth aspects).*

ix.Appropriately presented for multiple purposes:

1. *Access*
2. *Tools/deliverables*
    1. *Reporting tool.*
        1. *Report examples*

b. Tableau.

3. *Visualization*

. OLAP cube Pivot tables

a. Filters and tool focused. 'Weber dashboard'

4. *The need is dynamic. Is it flexible and visual?*
5. *Less is more. Straightforward and focused. Same foundations, consistently.*
6. *Visual, dynamic, easy to use, characteristics best of breed. Dashboarding.*
7. *Presentation depends on audience, sometimes it's just a pivot table. Other times, advisors, deans etc… "Drill down?"*
8. *What are the soundbytes that people want that are memorable and interesting and so it drives curiosity.*
9. *Kal : Take for instance individual contacts, we visit an advisor… what does that visit mean? Were they looking for X Y or Z? Did we retain them? An advisor looks at individual contact, The Institution looks at it from an aggregate. Rick: Do how do we provide numbers that have accountability? Kal: Culture of change and a culture of accountability, by school, by college. "Students make life altering decisions based on what their advisors tell them" NACADA. Do they know how many of their students came back? Who DIDN'T? (WHAT: part of the 360 view, not just now but retrospectively)*
10. *Early alerts, to provide feedb ack early and 'real time' to . Look at the 200 students they have, drill down to who has problems, and then connect them to a resource that can help. Don't waste another week or two, you might be into finals. Advisors must be provided timely data in a way they can act.*
11. *7 flags fac/ta and advisors are notified right away, (Kal) (What)*

. (non academic alert flag, faculty flags)

a. Low participation (faculty/TA)

b. Low quiz/test scores

c. In danger of failing
d. Informational : Low participation
e. Low participation Grade at risk.
f. In peoplesoft people had to log in to look at it.
g. Then started real time flags and encouraged people to not wait for 6 weeks in, and after 3 semesters saw the value and high participation. Real time flags, Mid semester flags, and post, etc…
h. Attendance in Starfish. Very easy to enter.
i. Blackboard LMS and Starfish have same creator and integration was easy.

12. Civitas (built in flags) (Rick)

. Progress reports 4 th week, fac submits.
a. 99% of the faculty participate, it's a part of the culture.
b. 4th week in, it's almost completely too late.
c. Fac can put in an alert flag, but not widely used.
d. Use risk prediction.
e. Campaign calendar for different types of students.

13. LMS adoption due to COVID is a huge opportunity

. Lackluster initial adoption but now COVID is huge
a. So participation is high and can be mined.

14. Rick : Go to advisors and ask them what they consider important. Discussion with the end user, those who care, those who know and those who can authorize.

. Who's the owner and champion. Won't happen by accident. Like in Change management (CM). Keep improving adoption, system, process, etc.
a. You build it and they will come doesn't work
D. Retention intervention inventory: (Kal) Office of multicultural affairs, multiple disciplines and areas. How to influence and measuring the success.
E. NACADA Organizational membership, community of practice. Web site. Resources.
F. Naming 'Dirty Data' Is it 'Dirty' I consider it mostly Operational/Transactional data or as non OIR calls it 'Data'.
G. ***Different types of advising****:*
. UG
a. Grad
b. Honors
c. Career
H. Advisement thoughts: (Already stated or doesn't fit)
. Faculty Advisement vs Professional advisors, lower levels vs higher levels.
a. Experience and intuitive strength shouldn't be disregarded.
b. Restructuring and sharing a sandbox and resources.
.Standard resources across the institution

1. "What do you all provide?"
2. Kal

. Degreeworks (RO) 20% adoption, no student part
a. Early alerts Office of student success (Product)
b. Starfish (Great adoption)
c. Notes in Datawarehouse through starfish

3. Rick

. Different types of reports (Weeklies, from a dashboard).
a. Degreeworks: Student part is critical so students and advisors and RO can map things out and see impact of changes.
b. EAB Navigate Advising platform, notes, communications platform. Many features they don't use.

c. Argos hugely used.
d. PowerBI (IR)

4. John

. Sage
a. Starfish - 'lite' implementation.
b. Argos reports
c. Degreeworks
d. OIR DW for access.
e. Mandatory advising for registration. Mostly not common problems with retention and 'success' due to the admissions demographics.

i. *Advising may be an afterthought. Departments have homegrown tools, spreadsheets etc. Find a system that can act as an information hub to allow lookup of student information.*
ii. *Treatment of advisors? Treatment, training, advancement, professional development. (Culture of Advisement)*
iii. *Sharing across areas may be sensitive at first, especially when they can be compared.*
iv. *The data MUST NOT BE USED PUNATIVELY. This can easily be weaponized, or as a performance evaluation tool for faculty, NOT the purpose.*

8/25 Discussion with SME

v. Rick: Advising managers and Advisors report to dean. Advising leads also dotted line to Rick. Who can help coordinate.

1. Common software system for advising. EAB product.

vi. Kal: Asst Dean - Advising head. Senior advisors, etc… Hobsons start, and Starfish., and texting too. Attributes Chage Management to be huge in success of the implementation. *Housing can put notes to advisors, students can self flag now, can report hazing, etc. Service indicators also tied in for 'in person' vs 'virtual' etc. Can be flagged for 'Online ONLY' if covid without details. All coordinated through peoplesoft DW. Handshake, etc. Orange Success initiative.*
vii. *Culture change for advising, feeling that value in the system. Rewards, promotions, conferences etc. They are a touchpoint and build the relationships. Even with retention scores, but are they on track to be possible to complete? The number doesn't mean everything, never discount the value of advising vs numbers.*
viii. *Looking at data to turn it into information that is actionable to make a difference.*

APPENDIX D: DRAFT OF CASE STUDY FOR CLIENT

This was created by John Tong in conjunction with the ID representatives from Educause. This will act as a prelude to the content created on each section.

Characters

Name	**Role**	**Language/Lens**
Great River College	Institution	
Lauren	Advising Leader	Big picture thinker, striking balance between her team's needs/perspectives, while recognizing the fundamentals of the business model w/in HIED. Understands unit KPIs, but may not know how it happens from a technical perspective
Padma	VP Student Affairs	Wants to use the data, but doesn't understand limitations and privacy issues. She's a big picture thinker.
Student Advising Center	Advising Department	
Charlie	Central IT Leader	Knows how to solve technical problems but needs defined requirements. Works with other departments on implementing and integrating new services and software.
Luis	Data Analytics Leader/Institutional Research/Reporting	Has competing priorities, focused mostly on Institutional (as opposed to operational) reporting, but dreams of ways to use all the tools in his analytics toolbox. Has a great understanding of the use of data and has a team that are experts on the reporting tool, but lack understanding of day to day operations.

Andy	Advisor	Low tech, really focused on the qualitative/relationships with students. Generally skeptical of using “one more piece of technology”; as story progresses, Andy is challenged to learn how to be more technology savvy
Robin	Advisor	Do we need another Advisor to provide a counter balance to ‘Low Tech’ Andy? Another Advisor who is ‘in the trenches, but more aligned with Lauren in wanting to do the best she can with the resources they have, but not a technophile.
Sam	Student	
Dr. Chu	Faculty Member	
RadGraphs, Inc.	Consolidated Analytics Vendor	Claims to have THE solution for all your analytics needs
Learner App Pro	Specific Data Source Vendor	One of many learning apps used by students, they typically have their own data and dashboards which they want schools to use

Problem Statement/Introduction

Key Elements

- External crisis shakes the institution (Options: Accreditation report, newspaper expose, fiscal problem, performance funding, legislation etc); ridden through ups and downs, Ive seen it before, why is this time any different? Why do something NOW?
- Internal realization that symptoms have been present for quite some time (Falling retention and graduation rates, especially among minority student groups; enrollment decline)
- Leadership recognizes students’ needs for better service, calls for change; vague request
- Advising/middle leaders afraid for jobs, must figure out the solution; MUST reimagine advising across the institution to lead to better student success.

News spread fast across campus about the article in *The Great River Gazette* that shined a critical light on the student advising experience. Administrators and advisors were aware that the system had many opportunities for improvement, but which systems don’t? No

one expected this though! Now the whole community is talking about how students are bounced around from department to department while receiving no clear or consistent message and advice about how to be successful at Great River College.

Padma, VP of Student Affairs, has called Lauren, the Advising Leader, in for a meeting to discuss the situation. “We should have known this was coming!” says Padma, as Lauren nervously sits and listens in the large corner office of the Administration Building. She feels sure that at any moment she’s going to be fired so that leadership can say they have ‘held the responsible person accountable’ and try to move forward and have everyone forget about the article.

Padma continues talking as she paces around the room, “Retention rates are declining! Four and five year graduation rates are at an all time low! Our last accreditation report indicated gaps in structures that support student success, especially with regards to diversity, equity, and inclusion. Without improvement, we may lose funding! What’s worse is that we have no plan!” She collapses in her chair and the room goes silent.

“Wait a minute! Do you remember your proposal a couple of years ago to use data analytics to improve student success?” asks Padma.

“The one that wasn’t approved because there was no funding or justification for a big project like that?” Lauren replies.

“Yes, yes, that one! Student success analytics! That’s the answer! Lauren, go brush the virtual dust off of that proposal, and update it to show how student success analytics will get us out of this mess and turn around our student success performance and public image!”

“But I..”

“There’s no time for that Lauren! This project needed to be completed yesterday, now go out and make it happen!”

Lauren leaves Padma's office feeling excited and apprehensive. In theory, student success analytics have the power to positively affect student success, but what does student success analytics even mean? And how do you do it?

APPENDIX E: Draft of Deliverable to client.

This is a draft of the content I wrote to address specific client requests. This is not a final draft as that drafting process will extend through December. This draft would not have met the needs of the project for this class (EDIT6000 HPT) after it was reduced in scope during the evolution of the project with the client. This is more focused on the 'ideal' implementation. Actual implementation is an iterative process and is focused on a set of 'quick wins' and longer term more strategic successes. After further discussions with the client, they will be moving my recommendations that are applicable to other chapters of the Guidebook, so they will not be 'lost'.

Section 3: John : Data Sources, Measures, KPIs, and other Indicators

INTRO

Once the ground work has been laid between all the stakeholders involved in the initiative, it is time to start the process of curating the data and building the data driven deliverables to the appropriate parties. This is often an iterative process or a 'web' where a subset of the steps may need to be repeated as more information is available or stakeholders begin evaluating the deliverables. Below is just one model of how to approach implementing the data analytics portion of the overall strategic plan for improving student success at your institution.

A note on prioritization and deliverable project selection. When deciding on your first few deliverables, it is important to choose a mix of easier 'quick wins' or 'low hanging fruit' and longer term larger deliverables. These initial deliverables will help solidify lines of communication across departments as well as provide momentum and visibility. When possible, evaluate the choices with an eye towards alignment towards strategic goals even for the quick wins to prevent the feeling that progress is 'scattershot'.

As the reader will notice, ideally, there will likely be the need to involve a large variety of functional and faculty units. This is why establishing the common culture and ideals with high level

sponsors is so critical. Nothing assures an inferior system, or half functional product than systems created in a vacuum. Following the model steps is a suggested list of some metrics that may be helpful as a starting point for discussions on data that can be used to informing action.

STEPS

1. Identify the data needs.

This step is best conducted via interviews with your Subject Matter Experts (SME). Often SME can tell you the kinds of information that they need to make decisions but are lacking or steps in the process that are pain points. Sometimes there are ingenious associations that are not intuitive at first glance, or surprising perspectives that you can gain from asking other institutions what kind of resources they offer their faculty and staff. Below is a list of some data that might provide a basis for your discussions. These data needs should be discussed and evaluated critically from a lens of appropriateness of use, and equity. As mentioned earlier, correlation does not equal causation, and there may be sub factors that are the true root causes for performance differences that are below the surface that may reinforce a faulty perception or continue encouraging systems of inequality.

The output of this might be in informal list of reports and the fields needed or dashboard specifications. These documents will help drive the rest of this process.

2. Source/Obtain the data

Once the data needs have been identified, the next step is sourcing the data. Though this sounds particularly technical, this actually will often include a number of functional SMEs to help identify the data you need and how it should be interpreted. A single report may require data from multiple data sources. This stage also is likely to require functional unit leads to negotiate appropriate use of the data.

- The data may be distributed across multiple disparate systems, governed by different units, and rules for use.
- Some data may derived or calculated. Some examples of these would be predictive, prescriptive, aggregate, or any other processing where raw data is run through some sort of algorithm.

These data need to be attacked by splitting it into two components. The first is identifying the raw data that that particular process requires. The second part is evaluating the process itself to ensure it's delivering what is expected.

- Some data may be available form multiple sources, including dreaded 'Shadow Systems'. When dealing with this kind of data, it's critical to decide which are the 'authoritative system of reference' for that kind of data, then understand WHY it's also in other systems. Shadow systems, though much maligned and problematic, are often created to address an unmet need. That understanding will lend nuance to your sourcing of the data and may provide additional discussion for data governance discussions.

- Some data may just not be 'reasonable' to provide. It might not be possible to provide restricted data to certain stakeholders directly, though it may provide insight. Examples of this are things like Financial or health information. In those cases, a system of communication and a process may be needed between those who have access to that information and those providing direct student contact. Alternately some of that data might be aggregable to provide some of the context without violating rules.

This stage of the process typically also includes discussion of security and governance. MOUs may be created, agreements drafted about who this data is provided to and how it is to be used, as well as establishing ownership, point of contacts (technical as well as functional), and processes for additional discussion about this data. This governance work shouldn't be short circuited, because any time you report on data, you are in high likelihood to need a mechanism to report data issues that will in the long run improve data quality, but in the short term may provide a lot of anxiety and gnashing of teeth.

3. Stage/ETL the data

Once permission and access to the data has been secured, the mechanics of getting the data ready for use will depend upon the tools you are using. It is often necessary to aggregate all the data sources into a common data source that may be refreshed on a daily or even instantaneous basis. Often this will happen in the organization 'Data Warehouse' (DW or Warehouse). Often jobs will be set up between the Warehouse and the source systems. These jobs, in addition to automating putting all the data in one place

to make it easier and faster to use, also allow you to add steps to handle data quality issues. We will get more into that next step, but at the minimum, having all the data in one place makes it easier for tools to access, access control to be maintained, and data consistency to be handled. Data aggregation, filtering, and processing is often added at this step. This stage primarily involves IT as well as technical resources from the respective source systems.

4. Check data for Quality

This stage is may be deceptively 'discreet' and compact. Most people have an intuitive feel for what good quality data is, but there are actually a lot of components involved in 'good' data, besides is the data 'right'. This stage will need collaboration between the stakeholders, IT, as well as the data stewards of the data sources.

Data quality includes concepts such as:

- Accuracy (is the data 'true' or does it match reality?)
- Validity (do the data make sense from a business perspective?)
- Completeness (are all the fields there or the entire population you need, or just a subset?)
- Consistency (does a particular value in one system, like a 'contact' match what that term means in another?)
- Uniformity (are all the data using the same units?)
- And many other details ranging from simple to complex, obvious to subtle.

As part of this, decisions will need to be made about how to handle 'bad' data, missing values, duplicates, translations, etc. Fortunately, there has been a lot of research into 'data quality' over the decades and methods of handling all the common issues are pretty standard. As intimidating as all this sounds, do not let this step bring everything to a grinding halt. As mentioned above, this is all an interative process. It is unlikely that all the data will be pristine on your first pass through, or indeed ever. The best approach is to work towards providing a prototype with some of the data and let the SME work with you on identifying issues and iterate. Remediating issues will likely take a team approach of the stakeholder who gets the final deliverable, IT technical, functional business SME from the data source

and others to understand and address issues. The data may need to be 'cleaned' or remediated in the source system, or data cleansing rules and data quality processes established here can be added to the ETL step above that get applied for all future runs. This information is also extremely valuable to be added to the data dictionary or may need to be discussed by the data governance committee.

5. Create the resources for your stakeholders (Reports/Dashboards/Analytics)

This step is where you would have developers create the actual deliverables that would be sent to the stakeholders. The specifications from Step 1 will provide the basis for development. Depending on how detailed the specs were, it may be ready for development or it may require a functional/technical analyst to help translate the need to technical specifications.

We should consider and make sure we are addressing and supporting the multiple constituents and stakeholders contributing to student success. We are not just providing advising dashboards to advisors, but also summary information to departments, cohort/student performance reports to department leads. Can any of these be automated or made into 'alerts' that make it easier for advisors to see what they need when they need it?

6. Analysis and Review

Once a draft of the final product is available, it can be shown to the stakeholder who requested that particular deliverable. It doesn't have to be 'perfect' as the idea is that the SME will help validate the output. They can provide feedback on layout, content and accuracy. Sharing it as widely as appropriate will help ensure the data accuracy, as every department knows their data the best and would not want their data to be misrepresentative. Once again, part of this review stage should definitely include surface vs underlying factors that are actually causative, correlation vs causation, and equity principles.

Are we asking the right questions?

Are there other factors that may be supporting or impeding progress?

Are we looking at this from a student perspective?

Are we encouraging equity principles?

Summary

After we have a good start here, we need to bring it all back together. Do we have systems to support the student based on the information we now have? That's where we start our last section of closing the loop and bringing these artifacts back to the context of promoting student success.

Example Data Elements

- · Engagement data from everything like dining hall passes, gym, etc, event swipes. Faculty are decision makers about policies.
- · Advisors, what types of data do they get? What are the leading indicators that put students at risk. And tie it directly back to institutional resources for that intervention."Make it easy to do the right thing!" Timeliness and type of data, not just huge reports, but the resources available.
- · Retention Score. Components of the score to provide to advisors.
- · Declining GPA, a single failure grade. Credit completion ratios.Withdrawals (fall below 15, lose momentum to be able to keep on track). Financial eligibility factors (gpa, credit completion that will track for completion)
- · Discussion of 15 hour students vs non. (is that causative or correlative kind of thing?) Looking at literature for 15 to finish data.
- · Top 10 most predictive classes? History 2010 (Rick's example), 80% get an a graduate, vs 40% that get a D. Factors, reading, time organization ,etc.
- · Pell grant eligibility? Transfer credit and gpa, zip code etc at entry. Demographics, 1st gen, ethnicity, gender, etc. Language factors.
- · Rick has an example: priority registration. By college and student classification the registration year on year comparison through the cycle on a weekly basis, so it's leading not just surprised at census.
- · 7 flags fac/ta and advisors are notified right away, (Kal) (What)
- · (non academic alert flag, faculty flags)
- · Low participation (faculty/TA)
- · Low quiz/test scores
- · In danger of failing
- · Informational : Low participation
- · Low participation Grade at risk.
- · In peoplesoft people had to log in to look at it.
- · Then started real time flags and encouraged people to not wait for 6 weeks in, and after 3 semesters saw the value and high participation. Real time flags, Mid semester flags, and post, etc…
- · Attendance in Starfish. Very easy to enter.
- · Blackboard LMS and Starfish have same creator and integration was easy.
- · Civitas (built in flags) (Rick)
- · Progress reports 4 th week, fac submits.
- · 99% of the faculty participate, it's a part of the culture.
- · 4th week in, it's almost completely too late.
- · Fac can put in an alert flag, but not widely used.
- · Use risk prediction.

- · Campaign calendar for different types of students.