

HOW TO SWIM AND SURVIVE IN THE DATA SEA: FROM DATA-DRIVEN TO VALUE-DRIVEN, QUESTION-DRIVEN, AND WISDOM-DRIVEN APPROACHES

INTRODUCTION

- Today, the amount of data available or waiting to be discovered is so great that it is challenging to decide what to collect, how to locate, and what to focus on when it has been found.
- The data-driven approach would lead to wasting time and energy on collecting unnecessary or obsolescence data in a rapidly changing environment where today's data (or values) will be no longer meaningful tomorrow.
- This is aligned with an underlying argument that question-driven approaches in the subject field of knowledge discovery in databases are of greater advantage than data-driven approaches in contexts, where we have more data than we can analyze (Amaravadi, 2005; Amaravadi & Daneshgar, 2004; Hogl et al., 2001).

APPROACHES

- As alternative approaches to a "data-driven" approach, "value-driven," "question-driven," and "wisdom-driven" approaches would lead to collecting the most meaningful data for demonstrating impact or supporting decision-making in a rapidly changing environment.
- Combining these three approaches in a "narrative" format is proposed as a way to maximize the advantages and minimize the disadvantages of a "data-driven" approach by making it easy to collect data, customize, expand and use data for designated purposes.
- The notion of a narrative format is taken from the key idea of data storytelling, data-driven storytelling, or storytelling with data (Dykes, 2020; Knaflic, 2015; Riche et al., 2018; Sykes et al., 2013).

1 Unit-Focused

Title	Short Description	Primary Investigator(s)	Other Investigators	Start Date	End (or Expecting) Date	Data
Database Review	examination of use over time and cost per use to identify titles that might be discontinued	C		periodic/ongoing		
Review of Elsevier Freedom Collection agreement and library subscriptions	project that led to non-renewal of license, cancellation of 90 subscriptions, and addition of 13 new subscriptions to high-interest titles	C		Spring 2016	Fall 2017	
e-book usage	review DCA profile and commitment to ProQuest e-books; review subscriptions to ProQuest and EBSCO ebook collections; assess patron use and preferences	C		Summer 2018	Spring 2019	
Wiley Online Library	Review use and value of individual subscriptions and license for core library collection - three-year agreement ends December 2018	C		Spring 2018	Fall 2018	
Stacks use	review and weed (1) multiple copies of Stacks books and (2) unique Stacks titles (later in accord with CIOO agreement)	C		Spring 2018	2019/2020	
Dashboard Links/UNI ScholarWorks Usage	Create a GoogleDocument with stable dashboard links for anyone to access for all time - Used by library liaisons/strategists/other library personnel when talking to campus departments/units. Document has links to unilinkcollection pages in UNI ScholarWorks and links to related dashboard links.	D		Summer 2017	Ongoing	
Stacks and bound periodicals circulation review	used in allocation formula and collections review	K		ongoing/annual		
Internal use of Stacks collection	used in allocation formula and collections review	J		ongoing/annual		
SUSHI Import to Alma	Setting up SUSHI to automatically import journal usage into Alma	K		ongoing		
Reserves Textbook use - UBA	Reserves use of textbooks on list from Univ Book & Supply for reserved materials. Continuation of project dependent on whether UNI continues to support textbooks assigned to courses and its implications for	J		ongoing		
Review of permanent collection stats	Review of permanent collection statistics gathering using the Alma ILS. The collection is currently built on a system derived from the card file numbers. Alma offers the first real opportunity to move to keeping statistics based solely on the online count.	P		ongoing		
Student employment applications received by student	Used to see how diverse student employee base that is applying for our	S		ongoing		
Headlines listed into CDBI	Used to update real-time headlines in the CDBI database	S		ongoing		

2 Purpose-Focused

Values	Focal Areas (What)	Stakeholders (Whom)	Types of Questions	Questions (In relation to a value, a focal area, a stakeholder and a type of question that you choose)	Experience-Based or Hypothetical Answers (How do or would you address your question?)	Data Points (Quantitative & Qualitative)
Institutional Reputation & Prestige	Institutional repositories	Administration	Outcome (Impact)	What is the reach and impact of the University of Northern Iowa and its programs?	The institutional repository contains the structure of the university, therefore there is related works collected to different departments and programs. The system records digital downloads, number of downloads, number of individuals who are using resources located in the institutional repository. The information we gather would be used to obtain regular feedback from the repository. A "Share Feedback" button has been placed throughout the IR where we receive feedback linked to specific resources.	# of global downloads for the entire site - shows impact and reach of the university of northern Iowa. In addition, number of total readers. Collect the data each month.
Student Success	Institutional repositories	All	Outcome (Impact)	What is the reach and impact of the University of Northern Iowa and its programs?	Not doing anything formal to collect. This information right now anecdotal examples of times we've said "we don't really collect that" or "let me see if a public library has a row".	
Student Success	Libraries	Students	Satisfaction	How well are student resource needs met by the combined offerings of Youth and YETS? How frequently, and for what types of books, do students seek to use Youth Services YTS?	Survey of University and local community. Gather information about requests for services or equipment that we have had to deny.	"No Notebook"
Student Success	Library loan	All	Satisfaction	What additional services/equipment can we offer from the Library Services desk?		
Student Success	Collections	Other	Outcome (Impact)	What percentage of teacher education faculty and students utilize IRTS	Survey teacher education faculty and students	We have not collected this information.

3 Value-Focused

Types of Focal Areas of Stakeholders (What)	Focal Areas (What)	Types of Questions	Types of Decision	Questions (In relation to a value, a focal area, a stakeholder and a type of question that you choose)	Experience-Based or Hypothetical Answers (How do or would you address your question?)	Data Points (Quantitative & Qualitative)
University of Miami Libraries	Collaborate	Output (Volume or Usage)				% of Occupancy at the Learning Commons
University of Miami Libraries	Access	Output (Volume or Usage)				Interperson Vitals
University of Miami Libraries	Access	Output (Volume or Usage)				Interperson Vitals
University of Miami Libraries	Access	Output (Volume or Usage)				# of Physical Books Borrowed
University of Miami Libraries	Access	Output (Volume or Usage)				Pageviews of the website
UNI Reed Library	Space	Output (Volume or Usage)	Operational	Are the weekend hour changes worth?		Gate counts

4 Decision-Focused

Values	Focal Areas (What)	Stakeholders (Whom)	Types of Questions	Questions (In relation to a value, a focal area, a stakeholder and a type of question that you choose)	Experience-Based or Hypothetical Answers (How do or would you address your question?)	Data Points (Quantitative & Qualitative)
Student Success	Library loan	All	Satisfaction	What additional services/equipment can we offer from the Library Services desk?		

WORKSHEET

- First, a participant selects one framework from multiple frameworks (e.g., ALA Core Values of Librarianship), which would facilitate a holistic approach to capturing comprehensive values.
- Second, the participant selects one value from multiple values that are associated with the selected framework (a value-driven approach).
- Third, the participant selects an option from each of key narrative components including "what" (Areas of Focus) and "whom" (Stakeholders).
- Fourth, the participant selects a type of assessment questions from the four types of measurements introduced in Project Outcome (<https://acrl.projectoutcome.org>), including Needs Assessment, Output, Outcome, and Patron Satisfaction, and enters their questions associated with the selected type (a question-driven approach).
- Fifth, the participant enters answers to their own questions as a key narrative component of "how," or as hypotheses based on their own experiences (a wisdom-driven approach).
- Last, the participant chooses the most appropriate publication venue from multiple options.

FUTURE DIRECTION

- This worksheet would be improved by adding more steps that would help streamline the process of data storytelling from data collection to visualization.
- This worksheet would be improved by conducting usability testing with all levels of decision makers.