

---

---

# Using Data and Analytics in Access Services

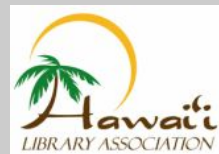
---

---

Jean Thoulag, Fredrick Allen, David Bowman  
Hamilton Library, UH Manoa

---

---



What are 1-2 things you hope to learn from this session?

Write them on the 3 x 5 card.

# Introductions

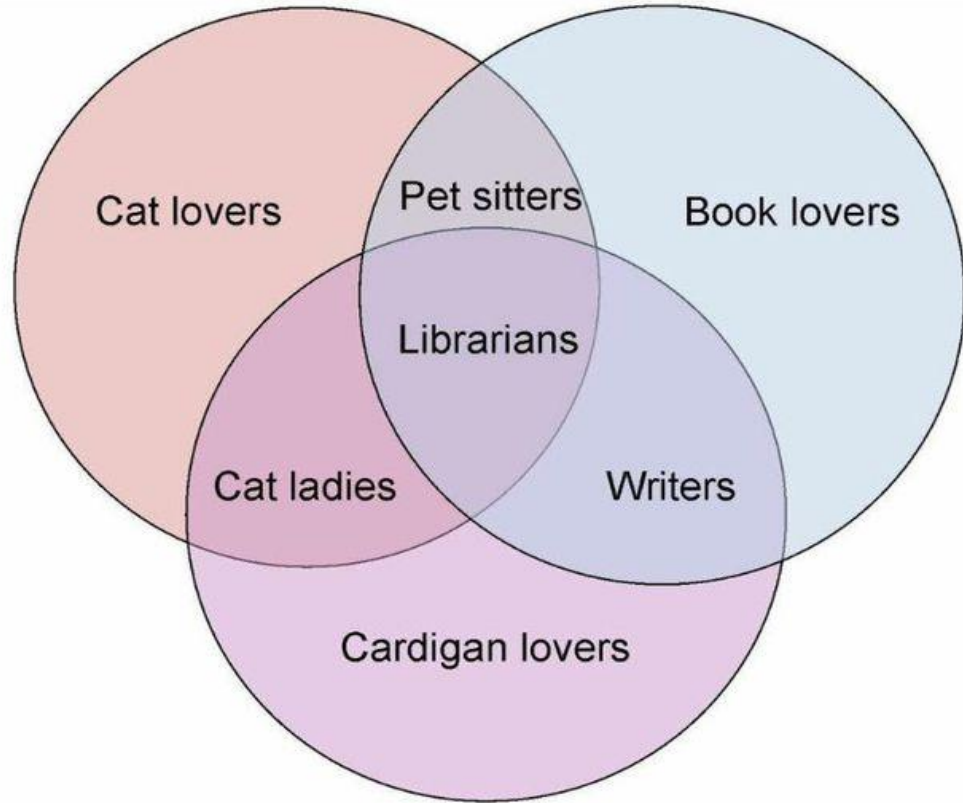
Fredrick Allen  
Dave Bowman  
Jean Thoulag

What will be covered-

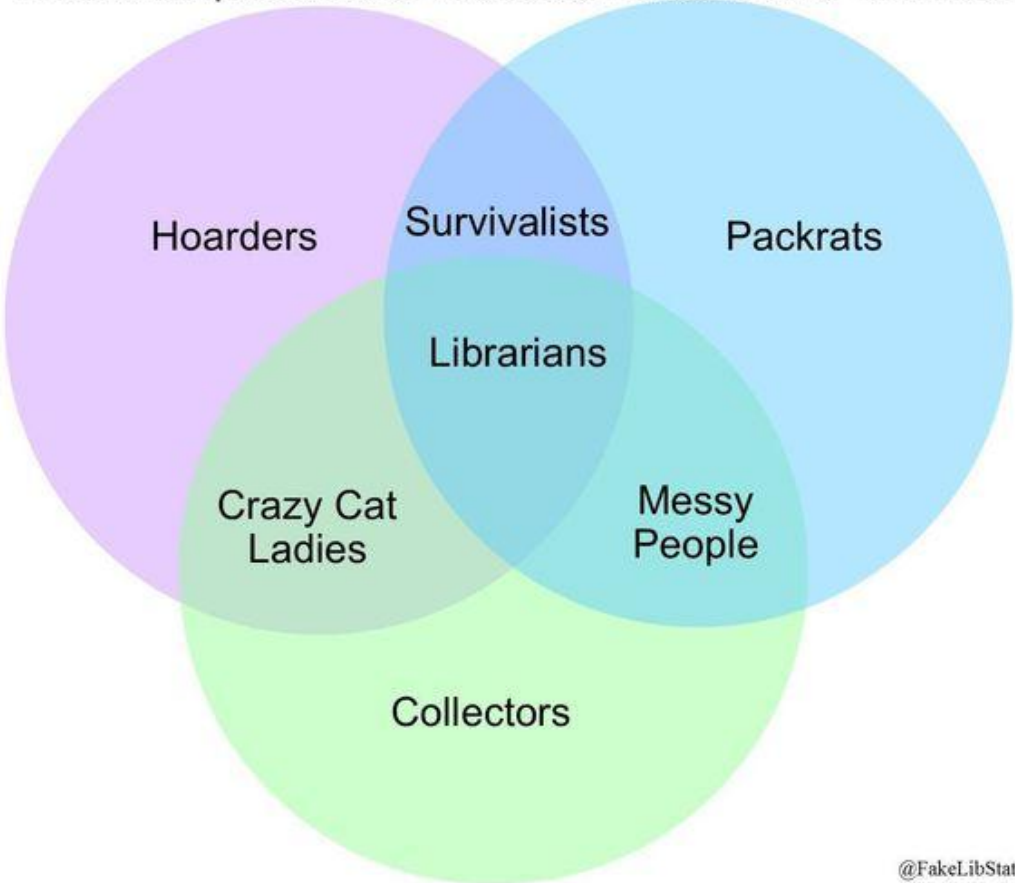
1. How data and analytics can be used in Access Services
  2. The 6 step Sigma process
  3. Kinds of data available
  4. Tips for Analyzing access services data
  5. Suggestions on ways to use data and analytics to inform sustainable change.
-

**Why do Librarians love to collect data?**

Data is fun!



# Relationship between Hoarders, Packrats and Collectors



# Data, analytics and sustainability.. Where to begin?



# The 6-step Sigma Process

## A Framework for Using Data and Analytics

Summer, D. (2007). *Six Sigma: Basic tools and techniques*. Upper Saddle River, NJ: Prentice-Hall.



# 6 Step Sigma (Change) Process



1. Define the Need (Problem, Wish)
2. Measuring the current situation
3. Analyze
4. Improve/change
5. Control and Wrap up Data
6. Results

Summer, D. (2007). *Six Sigma: Basic tools and techniques*. Upper Saddle River, NJ: Prentice-Hall.

# Step 1: Define the Project

# What is the need? Or Concern? Or wish? Or Dream?



- Friction points
- Dream ideas
- From SWOT\* exercise
- Strategic Planning initiatives
- Community/Patron Requests
- Staff suggestions

\*Strengths, Weaknesses, Opportunities, Threats

# What is the need? Or Concern? Or wish? Or Dream?

## Some examples

- Staffing needs for evenings and weekends.
- When are the busiest times at the circulation desk and how many students to assign.
- Hours, building, and space use.
- Services; discontinue one or add a new one.
- What areas of the collection are used more and need to be shelf-read more frequently.

- Lost books- how much of a problem?
- Should we change the checkout length for undergraduates?
- Shelf space issues. No Room on Shelf!
- How much are the group study, practice/public meeting rooms used?
- How much time spent on sending printed copy of overdue notices.
- Do we need all the microfilm readers to support use or can we use the space better?

# Step 2: Measuring the Current Situation

# Data is beautiful!

University of Hawaii at Manoa Sinclair Library  
Average Circulation Charges by Day of Week (DOW) and Hour  
1/1/2013 - 2/10/2015

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
(0) 00:00-00:59	0	0.43	0	0	0	0	0
(1) 01:00-01:59	0	0	0	0	0	0	0
(2) 02:00-02:59	0.25	0	0	0	0	1	0
(3) 03:00-03:59	0	0	0	0	0	0	0
(4) 04:00-04:59	0	0	0	0.17	0	0	0
(5) 05:00-05:59	0	0.08	0	0	0	0	0.14
(6) 06:00-06:59	0	0.71	0.24	0.56	0.33	0.36	0
(7) 07:00-07:59	0	1.67	0.79	2.44	1.37	1.93	0
(8) 08:00-08:59	0.47	4.14	5.94	6.42	5.43	4.56	0.52
(9) 09:00-09:59	0.52	6.68	6.51	6.51	6.2	6.25	0.56
(10) 10:00-10:59	0.54	8.01	9.35	10.17	8.73	7.4	0.43
(11) 11:00-11:59	0.66	9.17	10.27	9.22	8.72	10.45	1.13
(12) 12:00-12:59	4.99	11.52	11.69	10.05	9.96	12.5	6.49
(13) 13:00-13:59	5.61	11.59	10.87	13.65	11.36	12.08	5.67
(14) 14:00-14:59	9.11	12.92	13.08	11.32	12.05	15.55	4.9
(15) 15:00-15:59	7.02	9.82	14.27	9.3	10.78	12.05	6.77
(16) 16:00-16:59	6.11	9.23	12.44	9.65	11.31	11.12	7.11
(17) 17:00-17:59	7.26	8.59	6.86	7.49	9.48	9.27	3.88
(18) 18:00-18:59	0.66	5.36	5.43	4.79	5.65	0	0.13
(19) 19:00-19:59	0.54	2.54	3.04	3.64	3.08	0	0
(20) 20:00-20:59	0.36	0.18	0.32	0.58	0.2	0	0
(21) 21:00-21:59	0.17	0.35	0.05	0.42	0.3	0	0
(22) 22:00-22:59	0.17	0.11	0.26	0.03	0	0	0.44
(23) 23:00-23:59	0.29	0.06	0	0.01	0.12	0	0

Day of Week (DOW)	Avg Charges
Sun	4.15
Mon	6.84
Tue	7.58
Wed	7.02
Thu	7.06
Fri	8.14
Sat	3.68

# How can we measure?

## What data? From who? From where?

Charges by day/hour, initial charges/renewals

Business transactions/fines/fees by day/hour

Use of special rooms

Security guards- need/hours

Circulation Trends by call number range

Kinds of Questions handled at service points

Patron types- who, when, what's

Holds and Recalls & Time/Staff

ILL processing times

ILL lend/borrows volume

Stacks-shifting work #shelves,  
time/hours, manpower needs

Inventory projects- # shelves, time/hours

# What data can we get from our ILS/LSP?

- ILS/LSP Canned Pre-Generated Reports
  - Charges/renewals
  - Holds and recalls
  - ILL's
  - Lost items
  - Fines and fees
- ILS/LSP Report Writing Utility
  - The ease or difficulty of using this depends upon your system.
  - Documentation like ER diagrams and data dictionaries.
- Your ILS/LSP Support Staff
  - Can be a valuable resource for questions regarding reports!
  - In some cases you may even be able to make a custom report request to them.





# Where else to find data for access services?

- Gate counts
- Physical Headcounts
- Service encounter log
- Use of equipment
- Trucks per day/week of returned materials
- Count of items returned in after hour book drops
- Room Bookings
- Count of patron interactions/questions
- Guard & Incident Reports
- Staff hours by projects
- Other libraries
- Books/ publications!

# Measuring the Current Situation

<b>What to measure</b>	<b>What Data is available?</b>
How many student staff do I need to assign to the Circulation desk for evening shifts?	???
Are all the study rooms necessary? Can we use some for other purposes?	???
Can we implement direct office delivery service for faculty requested books?	???

# Measuring the Current Situation

<b>What to measure</b>	<b>What Data is available?</b>
How many student staff do I need to assign to the Circulation desk for evening shifts?	ILS- # of charges by hour by days # of room reservations by hours by days # of questions by type Other considerations
Are all the study rooms necessary? Can we use some for other purposes?	Libcal- # of booked study rooms by hour by days
Can we implement direct office delivery service for faculty requested books?	Offered in the past but little used. Past data not helpful. Would need to survey before implementing?

# Measuring the Current Situation

<b>What to measure</b>	<b>What Data is available to collect, analyze and inform our decisions?</b>
1. Are all the microform machines being used and is all the space needed for them?	Count how many patrons are using the machines and at what times.
2. Are all the community meeting rooms necessary? Can we use some for other purposes?	Check the calendars for number of reservations.
3. Should we interfile collections that are currently separate?	??????

# Step 3: Analyze

What does the data tell us?

Circulation data shows we could get by with just one student from 6-10PM. However....

Data shows we don't need so many micro machines and can reduce service hours.

Could also repurpose the micro room by adding study space and reducing space for micro.

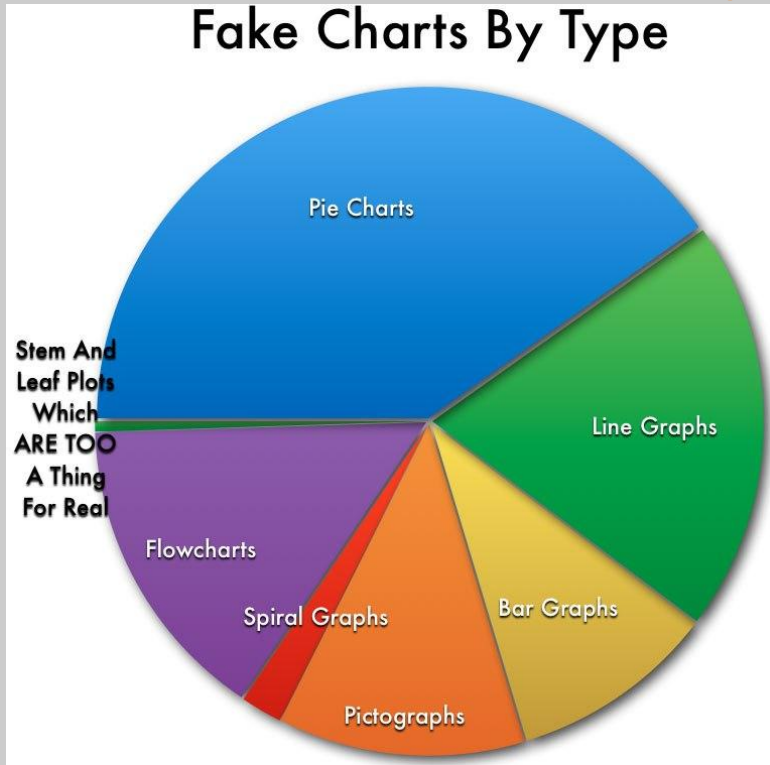
Day of Week (DOW)	Avg Charges
Sun	8.84
Mon	16.65
Tue	15.41
Wed	14.99
Thu	14.3
Fri	18.56
Sat	7.02

Graphic .. librarians inundated with data..  
What next how to sort, what's story!

University of Hawaii at Manoa Hamilton Library  
Average Circulation Charges by Day of Week (DOW) and Hour  
1/1/2015 - 2/28/2017

Hour	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
(7) 07:00-07:59	0	0.82	1.1	0.5	1.35	0.07	0
(8) 08:00-08:59	0	6.68	6.35	6.15	6.71	6.36	0.6
(9) 09:00-09:59	0	14.87	10.38	11.01	8.41	12.2	3.27
(10) 10:00-10:59	0	20.31	17.88	17.55	18.12	18.47	5.48
(11) 11:00-11:59	0.21	25.63	23.48	21.57	18.09	20.01	6.77
(12) 12:00-12:59	10.43	23.99	23.21	20.46	19.37	22.88	9.09
(13) 13:00-13:59	11.31	24.06	21.67	20.68	21.23	23.38	7
(14) 14:00-14:59	12.32	24.34	21.83	21.5	23.09	25.6	8.19
(15) 15:00-15:59	12.83	21.3	21.96	21.86	22.78	23.43	8.66
(16) 16:00-16:59	14.9	23.24	20.73	19.71	17.1	23.99	11.1
(17) 17:00-17:59	12.18	16.46	15.83	14.61	13.86	17.94	0
(18) 18:00-18:59	7.57	10.13	9.16	9.67	8.69	0.33	0
(19) 19:00-19:59	6.4	5.74	6.05	7.13	7.78	0	1
(20) 20:00-20:59	4.4	5.37	6.26	6.27	4.96	0	0
(21) 21:00-21:59	4.82	4.82	4.4	5.29	3.61	0	0

# Trust your data?



Fake data?

# Step 4: Improve/Change



# Identify your Goals

Collect input from staff.

Let internal staff contribute to or know of plan.

Do patrons or other outside groups need to know or be consulted?

What are the resources needed?  
(time, \$\$, equipment, supplies, training)

What will it take to support the effectiveness of plan?

---

# Develop a Plan

SMART objectives- specifics, measureable, achievable, relevant, timebound

Resources needed- \$\$, time, staff, training, equipment, supplies,

Who do you need to include in communication

Timeline

Checking in on progress

## Step 5: Control and Wrap Up Data

How will you “measure” the achievement of goals and objectives?

What data (outputs) and Outcome Measures

Who, what when and how?

What data will show success, sustainability, or not?

# Step 6: Results

# Results



Did the change help/work?

Did the change make a difference?

Was it worth the time?

Was it worth the cost?

Was it easy/stressful for staff/users?

Will you continue, modify, or discontinue?

**Tell your story-use your new data and analyses and share --**

Patrons

Report to board, etc.

Legislators/finders

Newsletter or journal

Share at a conference



# Resources

Farmer, L. Safer, A (2016) *Library Improvement through data analytics*. Chicago: ALA Neal-Schuman.

Jankowski, J. (2013). Successful implementation of Six Sigma to schedule student staffing for circulation services. *Journal of Access Services*, 10 (4), 197-216

Summer, D. (2007). *Six Sigma: Basic tools and techniques*. Upper Saddle River, NJ: Prentice-Hall.

Are Plato, Aristotle and Socrates one and  
the same person ?

Tel. question Nov. 24, 1950 JE

**Thank You!**

David Bowman  
dgbowman@hawaii.edu

Fredrick Allen  
fallen@hawaii.edu

Jean Thoulag  
thoulagj@hawaii.edu

---