Developing a Process for Analyzing and Visualizing E-Resource Packages with Power BI



Ginger Williams



Gina Watts



Amanda N. Price



The rising STAR of Texas



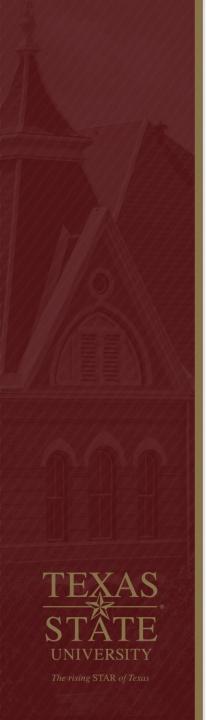
Agenda

- Vision for a new position
- **❖** Sage Project
- Emerald Project
- Kanopy Project
- Framework & checklists



Collection Analytics Vision

Comprehensive, well-organized data, analyzed on a regular basis, presented graphically using standard formats, to inform decision-making & explain choices to stakeholders.



Sage E-Journal Package: How do we do this?



Sage E-Journal Package Review

The Sage electronic journal package includes about 800 journals spanning all subjects, and its multi-year license was up for renewal in spring of 2018

❖ Analysis:

- How much was it used?
- Was the cost-per-use reasonable?
- How does Sage support different academic areas at Texas State?
- **❖ Timeline: January to March 2018**

❖ Audience:

- Acquisitions
- Subject librarians
- Library admin



Sage Project Inputs

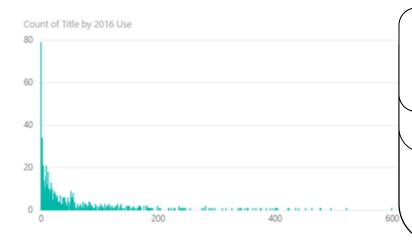
- ❖ Data gathering and clean-up took approximately 2 weeks
- **❖** Visualization drafting and feedback took approximately 3 weeks
- Data sources:
 - Usage from Sage for FY16 and FY17 (JR1 report)
 - Prices from Sage (online price list)
 - Call numbers from ILS

Match point across the data: ISSN

- ❖ Tools:
 - Excel + ASAP add-on
 - SQLite
 - Power BI



First Draft:



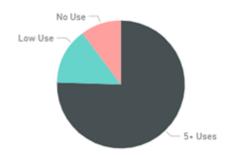
Additional context – why does 5 uses matter?

– not wnat we wanted!

things in an order that made sense

Low Use vs. High Use

Price of Indiv. Titles with 5+ Uses



\$584,013.16

Call # (groups)

- ☐ A -- General Works
- □ B -- Ethics and Religion
- ☐ BF -- Psychology
- C -- Archaeology and History of Civilization
- D -- History
- □ E & F -- American History
- G -- Geography
- ☐ GE -- Environmental Science
- GF -- Human Ecology and Anthropogeogr...

Title	Call #	2016 Use
American Journal of Sports Medicine, The	RC1200 J66	1402
Environment and Behavior	HM206 .E5	1039
Journal of Interpersonal Violence	HV6618 J68	898
Journal of Social and Personal Relationships	HM132 J685	786
Crime & Delinquency	HV6001 .N2	704
Psychological Science	BF1	689
Australian and New Zealand Journal of Psychiatry	RC321 .A86	599
Journal of Research in Crime and Delinquency	HV6001 J74	522
Criminal Justice and Behavior	HV9261 .C74	495
Personality and Social Psychology Bulletin	8F698.A1 P48	478
Educational Administration Quarterly	LB2805 .E34	477
Review of Educational Research	L11 .R35	463
Small Group Research	HM133 .S645	452
Urban Education	LC5101 .U7	440
Hispanic Journal of Behavioral Sciences	RC451.5.H57 H58	435
Violence Against Women	HV6250.4.W65 V5565	424
Journal of Family Issues	HQ1 J463	422
Health Education & Behavior	RA440.A1 S63	404
Total		51337

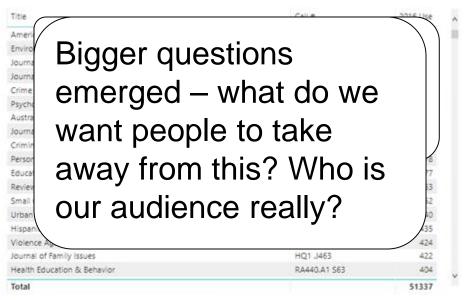
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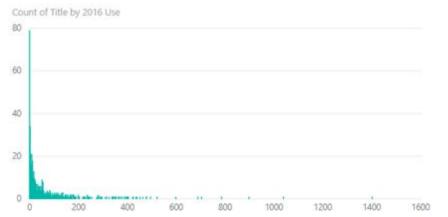


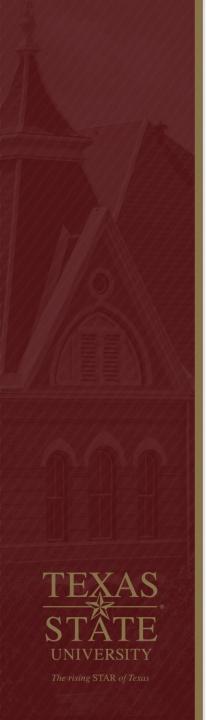
Second Draft:



QB -- Astronomy

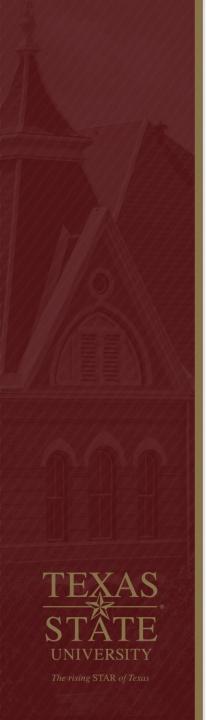






Knowing Your Audience

- **❖** Important questions before preparing your work:
 - What do they already know?
 - What acronyms might they need specified?
 - What do they want to come out knowing? What are their goals?
 - How much time do they have?
 - How will you share it with them? Does it require an account/embedding your work somewhere?
- Admin level: may be interested in higher level questions and presentation or executive summary type formats
 - Additionally, they may be showing this to people outside the library it is a good idea to minimize jargon if an external audience is going to be involved
- ❖ A truism of user experience: if you ask someone to describe their ideal end goal of a project, they might not know!



Final Version, part 1

- ❖ Split between audience use, with both interactive and non-interactive elements
- Embedded online for easier sharing
- **First section serves as executive summary:**





Final Draft, part 2:

Ei ...

Select subjects to filter: ☐ A -- General Works ☐ B -- Ethics and Religion ☐ BF -- Psychology C -- Archaeology and History of Civilization D -- History ☐ E & F -- American History G -- Geography ☐ GE -- Environmental Science GF -- Human Ecology and Anthropogeography ☐ GN -- Anthropology GV -- Recreation and Leisure ☐ H -- Social Sciences General ☐ HB-HJ -- Business and Economics ☐ HM-HT -- Sociology ☐ HV -- Social Pathology, Criminology ☐ JA -- Political Science, general ☐ JF, JK, JN -- Political Institutions and Public Administration ☐ JV -- Colonization and Migration ☐ JX & JZ -- International Law and Relations

K -- Law

□ L -- Education
 □ M -- Music
 □ No call number
 □ NX -- Art, general

The total number of journals that matches your current filter is:

771

Title	Call #	2017 Use
American Journal of Sports Medicine, The	RC1200 J66	1234
Journal of Interpersonal Violence	HV6618 J68	851
Journal of Social and Personal Relationships	HM132 J685	717
Hispanic Journal of Behavioral Sciences	RC451.5.H57 H58	702
Urban Education	LC5101 .U7	677
Psychological Science	BF1	672
Crime & Delinquency	HV6001 .N2	560
Armed Forces & Society	U21.5 .A74	483
Criminal Justice and Behavior	HV9261 .C74	483
Review of Educational Research	L11 .R35	463
Journal of Research in Crime and Delinquency	HV6001 J74	448
Journal of Teacher Education	LB1705 .N27	392
Personality and Social Psychology Bulletin	BF698.A1 P48	390
Journal of Family Issues	HQ1 J463	382
1-4	LIV02C4_IC	375
Total		46840



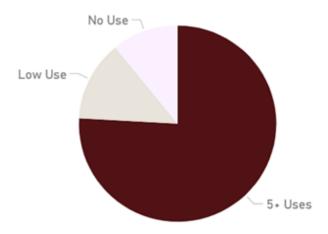
Final Draft, part 3:

Select subjects to filter:
☐ A General Works
☐ B Ethics and Religion
□ BF Psychology
☐ C Archaeology and History of Civilization
□ D History
□ E & F American History
☐ G Geography
☐ GE Environmental Science
☐ GF Human Ecology and Anthropogeography
☐ GN Anthropology
☐ GV Recreation and Leisure
☐ H Social Sciences General
☐ HB-HJ Business and Economics
☐ HM-HT Sociology
☐ HV Social Pathology, Criminology
□ JA Political Science, general
☐ JF, JK, JN Political Institutions and Public Administration
□ JV Colonization and Migration
□ JX & JZ International Law and Relations
□ K Law
□ L Education
□ M Music
□ No call number
□ NX Art, general
- n - tanaman and tisansam

If we dropped Sage and resubscribed to all journals used more than 5 times, it would cost:

\$581,106.16

More then 75% of Sage titles had more than 5 uses, meaning using ILL instead of subscribing would incur copyright fees.





Emerald E-Journals: Extending the Analysis



Why more analysis for Emerald?

- **❖** Cost Per Use:
 - Sage \$4.15
 - Emerald \$10.54
- **❖** More than 5 uses:
 - Sage 75.9%
 - Emerald 59.8%



The top 4 subject collections account for 53% of FY18 uses.

Subject Collection	FY18 Use ▼
Marketing eJournal Collection	831
Education eJournal Collection	620
HR, Learning and Organization Studies eJournal Collection	591
Business, Management and Strategy eJournal Collection	585
Public Policy and Environmental Management eJournal Collection	478
Health and Social Care eJournal Collection	443
Operations, Logistics and Quality eJournal Collection	291
Accounting, Finance and Economics eJournal Collection	261
Information and Knowledge Management eJournal Collection	240
Library Studies eJournal Collection	231
Tourism and Hospitality Management eJournal Collection	87
Engineering eJournal Collection	83
Property Management & Built Environment eJournal Collection	68
Total	4809

Titles and Use by Subject Collection

Current filters: 10

Subject Collection	Subject Collection Acronym	Price	TotalUse ▼	
Marketing eJournal Collection	emar	\$21,528.00	1733	
HR, Learning and Organization Studies eJournal Collection	ehrlos	\$23,367.54	1219	
Business, Management and Strategy eJournal Collection	ebms	\$44,587.80	1148	
Education eJournal Collection	eedu	\$19,375.20	1143	
Public Policy and Environmental Management eJournal Collection	eppem	\$11,881.80	799	
Health and Social Care eJournal Collection	ehsc	\$27,852.54	748	
Operations, Logistics and Quality eJournal Collection	eolq	\$16,615.20	519	
Library Studies eJournal Collection	elib	\$16,180.50	443	
Accounting, Finance and Economics eJournal Collection	eafe	\$32,167.80	421	
Information and Knowledge Management eJournal Collection	eikm	\$12,606.30	399	
Engineering eJournal Collection	eeng	\$25,654.20	263	
Property Management & Built Environment eJournal Collection	epmbe	\$17,146.50	158	
Tourism and Hospitality Management eJournal Collection	emth	\$8,280.00	136	
Total			9129	

Journal	TotalUse ▼
Policing: An International Journal	551
British Food Journal	91
International Journal of Sociology and Social Policy	41
International Journal of Public Sector Management	38
Disaster Prevention and Management: An International Journal	34
International Journal of Public Leadership	22
Management of Environmental Quality: An International Journal	8
Transforming Government: People, Process and Policy	7
International Journal of Emergency Services	6
Journal of Public Procurement	1
Total	799

F4



ILL Copyright Fees Apply When

More than 5 articles published in a given year from a given title are borrowed in a year.

Example: British Food Journal, 2018 ILL Requests

3 articles published 2018 = no copyright fees

8 articles published 2017 = copyright fees for 3 articles

2 articles published 2016 = no copyright fees

FY

- 2017
- 2018

- Subject Collection

 Health and Social Care
- ☐ HR, Learning and Orgai
- □ Information and Knowle
- ☐ Library Studies eJourna
- ☐ Marketing eJournal Col
- Operations, Logistics ar
- ☐ Property Management
- Public Policy and Environ
- ☐ Tourism and Hospitality



Title and Use by Year of Publication

Journal	YOP 2014	YOP 2015	YOP 2016	YOP 2017	YOP 2018
British Food Journal	5	3	2	(8)	3
Disaster Prevention and Management: An International Journal	1	0	8	3	2
International Journal of Emergency Services	0	0	0	2	0
International Journal of Public Leadership	0	2	1	4	6
International Journal of Public Sector Management	0	0	0	3	3
International Journal of Sociology and Social Policy	3	0	0	0	0
Journal of Public Procurement	0	0	0	0	0
Management of Environmental Quality: An International Journal	0	0	0	0	0
Policing: An International Journal	3	17)	45	76	69
Transforming Government: People, Process and Policy	0	0	0	3	0
Total	12	22	56	99	83



Emerald E-journals: Final presentation?

- Which subject collection data should we present?
 - Collection name
 - Collection use
 - Collection price
 - Price per download (using collection pricing vs. full package price?)



Kanopy PDA: So, it's not e-journals...



Issue: Triggered content outpacing sustainability of current PDA/DDA budget

- ❖ What kinds of data are needed for analysis?
- What can be useful with scant data and disparate data?
- What does the data tell us?
- How can we communicate the issues, displaying the data in an understandable way?

	Total spent	% total growth	JSTOR	% growth	% spend	Kanopy	% growth	% spend
2015-16	\$25,177.32		\$21,977.32		87%	\$3,200.00		13%
2016-17	\$83,350.00	70%	\$80,150.00	73%	96%	\$3,200.00	0%	4%
2017-18	\$151,003.79	45%	\$100,750.00	20%	67%	\$50,253.79	94%	33%
2018-19 (Feb)	\$30,550.00		\$20,550.00		67%	\$10,000.00		33%
	Total allocation							
	\$100,000.00		\$20,550.00		21%	\$10,000.00		10%

Flat budget year

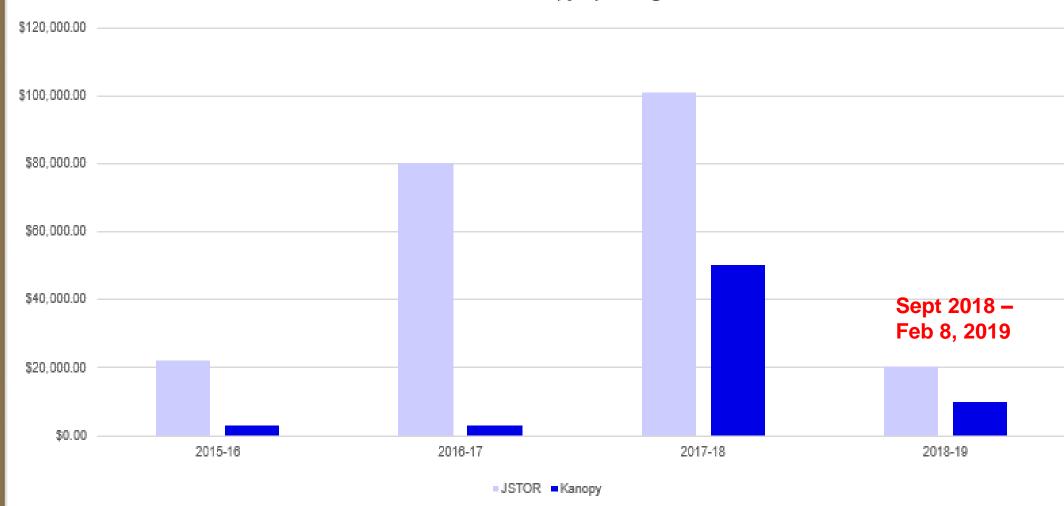
JSTOR	average spend	83% of total allocation
Kanopy	average spend	17% of total allocation

Projected negated with flat budget allocation



Spending by year

JSTOR & Kanopy Spending





Starting our internal analysis: realities in spending

- ❖ JSTOR DDA averaged 83% of the spending on the two resources combined
- **❖** Kanopy previously averaged around 8% of spending with fixed deposit
- **❖** Kanopy PDA spending grew 94% in a single year
- ❖ Flat budget allocation Sept 2018
- ❖ Removed two packages with number of duplicates; suppressing dupe records
- ❖ Sept 2018 Feb 2019 Kanopy spending 33% of total spend, 10% total allocation
- ❖ Sept 2018 Feb 2019 Kanopy spending already at 10% of 17% projection

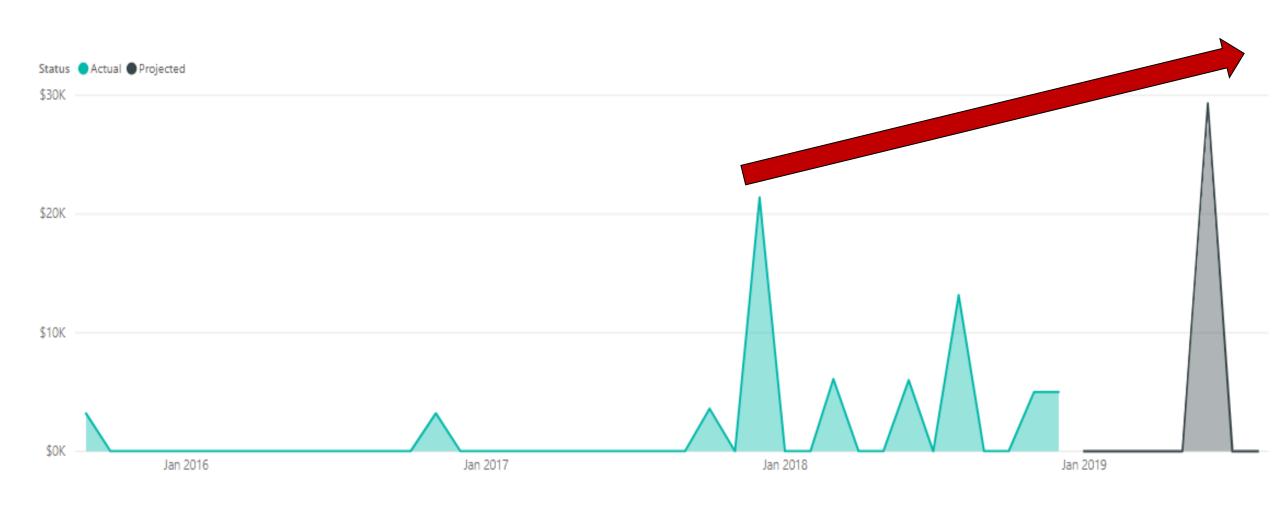


Pace of spending month to month

	2015-16	2016-17	2017-18	2018-19
Sept	\$3,200.00			
Oct			\$3,600.00	
Nov		\$3,200.00		\$5,000.00
Dec			\$21,400.00	\$5,000.00
Jan				
Feb				
Mar			\$6,090.79	
Apr				
May				
Jun			\$6,000.00	
July				
Aug			\$13,163.00	
FY TOTAL	\$3,200.00	\$3,200.00	\$50,253.79	\$10,000.00

Oct - Nov 2017	2 months	\$ 3,600.00	201	15-16	Base rate -	additional t	itles were o	rdered and	I funded by	subject are	a allocations
Dec 17 - Feb 18	3 months	\$ 21,400.00	201	16-17	Base rate - additional titles were ordered and funded by subject area allocations						
Mar 17 - July 17	5 months	\$ 12,090.79	201	17-18	Base rate plus introduction of PDA deposits, no subject area funds						
Aug 17 - Oct 18	3 months	\$ 13,163.00									
Nov 18 - Jan 19	3 months	\$ 10,000.00									

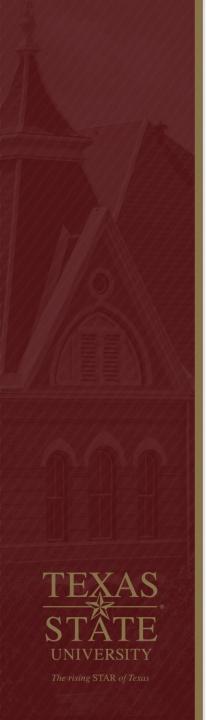
Pace of spending: the Power BI view



Analysis with Usage and Power Bl

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	File Home Insert Data Review View Tell me what you want to do Open in Excel													
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1		Title by title lease: Requested individe								r lease = \$1		\$53,100	<u> </u>	
2		PDA leased: Triggered and leased; pre	viously in PDA program; le	ase for one ye		010	2010		Inree ye	ear lease = \$	5350			
5					Jan 2	018 - Jan	2019							
				Renewal	Cost (paid	Plays	Mins	Plays	Mins	Plays 18-	Mins 18-			
4	Collectic -	Kanopy Video Title	Supplier -	Date ▼	2018-19	16-1 🔻	16 -1 🔻	17-1 ▼	17-1 🔻	Jan1! ▼	Jan15 ▼	Bib# ▽	Note	Subjects
5	PDA leased	1113649And The Earth Did Not Swallow Him	Kino Lorber Edu	2019-09-26	\$150.00	14	224.9	15	113.28	29	749.4	b26334896		Latin American Studies, World Cinema, Movies, Drama, Independent Cinema ^
6	PDA leased	1229044 2e: Twice Exceptional - Gifted Children	Child of Giants	2019-06-24	\$150.00	4	57.67	6		0	0	b36152407		Child Health, Mental Health, Documentaries, Education Documentary, Health & Wellness
7	PDA leased	1617259 500 YEARS - Life in Resistance	New Day Films	2019-04-26	\$150.00			10	152.5	25	580.08	b46721058		History - Modern, Human Rights, Latin American Studies, Documentaries, Historical Perspec
8	PDA leased	1109611 56 Up	First Run Features	2019-02-22	\$150.00	0	0	6	431.23	0	_		No Kanop	Psychology,Sociology,Staff Picks,Documentaries,Politics & Current Affairs
9	PDA leased	1507480 70 Acres in Chicago: Cabrini Green - T	•	2019-10-25	\$150.00			4	74	3	160.9	b46720029		Race & Class Studies, African Studies, North American Studies, Sociology, Documentaries, Et
10		1109417 A Family of Many Nations	Documentary Educational		\$150.00	3	3.13		385.43	6		b30817092		North American Studies, Documentaries, Education Documentary
11	PDA leased	1152888 A Girl Walks Home Alone at Night	Kino Lorber Edu	2019-10-25	\$150.00	6	13.08	29		9	220	b30861640		World Cinema, Staff Picks, Movies, Middle Eastern Studies, Horror & Thriller
12		1113467 A Man Escaped	Janus Films (The Criterion		\$150.00	0	0	7	208.1	4	210.65	b36152407		Film Studies, European/Baltic Studies, World Cinema, Movies, War & Action, Classic Cinema
13		1219426 A Poem is a Naked Person	Janus Films (The Criterion		\$150.00			5		1	84.27	b3615975x		Film Studies, Music, Documentaries, Art & Artists
14		1113687 A Tale Of Two Sisters - Janghwa, Hong		2019-06-24	\$150.00	2	109.4	1	4.03	8	272.53	b26335049		Asian Studies, World Cinema, Staff Picks, Movies, Horror & Thriller
15		1113691 A Touch of Sin	Kino Lorber Edu	2019-02-22	\$150.00	0	0	4	140.02	8	481.17	b26335062		Asian Studies, World Cinema, Staff Picks, Movies, War & Action
16		1111551 A Trip to the Moon - In Its Original 190			\$150.00	1	8.22	8	39.82	9	79.8	b27334624		Film Studies, Early Film
17		1113083 A Woman Under the Influence	\	2019-01-28	\$150.00	1	62.57	3	24.18	4	154.78	b27174189		Film Studies, Movies, Drama, Classic Cinema
18		1250153 Abrazos - Children of Undocumented	,	2019-10-25	\$150.00	0	0	3	7.5	3	7.45	marc submitt		Race & Class Studies, North American Studies, Latin American Studies, Sociology, Document
19		1094818 Adlerian Family Therapy - With James	1 11	2019-09-26	\$150.00	1	5.08	15	58.98	7	30.8	prob not rene		7 07
20		1094822 Adlerian Play Therapy - With Terry Ko		2019-08-26	\$150.00	3	23.37	_						d Psychology, Child Health
21		1285181 Admiral Hyman G. Rickover and The B		2019-03-25	\$150.00			5	116.58		4000 5	marc submitt		Environmental Sciences, History - Modern, Documentaries, Science, Nature & Technology, Harring and American Sciences and American Sc
22		1512856 Africa (First peoples. Episode 2, Africa		2019-12-24	\$150.00			1	13.22	52			Alt access	Biology, Documentaries, TV Series, Science, Nature & Technology
23		1081951 Age Happens	Intelecom Learning	2019-04-26	\$150.00	27	504.3	40	753.48	10		b30859177		Everyday Health
24		1113499 Ali: Fear Eats the Soul	In the Carry	2019-09-26	\$150.00	0	0	4	149.43	6	190.28	b27176150		Film Studies, World Cinema, German Studies, Movies, Drama, Classic Cinema
25		1113501 Alice in the Cities	Janus Films (The Criterion		\$150.00	0	125.05	4	137.2	3	17.45	b27176162		Film Studies, World Cinema, German Studies, Movies, Drama, Classic Cinema
26		1112923 Amarcord	Janus Films (The Criterion		\$150.00	1	126.05	2	107.28	2	138.43	b27173471		European/Baltic Studies, World Cinema, Movies, Comedy, Classic Cinema
27		3181012 American Socialist - The Life and Time		2019-03-25	\$150.00			4	120.27	0	0	b47445312	A In	Political Science, Race & Class Studies, Religion & Philosophy, History - Modern, North Amer
28		1098661 American Tongues - Linguistic Attitude			\$150.00			1	54.45	5	119.03			Race & Class Studies,ESL & Languages,North American Studies,Sociology,Documentaries,
29		1512854 Americas (First peoples series)	PBS	2019-12-24	\$150.00					17	355.13	b46720054	Alt access	Biology, Documentaries, TV Series, Science, Nature & Technology
	<													>





FY17 Cost: \$26,250

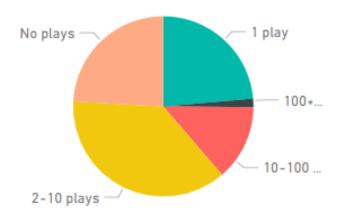
Videos leased: 213

FY17 Plays: 1,803

FY17 Minutes played: 51,119

FY17 Cost-per-use: By play: \$14.55 By minute: \$0.51

Videos played in FY17



FY18 Cost: \$50,254

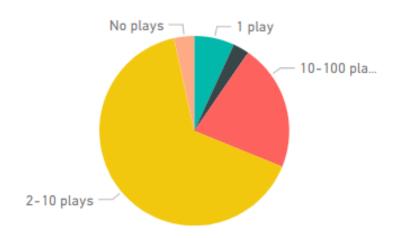
Videos leased: 321

FY18 Plays: 4,662

FY18 Minutes played: 158,355

FY18 Cost-per-use: By play: \$10.77 By minute: \$0.32

Videos played in FY18



\$	1	1	
Cost	per	play	

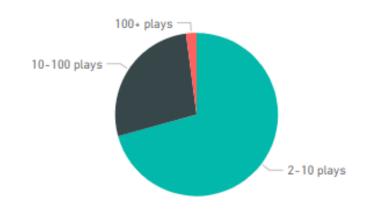
Video Title	Cost per play	Mins 17-18	
A Tale Of Two Sisters - Janghwa.	\$150	4.03	
Hongryeon			
Africa (First peoples. Episode 2, Africa.)	\$150	13.22	
American Tongues - Linguistic Attitudes in the U.S.	\$150	54.45	
Barbara	\$150	1.35	
Black Sabbath	\$150	92.45	
Finding Oscar - Guatemala's Legacy of	\$150	2.00	
Violence and Justice			
Heaven is a Traffic Jam on the 405 - A Portrait of an Artist Coping with Mental Illness	\$150	42.10	
Home Sweet Home	\$150	9.05	

Supplier	Cou	int of Video Title	Plays 17-18	Mins 17-18	Cost (paid 2018-19)
Janus Films (The Criterion Collection)		88	794	32,977.69	\$13,200
Kino Lorber Edu		35	559	18,869.35	\$5,250
PBS		21	684	27,650.02	\$3,150
Learning Seed		16	53	334.77	\$2,400
First Run Features		15	102	4,145.86	\$2,250
New Day Films		13	65	1,312.72	\$1,950
California Newsreel		11	576	18,372.90	\$1,650
Psvchotherapv.net		10	87	1,348.32	\$1,500
BBC		6	22	714.32	\$900
Flicker Alley		6	32	180.16	\$900
Music Box Films		6	22	938.45	\$900
The Orchard		5	12	364.58	\$750
Davidson Films		4	52	1,252.25	\$600
Green Planet Films		4	16	553.85	\$600
		3	15	242.52	\$450
Film Ideas		3	104	3,183.68	\$450
Media Education Foundation		3	174	2,020.37	\$450
National Film Board of Canada		3	9	60.44	\$450
The Creet Courses		2	10	21162	¢veu
Total		308	4027	134,428.71	\$46,200



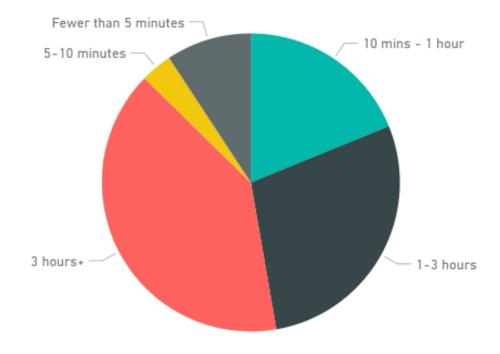
Fiscal vs Calendar Year

This page looks at the data another way. If a video was triggered to be leased in February 2017, this data reflects the usage from the day it was triggered to the day the original lease ends or is renewed.





Videos played for fewer than 10 minutes cost \$5550, meaning that any surfing/browsing behavior is truly making a dent in the annual budget for patron-driven loans.



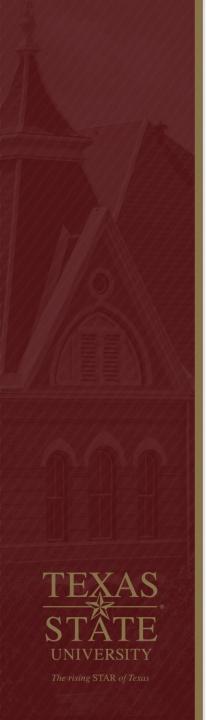
460.37

Average of Mins 17-18



Going Forward

- Communicate the message to stakeholders in an interactive, easy-to-understand format with Power BI
- Short-term stop-gap measure: Title-by-title by request only; funding from departmental allocations as if for firm orders
- Present possible solutions
 - Continue request only; funding from departmental allocations
 - Popular content grouped to create a targeted PDA program
 - Turn off program between semesters
 - Combination of any of these
 - New and creative solutions!
 - Start a dialogue with vendors to work out technological solutions



Frameworks & Checklists



Initial Planning: Describe Project Goals

- What are we analyzing and visualizing?
 - E-journal package subscription
 - Demand-driven streaming video
 - Print monographs
- Why are we analyzing and visualizing?
 - Subscription renewal
 - Budget allocation
 - Space needs
- Who is the audience for our analysis?
 - Background knowledge? Context needed?
 - Executive summary? Detail? Both?
 - Multiple audiences?
- **❖** How will we share information?
 - Interactive? Public?



Develop Research Questions

- **❖** How much is this resource used?
- How much does it cost per use?
- What subjects/programs does it support?
- What alternatives exist for providing this information?
- What do the alternatives cost?
- What are the cost trends over time?
- **❖** What are the use trends over time?
- Does this resource overlap with other resources?
- What's unique about this resource?



Identify Data Sources

- What data elements do we need?
 - Downloads, plays, minutes played?
 - Cost? Fiscal year, calendar year, annual fee, monthly variable costs?
 - Perpetual access or lease?
 - Span of time to analyze?
 - Subjects?
- **❖** Do we have any data on hand?
- What data is missing or hard to find, and how to communicate that?



Create Realistic Timeline

- Project goals & design
- Data collection and cleanup
- ❖ First draft & feedback
- Second draft & feedback
- Third draft & feedback, and more if needed
- Distribute or present

Note: all projects covered in this presentation took at least a month and generally more



Lessons learned.

Everything takes longer than expected. You'll never have all the data you want. Revise, revise, revise. Then revise again.

At some point, you have to stop.

Questions?