Data Visualization: Using Tableau to Analyze Library Website Usage Data

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Agenda

- Introduction
- Approach
- Data Collection
- Data Preparation
- Data Visualization
- Findings
- Conclusion

Introduction

Purpose

- To help our leaders and stakeholders understand the library's role in supporting college teaching and research.

- To incorporate data visualization to fuel better decision-making regarding the library website.
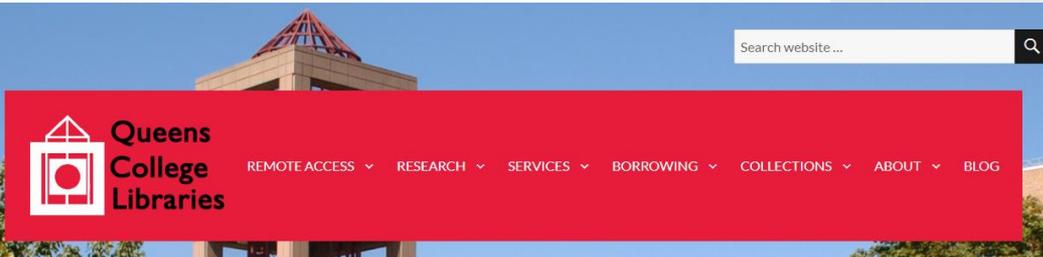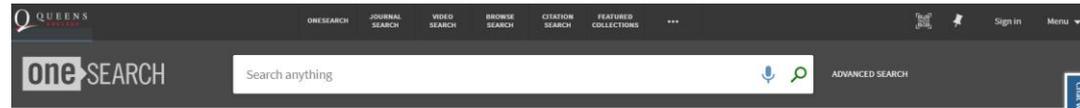
Questions

- What is the usage of the QCL website in the recent five years (2018 – 2022), including trends in library webpage views, ranks of topic webpage views, and LibGuides visits?

- In terms of usage, how can we understand the impact of the COVID-19 pandemic on the QCL website?

Approach

- Identifying systems/platforms and data sources
- Analyzing data collected from multiple systems
- Creating data dashboards showing trends over the years
- Asking questions about the stories/descriptions of the dashboards
- Interpreting and making suggestions

Data Collection

Data Collection

Data	Data Sources/Platforms/Providers
QCL Website	QCL Google Analytics
LibGuides	Springshare Apps
A-Z Databases	
E-Reserves	
Searches	
OneSearch	CUNY Office of Library Services - Primo Analytics, Alma
Student Enrollment	QC Office of Institutional Effectiveness

Data Preparation

- Finding data
- Gathering data
- Cleaning data
  - Data checking
  - Data tabulation
  - Data integration
  - Variable naming
- Data sets
  - Recent 5 years of 7 digital spaces/contents usage and recent 4 years of student enrollment
  - Recent 5 years of top 10 QCL website content page views

Data Visualization

- Importing cleaned data into Tableau
- Identifying variables' data types
- Creating data viz sheets with appropriate tools/functions, for example:
  - Charts (bar, line, area, etc.)
  - Filters and Colors
  - Reference line
  - Dual Axis
  - Synchronize Axis
- Generating dashboards
  - Title, Axes, Legends

Data Viz Dashboards

1. Five-year trends of QCL website and web homepage views
2. QCL website views with OneSearh Primo sessions and student enrollment over years
3. Top 10 content page views over years
4. Five-year trends of QCL digital content views

Five-Year Trends of QCL Website and Homepage Views
(2018 - 2022)

Legend: WebHome, Website

Year	WebHome	Website
2018	440,558	698,829
2019	550,633	884,681
2020	290,132	440,765
2021	389,056	539,508
2022	341,181	549,698

Reference line: 622,696.2
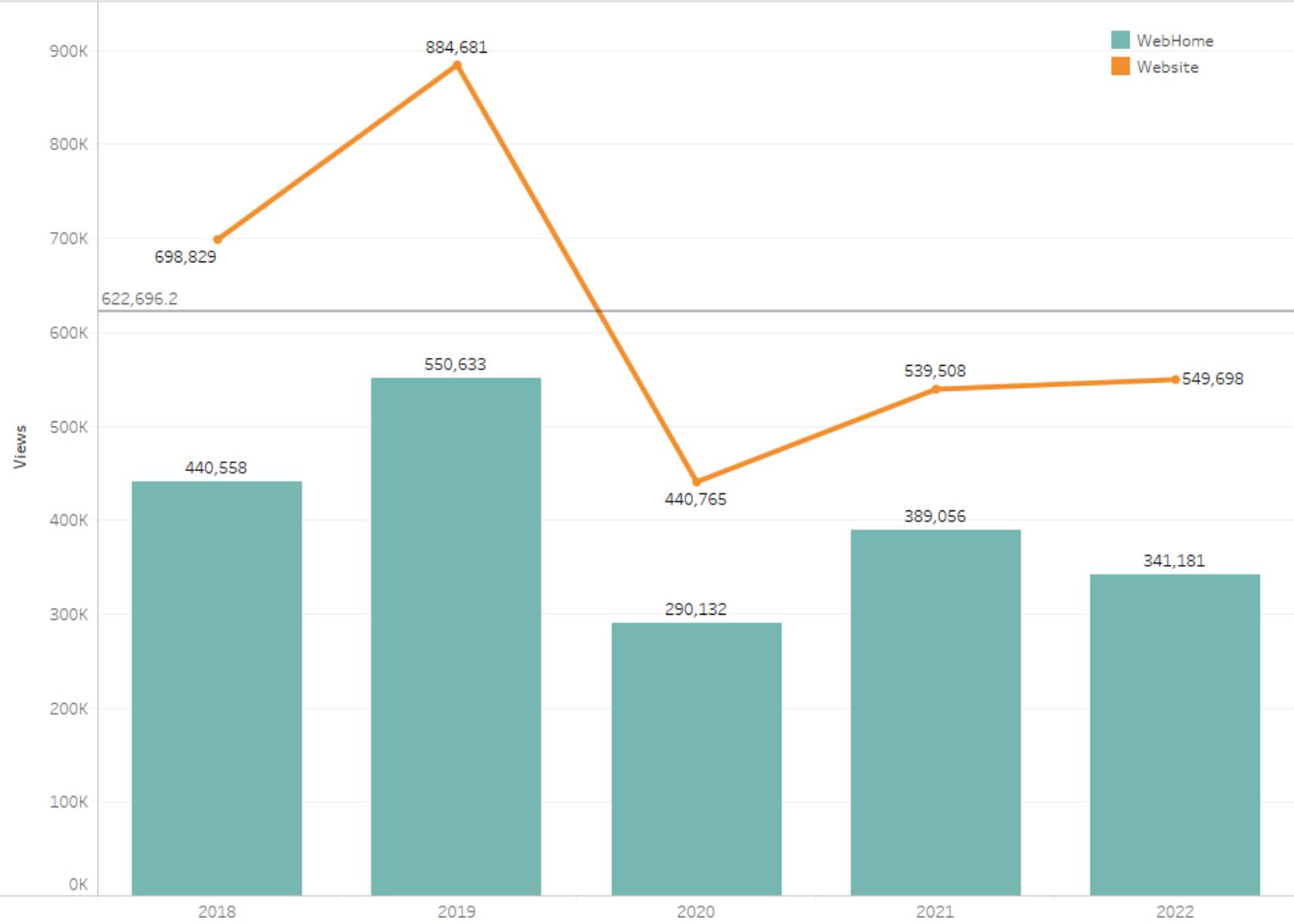
QCL Website Views with OneSearh Primo Sessions and Student Enrollment Over Years
(2018 - 2022)
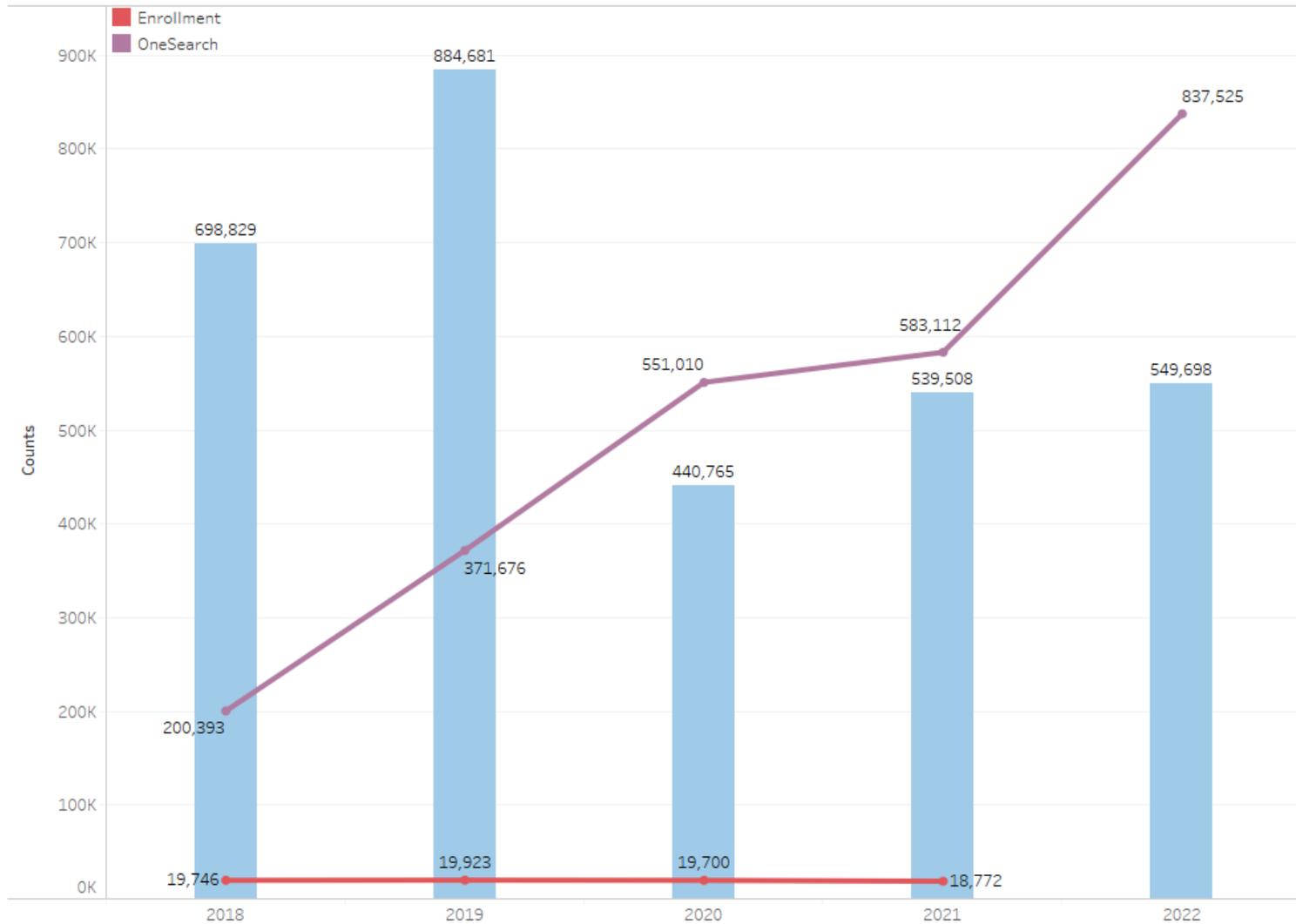
QCL Top 10 Content Page Views Over Years
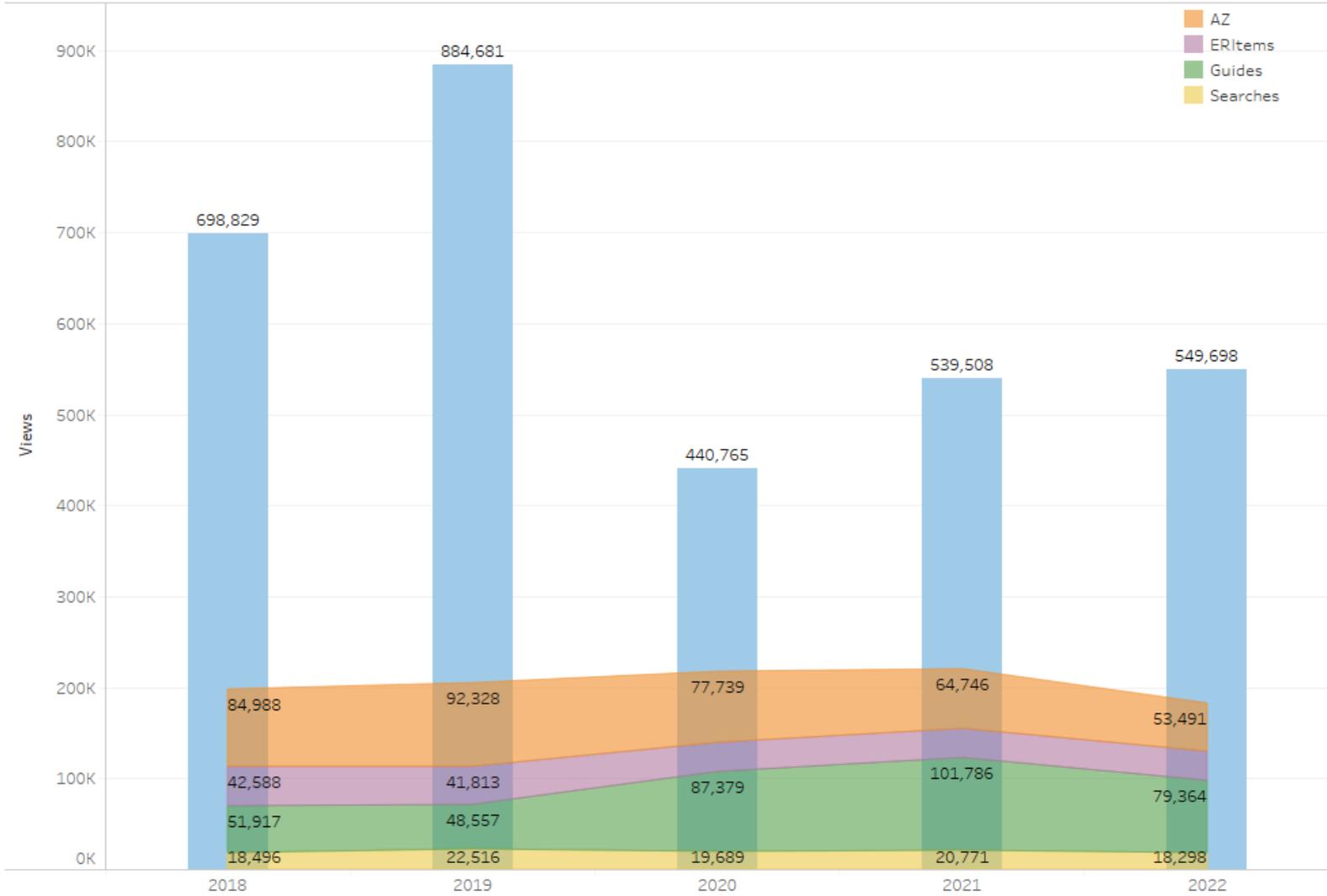(2018 - 2022)
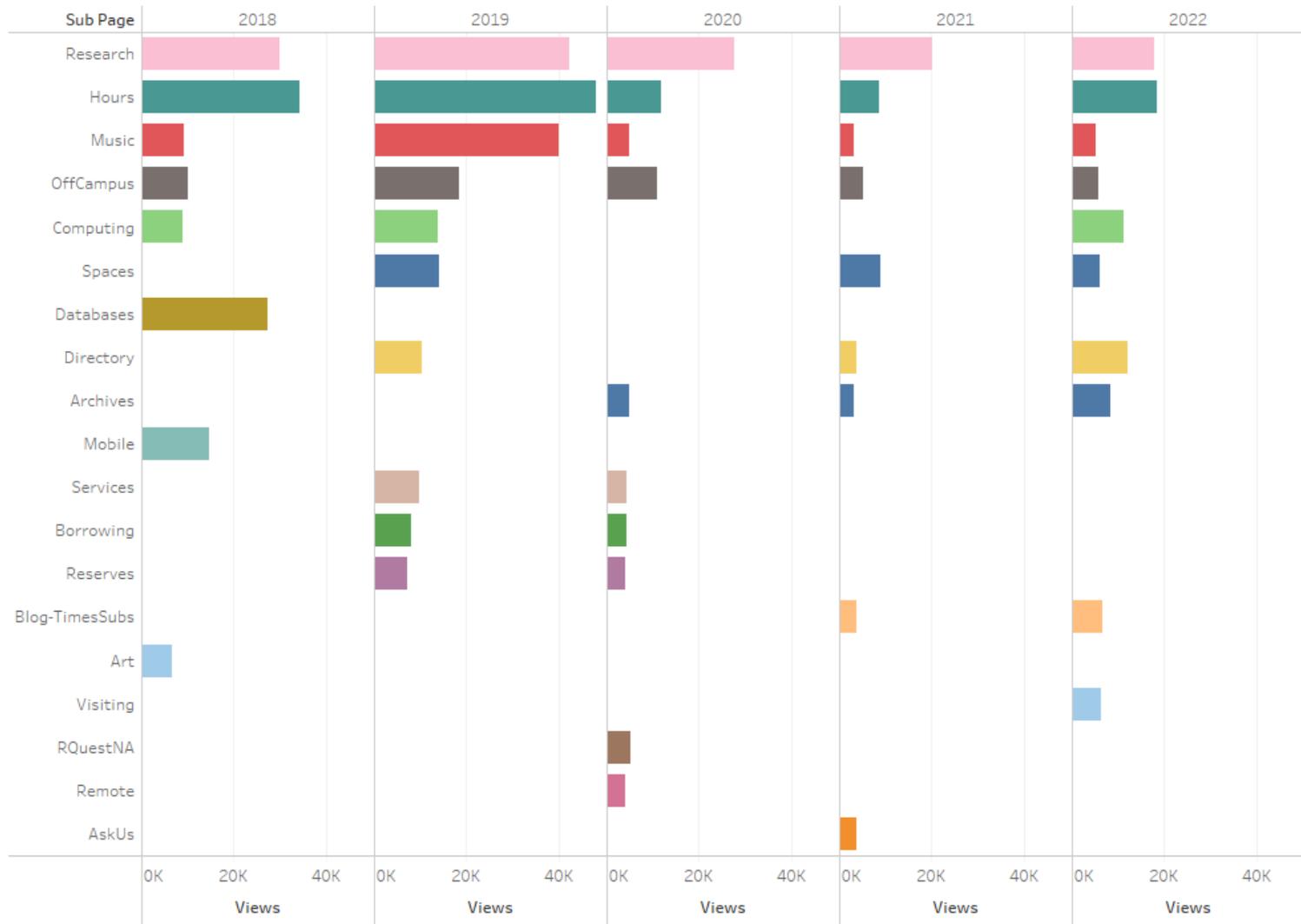
Five-year Trends of QCL Website with Digital Content Views
(2018 - 2022)

Correlations

Variables	Year	Website	Homepage	AZ	Guides	ERItems	Searches
Website	-0.395						
Homepage	-0.144	.929**					
AZ	0.283	0.359	0.614				
Guides	.814*	-0.696	-0.400	0.175			
ERItems	-.937**	0.665	0.416	-0.185	-.927**		
Searches	0.631	0.179	0.494	.925**	0.465	-0.496	
OneSearch	.987**	-0.419	-0.206	0.241	0.762	-.934**	0.561

Note:
*. $p < .05$
**. $p < .01$

Findings

- The usage of the QCL website dropped off dramatically in the initial period of the COVID-19 pandemic and has slowly rebounded

- The use of OneSearch steadily increased over the years, even during the pandemic period

- Library website views did not correlate significantly with other library content views (e.g., LibGuides, E-Reserves, etc.), while the homepage usage significantly correlated with website usage

- The peak use of all library digital spaces was the library website in 2019, before the COVID-19 pandemic

- Some top 10 content webpages were removed over the years

Conclusion

- The use of OneSearch was not significantly impacted by the pandemic, which implies that a well-functional library online catalog is the most robust library resource supporting academic teaching and research during all times

- The backbone supporting the use of library website is the homepage.

- Because the library website was the main portal for library resources and services before the pandemic and is currently rebounding, we expect that it would regain this role in the future

- The discontinuity of some top 10 content webpage suggested that the website structure may need to be optimized

Questions?

Thank you!