

Project Report: Alberta Libraries Data Analysis



Introduction

Data-driven decision-making is transforming public services, including libraries. This report explores our analysis of the Alberta Libraries dataset to highlight how data utilization enhances efficiency, resource management, and user experience.



Open-Source Data Information

The Alberta Libraries dataset provides a detailed overview of library operations, including funding, expenditures, service metrics, and user engagement. The dataset is publicly available and sourced from Alberta.ca, making it a valuable resource for financial and operational analysis.

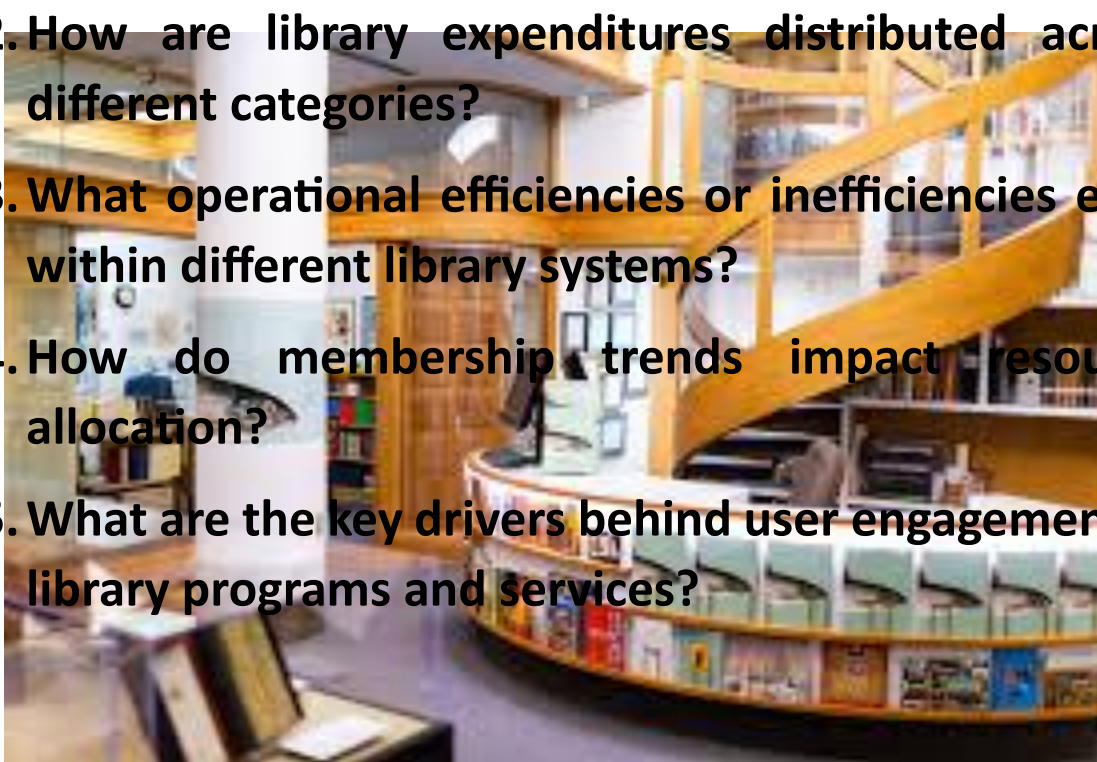


Purpose & Goals

Our primary objective is to analyze library performance through key financial, operational, and user engagement metrics. This analysis helps stakeholders make informed decisions to optimize library services.

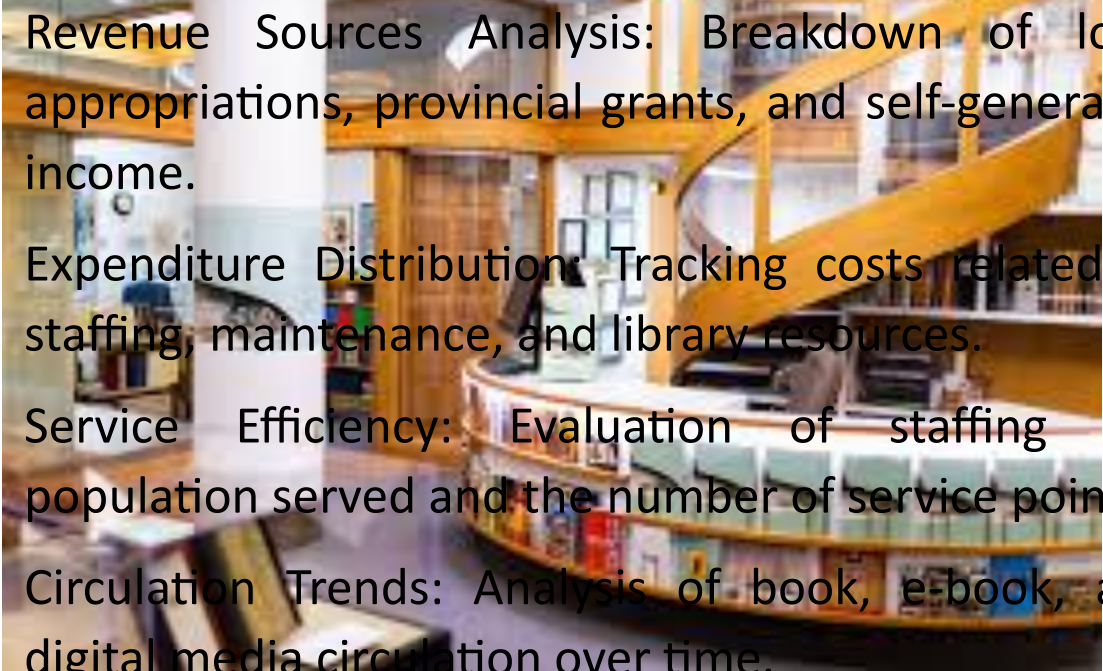
Key Questions on the Data

- 1. How are Alberta libraries funded, and what are the primary revenue sources?**
- 2. How are library expenditures distributed across different categories?**
- 3. What operational efficiencies or inefficiencies exist within different library systems?**
- 4. How do membership trends impact resource allocation?**
- 5. What are the key drivers behind user engagement in library programs and services?**



Metrics & KPIs

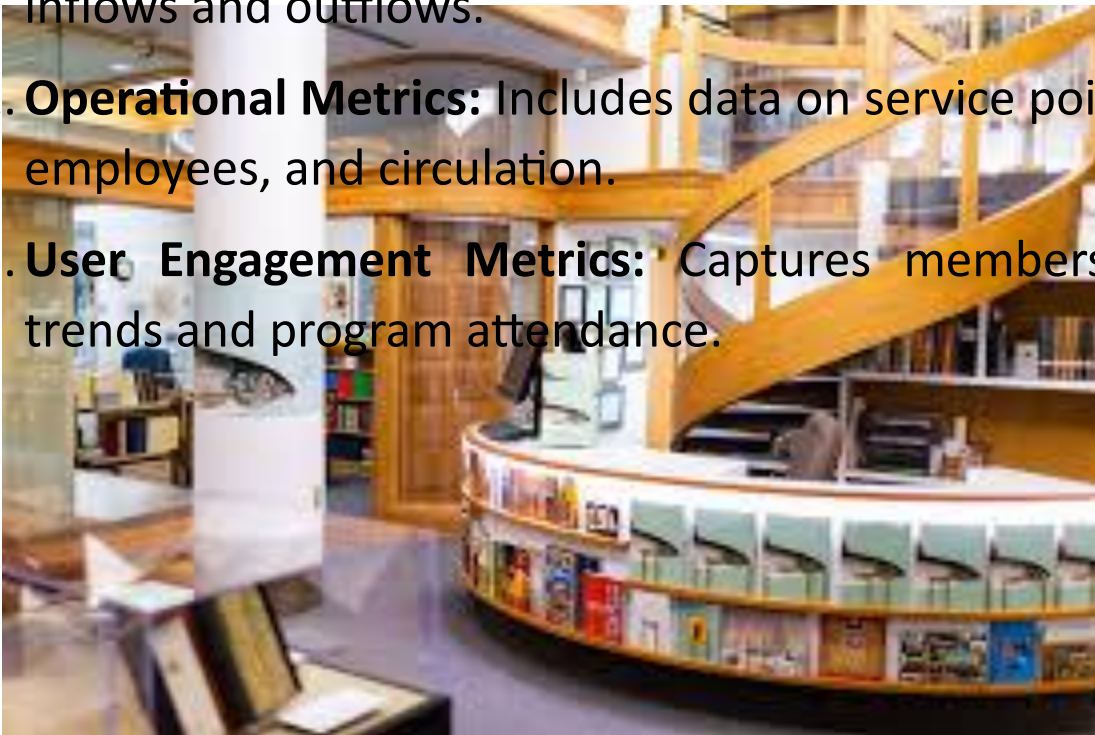
To measure operational and strategic objectives, we have defined the following key performance indicators (KPIs):

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- **Revenue Sources Analysis:** Breakdown of local appropriations, provincial grants, and self-generated income.
 - **Expenditure Distribution:** Tracking costs related to staffing, maintenance, and library resources.
 - **Service Efficiency:** Evaluation of staffing per population served and the number of service points.
 - **Circulation Trends:** Analysis of book, e-book, and digital media circulation over time.
 - **User Engagement:** Metrics on program participation, membership demographics, and workstation usage.

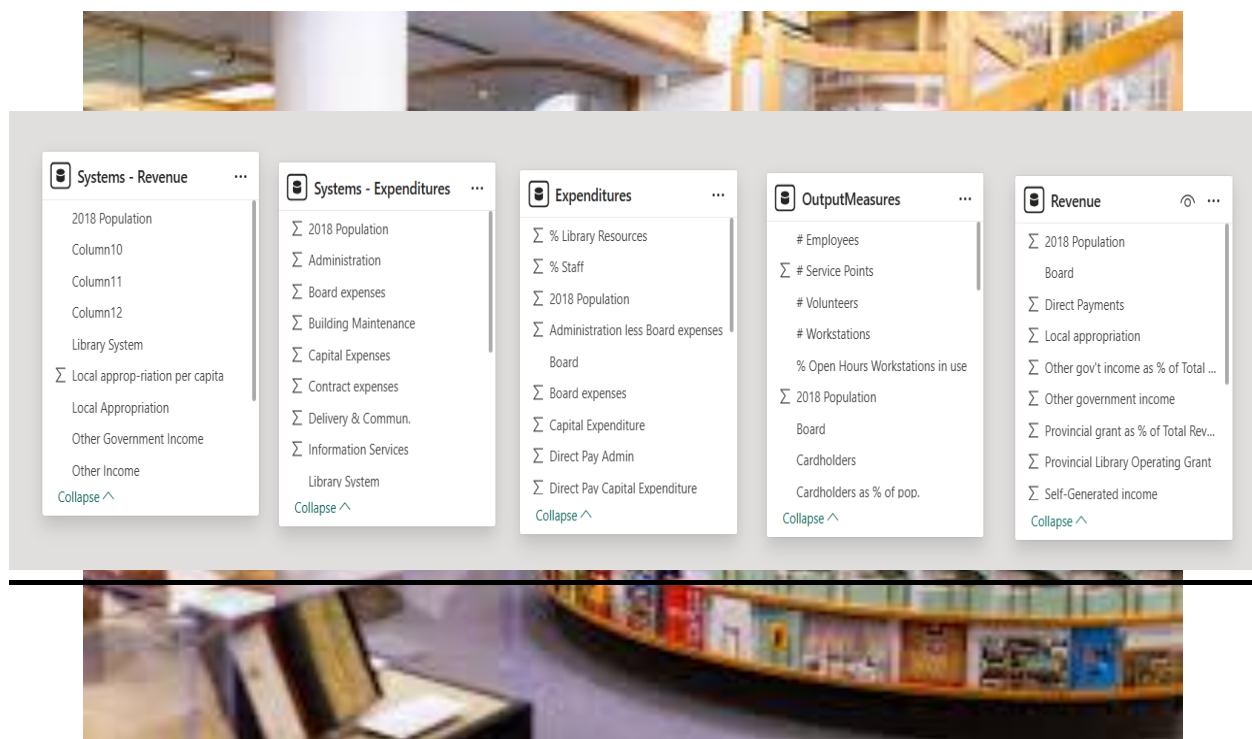
Data Model

The dataset includes multiple dimensions:

1. **Revenue & Expenditure Tables:** Track financial inflows and outflows.
2. **Operational Metrics:** Includes data on service points, employees, and circulation.
3. **User Engagement Metrics:** Captures membership trends and program attendance.



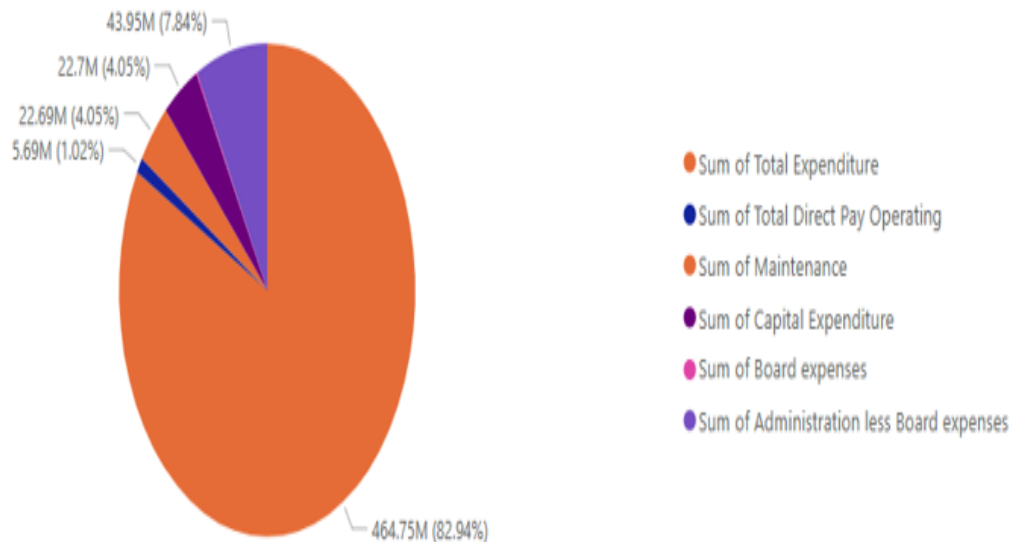
Data Sets



Power BI Dashboard

The pie chart illustrates the distribution of various expenses, with the sum of total expenditure making up the vast majority (82.94%) compared to other categories like direct pay, maintenance, capital expenditure, board expenses, and administration.

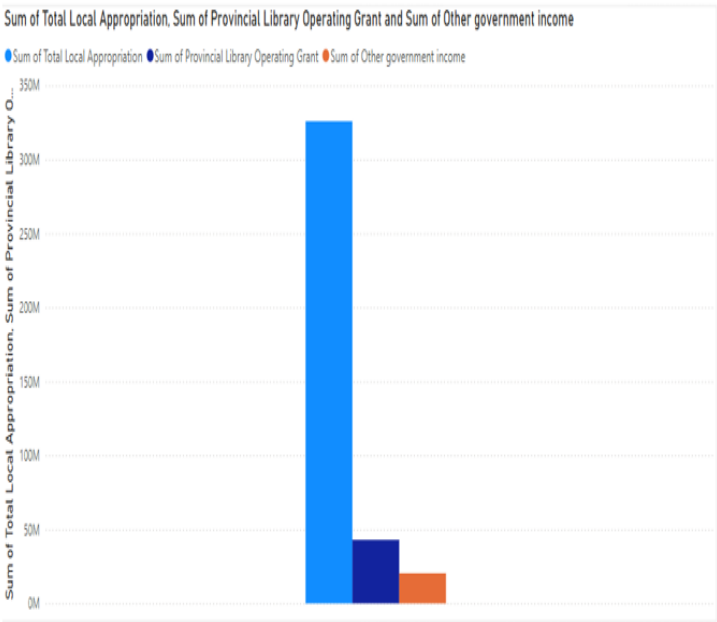
Sum of Total Expenditure, Sum of Total Direct Pay Operating, Sum of Maintenance, Sum of Capital Expenditure, Sum of Board expenses and Sum of Administration less Board expenses



Power BI Dashboard

Source of Income

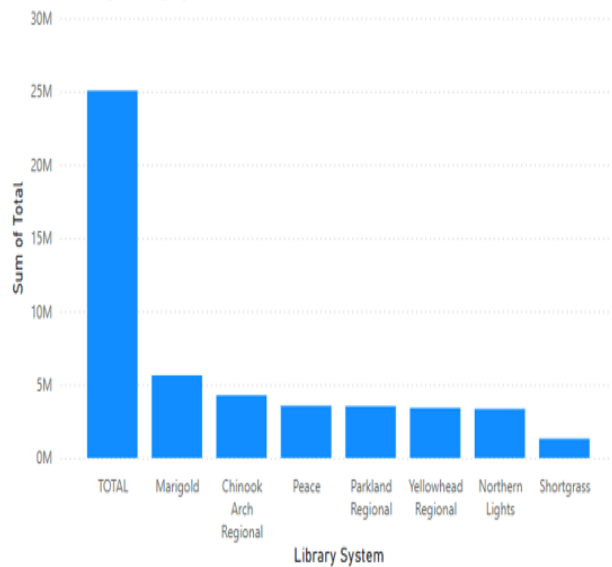
- 1. Local Appropriation
- 2. Provincial Grant
- 3. Other Government Sources



Power BI Dashboard

Revenue Generate by Library System

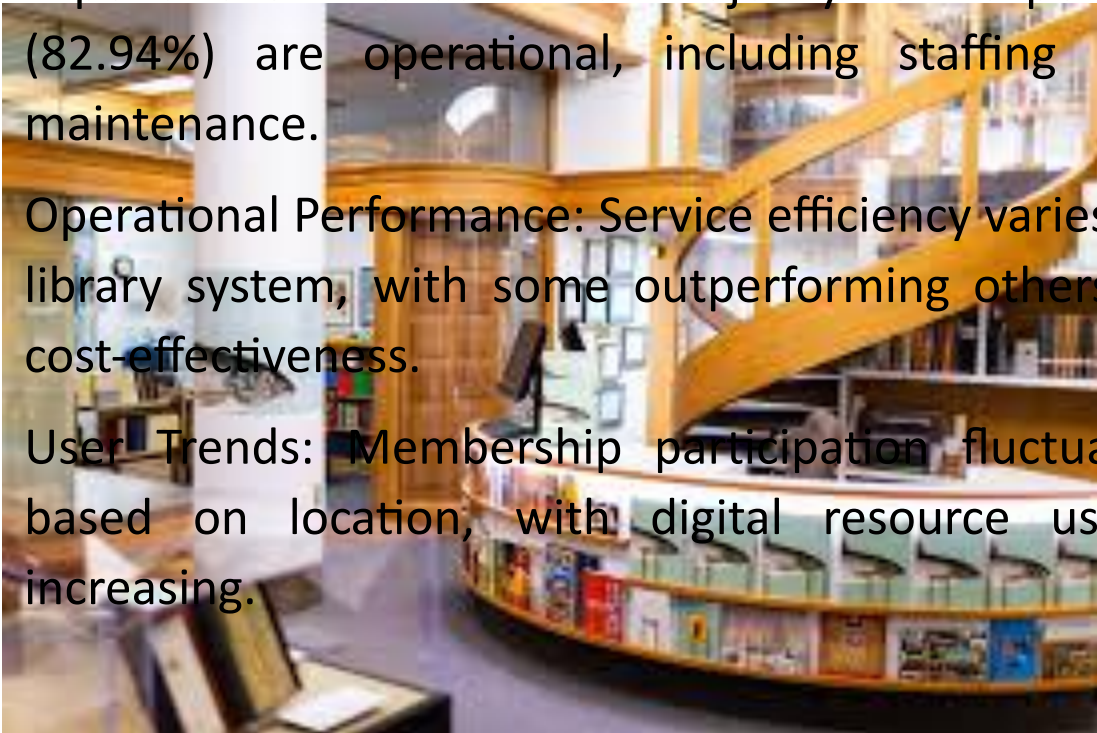
Sum of Total by Library System



The bar chart shows that the "TOTAL" library system has a significantly higher sum of total compared to other individual systems, with Marigold being the next highest, while Northern Lights and Shortgrass have the lowest. Understanding what "TOTAL" and "Sum of Total" represent is crucial for accurate interpretation

Results

- Revenue Insights: Local funding constitutes the largest portion of revenue, with self-generated income playing a smaller role.
- Expenditure Trends: The majority of expenses (82.94%) are operational, including staffing and maintenance.
- Operational Performance: Service efficiency varies by library system, with some outperforming others in cost-effectiveness.
- User Trends: Membership participation fluctuates based on location, with digital resource usage increasing.



Conclusion

Analyzing the Alberta Libraries dataset provides valuable insights into financial management, operational efficiencies, and user engagement. Libraries can use these findings to optimize resource allocation, improve service delivery, and enhance user experience. This project demonstrates the power of open-source data in shaping data-driven decisions.



References

- Alberta Libraries Dataset Analysis

