

Advanced Interactive Dashboard for Student Expense Analysis

This comprehensive project aims to deliver an in-depth analysis and sophisticated visualization of student expense data, empowering university administrators, financial aid officers, and student advisors to make informed decisions.

 by **George klaus**



Objective and Tools

1 Project Objective

Develop an advanced interactive dashboard to provide a detailed analysis of student expense data, supporting data-driven decision-making.

2 Tools Used

Microsoft Excel, a powerful data analysis and visualization tool, was employed for this comprehensive project.



Data Preparation

Dataset Overview

The dataset includes key student expense data, such as age, gender, major, monthly income, financial aid, and various expense categories.

Data Cleaning

I cleaned the data thoroughly by removing duplicates and handling missing values to ensure integrity and reliability.

Dashboard Design

1

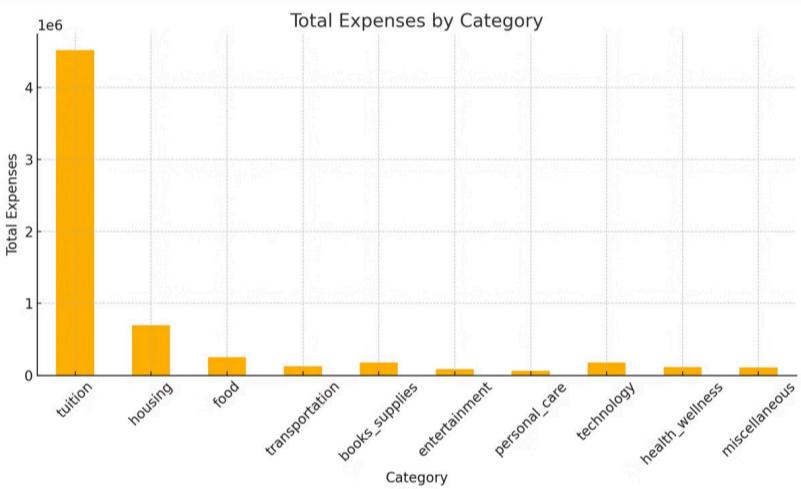
Bar Chart

A bar chart visualizes total expenses by category, providing a clear breakdown of student spending patterns.

2

Line Graph

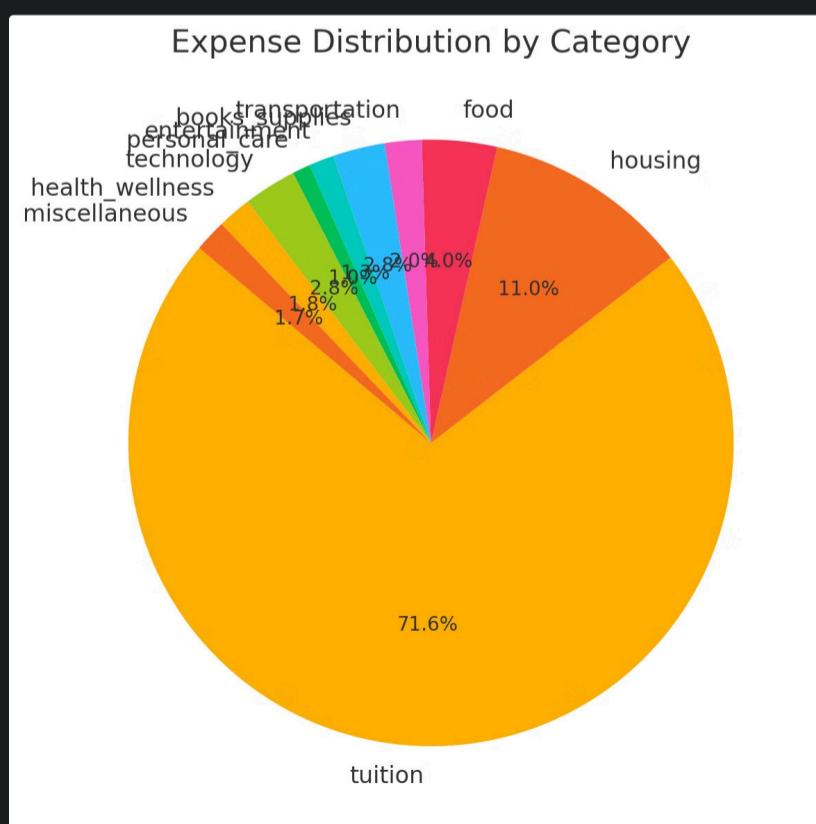
A line graph compares monthly income and total expenses, offering insights into financial sustainability.



3

Pie Chart

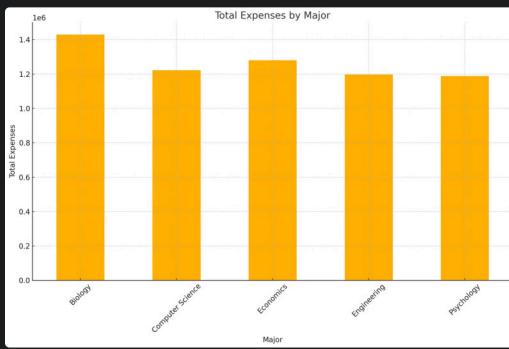
A pie chart showcases the expense distribution by category, highlighting the proportions of different spending areas.



Advanced Analysis

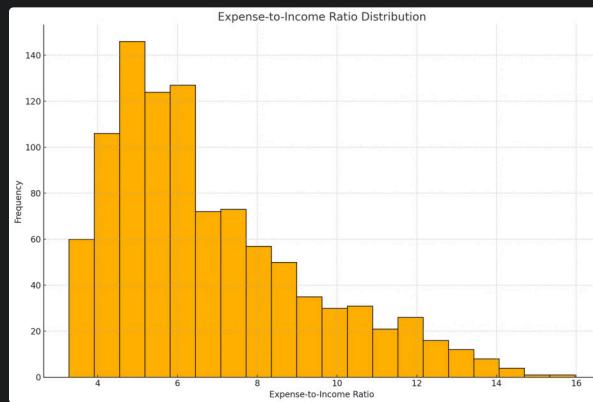
Expenses by Major

A bar chart reveals the relationship between student majors and their total expenses, identifying any correlations.



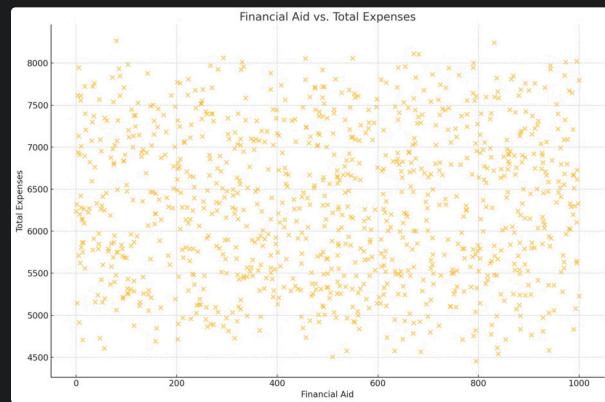
Expense-to-Income Ratio

A histogram visualizes the distribution of the expense-to-income ratio, providing insights into financial sustainability.



Financial Aid vs. Expenses

A scatter plot analyzes the impact of financial aid on total expenses, highlighting the relationship between the two.



Spending Trends and Patterns

Spending Trends

A line chart identifies notable spending trends over time, such as seasonal spikes at the start of semesters.

Financial Aid by Major

A bar chart analyzes the relationship between financial aid and student majors, revealing any disparities.

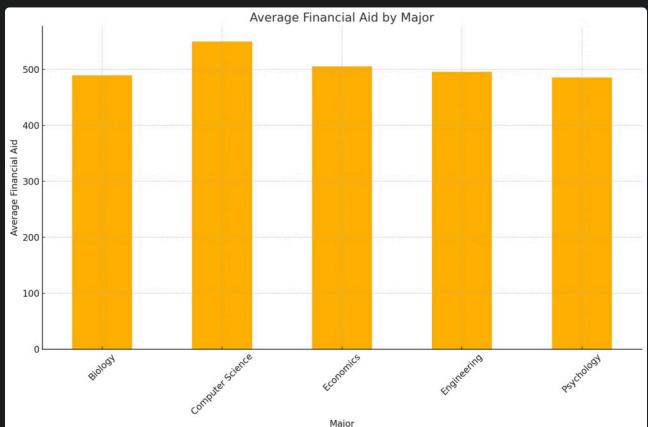
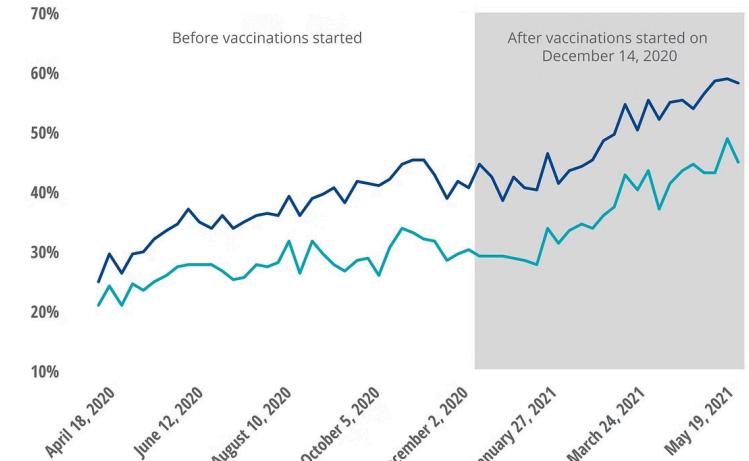


FIGURE 5

People appear more comfortable taking flights and staying in hotels now than in 2020

Share of respondents

■ Feel safe flying right now ■ Feel safe staying in a hotel right now



Sources: Deloitte Global State of the Consumer Tracker; Deloitte Services LP economic analysis.

Deloitte Insights | deloitte.com/insights

2

Interactive Features



Dropdown Menus

I added a dropdown menu to allow users to customize data views and explore insights at a granular level.



Slicers

I added slicers to provide dynamic filtering capabilities to segment and analyze data based on specific criteria.



Hover Tooltips

Offer detailed information and context when users interact with dashboard elements.



Insights and Recommendations

1 Key Insights

Housing and tuition are the largest expense categories, while technology and personal care have the lowest expenses.

2 Spending Patterns

Significant spending spikes occur at the start of each semester due to tuition payments and book purchases.

3 Financial Sustainability

Students with an expense-to-income ratio above 1.2 are identified as potential financial stress cases.

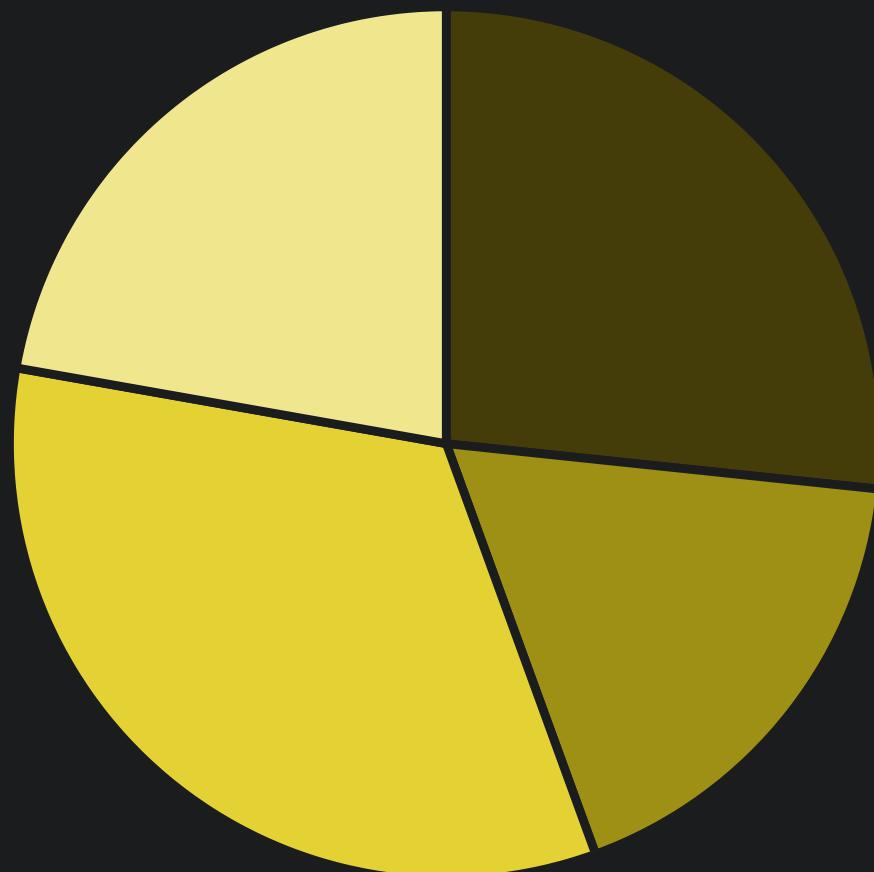
4 Recommendations

Universities should consider targeted financial aid programs for students with high expense-to-income ratios to ensure financial sustainability.



Q&A

The interactive dashboard has covered a wide range of advanced analytics and insights on student expenses. Now it's time to address any remaining questions from the audience and dive deeper into the key findings.



■ Spending Trends ■ Financial Aid ■ Expense-to-Income Ratio ■ Recommendations