Internship Report

Data Visualization and Analyzation Week - 4



Date: 30-06-2025

Team Number: 26

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Abstract

This report presents the analysis and visualization of a Looker Studio dashboard developed for a data analyst internship program, focusing on user account information, demographics, opportunity details, and marketing campaign performance. The dashboard consolidates insights from multiple datasets, including user data, learner opportunity data, and marketing data, to provide a comprehensive view of user engagement, demographic distributions, opportunity participation, and marketing effectiveness. Key findings include significant user growth, a diverse academic and professional user base, high demand for internships, and effective marketing campaigns. The report includes visualizations from the dashboard, accessible via a provided link, and serves as a foundation for strategic decision-making and future analytical enhancements to the learning platform.

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Introduction

This report documents the development and insights derived from a Looker Studio dash-board created as part of a data analyst internship program by Team 26. The dashboard visualizes key aspects of a learning platform's operations, including user account information, demographic distributions, participation in learning opportunities, and marketing campaign performance. By leveraging datasets such as User Data, Learner Opportunity Data, and Marketing Data, the dashboard provides a holistic view of user behavior, engagement trends, and marketing efficacy.

The dashboard is structured into four main pages:

- **User Account Information**: Focuses on account creation trends, update frequency, and email domain distributions.
- **Demographics**: Highlights user distributions by major, degree level, institutions, and geographic locations.
- **Opportunity Details**: Analyzes enrollment trends, popular opportunities, and application categories.
- Marketing Campaign: Evaluates campaign reach, landing page views, and spending patterns.

This report summarizes the key insights from each dashboard page, supported by visualizations (screenshots included below) and a link to the interactive Looker Studio dashboard. The findings aim to inform stakeholders about user engagement, identify areas for improvement, and establish a baseline for advanced analytics, such as predictive modeling or campaign optimization, in future phases of the internship program.

Dashboard Overview

The Looker Studio dashboard is designed to provide actionable insights into the learning platform's performance by visualizing key metrics and trends across four pages. Each page focuses on a specific aspect of the platform's operations. The dashboard is accessible via the following link: Looker Studio Dashboard.

2.1 User Account Information

This page tracks user account metrics, including account creation trends over time, average update frequency (103.3 days), and the distribution of email domains. It provides insights into user growth and the diversity of the user base, with visualizations like timeseries graphs and bar charts.

2.2 Demographics

The Demographics page visualizes user distributions by academic major, degree level, associated institutions, and geographic locations. It highlights the platform's academic focus and global reach, using pie charts, bar charts, and a world map to illustrate user characteristics.

2.3 Opportunity Details

This page focuses on learner participation in opportunities, detailing total enrollments (113,414), unique learners (57,963), and application categories (8). Visualizations such as pie charts and bar charts showcase the popularity of internships and other opportunities, alongside application trends over time.

2.4 Marketing Campaign

The Marketing Campaign page evaluates advertising performance, with metrics like total landing page views (293,842), total reach (240,102,035), and total amount spent (240,830.18). It includes tables and bar charts to assess campaign effectiveness and delivery status performance.

Key Insights and Visualizations

3.1 User Account Information

The User Account Information page provides insights into user growth and account characteristics.

3.1.1 Key Metrics and Insights

- Account Update Frequency: The average update delay is 103.3 days, indicating moderate user engagement with profile updates.
- Accounts Created This Month: Zero new accounts were created this month, suggesting a potential pause in user acquisition campaigns.
- Account Creation Trends: A time-series graph (Figure 3.1) shows significant spikes in account creation in August 2023 and March 2024, likely tied to marketing campaigns or events. A general upward trend indicates consistent user growth.
- Unique Email Domains: Gmail.com dominates with 164,978 users, reflecting a broad user base. Educational domains like slu.edu (8,173 users) and hawk.iit.edu (1,745 users) suggest a strong academic presence. Other domains include yahoo.com (2,443 users), outlook.com (942 users), icloud.com (510 users), hotmail.com (423 users), and vemppower.org (224 users), indicating diverse user preferences.

3.1.2 Missing Data and Considerations

The high prevalence of gmail.com users may skew analyses of institutional affiliations. Future analyses could explore correlations between email domains and user engagement to identify organizational or community-specific trends.

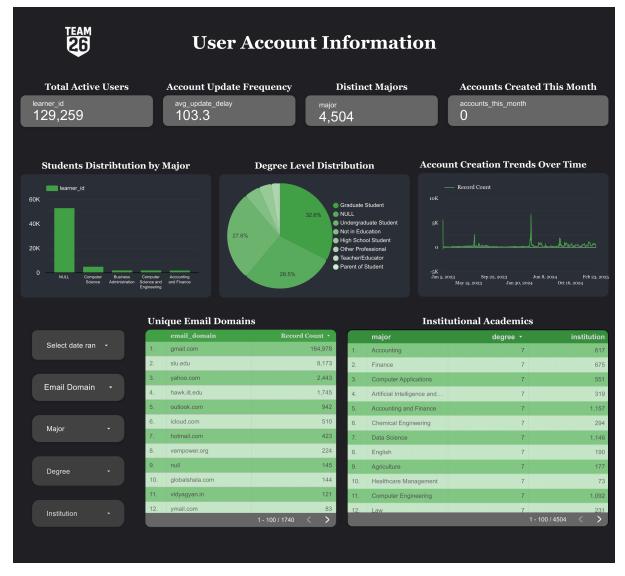


Figure 3.1: Screenshot of the User Account Information page from the Looker Studio dashboard.

3.2 Demographics

The Demographics page provides a detailed view of the user base's academic and geographic characteristics.

3.2.1 Key Metrics and Insights

- Students Distribution by Major: Over 50,000 users have a 'NULL' major, indicating missing data or unspecified fields. Among specified majors, Computer Science, Computer Engineering, Accounting and Finance, and Business Administration are prominent, reflecting a tech and business focus.
- **Degree Level Distribution**: Graduate Students (32.6%) and Undergraduate Students (28.5%) dominate, with 27.6% not currently in education, suggesting a mix of academic and professional users. Other categories include High School Students, Other Professionals, Teachers/Educators, and Parents of Students.

- Institutional Academics: Popular fields include Accounting (617 institutions), Finance (675 institutions), Computer Applications (551 institutions), and Data Science (1,146 institutions), highlighting academic diversity.
- **Geographic Distribution**: A world map shows user clusters in North America, Europe, Asia, and Africa. Key cities include NULL (9,904 users), Lagos, Nairobi, Accra, Karachi, Hyderabad, Abuja, Lahore, Ibadan, Dhaka, Cairo, Saint Louis, and Pune, indicating strong regional hubs.



Figure 3.2: Screenshot of the Demographics page from the Looker Studio dashboard.

3.2.2 Missing Data and Considerations

The high number of 'NULL' majors (over 50,000) suggests a need for data cleaning or improved data collection processes. The geographic 'NULL' entries (9,904 users) also warrant further investigation to ensure accurate regional analyses.

3.3 Opportunity Details

The Opportunity Details page analyzes user participation in learning opportunities.

3.3.1 Key Metrics and Insights

- Enrollment Metrics: Total enrollments reach 113,414, with 57,963 unique learners across 167 opportunities and 8 application categories.
- Applications by Category: A pie chart shows Internships (38.6%) as the dominant category, followed by Courses (33.6%) and Events (11.3%). Other categories include Competition, Masterclass, Career, and Engagement.
- **Popular Opportunities**: A bar chart highlights 'NULL' opportunities (over 60,000 learners), indicating potential data gaps. Specified opportunities like Data Visualization Early Internship (10,771 enrollments) and Project Management Early Internship (9,025 enrollments) are highly popular, alongside the course "Career Essentials: Getting Started with Your Professional Journey."
- **Application Trends**: A time-series graph shows peaks in March 2024 and a general upward trend in applications, indicating consistent engagement.



Figure 3.3: Screenshot of the Opportunity Details page from the Looker Studio dashboard.

3.3.2 Missing Data and Considerations

The 'NULL' opportunities (over 60,000 learners) suggest missing or unclassified data, which should be addressed through data cleaning or categorization to improve insight accuracy.

3.4 Marketing Campaign

The Marketing Campaign page evaluates the effectiveness of advertising efforts.

3.4.1 Key Metrics and Insights

- **Campaign Metrics**: Total landing page views (293,842), total reach (240,102,035), and total amount spent (240,830.18) indicate significant marketing efforts.
- Delivery Status Performance: A bar chart shows that "Completed" and "Recently Completed" campaigns have high reach and spending, suggesting successful execution.
- Campaign Performance: A table details individual campaign metrics, with "March Brand Awareness" showing the highest reach and spend. Other campaigns, like "Brand Awareness: UGC Video March" and "May Awareness (Reach)," also contribute significantly.

3.4.2 Missing Data and Considerations

The repeated values in the dashboard PDF for marketing metrics suggest potential data display issues. Future iterations should verify data accuracy and explore cost-per-result metrics for deeper campaign efficiency analysis.



Figure 3.4: Screenshot of the Marketing Campaign page from the Looker Studio dashboard.

Conclusion

This report, prepared by Team 26, consolidates the insights derived from the Looker Studio dashboard, highlighting user growth, demographic diversity, high demand for internships, and effective marketing campaigns. The dashboard's visualizations, accessible via Looker Studio Dashboard (replace with the actual URL), provide a clear and interactive representation of the learning platform's performance. Key findings include significant user acquisition spikes, a strong academic user base, and popular opportunities in data visualization and project management. Data quality issues, such as 'NULL' majors and opportunities, suggest areas for improvement in data collection and cleaning. This report establishes a foundation for future work, including advanced analytics, predictive modeling, and optimization of marketing strategies to enhance user engagement and platform effectiveness.