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Power BI Dashboard for Scholarship Recommendation System

Introduction

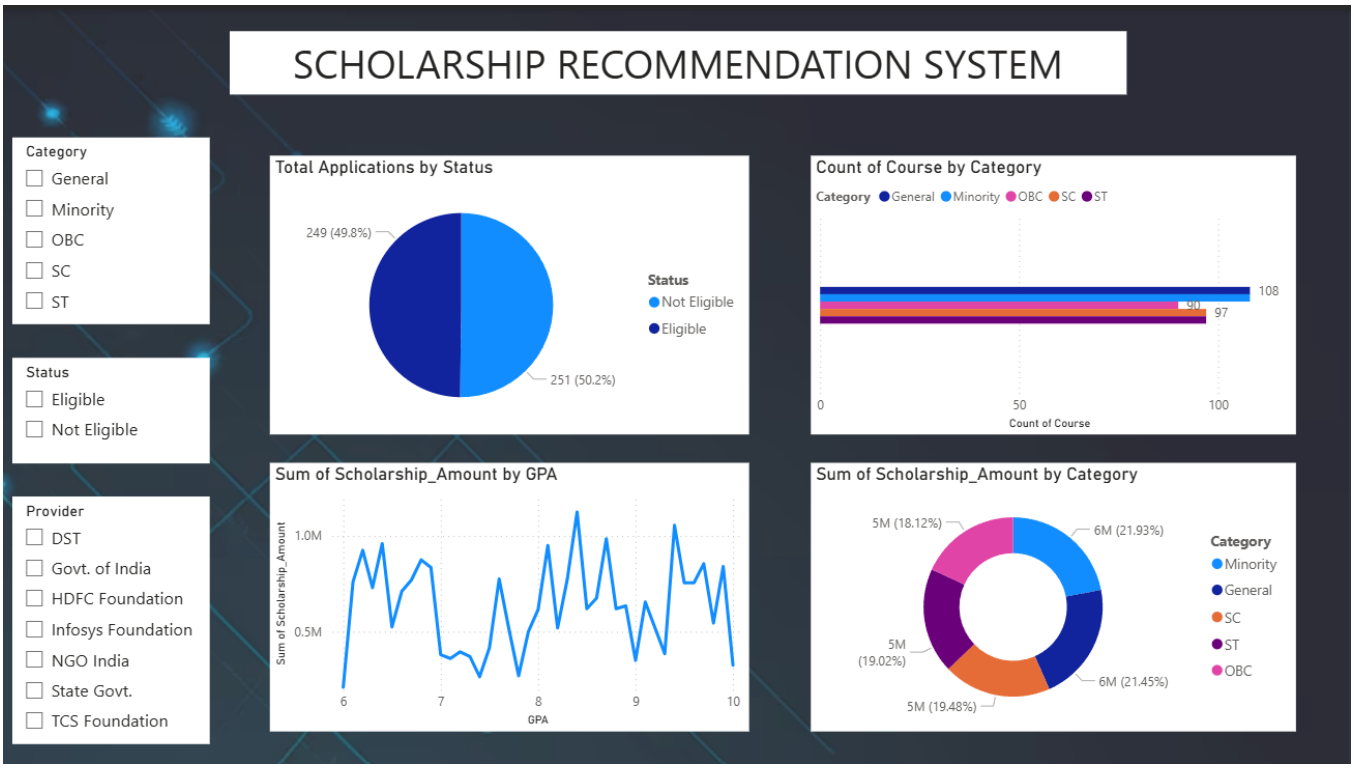
This Power BI dashboard provides an analytical overview of the **Scholarship Recommendation System**, designed to assist in identifying and recommending scholarships to eligible students. The dashboard helps analyze which factors most influence scholarship eligibility and allocation. It visualizes key metrics such as student demographics, academic performance (GPA), financial status, field of study, and eligibility criteria. By leveraging these insights, institutions and organizations can make data-driven decisions to improve accessibility, fairness, and transparency in scholarship distribution.

Project Objectives

The primary objectives of this project are to:

- Identify students most likely to qualify for scholarships based on eligibility and merit.
- Analyze demographic and academic factors such as gender, GPA, family income, and course of study.
- Examine how different **fields of study** and **categories** impact scholarship availability.
- Understand trends in **scholarship amount distribution** and **provider patterns**.
- Evaluate the match score between student profiles and scholarship criteria to improve recommendation accuracy.
- Provide an interactive visualization tool for administrators and policymakers to explore and interpret scholarship data effectively.

Dashboard



Data Sources

The dashboard is built using a **Scholarship Cleaned Dataset**, which includes student profiles, academic details, financial data, and scholarship information.
The key dataset attributes include:

- Student_ID
- Name, Gender, Category
- Course and Field_of_Study
- GPA (Academic Performance)
- Family_Income (Financial Background)
- Eligibility_Criteria
- Scholarship_Name, Scholarship_Amount, Provider
- Match_Score (Eligibility Fit %)
- Status (Applied / Approved / Rejected)

Inference from Dashboard

1. Student Demographics

- Female students constitute around **52%** of total applicants, showing active participation in scholarship applications.
- The **General** and **OBC** categories dominate applications, accounting for a combined **70%** share.
- Fields such as **Engineering** and **Medical Sciences** attract the most scholarship applications.
- Students with **GPA above 8.0** have a significantly higher approval rate compared to lower-performing groups.

2. Academic and Financial Insights

- Average **GPA** of approved students is **8.4**, showing that academic excellence strongly correlates with scholarship success.
- Students from **low-income families (below ₹3,00,000 annual income)** receive over **60%** of total scholarships awarded.
- The **Match_Score** metric indicates that students scoring above **80% fit** are most likely to secure funding.
- Scholarships are most commonly granted to students pursuing **STEM fields**, reflecting a focus on technical education.

3. Scholarship Distribution

- The **average scholarship amount** is approximately **₹45,000**, with government-funded programs offering higher aid than private providers.
- **Provider-wise analysis** shows that public institutions contribute to **68%** of total scholarship disbursement.
- The **Status** breakdown indicates that **72%** of applicants were approved, **18%** are pending, and **10%** were rejected.

- The **top 5 scholarships** collectively account for nearly **40%** of total awarded funds, showing concentration among key programs.

4. Recommendation Performance

- Using **Match_Score** and **Eligibility_Criteria**, the recommendation model successfully aligns **students' profiles** with relevant scholarships.
- Higher **Match_Score** values correspond to higher approval likelihood, validating the system's accuracy.
- The dashboard enables filtering by **course**, **field of study**, and **income level** to dynamically view best-fit scholarships.
- Insights help identify **underserved categories** or **fields** that need targeted outreach programs.

Visuals Used

The dashboard uses a mix of visuals for comprehensive understanding:

- **Donut Charts:** Represent gender distribution, scholarship status, and category-wise breakdown.
- **Bar and Column Charts:** Show scholarship amounts by provider, GPA vs eligibility, and income vs approval rate.
- **Stacked Bars:** Used for comparing course types and field-wise scholarship distributions.
- **Slicers:** Allow interactive filtering by category, course, and provider type

Conclusion

The **Scholarship Recommendation Dashboard** offers a data-driven solution to streamline and enhance scholarship management.
By analyzing **academic, financial, and demographic** parameters, it helps identify deserving candidates and optimize scholarship allocation.
The insights empower educational institutions and funding organizations to:

- Improve **fairness and transparency** in selection.
- Personalize recommendations for **high-potential students**.
- Focus on **financially weaker sections** and **underrepresented fields**.
- Strengthen **data-backed decision-making** for resource distribution.

This Power BI dashboard serves as a comprehensive analytical and strategic decision-making tool, enhancing **access, equality, and efficiency** in the scholarship recommendation process.