Power BI Dashboard for VIMS Portal

A Project Report

Submitted

In partial fulfillment of the requirements for the award of the degree

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE and ENGINEERING
carried out during Internship in
TECHNOLOGY DEVELOPMENT
By

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TECHNOLOGY AND DEVELOPMENT

VIGNAN'S FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH

(Deemed to be University) Vadlamudi, Guntur -522213, INDIA.

May 2025

VIGNAN'S
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(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

Technology Development

CERTIFICATE

This is to certify that the project report entitled **"Power BI Dashboard for VIMS Portal"** has been submitted by **Sourav Kumar (211FA04648)** in partial fulfilment of the requirements for the Major Project course, as part of the academic curriculum of the B.Tech. CSE Program**, Department of Computer Science and Engineering (CSE**) **at VFSTR Deemed to be University.**

This project work was carried out during their internship in Technology Development, aligned with the objectives of the academic curriculum.

Project Supervisor Dean, TD

Project Guide External Examiner

TECHNOLOGY AND DEVELOPMENT

DECLARATION

I/We hereby declare that the project work entitled **“Power BI Dashboards for VIMS Portal”** submitted in partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology (B. Tech)** in **Computer Science and Engineering at VFSTR Deemed to be University** is a record of my/our original work. This project has been carried out under the supervision of the Department of Computer Science and Engineering, VFSTR Deemed to be University. The work embodied in this thesis has not been submitted previously, in part or full, to any other University or Institution for the award of any degree or diploma. We have duly acknowledged all sources of information and data used in the preparation of this project report and shall abide by the principles of academic integrity and ethical guidelines.

By
Sourav Kumar (211FA04648)

Date: 23-05-2025

ACKNOWLEDGEMENT

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With Sincere regards,
Sourav Kumar (211FA04648)

ABSTRACT

In the current digital era, despite the widespread availability of student data within university portals, engineering students and faculty often face challenges in efficiently accessing, analyzing, and drawing insights from this data to improve academic performance and decision-making. The fragmented storage of academic records, lack of real-time visualization tools, and absence of integrated performance tracking across semesters significantly hinder both student engagement and institutional oversight.

This internship project, titled **" Power BI Dashboards for VIMS Portal,"** aims to resolve these issues by implementing a comprehensive reporting framework designed to streamline data analysis and visualization for academic stakeholders. The system aggregates and visualizes key datasets—such as marks, attendance, and counselling records—through Power BI Report Server, enabling secure and on-premises analytics that are accessible to both faculty and students.

The framework classifies academic data based on parameters such as semester, subject, department, and individual student performance. It integrates authenticated university data sources and facilitates interactive dashboards, real-time updates, and comparative metrics. The solution supports collaborative features for institutional benchmarking and student progression tracking across academic cycles.

In addition, embedded intelligence modules within the Power BI reports function similarly to analytical agents, automatically highlighting trends, anomalies, and performance gaps. Assessment summaries, attendance patterns, and counselling progress are visualized in a structured format, enabling stakeholders to make informed decisions backed by data.

By reducing the manual effort involved in tracking academic performance and providing a unified platform for actionable insights, this project significantly enhances the transparency, efficiency, and strategic value of digital academic data within the VIMS Portal.

Contents

CHAPTER 1
INTRODUCTION

1. Introduction

In today’s data-centric business environment, making informed decisions swiftly and securely is paramount. Power BI Report Server emerges as a pivotal solution that enables organizations to manage, deploy, and consume business intelligence (BI) reports in an on-premises environment. This system provides a secure and centralized platform for the development and sharing of interactive, data-rich dashboards and reports.

Unlike the Power BI Service hosted on the cloud, Power BI Report Server caters to organizations with strict data residency and compliance requirements. It empowers users to visualize insights directly within a secured internal network, ensuring the confidentiality and integrity of enterprise data.

Power BI Report Server not only promotes a culture of self-service BI but also facilitates seamless integration with enterprise systems and various data sources, bridging the gap between data availability and decision-making.

1.1 Objective

The objective of Power BI Report Server is to provide a robust and secure platform for managing and sharing data insights across organizations. The platform enhances data-driven decision-making while addressing the challenges of accessibility, security, and scalability. The primary goals of the platform up to the current development phase include:

1. **User-Friendly Report Access**: To create a straightforward interface for users to securely access and interact with reports, ensuring usability across devices.
2. **Centralized Report Management**: To offer a unified platform where reports and dashboards can be created, stored, and managed efficiently for various business functions.
3. **Efficient Data Visualization**: To integrate advanced visualization capabilities, allowing users to present data in meaningful ways that enhance understanding and decision-making.
4. **Interactive and Accessible Design**: To build an interactive user experience with responsive design and accessibility features, ensuring smooth navigation for users with diverse needs.
5. **Scalable Architecture**: To provide a solution that scales with the organization’s growth, enabling efficient management of increasing data volumes and user demands.

These objectives lay the foundation for future enhancements, focusing on advanced analytics, real-time data integrations, and enhanced collaboration features.

1.2 Scope of the Project

The scope of this project encompasses the **implementation, customization, and operational deployment** of Power BI Report Server within an enterprise setting. Key deliverables include:

- **Report Development using Power BI Desktop:** Design and develop interactive reports and dashboards utilizing data modeling and DAX functions.
- **Deployment to Power BI Report Server:** Configure and deploy reports securely to the on-premises server, ensuring appropriate access controls and version management.
- **Database Integration:** Connect and synchronize with backend systems like SQL Server, Oracle, MySQL, and other enterprise databases.
- **User Role Management:** Define user roles and security levels to control access to sensitive reports and datasets.
- **Performance Optimization:** Ensure that the platform supports high performance with minimal latency for concurrent users.
- **Training and Documentation:** Provide documentation and user training to facilitate smooth adoption and ongoing usage.

This project does **not** cover Power BI Service (cloud-based version) but focuses entirely on the on-premise infrastructure and its capabilities.

1.3 Technologies Used

The technology stack used in Power BI Report Server includes tools and technologies for data visualization, storage, and secure sharing. The platform supports integration with various data sources and offers a robust architecture for report management and deployment.

- **Power BI Desktop**:
  Power BI Desktop is used to create interactive reports and dashboards. It provides a wide range of visualization options and supports data modelling, transformations, and measures.
- **Power BI Report Server**:
  Power BI Report Server acts as the on-premises hosting platform, allowing organizations to securely deploy, manage, and share reports. It ensures centralized storage and provides version control for reports.
- **SQL Server**:
  SQL Server is used as the backend database for storing and managing report data. It provides high performance, scalability, and security for large datasets.

- **DAX (Data Analysis Expressions)**:
  DAX is a formula language used in Power BI for creating measures, calculated columns, and advanced analytics within reports.
- **Integration with Enterprise Systems**:
  Power BI Report Server integrates seamlessly with various enterprise data sources, including Oracle, SAP, and MySQL, ensuring flexibility in connecting and managing data.

These technologies collectively create a robust and dynamic platform, allowing organizations to transform raw data into actionable insights efficiently.

1.4 Literature Survey

Several studies and enterprise implementations highlight the growing need for on-premise business intelligence solutions. Key findings from the literature include:

- **Gartner's BI Trends Report** emphasizes that hybrid BI deployments (cloud + on-premise) are becoming a standard for industries with stringent data governance policies. Power BI Report Server aligns well with such needs by offering secure internal data hosting.
- **Microsoft's Whitepaper on Power BI Report Server** outlines its architectural framework, which allows seamless integration with SQL Server Reporting Services (SSRS) and enhances existing BI ecosystems within organizations.
- **Comparative Studies between Power BI Cloud and Report Server** indicate that while the cloud version excels in real-time collaboration, Power BI Report Server is preferred in industries such as healthcare, finance, and government due to compliance and data sovereignty concerns.
- **Academic Research on BI Tools** (e.g., IEEE papers on BI adoption) reveals that the success of a BI platform is largely dependent on its usability, integration capability, and data security—all of which are strong points of Power BI Report Server.

These insights reinforce the relevance and strategic value of deploying Power BI Report Server in modern enterprises, particularly those with regulatory and infrastructure constraints.

CHAPTER 2
CONFIGURATION

2. Configuration

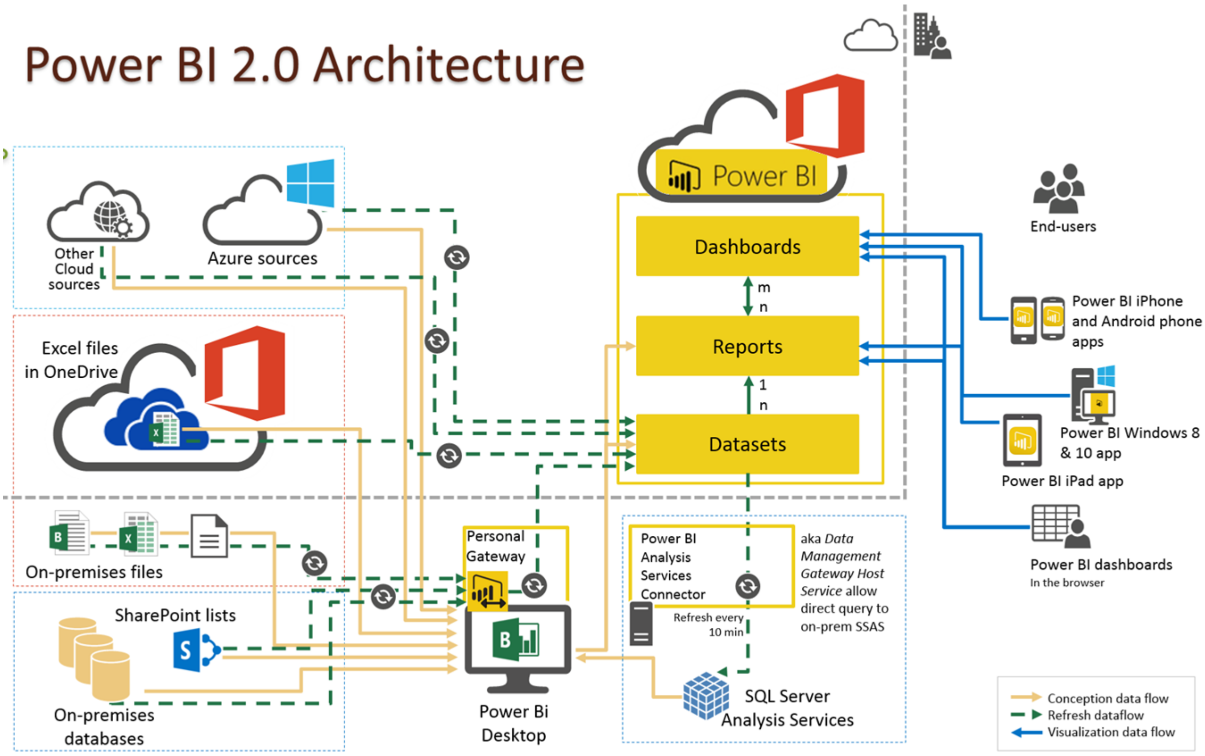
Welcome to Power BI Report Server project, where user can create and manage dashboards for different departments without storing in Microsoft Cloud. This project focuses on to host the reports and dashboards in private server or on-premises server.

The existing modules in this project are:

- Configuration and setup for Power BI report server.
- On-premises server already made to store all our reports and dashboards.
- Interactive dashboards and reports using luxurious components
- User access management
- Extension and gateways

2.1 Architecture

The Power BI 2.0 Architecture illustrates how data flows from various sources into the Power BI ecosystem to deliver insightful dashboards and reports to end users. It involves several components, including data sources, gateways, Power BI Desktop, the Power BI Service, and multiple user access points.



1. Data Sources

Power BI supports a wide range of data sources, categorized into:

- **Cloud Sources:**
  - Excel files in OneDrive (Office 365)
  - Azure services
  - Other cloud services like Salesforce, Google Analytics, etc.
- **On-Premises Sources:**
  - Local files (Excel, CSV)
  - Databases (SQL Server, Oracle, etc.)
  - SharePoint lists

2. Data Flows

There are three primary types of data flows in Power BI:

- **Conception Data Flow (Yellow lines):**
  Represents the initial data import or data modeling from sources into Power BI Desktop or the service.
- **Refresh Data Flow (Green dashed lines):**
  Represents scheduled or manual refreshes of the data from the source systems to keep datasets updated.
- **Visualization Data Flow (Blue lines):**
  Represents the flow of data from datasets to reports and dashboards, and ultimately to the end users.

3. Power BI Desktop

Power BI Desktop is the main development tool where users:

- Connect to data sources (cloud and on-premises)
- Clean, transform, and model data
- Create interactive reports

It allows integration with:

- On-premises files and databases
- SharePoint lists
- Cloud data like OneDrive Excel files and Azure sources

Data from these sources can be refreshed using a **Personal Gateway** or via direct query through the **Power BI Analysis Services Connector**.

4. Gateways

Gateways enable secure data transfer from on-premises data sources to the Power BI service:

- **Personal Gateway:**
  Installed on a user's machine to refresh data in personal capacity.
- **Power BI Analysis Services Connector (Enterprise Gateway):**
  Used for live connections to SQL Server Analysis Services (SSAS), allowing direct queries and periodic refreshes (default every 10 minutes).

5. Power BI Service (Cloud Platform)

After creating reports in Power BI Desktop, they are published to the Power BI Service. This includes:

- **Datasets:** Store the actual data models and refreshed data.
- **Reports:** Visualizations created from datasets.
- **Dashboards:** Consolidated view made up of visuals from multiple reports and datasets.

Relationships:

- One dataset can be used by many reports (1:n)
- One report can feed into multiple dashboards (m:n)

6. End-User Access

Users can view dashboards and reports through:

- Web browsers (Power BI online)
- Mobile applications:
  - Power BI for iPhone and Android
  - Power BI for iPad
  - Power BI for Windows 8 & 10

These interfaces ensure accessibility of data insights from anywhere and on any device.

7. Refresh Mechanism

- Cloud sources like OneDrive sync automatically.
- On-premises sources use gateways to refresh data.
- SSAS uses direct query via the connector, refreshing every 10 minutes by default.

2.2 Configuration and setup for Power BI report server

1. Pre-requisites

Ensure the following:

- A valid Power BI Report Server license (via SQL Server Enterprise with Software Assurance or Power BI Premium).
- An operating system compatible with Power BI Report Server (Windows Server recommended).
- A SQL Server instance (SQL Server 2016 SP1 or later) to host the report server database.
- .NET Framework 4.7.2 or later installed.
- IIS for web-based access (optional).

2. Download Power BI Report Server

1. Visit the official Power BI Report Server download page.
2. Download the installation package.
3. Choose the appropriate edition (free trial or licensed).

3. Install Power BI Report Server

1. Run the installer:
   - Execute the .exe file.
   - Select Install Power BI Report Server.
2. Select Server Mode:
   - Choose Install Power BI Report Server (not SQL Server Reporting Services).
3. Database Connection:
   - During setup, you'll be prompted to configure the Report Server database. Select an existing SQL Server instance or install one.

4. Configure Power BI Report Server

1. Launch Report Server Configuration Manager:
   - Open the Report Server Configuration Manager from the Start menu.
2. Set Web Service URL:
   - Assign a URL for the report server's web service (e.g., http://<servername>/reportserver).
3. Set Database:

   - Choose or create a new database for the report server.
   - Connect to your SQL Server instance.
4. Set Web Portal URL:
   - Define a web portal URL for users to access Power BI reports (e.g., http://<servername>/reports).
5. Configure Email Settings *(optional)*:
   - Set up an SMTP server for email notifications (e.g., subscription-based reports).

5. Install and Configure Power BI Desktop

1. Download Power BI Desktop for Report Server:
   - Visit Power BI Desktop download page and select the version for Report Server.
2. Install and Connect:
   - Install the downloaded file.
   - Create reports and save them in the Power BI Report Server.

6. Deploy Reports

1. Save reports:
   - Save your Power BI reports (.pbix files) directly to the Power BI Report Server.
   - Use the "Save As" option in Power BI Desktop and select the report server.
2. Test the deployment:
   - Access the reports via the configured web portal URL.

7. Optional Settings

- Enable SSL:
  - Secure your web service and portal URLs with HTTPS.
- Integrate with Active Directory:
  - Use AD for role-based access to reports.
- Set up Data Refresh:
  - Schedule data refreshes for reports that rely on external data sources.

8. Validate Installation

- Verify the report server is accessible through the web portal.
- Test the report viewing and management functionalities.

2.2 On-premises server

An on-premises server refers to a physical server hosted within your organization's infrastructure rather than being hosted in the cloud. If you already have an on-premises server set up, here's how you can utilize it to host Power BI Report Server and store all your reports and dashboards.

Ensure the server meets the following criteria:

- Hardware: Adequate CPU, memory, and storage for hosting Power BI Report Server and handling report workloads.
- Operating System: Windows Server 2016 or later.
- SQL Server Instance:
    - A SQL Server 2016 SP1 or later instance is required to store the Power BI Report Server database.
- Network Access:
    - Ensure the server is accessible over the network using a hostname or IP.

2.3 UML Diagrams

The main objectives of this UML documentation are to visualize and standardize the system's functional and structural behaviour, facilitate a better understanding among stakeholders regarding the interaction between system components, and provide a comprehensive blueprint for the development, deployment, and enhancement of Power BI Report Server within an organization.

2.3.1 Use Case Diagram

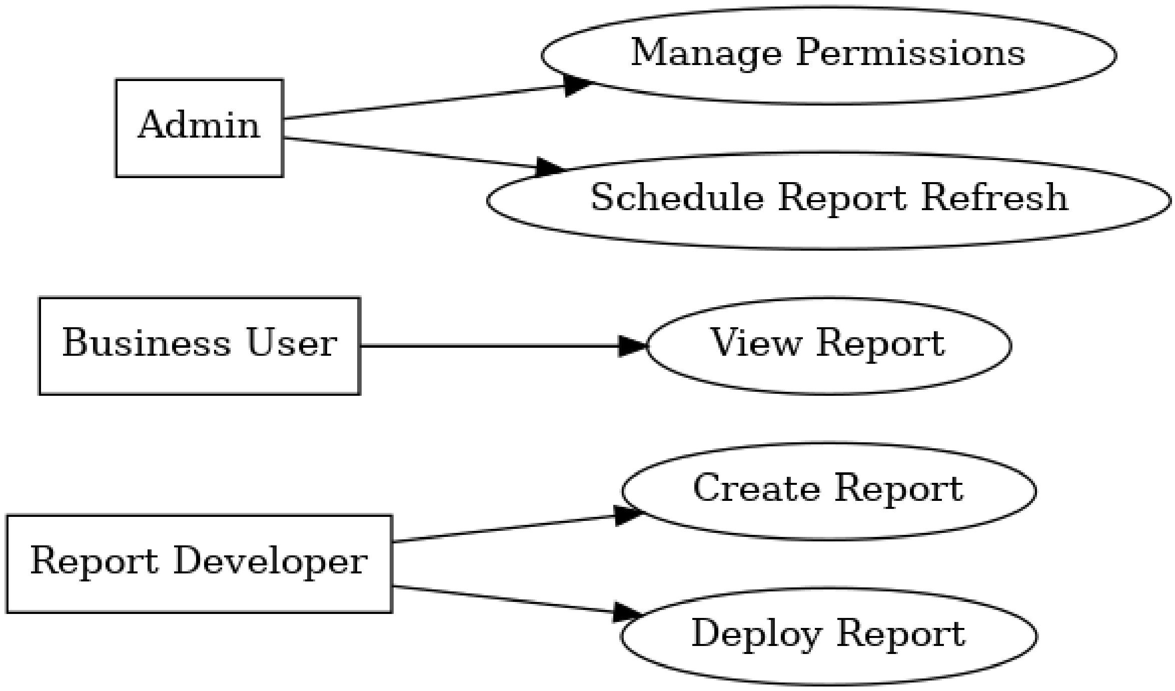
This diagram identifies the key actors interacting with the system and outlines their primary use cases.

Actors:

- Report Developer
- Business User
- Admin

Use Cases:

- Create Report
- Deploy Report to Server
- View Report
- Manage Permissions
- Schedule Report Refresh

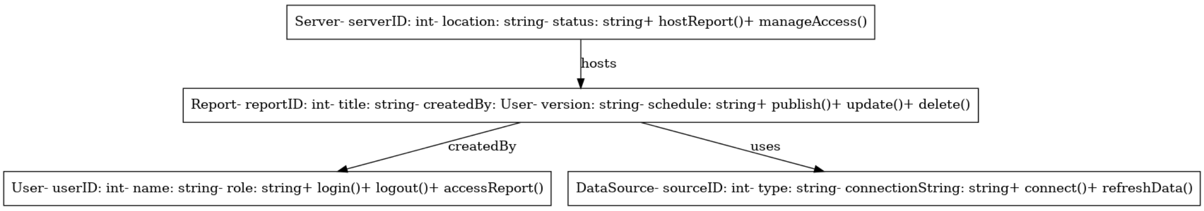


2.3.2 Class Diagram

The class diagram models the core data entities and their relationships. It highlights the structure of reports, users, data sources, and the server.

Classes:

- Report: Handles report metadata and actions (e.g., publish, update).
- User: Represents users with roles and login capabilities.
- DataSource: Manages connection and data fetching.
- Server: Hosts reports and handles access control.

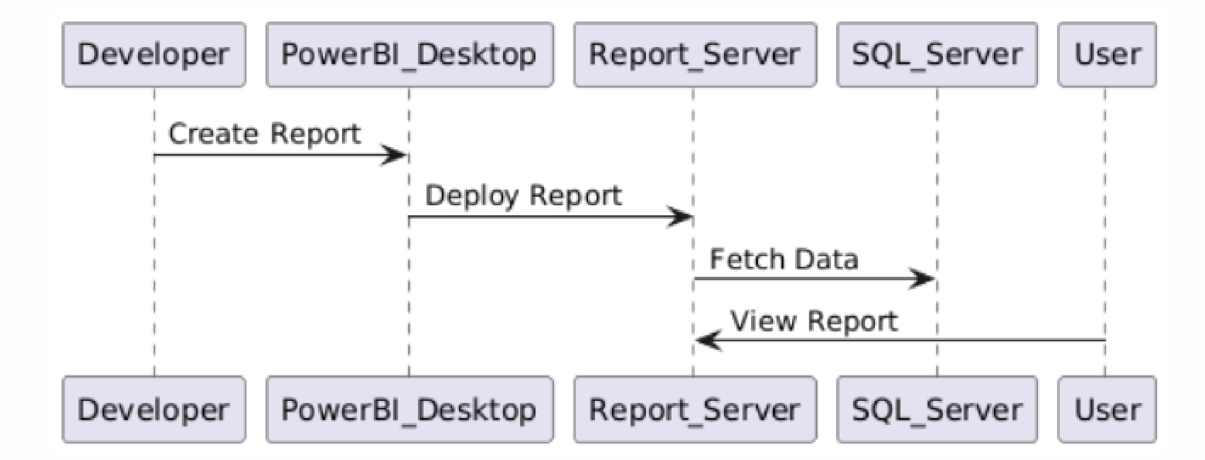

Server- serverID: int- location: string- status: string+ hostReport()+ manageAccess()
hosts
Report- reportID: int- title: string- createdBy: User- version: string- schedule: string+ publish()+ update()+ delete()
createdBy
uses
User- userID: int- name: string- role: string+ login()+ logout()+ accessReport()
DataSource- sourceID: int- type: string- connectionString: string+ connect()+ refreshData()

2.3.3 Sequence Diagram

This sequence diagram describes the process of report creation, deployment, and consumption from start to end.

@startuml

```
participant Developer
participant PowerBI_Desktop
participant Report_Server
participant SQL_Server
participant User

Developer -> PowerBI_Desktop : Create Report
PowerBI_Desktop -> Report_Server : Deploy Report
Report_Server -> SQL_Server : Fetch Data
User -> Report_Server : View Report
@enduml
```



2.3.4 Component Diagram

This diagram outlines the logical components of the system and how they interact.

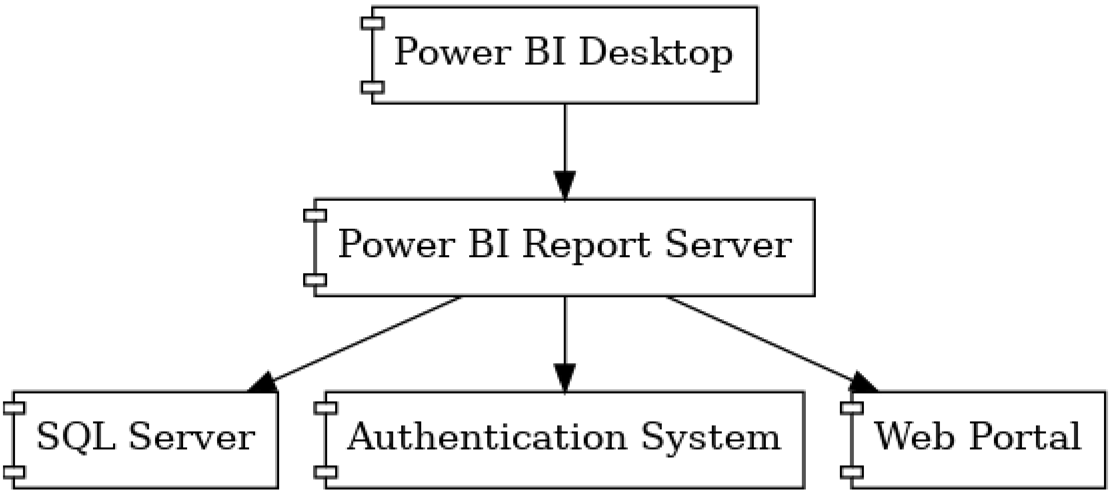
Components:

- Power BI Desktop
- Power BI Report Server
- SQL Server
- Authentication System
- Web Portal

Connections:

- Reports are created on Power BI Desktop and deployed to the Report Server.

- The Report Server interacts with SQL Server and Authentication System.
- Users access reports through the web portal.



2.3.5 Deployment Diagram

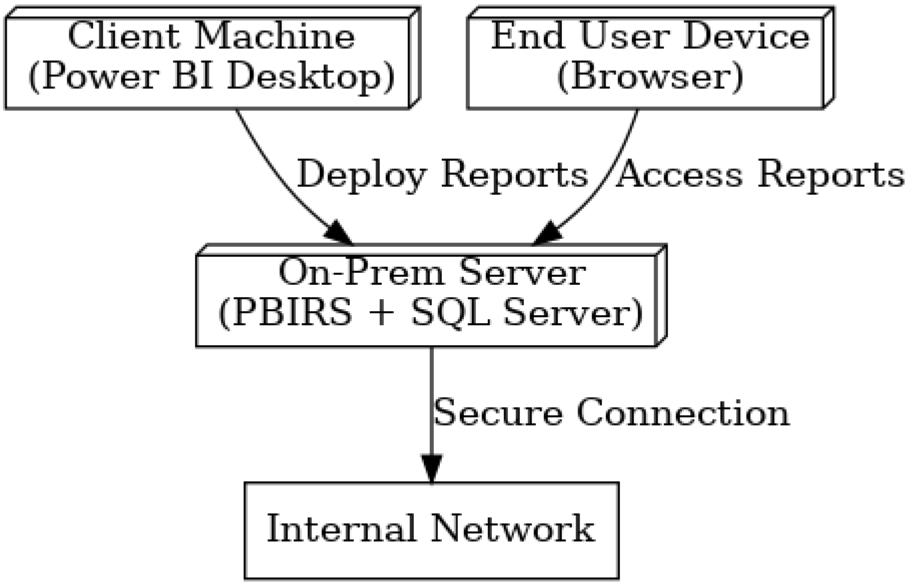
This diagram illustrates the physical deployment architecture of the Power BI Report Server setup.

Nodes:

- Client Machine (Power BI Desktop)
- On-Premise Server (Power BI Report Server + SQL Server)
- Internal Network
- End User Device (Web Browser)

Artifacts:

- .pbix files
- Report Server binaries
- Connection configurations


Client Machine
(Power BI Desktop)
End User Device
(Browser)
Deploy Reports
Access Reports
On-Prem Server
(PBIRS + SQL Server)
Secure Connection
Internal Network

CHAPTER 3
PROPOSED WORK

Interactive dashboards are dynamic visual tools that empower users to explore and analyze data in real-time, providing actionable insights through intuitive interfaces. They enable users to interact with data using features like drilldowns, slicers, and hover-over tooltips, making complex datasets accessible and easy to comprehend. By integrating customizable charts, graphs, and key performance indicators (KPIs), interactive dashboards transform raw data into visually engaging reports. They support enhanced decision-making by allowing users to filter, sort, and manipulate data to focus on specific metrics or trends. Commonly used in business intelligence platforms like Power BI, Tableau, or Google Data Studio, these dashboards are invaluable for tracking performance, identifying opportunities, and responding to challenges promptly.

3.Proposed Work

3.1 Interactive dashboards and reports using luxurious components

Creating interactive dashboards and reports with luxurious components in Power BI or similar platforms involves using visually appealing and dynamic elements that improve the user experience.

1. Define Objectives and Audience

- **Understand Your Audience**:
  - Determine the type of users (executives, analysts, or clients) and their preferences.
- **Set Goals**:
  - Clarify the purpose of the dashboard (e.g., sales performance, project tracking, financial insights).

2. Choose a Modern and Luxurious Design

- **Sleek Layout**:
  - Use a clean, minimalistic design with consistent fonts and colours.
  - Avoid clutter and prioritize the most important KPIs.
- **Colours**:
  - Use a high-contrast colour palette with a luxurious feel (e.g., gold, black, white, deep blue).
  - Use gradients or subtle shadows to add depth.
- **Fonts**:
  - Choose professional fonts like *Roboto, Lato, or Open Sans*.

    - Use bold typography for headings.

3. Use Advanced Components

Leverage advanced and visually appealing Power BI features:

- **Custom Visuals**:
    - Download and integrate custom visuals from the Microsoft AppSource.
    - Examples include:
        - **Card with States** for KPIs.
        - **Hierarchy Slicer** for better data filtering.
        - **Infographic Designer** for stunning visualizations.
- **Interactive Charts**:
    - Use slicers, drill-throughs, and tooltip-based interactions.
    - Popular charts:
        - Waterfall charts.
        - Heatmaps.
        - Radial gauges.
- **Bookmarks and Buttons**:
    - Add navigation buttons to switch between views or highlight trends.
- **AI Visuals**:
    - Incorporate AI-powered visuals like Q&A and Key Influencers.

4. Add Luxury with Media and Animation

- **Custom Icons and Logos**:
    - Use premium SVG or PNG icons from resources like *Flaticon* or *Icons8*.
    - Add your company logo with a polished finish.
- **Backgrounds**:
    - Use subtle gradients, textured images, or abstract patterns.
- **Animations**:
    - Use transition animations for switching views or interacting with slicers.
    - Enable smooth transitions in visuals like scatter plots and maps.

5. Interactivity and User Experience

- **Dynamic Filters**:
    - Implement slicers with modern designs (e.g., dropdowns, sliders).
- **Drill-Down Features**:

  - Enable users to drill down into categories and subcategories (e.g., from region to state).
- **Tooltips**:
  - Add custom tooltips to show detailed data on hover.
- **Responsive Design**:
  - Ensure dashboards adjust to various screen sizes (desktop, tablet, mobile).

CHAPTER 4

SAMPLE WORK(INDEX)

4.Sample Work

4.1 Research Report

In the evolving landscape of higher education, data-driven decision-making is critical to fostering research excellence and institutional growth. This project proposes the development of a **Research and Projects Analytics Dashboard** designed to provide comprehensive insights into the university's academic research output and project activities.

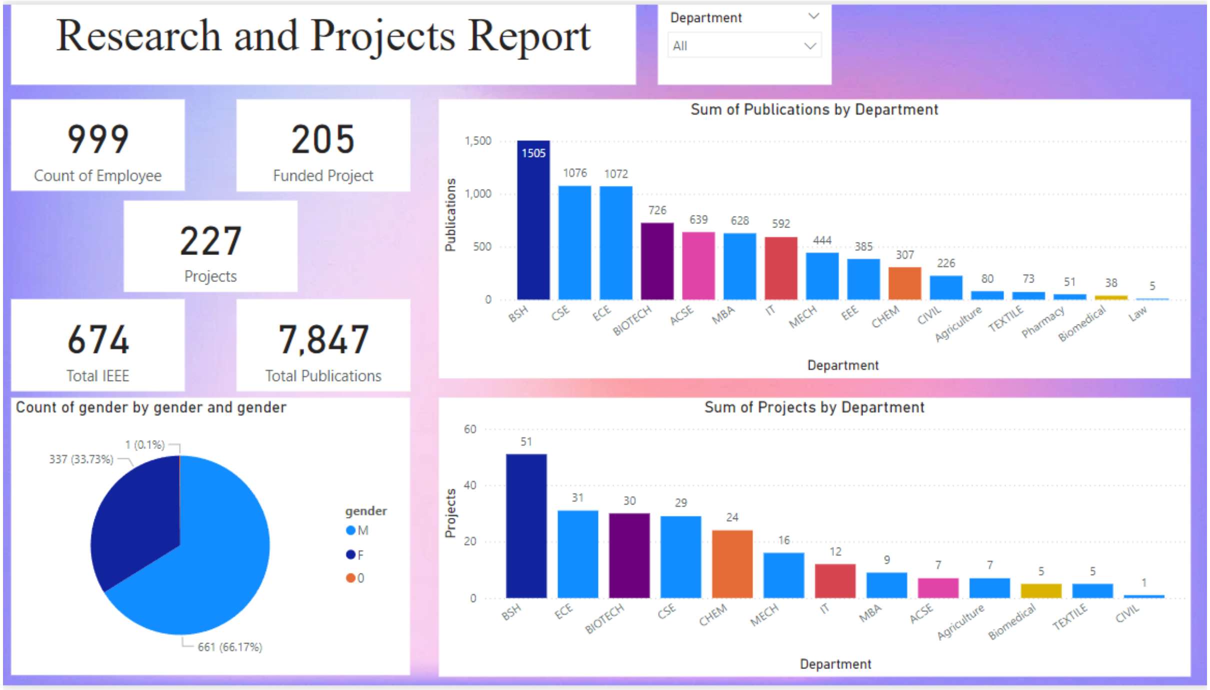
The dashboard, powered by **Power BI**, serves as a centralized platform for visualizing and analyzing key performance indicators related to research and project initiatives across departments. It captures and displays data such as:

- **Total Number of Projects**
- **Number of Funded Projects**
- **Total IEEE Publications**
- **Overall and Department-wise Publications**
- **Project-to-Publication Ratios**
- **Research Trends over Academic Years**

By presenting data in an intuitive, interactive format, the dashboard enables administrators, faculty, and stakeholders to monitor research productivity, evaluate departmental contributions, and identify opportunities for funding and collaboration. The integration of filters by department, funding agency, year, and publication type allows users to drill down into specific data points for deeper analysis.

Furthermore, the system supports automated data updates and real-time insights, ensuring that institutional leadership remains informed about ongoing research activities. This analytical tool not only enhances transparency and accountability but also contributes to strategic planning and policy development for strengthening the university’s research ecosystem.

This initiative marks a significant step towards leveraging business intelligence tools to elevate research governance and foster a culture of innovation and academic excellence.



Research and Projects Report

Department
All

999
Count of Employee

205
Funded Project

227
Projects

674
Total IEEE

7,847
Total Publications

Charts and Visuals

1. Sum of publications by Department (Bar Chart):
   - Compares the total publications generated across different departments.
   - Insights: BSH leads with the highest publications (1505), followed by CSE and others.
2. Sum of projects by department (Bar Chart):
   - Compares the total projects generated across different departments.
   - Insights: BSH leads with the highest publications (51), followed by ECE and others.

4.2 Attendance Report

Accurate monitoring and analysis of student attendance play a crucial role in ensuring academic discipline, identifying engagement trends, and supporting timely interventions. This project introduces a **Comprehensive Attendance Analytics Dashboard**, developed using **Power BI**, to provide real-time insights into student attendance across multiple academic dimensions.

The dashboard is designed to aggregate and visualize attendance data across the following categories:

- **Course-wise Attendance Analysis**
- **Department-wise Aggregation and Trends**
- **Section-wise Distribution and Comparisons**

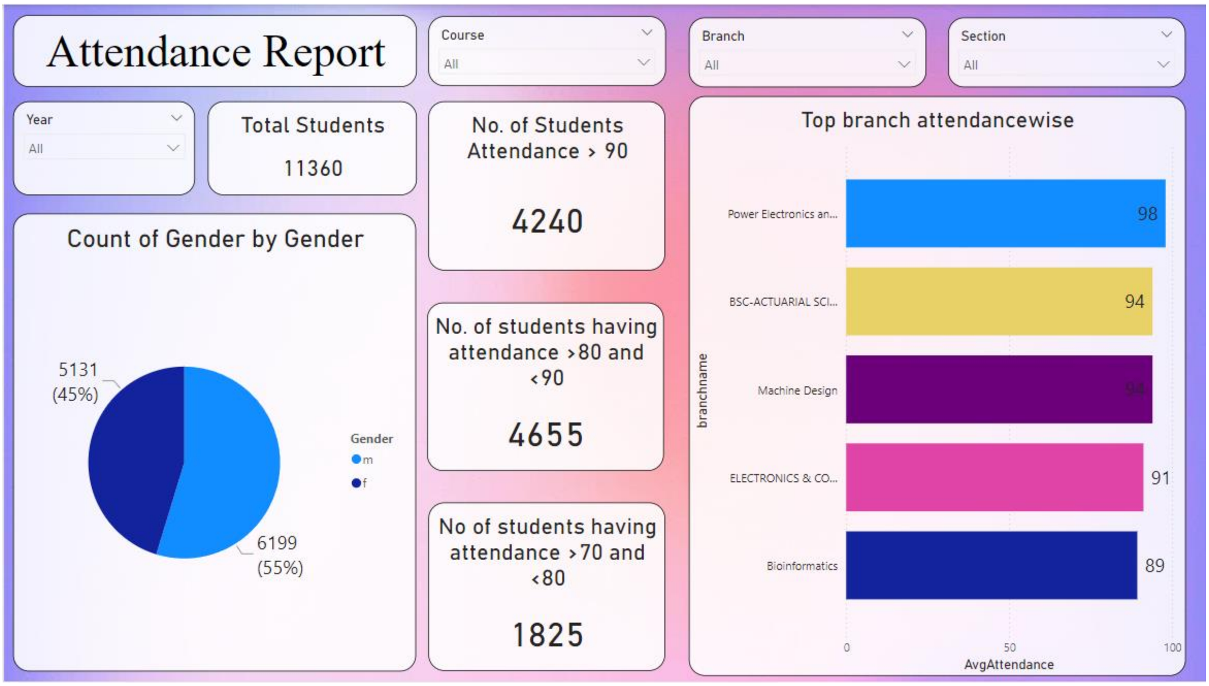
- **Year-wise Attendance Overview**

Key performance indicators such as average attendance percentage, number of defaulters, course engagement levels, and attendance trends over time are presented in an interactive and user-friendly format. Users can apply filters to isolate data based on specific academic years, departments, courses, or individual sections, allowing for precise and granular analysis.

This system empowers faculty, academic coordinators, and administrative staff to:

- Identify students at risk due to low attendance.
- Monitor attendance patterns across different academic units.
- Support data-backed decision-making for counselling or corrective actions.
- Track improvements or declines in attendance over time.

With automated data refresh and customizable views, the dashboard ensures stakeholders have access to up-to-date and actionable attendance insights. This initiative enhances institutional efficiency by shifting from manual tracking to a centralized, visual, and strategic approach to attendance management.



Attendance Report

Course: All

Branch: All

Section: All

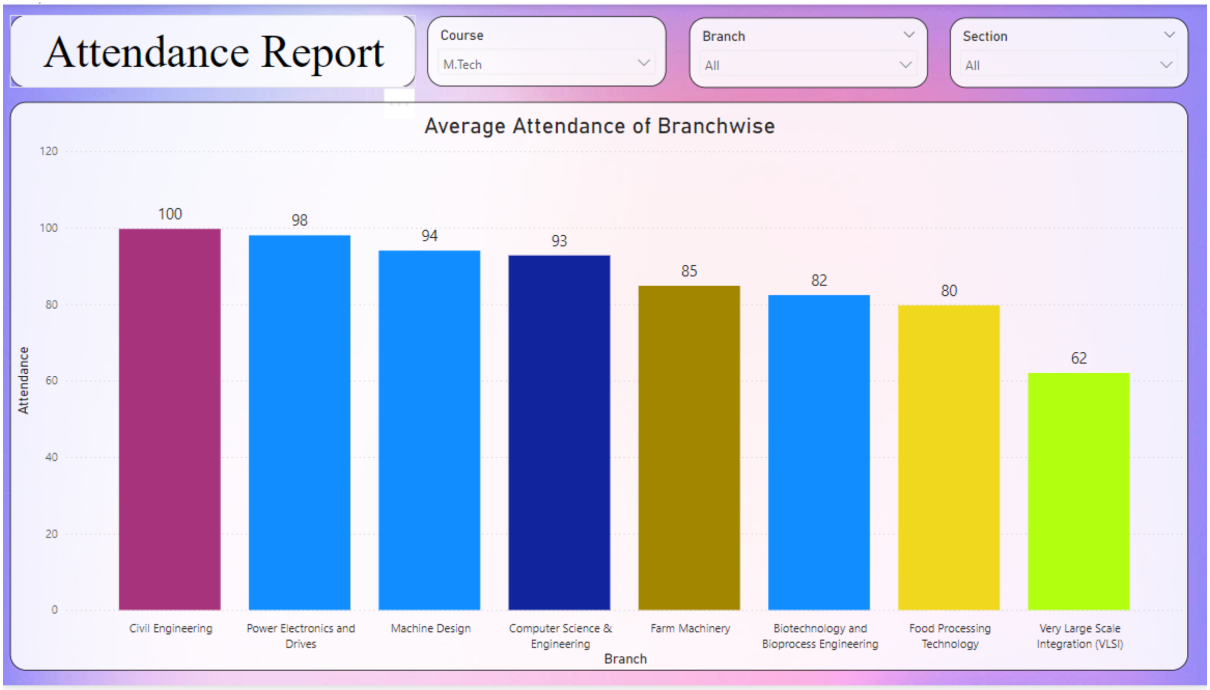
Year: All

Total Students: 11360

No. of Students Attendance > 90: 4240

No. of students having attendance >80 and <90: 4655

No of students having attendance >70 and <80: 1825


Attendance Report
Course
M.Tech
Branch
All
Section
All
Average Attendance of Branchwise
120
100
80
60
40
20
0
Attendance
100
98
94
93
85
82
80
62
Civil Engineering
Power Electronics and Drives
Machine Design
Computer Science & Engineering
Farm Machinery
Biotechnology and Bioprocess Engineering
Food Processing Technology
Very Large Scale Integration (VLSI)
Branch

The dashboard provides an overview of the attendance data for University.

Attendance Overview

- Total Female Count: 5131
- Total Male Count: 6199

4.3 Counselling report

Student well-being and academic success are deeply interconnected. Timely and data-informed counselling plays a pivotal role in guiding students through academic, personal, and career-related challenges. To support this critical function, the **Student Counselling Analytics Dashboard** has been developed to provide a holistic view of counselling activities and outcomes across the university.

Built using **Power BI**, this dashboard offers a centralized platform for tracking and analysing counselling data across various dimensions, including:

- **Department-wise Counselling Statistics**
- **Year-wise and Section-wise Student Engagement**
- **Types of Counselling Sessions (Academic, Personal, Career, Psychological)**
- **Frequency and Distribution of Counselling Sessions**
- **Student Follow-up and Resolution Status**

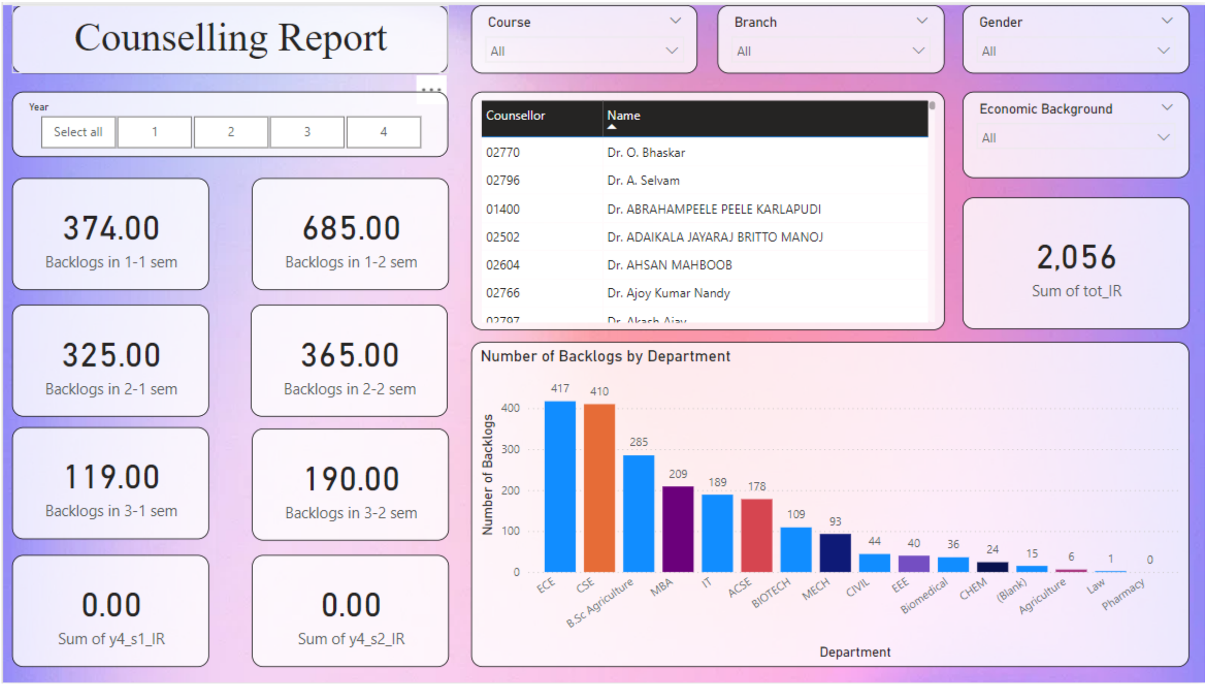
The dashboard enables counsellors, academic advisors, and university administrators to monitor key trends such as:

- Volume and types of issues reported by students.

- Departments or sections with higher counselling needs.
- Effectiveness and outcomes of past counselling sessions.
- Recurring themes that may require institutional attention or support programs.

By providing real-time, visual insights into counselling data, the dashboard enhances the ability to proactively identify students in need, allocate counselling resources more efficiently, and measure the impact of support interventions.

This initiative significantly strengthens the university's commitment to student well-being by promoting a responsive, data-informed, and structured approach to counselling services—ensuring that no student is left behind academically, emotionally, or professionally.



Counselling Report

Year: Select all | 1 | 2 | 3 | 4

Course: All

Branch: All

Gender: All

Economic Background: All

374.00
Backlogs in 1-1 sem

685.00
Backlogs in 1-2 sem

325.00
Backlogs in 2-1 sem

365.00
Backlogs in 2-2 sem

119.00
Backlogs in 3-1 sem

190.00
Backlogs in 3-2 sem

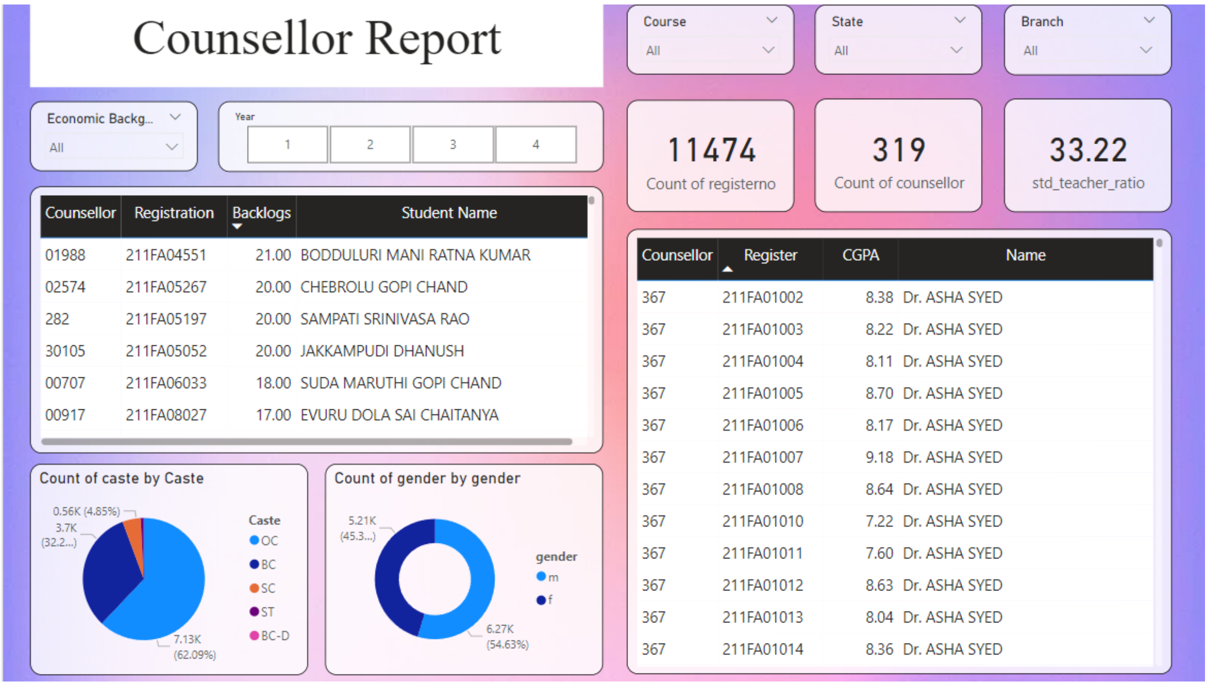
0.00
Sum of y4_s1_IR

0.00
Sum of y4_s2_IR

2,056
Sum of tot_IR

Counsellor	Name
02770	Dr. O. Bhaskar
02796	Dr. A. Selvam
01400	Dr. ABRAHAMPEELE PEELE KARLAPUDI
02502	Dr. ADAIKALA JAYARAJ BRITTO MANOJ
02604	Dr. AHSAN MAHBOOB
02766	Dr. Ajoy Kumar Nandy
02797	Dr. Akash Ajay

Number of Backlogs by Department



Counsellor Report

Course: All

State: All

Branch: All

Economic Backg...: All

Year: 1 2 3 4

11474
Count of registerno

319
Count of counsellor

33.22
std_teacher_ratio

Counsellor	Registration	Backlogs	Student Name
01988	211FA04551	21.00	BODDULURI MANI RATNA KUMAR
02574	211FA05267	20.00	CHEBROLU GOPI CHAND
282	211FA05197	20.00	SAMPATI SRINIVASA RAO
30105	211FA05052	20.00	JAKKAMPUDI DHANUSH
00707	211FA06033	18.00	SUDA MARUTHI GOPI CHAND
00917	211FA08027	17.00	EVURU DOLA SAI CHAITANYA

Counsellor	Register	CGPA	Name
367	211FA01002	8.38	Dr. ASHA SYED
367	211FA01003	8.22	Dr. ASHA SYED
367	211FA01004	8.11	Dr. ASHA SYED
367	211FA01005	8.70	Dr. ASHA SYED
367	211FA01006	8.17	Dr. ASHA SYED
367	211FA01007	9.18	Dr. ASHA SYED
367	211FA01008	8.64	Dr. ASHA SYED
367	211FA01010	7.22	Dr. ASHA SYED
367	211FA01011	7.60	Dr. ASHA SYED
367	211FA01012	8.63	Dr. ASHA SYED
367	211FA01013	8.04	Dr. ASHA SYED
367	211FA01014	8.36	Dr. ASHA SYED

4.4 Placement Reports

The Placement Report provides a comprehensive analysis of student placement outcomes across various academic and demographic segments. Designed to offer deep insights and transparency, the report features interactive visuals that highlight key placement trends gender-wise, department-wise, and caste-wise, empowering stakeholders to make informed decisions.

Key Visualizations

1. **Gender-wise Placement Statistics**
   A bar or pie chart displays the distribution of placed male and female candidates. This visual enables a quick comparison of placement performance across genders, helping to assess inclusivity and identify areas for improvement**.**

2. **Department-wise Placement Overview**
   A horizontal bar chart showcases placement counts for each department (e.g., CSE, ECE, MECH). This visual helps in evaluating department-specific placement trends and employer preferences.

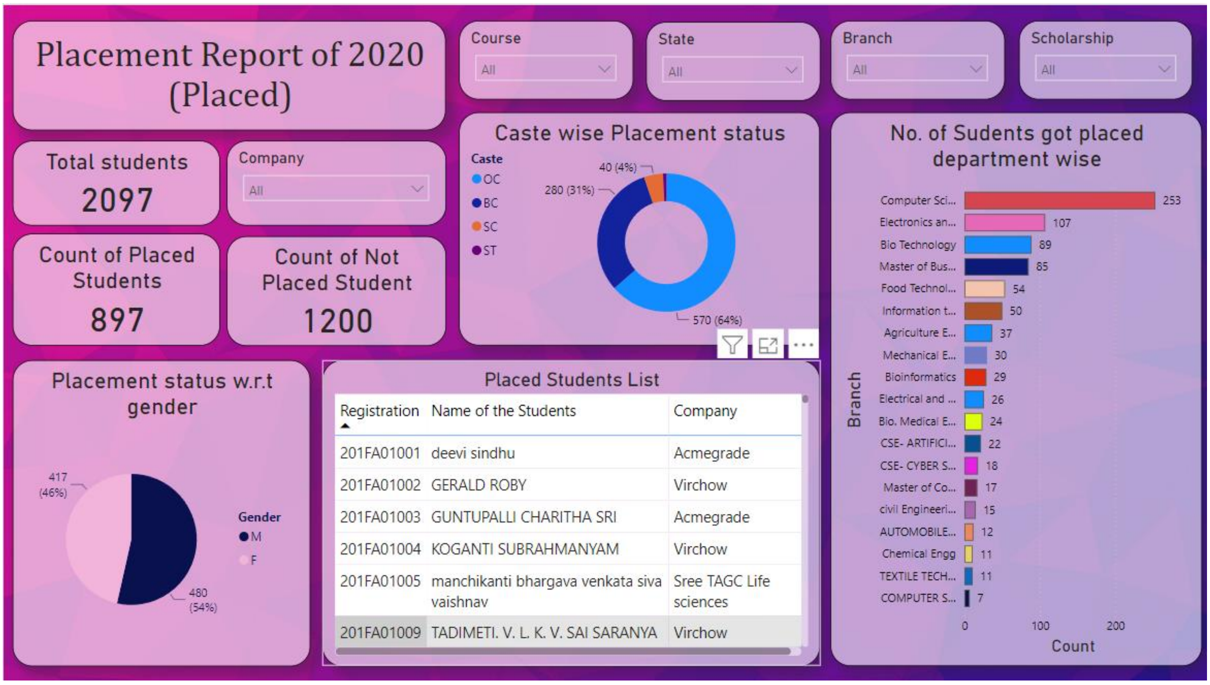
3. **Caste-wise Placement Analysis**
   A stacked column chart or heatmap illustrates placement performance across various caste categories (General, OBC, SC, ST, etc.). This supports monitoring of equitable placement practices and policy impact assessments**.**

Interactive Filters

The report includes dynamic slicers and filters to customize the data view based on the following parameters:

- **State** – Filter placement statistics by the student’s domicile state.

- **Branch** – Narrow down the data by specific academic branches.
- **Course** – View placement outcomes based on UG, PG, or diploma programs.
- **Scholarship Status** – Assess placement performance with respect to students availing different scholarship schemes.



Placement Report of 2020 (Placed)

Course: All
State: All
Branch: All
Scholarship: All
Company: All

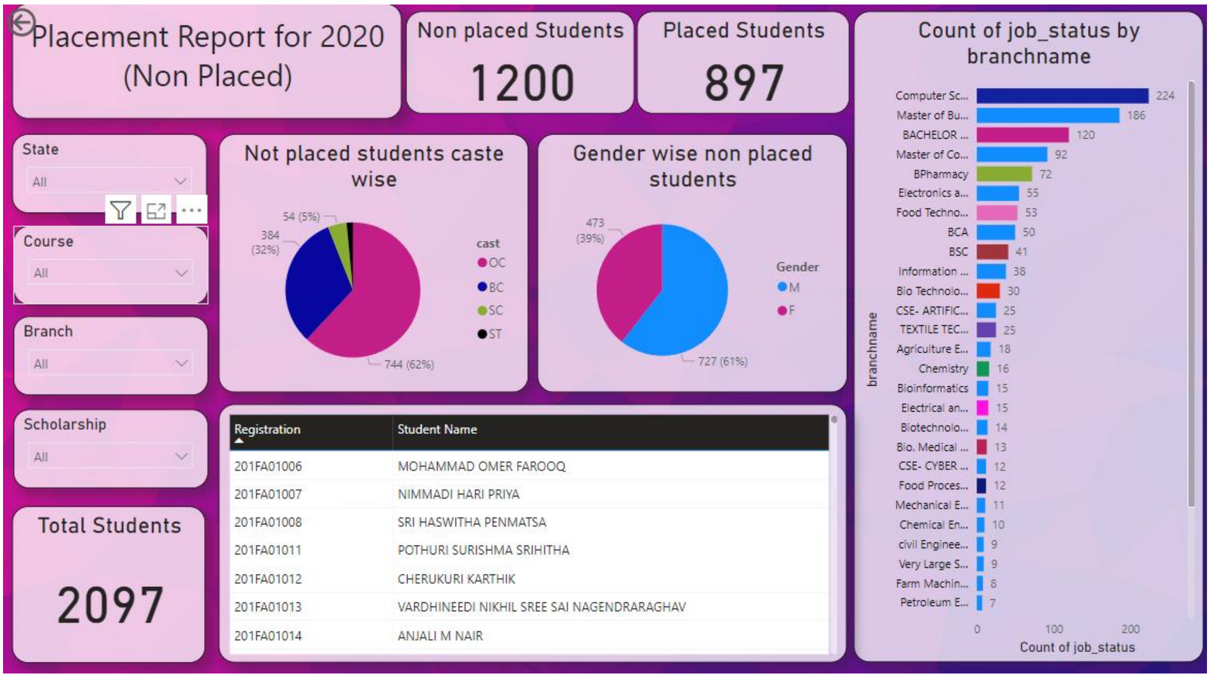
Total students 2097

Count of Placed Students 897

Count of Not Placed Student 1200

Placed Students List

Registration	Name of the Students	Company
201FA01001	deevi sindhu	Acmegrade
201FA01002	GERALD ROBY	Virchow
201FA01003	GUNTUPALLI CHARITHA SRI	Acmegrade
201FA01004	KOGANTI SUBRAHMANYAM	Virchow
201FA01005	manchikanti bhargava venkata siva vaishnav	Sree TAGC Life sciences
201FA01009	TADIMETI. V. L. K. V. SAI SARANYA	Virchow



Placement Report for 2020 (Non Placed)

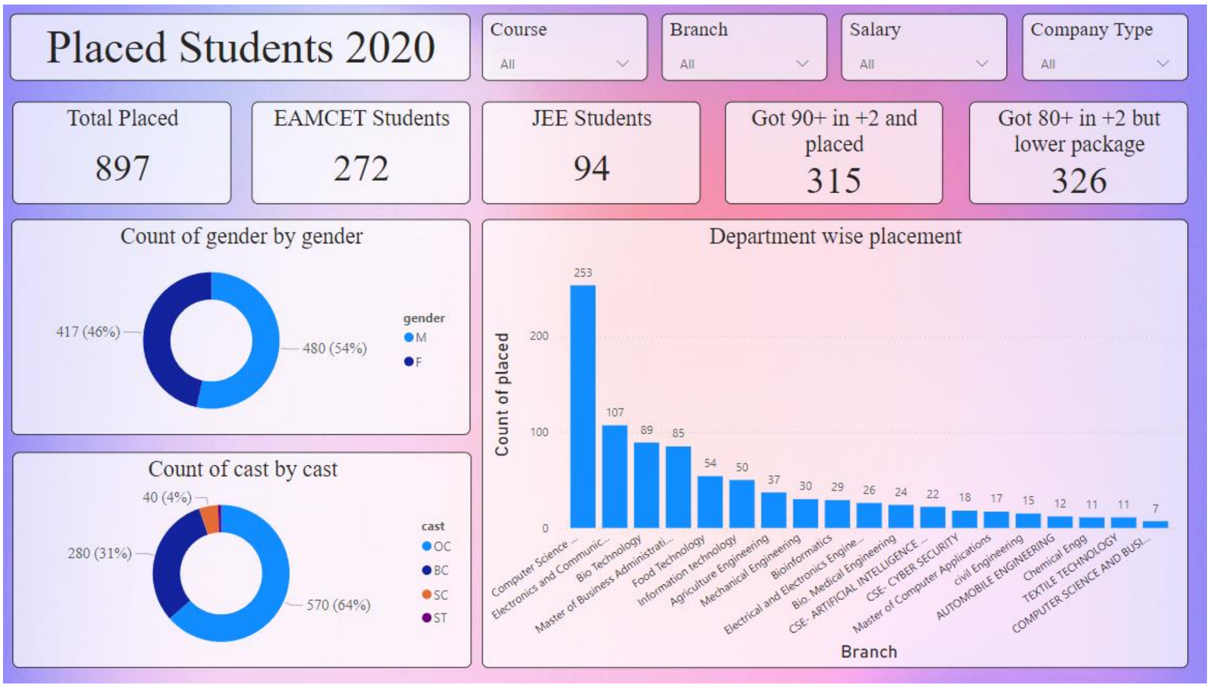
Non placed Students 1200

Placed Students 897

State: All
Course: All
Branch: All
Scholarship: All

Total Students 2097

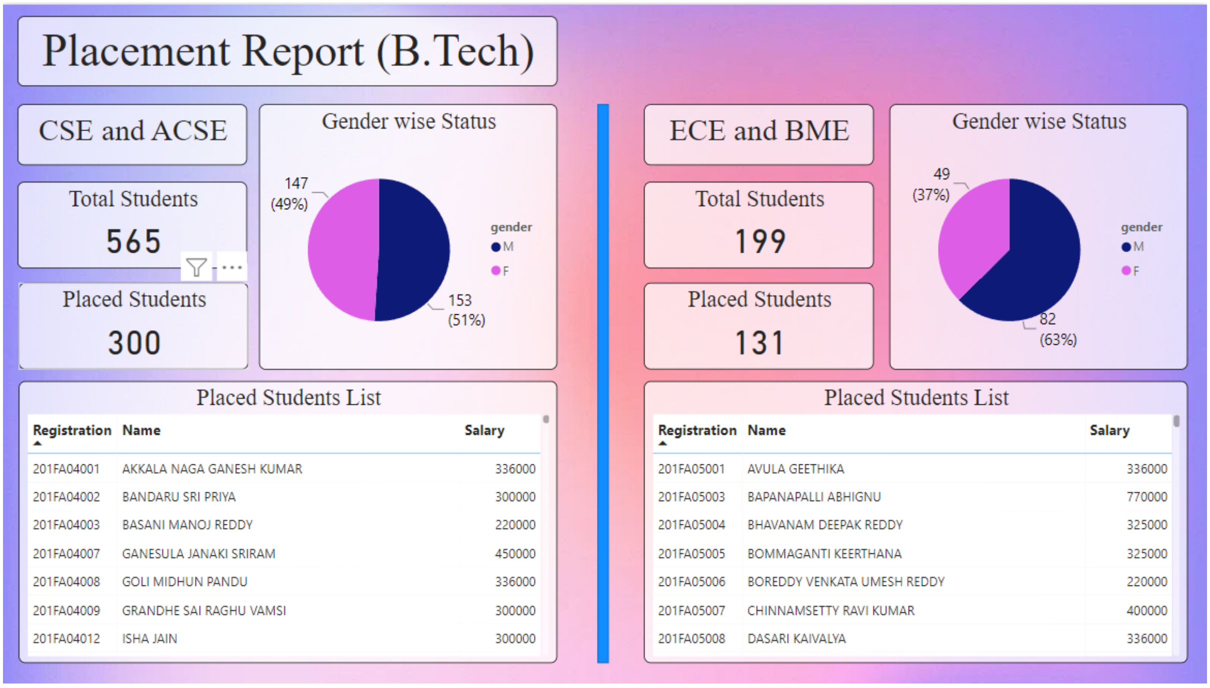
Registration	Student Name
201FA01006	MOHAMMAD OMER FAROOQ
201FA01007	NIMMADI HARI PRIYA
201FA01008	SRI HASWITHA PENMATSA
201FA01011	POTHURI SURISHMA SRIHITHA
201FA01012	CHERUKURI KARTHIK
201FA01013	VARDHINEEDI NIKHIL SREE SAI NAGENDRARAGHAV
201FA01014	ANJALI M NAIR



Placed Students 2020

Course: All | Branch: All | Salary: All | Company Type: All

Total Placed	EAMCET Students	JEE Students	Got 90+ in +2 and placed	Got 80+ in +2 but lower package
897	272	94	315	326



Placement Report (B.Tech)

CSE and ACSE

Total Students
565

Placed Students
300

Placed Students List

Registration	Name	Salary
201FA04001	AKKALA NAGA GANESH KUMAR	336000
201FA04002	BANDARU SRI PRIYA	300000
201FA04003	BASANI MANOJ REDDY	220000
201FA04007	GANESULA JANAKI SRIRAM	450000
201FA04008	GOLI MIDHUN PANDU	336000
201FA04009	GRANDHE SAI RAGHU VAMSI	300000
201FA04012	ISHA JAIN	300000

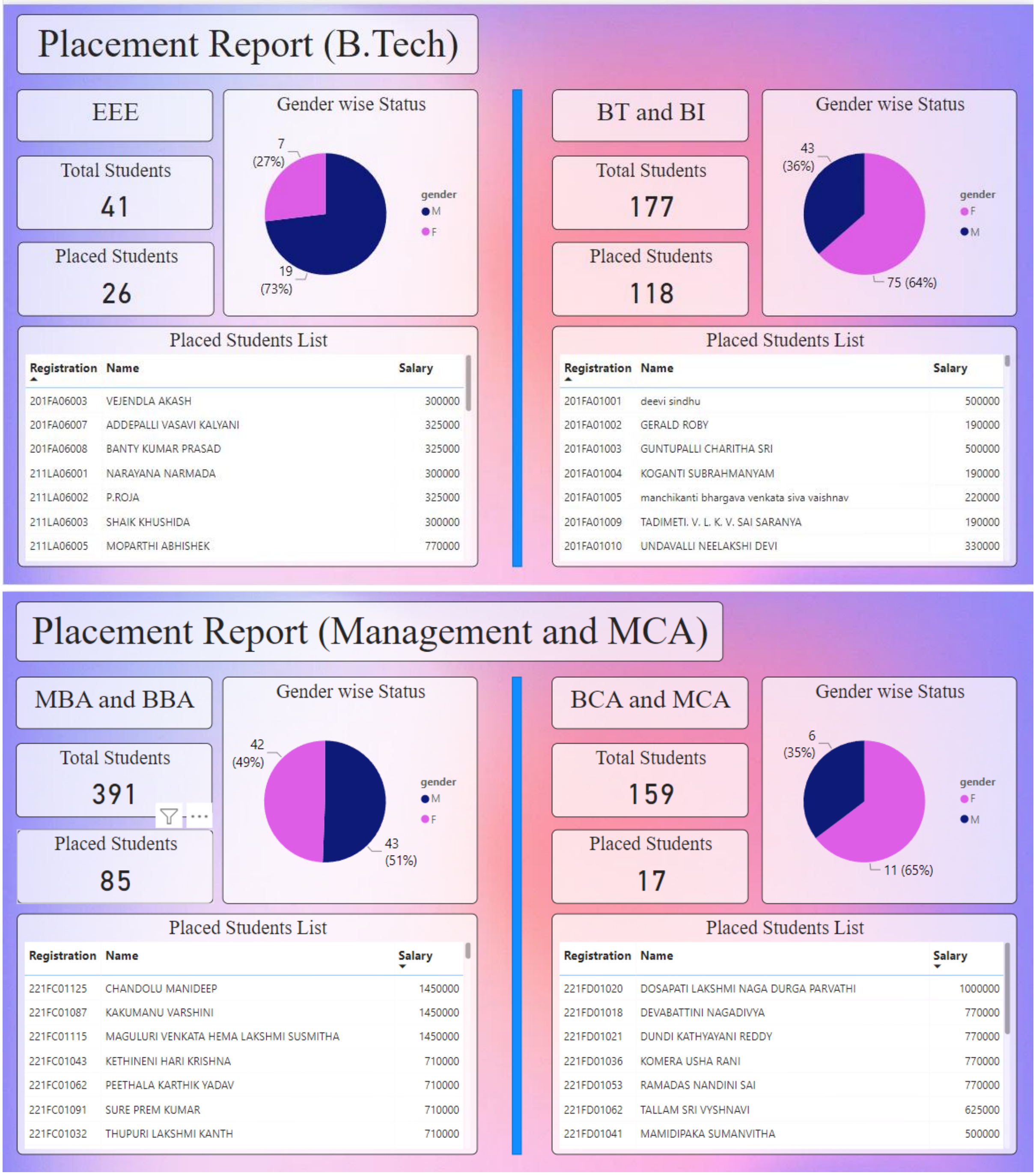
ECE and BME

Total Students
199

Placed Students
131

Placed Students List

Registration	Name	Salary
201FA05001	AVULA GEETHIKA	336000
201FA05003	BAPANAPALLI ABHIGNU	770000
201FA05004	BHAVANAM DEEPAK REDDY	325000
201FA05005	BOMMAGANTI KEERTHANA	325000
201FA05006	BOREDDY VENKATA UMESH REDDY	220000
201FA05007	CHINNAMSETTY RAVI KUMAR	400000
201FA05008	DASARI KAIVALYA	336000



Placement Report (B.Tech)

EEE

Total Students 41

Placed Students 26

Gender wise Status

Placed Students List

Registration	Name	Salary
201FA06003	VEJENDLA AKASH	300000
201FA06007	ADDEPALLI VASAVI KALYANI	325000
201FA06008	BANTY KUMAR PRASAD	325000
211LA06001	NARAYANA NARMADA	300000
211LA06002	P.ROJA	325000
211LA06003	SHAIK KHUSHIDA	300000
211LA06005	MOPARTHI ABHISHEK	770000

BT and BI

Total Students 177

Placed Students 118

Gender wise Status

Placed Students List

Registration	Name	Salary
201FA01001	deevi sindhu	500000
201FA01002	GERALD ROBY	190000
201FA01003	GUNTUPALLI CHARITHA SRI	500000
201FA01004	KOGANTI SUBRAHMANYAM	190000
201FA01005	manchikanti bhargava venkata siva vaishnav	220000
201FA01009	TADIMETI. V. L. K. V. SAI SARANYA	190000
201FA01010	UNDAVALLI NEELAKSHI DEVI	330000

Placement Report (Management and MCA)

MBA and BBA

Total Students 391

Placed Students 85

Gender wise Status

Placed Students List

Registration	Name	Salary
221FC01125	CHANDOLU MANIDEEP	1450000
221FC01087	KAKUMANU VARSHINI	1450000
221FC01115	MAGULURI VENKATA HEMA LAKSHMI SUSMITHA	1450000
221FC01043	KETHINENI HARI KRISHNA	710000
221FC01062	PEETHALA KARTHIK YADAV	710000
221FC01091	SURE PREM KUMAR	710000
221FC01032	THUPURI LAKSHMI KANTH	710000

BCA and MCA

Total Students 159

Placed Students 17

Gender wise Status

Placed Students List

Registration	Name	Salary
221FD01020	DOSAPATI LAKSHMI NAGA DURGA PARVATHI	1000000
221FD01018	DEVABATTINI NAGADIVYA	770000
221FD01021	DUNDI KATHYAYANI REDDY	770000
221FD01036	KOMERA USHA RANI	770000
221FD01053	RAMADAS NANDINI SAI	770000
221FD01062	TALLAM SRI VYSHNAVI	625000
221FD01041	MAMIDIPAKA SUMANVITHA	500000

4.5 Code

Status of EAMCET Rank

eamcet_ranked_status = IF('pbi std_onroll_cgpa_ir_v'[eamcetrank_convert]>0, "Yes", "No")

Status of EAMCET Rank

```
jee_ranked_status = IF('pbi std_onroll_cgpa_ir_v'[jeemainsmarks_convert]<>"0", "Yes",
"No")
```

Status of Not Placed Students

```
not_placed_student = COUNTROWS(FILTER('pbi std_onroll_schlr_sal_crt_v', 'pbi
std_onroll_schlr_sal_crt_v'[companyname]="0"))
```

Status of Not Placed Students

```
placed_student = COUNTROWS(FILTER('pbi std_onroll_schlr_sal_crt_v', 'pbi
std_onroll_schlr_sal_crt_v'[companyname]<>"0"))
```

Placement Status

```
placement_status = IF('pbi std_onroll_schlr_sal_crt_v'[companyname]<>"0","YES","NO")
```

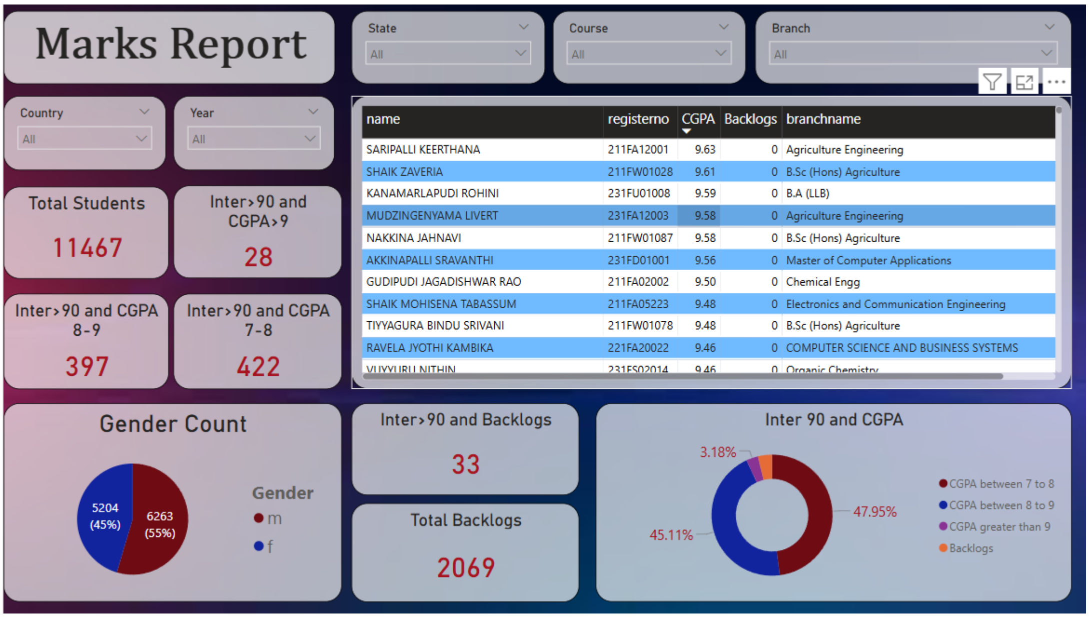
Salary range filter

```
Salary Range =

SWITCH(

   TRUE(),

   'pbi std_onroll_schlr_sal_crt_v'[salary] > 1000000, "More than 10 Lakh",

   'pbi std_onroll_schlr_sal_crt_v'[salary] < 400000 && 'pbi
std_onroll_schlr_sal_crt_v'[placement_status]= "YES" , "Less than 4 Lakh",

   'pbi std_onroll_schlr_sal_crt_v'[salary] >= 400000 && 'pbi
std_onroll_schlr_sal_crt_v'[salary] < 700000, "4 to 7 Lakh",'pbi
std_onroll_schlr_sal_crt_v'[salary] >= 700000 && 'pbi std_onroll_schlr_sal_crt_v'[salary] <
1000000, "7 to 10 Lakh",

   "Other"

)
```

Marks table where mark is greater than 90

Marks_90 = FILTER('pbi std_onroll_cgpa_ir_v','pbi std_onroll_cgpa_ir_v'[interperc_convrt]>=90)

4.5.1 Marks Report



Marks Report

State: All

Course: All

Branch: All

Country: All

Year: All

Total Students 11467

Inter>90 and CGPA>9 28

Inter>90 and CGPA 8-9 397

Inter>90 and CGPA 7-8 422

name	registerno	CGPA	Backlogs	branchname
SARIPALLI KEERTHANA	211FA12001	9.63	0	Agriculture Engineering
SHAIK ZAVERIA	211FW01028	9.61	0	B.Sc (Hons) Agriculture
KANAMARLAPUDI ROHINI	231FU01008	9.59	0	B.A (LLB)
MUDZINGENYAMA LIVERT	231FA12003	9.58	0	Agriculture Engineering
NAKKINA JAHNAVI	211FW01087	9.58	0	B.Sc (Hons) Agriculture
AKKINAPALLI SRAVANTHI	231FD01001	9.56	0	Master of Computer Applications
GUDIPUDI JAGADISHWAR RAO	211FA02002	9.50	0	Chemical Engg
SHAIK MOHISENA TABASSUM	211FA05223	9.48	0	Electronics and Communication Engineering
TIYYAGURA BINDU SRIVANI	211FW01078	9.48	0	B.Sc (Hons) Agriculture
RAVELA JYOTHI KAMBIKA	221FA20022	9.46	0	COMPUTER SCIENCE AND BUSINESS SYSTEMS
VUYYURU NITHIN	231FS02014	9.46	0	Organic Chemistry

Inter>90 and Backlogs 33

Total Backlogs 2069

1. **AVERAGE Marks for All Students**
   Total Marks = AVERAGEX (Marks[TotalMarks])

2. **Average Marks by Department**
   Avg Marks by Dept = AVERAGEX(FILTER(Marks, Marks[Department] = "CSE"), Marks[TotalMarks])

3. **Top 5 Performers**
   Top 5 Performers = TOPN(5, Students, Students[CGPA], DESC)

4. **Pass Percentage**
   Pass Percentage = DIVIDE(COUNTROWS(FILTER(Marks, Marks[Result] = "Pass")), COUNTROWS(Marks), 0) * 100

5. **Subject-wise Average Marks**
   Avg Marks by Subject = AVERAGE(Marks[Marks])

6. **Highest Marks in Each Subject**
   Max Marks by Subject = MAX(Marks[Marks])

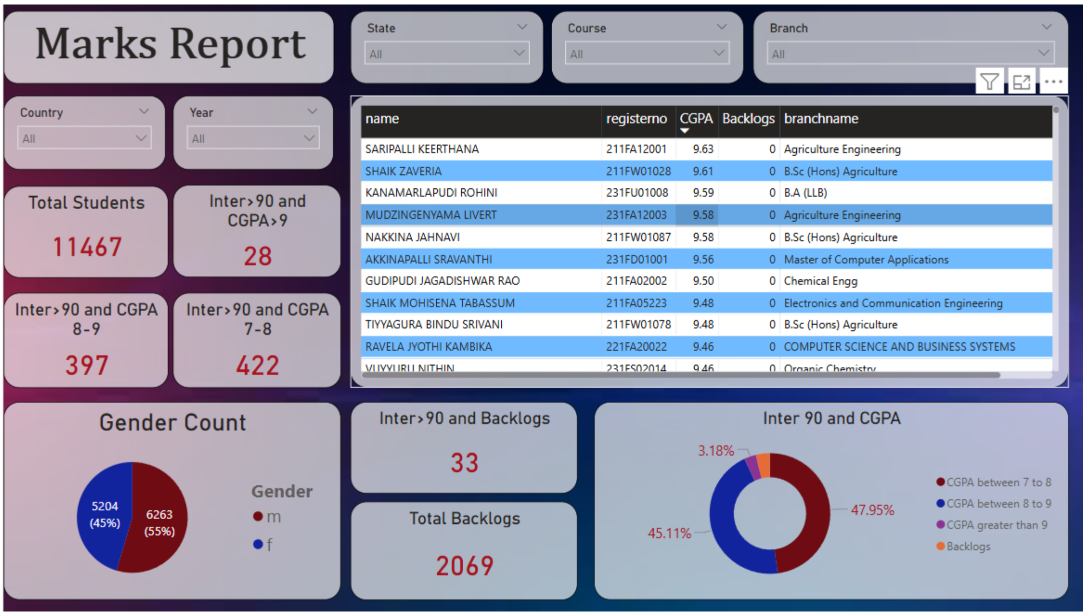
7. **Number of Students Scoring Above 90%**
   Above 90% Count = COUNTROWS(FILTER(Marks, Marks[TotalMarks] > 90))

8. **CGPA Range Count (7-9)**
   CGPA Range Count = COUNTROWS(FILTER(Students, Students[CGPA] >= 7 && Students[CGPA] <= 9))

9. **Student Count by Gender**
   Student Gender Count = COUNTROWS(FILTER(Students, Students[Gender] = "Male"))

10. **Department-wise Highest Scorer**
    Highest Scorer = CALCULATE(MAX(Marks[TotalMarks]), ALLEXCEPT(Marks, Marks[Department]))

4.5.2 Backlogs Report



Marks Report

State: All
Course: All
Branch: All
Country: All
Year: All

Total Students 11467
Inter>90 and CGPA>9 28
Inter>90 and CGPA 8-9 397
Inter>90 and CGPA 7-8 422
Inter>90 and Backlogs 33
Total Backlogs 2069

name	registerno	CGPA	Backlogs	branchname
SARIPALLI KEERTHANA	211FA12001	9.63	0	Agriculture Engineering
SHAIK ZAVERIA	211FW01028	9.61	0	B.Sc (Hons) Agriculture
KANAMARLAPUDI ROHINI	231FU01008	9.59	0	B.A (LLB)
MUDZINGENYAMA LIVERT	231FA12003	9.58	0	Agriculture Engineering
NAKKINA JAHNAVI	211FW01087	9.58	0	B.Sc (Hons) Agriculture
AKKINAPALLI SRAVANTHI	231FD01001	9.56	0	Master of Computer Applications
GUDIPUDI JAGADISHWAR RAO	211FA02002	9.50	0	Chemical Engg
SHAIK MOHISENA TABASSUM	211FA05223	9.48	0	Electronics and Communication Engineering
TIYYAGURA BINDU SRIVANI	211FW01078	9.48	0	B.Sc (Hons) Agriculture
RAVELA JYOTHI KAMBIKA	221FA20022	9.46	0	COMPUTER SCIENCE AND BUSINESS SYSTEMS
VUYYURU NITHIN	231FS02014	9.46	0	Organic Chemistry

11. **Total Backlogs**
    Total Backlogs = SUM(Backlogs[Count])

12. **Students with Backlogs**
    Students with Backlogs = COUNTROWS(FILTER(Backlogs, Backlogs[Count] > 0))

13. **Department-wise Backlogs**
    Dept Backlogs = SUMMARIZE(Backlogs, Backlogs[Department], "Total", SUM(Backlogs[Count]))

14. **Percentage of Students with Backlogs**
    Backlog Percentage = DIVIDE(COUNTROWS(FILTER(Backlogs, Backlogs[Count] > 0)), COUNTROWS(Students), 0) * 100

15. **Highest Number of Backlogs by Student**
    Max Backlogs = MAX(Backlogs[Count])

16. **Students Cleared All Backlogs**
    Cleared Backlogs = COUNTROWS(FILTER(Backlogs, Backlogs[Count] = 0))

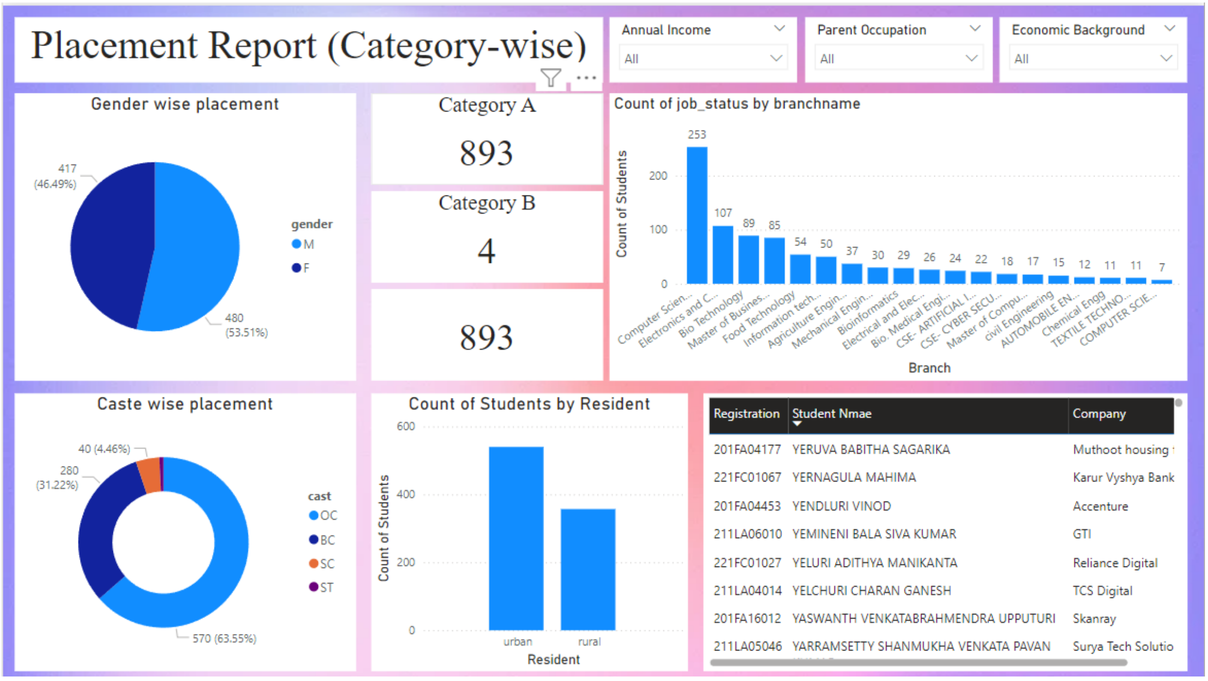
17. **Average Backlogs by Department**
    Avg Backlogs by Dept = AVERAGEX(FILTER(Backlogs, Backlogs[Department] = "CSE"), Backlogs[Count])

18. **Subject-wise Backlogs**
    Subject Backlogs = SUMMARIZE(Backlogs, Backlogs[Subject], "Total", SUM(Backlogs[Count]))

19. **Students with More Than 3 Backlogs**
    More Than 3 Backlogs = COUNTROWS(FILTER(Backlogs, Backlogs[Count] > 3))

20. **Backlog Trend Over Semesters**
    Backlog Trend = SUMMARIZE(Backlogs, Backlogs[Semester], "Total Backlogs", SUM(Backlogs[Count]))

4.5.3 Placement Report(Category-wise)



Registration	Student Nmae	Company
201FA04177	YERUVA BABITHA SAGARIKA	Muthoot housing
221FC01067	YERNAGULA MAHIMA	Karur Vyshya Bank
201FA04453	YENDLURI VINOD	Accenture
211LA06010	YEMINENI BALA SIVA KUMAR	GTI
221FC01027	YELURI ADITHYA MANIKANTA	Reliance Digital
211LA04014	YELCHURI CHARAN GANESH	TCS Digital
201FA16012	YASWANTH VENKATABRAHMENDRA UPPUTURI	Skanray
211LA05046	YARRAMSETTY SHANMUKHA VENKATA PAVAN	Surya Tech Solutio

21. **Total Placements**
    Total Placements = COUNTROWS(Placements)

22. **Placed Students by Department**
    Placed Students = CALCULATE(COUNT(Placements[StudentID]), Placements[Department] = "CSE")

23. **Placement Percentage**
    Placement Percentage = DIVIDE(COUNTROWS(Placements), COUNTROWS(Students), 0) * 100

24. **Top Companies Hiring Students**
    Top Companies = TOPN(5, SUMMARIZE(Placements, Placements[Company], "Total", COUNT(Placements[StudentID])), [Total], DESC)

25. **Average Package**
    Avg Package = AVERAGE(Placements[Package])

26. **Highest Package by Department**
    Max Package by Dept = CALCULATE(MAX(Placements[Package]), ALLEXCEPT(Placements, Placements[Department]))

27. **Students Placed Above 10 LPA**
    Above 10 LPA = COUNTROWS(FILTER(Placements, Placements[Package] > 10))

28. **Placement Trends Over Years**
    Placement Trends = SUMMARIZE(Placements, Placements[Year], "Placements", COUNT(Placements[StudentID]))

29. **Unplaced Students**
    Unplaced Students = COUNTROWS(EXCEPT(Students, Placements))

30. **Department with Highest Placement Percentage**
    Highest Placement Dept = MAXX(SUMMARIZE(Placements, Placements[Department], "PlacementPercentage", DIVIDE(COUNT(Placements[StudentID]), COUNT(Students[StudentID]), 0) * 100), [PlacementPercentage])

4.5.4 Admission Report

31. **Total Admissions**
    Total Admissions = COUNTROWS(Admissions)

32. **Admissions by Gender**
    Admissions by Gender = COUNTROWS(FILTER(Admissions, Admissions[Gender] = "Female"))

33. **Department-wise Admissions**
    Dept Admissions = SUMMARIZE(Admissions, Admissions[Department], "Total", COUNT(Admissions[StudentID]))

34. **Admission Trends Over Years**
    Admission Trends = SUMMARIZE(Admissions, Admissions[Year], "Admissions", COUNT(Admissions[StudentID]))

35. **Admissions by Category**
    Category Admissions = SUMMARIZE(Admissions, Admissions[Category], "Total", COUNT(Admissions[StudentID]))

36. **Percentage of Female Admissions**
    Female Admissions % = DIVIDE(COUNTROWS(FILTER(Admissions, Admissions[Gender] = "Female")), COUNTROWS(Admissions), 0) * 100

37. **Quota-wise Admissions (e.g., Management Quota)**
    Management Quota Admissions = COUNTROWS(FILTER(Admissions, Admissions[Quota] = "Management"))

38. **Admissions from Each State**
    State Admissions = SUMMARIZE(Admissions, Admissions[State], "Total", COUNT(Admissions[StudentID]))

39. **Students Joining Through Entrance Exams**
    Entrance Exam Admissions = COUNTROWS(FILTER(Admissions, Admissions[AdmissionType] = "Entrance Exam"))

40. **Year with Maximum Admissions**
    Max Admission Year = MAXX(SUMMARIZE(Admissions, Admissions[Year], "Total", COUNT(Admissions[StudentID])), [Total])

4.5.5 Faculty Reports

41. **Total Faculty**
    Total Faculty = COUNTROWS(Faculty)

42. **Faculty by Department**
    Faculty by Dept = COUNTROWS(FILTER(Faculty, Faculty[Department] = "CSE"))

43. **Average Experience of Faculty**
    Avg Experience = AVERAGE(Faculty[ExperienceYears])

44. **Faculty with PhDs**
    Faculty with PhDs = COUNTROWS(FILTER(Faculty, Faculty[Qualification] = "PhD"))

45. **Faculty Gender Ratio**
    Faculty Gender Ratio = DIVIDE(COUNTROWS(FILTER(Faculty, Faculty[Gender] = "Male")), COUNTROWS(Faculty), 0)

46. **Faculty Workload (Courses Handled)**
    Faculty Workload = COUNT(Faculty[CoursesHandled])

47. **Department-wise Faculty Count**
    Dept-wise Faculty Count = SUMMARIZE(Faculty, Faculty[Department], "Total Faculty", COUNT(Faculty[FacultyID]))

48. **Faculty Teaching More Than 3 Subjects**
    Faculty with >3 Subjects = COUNTROWS(FILTER(Faculty, Faculty[CoursesHandled] > 3))

49. **Faculty Retention Rate**
    Retention Rate = DIVIDE(COUNTROWS(FILTER(Faculty, Faculty[YearsInService] > 5)), COUNTROWS(Faculty), 0) * 100

50. **Average Age of Faculty**
    Avg Age of Faculty = AVERAGE(Faculty[Age])

4.5.6 Attendance Report

1. **Total Attendance**
   Total Attendance = SUM(Attendance[PresentDays])

2. **Average Attendance by Department**
   Avg Attendance by Dept = AVERAGEX(FILTER(Attendance, Attendance[Department] = "CSE"), Attendance[AttendancePercentage])

3. **Students with Less Than 75% Attendance**
   Low Attendance Students = COUNTROWS(FILTER(Attendance, Attendance[AttendancePercentage] < 75))

4. **Attendance by Semester**
   Attendance by Semester = SUMMARIZE(Attendance, Attendance[Semester], "Total Attendance", SUM(Attendance[PresentDays]))

5. **Top 5 Students with Highest Attendance**
   Top 5 Attendance = TOPN(5, Attendance, Attendance[AttendancePercentage], DESC)

6. **Department-wise Average Attendance**
   Dept Avg Attendance = AVERAGEX(SUMMARIZE(Attendance, Attendance[Department], "AvgAttendance", AVERAGE(Attendance[AttendancePercentage])), [AvgAttendance])

7. **Faculty Attendance Percentage**
   Faculty Attendance = DIVIDE(SUM(FacultyAttendance[PresentDays]), SUM(FacultyAttendance[WorkingDays]), 0) * 100

8. **Monthly Attendance Trend**
   Monthly Attendance = SUMMARIZE(Attendance, Attendance[Month], "Total Attendance", SUM(Attendance[PresentDays]))

9. **Percentage of Students with Full Attendance**
   Full Attendance % = DIVIDE(COUNTROWS(FILTER(Attendance, Attendance[AttendancePercentage] = 100)), COUNTROWS(Attendance), 0) * 100

10. **Students with Zero Attendance in Any Month**
    Zero Attendance = COUNTROWS(FILTER(Attendance, Attendance[PresentDays] = 0))

4.5.7 Research Report

11. **Total Research Projects**
    Total Research Projects = COUNTROWS(Research)

12. **Projects by Faculty**
    Projects by Faculty = SUMMARIZE(Research, Research[FacultyID], "Total Projects", COUNT(Research[ProjectID]))

13. **Department-wise Research Projects**
    Dept Research Projects = SUMMARIZE(Research, Research[Department], "Total Projects", COUNT(Research[ProjectID]))

14. **Average Publications per Faculty**
    Avg Publications = AVERAGEX(Faculty, Faculty[Publications])

15. **Research Funding by Department**
    Dept Research Funding = SUMMARIZE(Research, Research[Department], "Total Funding", SUM(Research[Funding]))

16. **Top 3 Researchers by Projects Completed**
    Top Researchers = TOPN(3, Research, Research[ProjectsCompleted], DESC)

17. **Projects with External Collaboration**
External Projects = COUNTROWS(FILTER(Research, Research[CollaborationType] = "External"))

18. **Number of Ongoing Research Projects**
Ongoing Projects = COUNTROWS(FILTER(Research, Research[Status] = "Ongoing"))

19. **Total Citations for Faculty Publications**
Total Citations = SUM(Faculty[TotalCitations])

20. **Research Trend Over Years**
Research Trend = SUMMARIZE(Research, Research[Year], "Total Projects", COUNT(Research[ProjectID]))

4.5.8 Family Background Report

21. **Students from Urban Areas**
Urban Students = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[Location] = "Urban"))

22. **Students with Parents in Government Jobs**
Govt Job Parents = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[ParentProfession] = "Government Job"))

23. **Average Family Income**
Avg Family Income = AVERAGE(FamilyBackground[FamilyIncome])

24. **Students with Single Parents**
Single Parent Students = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[SingleParent] = TRUE))

25. **Number of Students with Siblings**
Sibling Count = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[Siblings] > 0))

26. **Family Income Range Analysis**
Income Range = SUMMARIZE(FamilyBackground, FamilyBackground[IncomeRange], "Total Students", COUNT(FamilyBackground[StudentID]))

27. **Parent’s Highest Education Level Distribution**
Parent Education = SUMMARIZE(FamilyBackground, FamilyBackground[ParentEducation], "Total Students", COUNT(FamilyBackground[StudentID]))

28. **Percentage of Students from Rural Areas**
Rural Students % = DIVIDE(COUNTROWS(FILTER(FamilyBackground, FamilyBackground[Location] = "Rural")), COUNTROWS(FamilyBackground), 0) * 100

29. **Family Income Above 1 Lakh per Month**
High Income Families = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[FamilyIncome] > 100000))

30. **Average Number of Dependents per Family**
Avg Dependents = AVERAGE(FamilyBackground[Dependents])

4.5.9 Caste Report

31. **Total Students by Caste Category**
Students by Caste = SUMMARIZE(Students, Students[CasteCategory], "Total Students", COUNT(Students[StudentID]))

32. **Percentage of SC/ST Students**
SC/ST Students % = DIVIDE(COUNTROWS(FILTER(Students, Students[CasteCategory] IN {"SC", "ST"})), COUNTROWS(Students), 0) * 100

33. **General Category Student Count**
General Category Count = COUNTROWS(FILTER(Students, Students[CasteCategory] = "General"))

34. **Caste-wise Average Marks**
Avg Marks by Caste = SUMMARIZE(Marks, Marks[CasteCategory], "Avg Marks", AVERAGE(Marks[TotalMarks]))

35. **Scholarship Distribution by Caste**
Scholarships by Caste = SUMMARIZE(Scholarships, Scholarships[CasteCategory], "Total Scholarships", SUM(Scholarships[Amount]))

36. **Caste-based Enrollment by Department**
Caste Dept Enrollment = SUMMARIZE(Students, Students[Department], Students[CasteCategory], "Total", COUNT(Students[StudentID]))

37. **Students Eligible for Reservation**
Reservation Eligible = COUNTROWS(FILTER(Students, Students[CasteCategory] IN {"SC", "ST", "OBC"}))

38. **Caste Representation in Placements**
Placement by Caste = SUMMARIZE(Placements, Placements[CasteCategory], "Total Placed", COUNT(Placements[StudentID]))

39. **Percentage of Students in Minority Communities**
    Minority Students % = DIVIDE(COUNTROWS(FILTER(Students, Students[CasteCategory] = "Minority")), COUNTROWS(Students), 0) * 100
40. **Caste-wise Dropout Rates**
    Caste Dropouts = SUMMARIZE(Dropouts, Dropouts[CasteCategory], "Dropouts", COUNT(Dropouts[StudentID]))

4.5.10 Profession Report

41. **Most Common Parent Profession**
    Top Parent Profession = TOPN(1, SUMMARIZE(FamilyBackground, FamilyBackground[ParentProfession], "Count", COUNT(FamilyBackground[StudentID])), [Count], DESC)
42. **Students Whose Parents are Business Owners**
    Business Owners = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[ParentProfession] = "Business"))
43. **Students from Agricultural Background**
    Agricultural Background = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[ParentProfession] = "Farmer"))
44. **Top Professions of Students After Graduation**
    Student Professions = SUMMARIZE(Placements, Placements[Profession], "Count", COUNT(Placements[StudentID]))
45. **Average Salary by Profession**
    Avg Salary by Profession = SUMMARIZE(Placements, Placements[Profession], "Avg Salary", AVERAGE(Placements[Package]))
46. **Parent Profession Distribution**
    Parent Profession Dist = SUMMARIZE(FamilyBackground, FamilyBackground[ParentProfession], "Count", COUNT(FamilyBackground[StudentID]))
47. **Students with Parents in Medical Field**
    Medical Profession Parents = COUNTROWS(FILTER(FamilyBackground, FamilyBackground[ParentProfession] = "Doctor"))
48. **Student Professions with Highest Salary**
    Top Professions = TOPN(3, SUMMARIZE(Placements, Placements[Profession], "Avg Salary", AVERAGE(Placements[Package])), [Avg Salary], DESC)

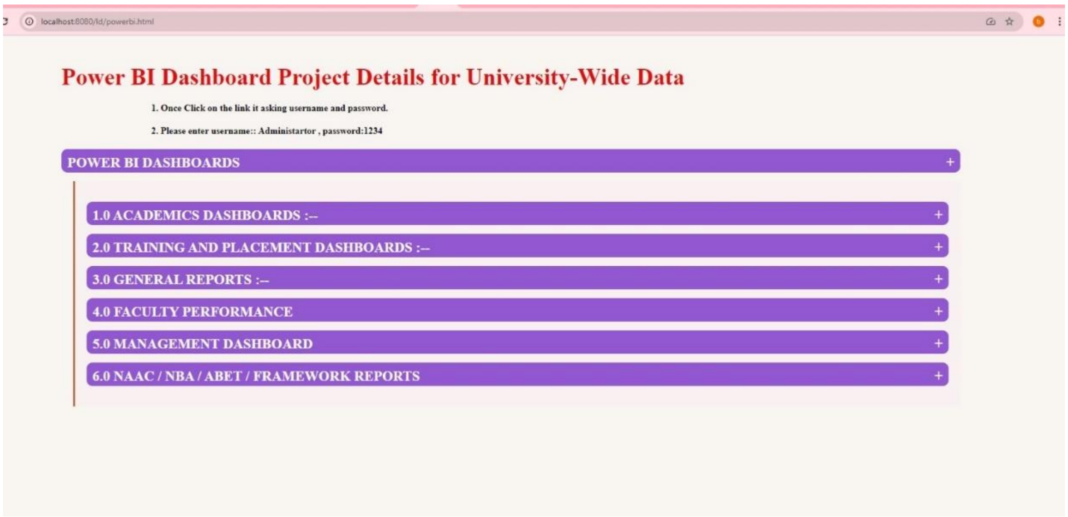
4.5.11 Extracurricular Activity Report

49. **Students Participating in Sports**
    Sports Participants = COUNTROWS(FILTER(Activities, Activities[ActivityType] = "Sports"))

50. **Total Awards in Extracurricular Activities**
    Total Awards = COUNTROWS(FILTER(Activities, Activities[Awarded] = TRUE))

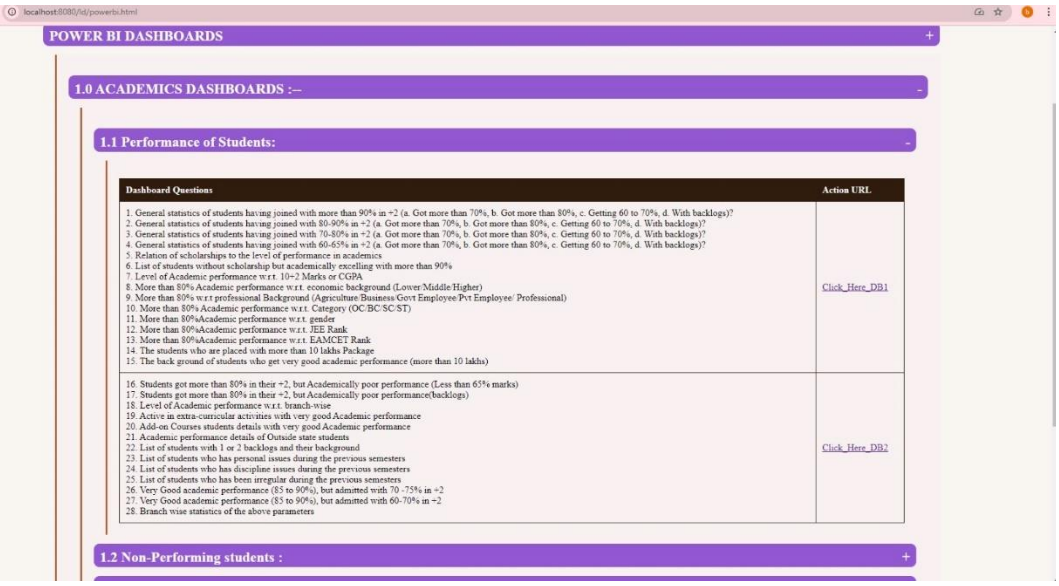
4.7 JSP pages

The accessibility of Power BI reports can be efficiently managed through JSP-based web pages. These JSP pages will serve as a structured interface, where dashboards and reports are systematically organized by their respective titles. Each title will be hyperlinked to its corresponding Power BI report or dashboard, ensuring seamless navigation and enhanced user experience. This approach not only provides an intuitive way to access reports but also supports better content management and scalability for future updates.


localhost:8080/ld/powerbi.html
POWER BI DASHBOARDS +
1.0 ACADEMICS DASHBOARDS :-- +
2.0 TRAINING AND PLACEMENT DASHBOARDS :-- +
3.0 GENERAL REPORTS :-- +
4.0 FACULTY PERFORMANCE +
5.0 MANAGEMENT DASHBOARD +
6.0 NAAC / NBA / ABET / FRAMEWORK REPORTS +

Power BI Dashboard Project Details for University-Wide Data

1. Once Click on the link it asking username and password.
2. Please enter username:: Administartor , password:1234



localhost:8080/td/powerbi.html

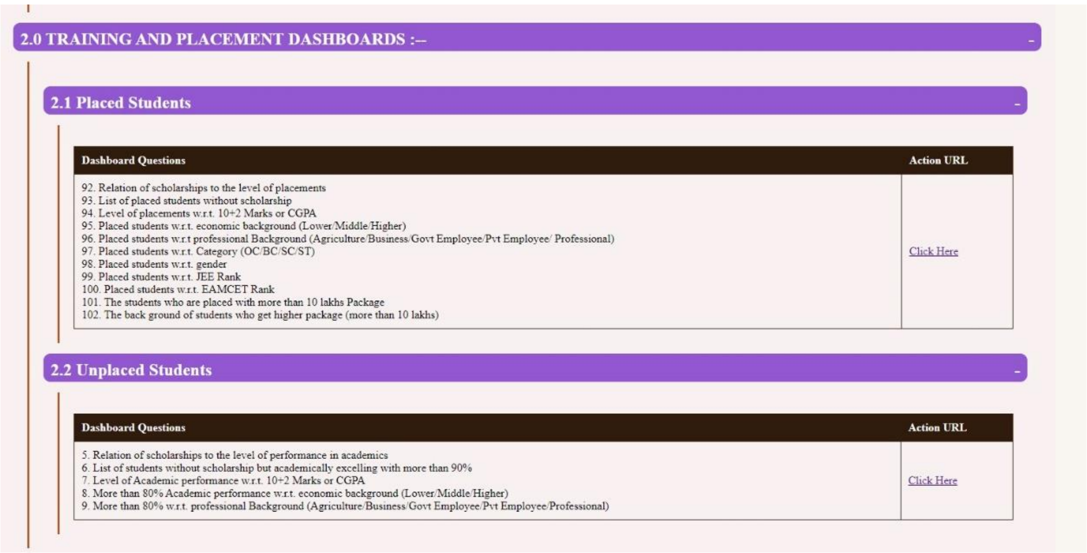
POWER BI DASHBOARDS +

1.0 ACADEMICS DASHBOARDS :– -

1.1 Performance of Students: -

Dashboard Questions	Action URL
1. General statistics of students having joined with more than 90% in +2 (a. Got more than 70%, b. Got more than 80%, c. Getting 60 to 70%, d. With backlogs)? 2. General statistics of students having joined with 80-90% in +2 (a. Got more than 70%, b. Got more than 80%, c. Getting 60 to 70%, d. With backlogs)? 3. General statistics of students having joined with 70-80% in +2 (a. Got more than 70%, b. Got more than 80%, c. Getting 60 to 70%, d. With backlogs)? 4. General statistics of students having joined with 60-65% in +2 (a. Got more than 70%, b. Got more than 80%, c. Getting 60 to 70%, d. With backlogs)? 5. Relation of scholarships to the level of performance in academics 6. List of students without scholarship but academically excelling with more than 90% 7. Level of Academic performance w.r.t. 10+2 Marks or CGPA 8. More than 80% Academic performance w.r.t. economic background (Lower/Middle/Higher) 9. More than 80% w.r.t professional Background (Agriculture/Business/Govt Employee/Pvt Employee/ Professional) 10. More than 80% Academic performance w.r.t. Category (OC/BC/SC/ST) 11. More than 80%Academic performance w.r.t. gender 12. More than 80%Academic performance w.r.t. JEE Rank 13. More than 80%Academic performance w.r.t. EAMCET Rank 14. The students who are placed with more than 10 lakhs Package 15. The back ground of students who get very good academic performance (more than 10 lakhs)	Click_Here_DB1
16. Students got more than 80% in their +2, but Academically poor performance (Less than 65% marks) 17. Students got more than 80% in their +2, but Academically poor performance(backlogs) 18. Level of Academic performance w.r.t. branch-wise 19. Active in extra-curricular activities with very good Academic performance 20. Add-on Courses students details with very good Academic performance 21. Academic performance details of Outside state students 22. List of students with 1 or 2 backlogs and their background 23. List of students who has personal issues during the previous semesters 24. List of students who has discipline issues during the previous semesters 25. List of students who has been irregular during the previous semesters 26. Very Good academic performance (85 to 90%), but admitted with 70 -75% in +2 27. Very Good academic performance (85 to 90%), but admitted with 60-70% in +2 28. Branch wise statistics of the above parameters	Click_Here_DB2

1.2 Non-Performing students : +



2.0 TRAINING AND PLACEMENT DASHBOARDS :– -

2.1 Placed Students -

Dashboard Questions	Action URL
92. Relation of scholarships to the level of placements 93. List of placed students without scholarship 94. Level of placements w.r.t. 10+2 Marks or CGPA 95. Placed students w.r.t. economic background (Lower/Middle/Higher) 96. Placed students w.r.t professional Background (Agriculture/Business/Govt Employee/Pvt Employee/ Professional) 97. Placed students w.r.t. Category (OC/BC/SC/ST) 98. Placed students w.r.t. gender 99. Placed students w.r.t. JEE Rank 100. Placed students w.r.t. EAMCET Rank 101. The students who are placed with more than 10 lakhs Package 102. The back ground of students who get higher package (more than 10 lakhs)	Click Here

2.2 Unplaced Students -

Dashboard Questions	Action URL
5. Relation of scholarships to the level of performance in academics 6. List of students without scholarship but academically excelling with more than 90% 7. Level of Academic performance w.r.t. 10+2 Marks or CGPA 8. More than 80% Academic performance w.r.t. economic background (Lower/Middle/Higher) 9. More than 80% w.r.t. professional Background (Agriculture/Business/Govt Employee/Pvt Employee/Professional)	Click Here

CHAPTER 5

DEPLOYMENT STRATEGIES

5.Deployment

Deployment techniques on different power BI platforms.

5.1 Deployment Strategies for Dashboards

5.1.1 Power BI Service

1. **Preparation and Design:**
    - Develop the dashboard in Power BI Desktop, ensuring it is well-designed and contains all necessary data visualizations and filters.
    - Test the dashboard locally to ensure it meets performance and usability standards.
2. **Publishing to Power BI Service:**
    - **Publish the Dashboard:**
        - Use the "Publish" button in Power BI Desktop to upload the report to Power BI Service.
        - Select the appropriate workspace in Power BI Service where the report will reside.
    - **Create a Dashboard:**
        - In Power BI Service, pin the necessary visuals from the report to a new or existing dashboard.
    - **Data Refresh Configuration:**
        - Set up scheduled data refreshes to ensure the dashboard shows up-to-date information.
        - Configure data source credentials and specify the refresh frequency.
3. **Collaboration and Sharing:**
    - **Workspace Management:**
        - Manage workspace access by adding users or groups with appropriate roles (Viewer, Member, Contributor, Admin).
    - **Sharing and Permissions:**

    - Share the dashboard with specific users or groups by using the "Share" option.
    - Configure sharing settings to control access (read-only, reshare permissions, etc.).
  - **App Creation:**
    - Package the dashboard into a Power BI app for broader distribution.
    - Configure app navigation, permissions, and landing pages for an enhanced user experience.

4. **Monitoring and Maintenance:**
   - Monitor usage metrics and performance using the Power BI Service analytics tools.
   - Regularly review and update the dashboard as needed based on user feedback and changing business requirements.

5.1.2 Power BI Report Server

1. **Preparation and Design:**
   - Similar to Power BI Service, develop the dashboard in Power BI Desktop, but ensure it is compatible with Power BI Report Server.
   - Test the dashboard in Power BI Desktop using the “Power BI Report Server” option in the "Save As" menu to ensure compatibility.
2. **Deployment to Power BI Report Server:**
   - **Save and Upload the Report:**
     - Save the report as a Power BI Report Server (.pbix) file.
     - Upload the .pbix file to the Power BI Report Server using the web portal.
   - **Configuration of Data Refresh:**
     - Configure scheduled data refreshes on the Report Server.
     - Set up the data source credentials and refresh schedules directly in the Report Server web portal.
3. **Security and Access Control:**
   - **Folder and Item-Level Security:**
     - Manage permissions at the folder and report level, assigning users or groups appropriate access rights.

- **Role-Based Access:**
    - Define roles (Browser, Content Manager, Publisher, etc.) and assign users to these roles to control their level of access and interaction with the reports.

4. **Integration and Embedding:**
    - **Embedding Reports:**
        - Embed Power BI Report Server reports into other applications using URL access or iFrames.
    - **Integration with SQL Server Reporting Services (SSRS):**
        - Integrate Power BI dashboards with traditional SSRS reports for a unified reporting solution.
5. **Monitoring and Maintenance:**
    - Regularly monitor the Power BI Report Server’s health and performance using the built-in monitoring tools.
    - Update reports and dashboards as required, ensuring continuous alignment with business needs.

Summary

- **Power BI Service** is more suited for cloud-based deployments, offering ease of collaboration, sharing, and integration with other cloud services.
- **Power BI Report Server** is ideal for on-premises deployments, providing tighter control over data and infrastructure, suitable for organizations with strict compliance and security requirements.

Both platforms offer robust tools for deploying and managing dashboards, but the choice between them depends on your organization's specific needs and infrastructure.

CHAPTER 6
RESULTS

6.Results

Interactive dashboards in Power BI enable dynamic data visualization and real-time analysis, empowering users to make informed decisions efficiently. With features like slicers, drill-throughs, and drill-downs, users can filter and explore data seamlessly. Interactive elements such as hover-enabled tooltips, cross-filtering, and dynamic visuals allow deeper insights into specific metrics or trends.

Power BI's custom visuals, including heatmaps, gauges, and AI-powered analytics, add sophistication to dashboards. Users can enhance navigation and storytelling with bookmarks, buttons, and animations, making dashboards intuitive and engaging. These dashboards are responsive across devices, ensuring a seamless experience on desktops, tablets, and mobile devices.

By connecting to various data sources, including on-premises databases and cloud services, Power BI dashboards provide accurate and up-to-date reporting. They transform raw data into compelling visuals, optimize performance tracking, and foster collaboration, making them essential tools for data-driven decision-making in modern organizations.

CHAPTER 7
CONCLUSION AND FUTURE WORK

7.Conclusion

In conclusion, the creation and deployment of the Power BI Report Server represent a significant milestone in enabling seamless report generation, sharing, and management within an organization. Through meticulous planning, teamwork, and technical expertise, we have developed a robust platform that facilitates secure and efficient delivery of interactive dashboards and reports. Its user-friendly interface, scalability, and comprehensive features provide an excellent foundation for data-driven decision-making, catering to the diverse needs of users. The server's seamless integration with on-premises infrastructure ensures flexibility while maintaining data sovereignty and security. Reflecting on this achievement, we extend our gratitude to the team, stakeholders, and contributors who made this project possible. Looking forward, we are committed to continuously improving the platform, setting new standards in enterprise reporting and business intelligence.

7.1 Future Work

Moving forward, the Power BI Report Server offers ample opportunities for enhancements and growth. One key focus area will be optimizing the user experience by refining the interface, enhancing navigation, and improving support for mobile devices, ensuring consistent access across platforms. Incorporating advanced analytics capabilities will allow for better insights into report usage patterns and enable personalized recommendations for users. Furthermore, integrating AI and machine learning capabilities will help in automating report generation, identifying trends, and providing actionable insights. Strengthening security features to adapt to evolving threats will also remain a priority to uphold data integrity and user trust. These continuous improvements aim to position the Power BI Report Server as an indispensable tool for modern businesses, driving innovation and excellence in data visualization and analysis.

7.2 References

- "Power BI Report Server Step-by-Step Guide" by Microsoft Documentation
- "Effective Dashboard Design" by Curbal
- "Business Intelligence Strategies with Power BI" by SQLBI
- "On-Premises BI Architecture: Best Practices" by Radacad

- “Training for Power BI” by Microsoft learn
- “DAX queries” by Microsoft learn