

## Executive Summary of the Project

This project titled "Exploring the Cosmos :- Analyzing ISRO's Mission Launches with Power BI," was undertaken by our team from Dr. Lankapalli Bellayya College, affiliated with Andhra University.

The project aimed to leverage Power BI to analyze and visualize data related to ISRO's Space missions.

### Learning Outcomes :-

- i) Data Visualization
- ii) Data Analysis
- iii) Power BI proficiency
- iv) Team Collaborations
- v) Presentation skills.

### Outcomes Achieved :-

- i) Interactive Dashboard creation
- ii) Data driven Insights
- iii) Improved Technical Proficiency
- iv) Effective Teamwork
- v) Clear Communication skills.

### Activities Done :-

- i) Data Collection and cleaning:- Gathered and cleaned data on ISRO's launch missions.
- ii) Dashboard Design:- Created a dashboard with various visuals such that it's easy to interpret
- iii) Report writing and Team collaborations .

This project provided us with a robust understanding of data visualization and analysis, and equipped us with essential skills in Power BI.

## Overview of the Organisation

### Introduction of the Organisation:-

APSCITE (Andhra Pradesh State Council of higher Education) Smart Interning is aimed at bridging the gap between academics and Industry by prioritizing students' careers with hands-on work experience in the form of internships.

### Vision, Mission and Values of the Organisation:-

The organisation's mission is to empower students by enhancing employability. The organisation's core values include, integrity, innovation, collaboration, and excellence.

### Policy of the Organisation:-

Internship policies focus on the active engagement in projects, adherence to professional standards and participation in growth.

### Future Plans of the Organisation:-

Future plans include expanding partnerships, introducing new programs, enhancing digital infrastructure, and building a strong alumni network.

## Internship Part

### Description of Activities and Responsibility of the Intern:-

As an intern on the project "Exploring the lesions:-"

Analyzing ISRO's mission launches using Power BI; my responsibilities involve a blend of data analysis, visualization, collaboration, and technical proficiency.

### Working Conditions:-

- Collaborative Environment:- The project was conducted in a team-oriented environment, where collaboration and communication were key.
- Remote and on-site work:- The internship involved a combination of remote work, where tasks were completed using personal computers and the work hours were flexible.
- Access to Technology:- The work required access to Power BI software, and data sets related to ISRO's launches.

### Equipment Used:-

- Power BI Software
- Microsoft Excel
- Personal Computer
- Internet Access
- Editing Softwares
- Camera

## Skills Acquired :-

- Data Analysis & Visualization -

I developed strong skills in Data analysis, learned how to handle large datasets, clean & transform data, and create insightful visuals.

- Technical Proficiency in Power BI :-

I gained proficiency in managing the Power BI Software, mastering its features, including Data transformations, DAX expressions etc.

- Problem Solving and Critical thinking:-

The internship required me to solve various challenges, from data inconsistencies to creating meaningful visuals.

## Conclusion:-

This internship was an enriching experience that allowed me to apply and enhance my skills in data analysis, team work, technical proficiency etc. The hands on nature of the project, combined with collaborative environment, provided a solid foundation for my future career endeavors.

## ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Orientation, setup of Power BI environment	Familiarity with Power BI interface and tools.	
Day - 2	Introduction to the data lifecycle.	Understanding the stages from data collection to analysis.	
Day - 3	Overview of data sources relevant to the internship	Identifying and accessing relevant data sources.	
Day - 4	Basic data import and exploration in Power BI.	Ability to import data and perform initial exploration.	
Day - 5	Recap and Q & A.	Clarified doubts and reinforced concepts.	
Day - 6			

2nd  
ACTIVITY LOG FOR THE 2nd WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to data cleaning techniques.	Understanding the importance of clean data	
Day - 2	Hands-on data cleaning using Power Query.	Ability to clean and prepare data using Power BI.	
Day - 3	Handling missing data and outliers.	Techniques to manage and mitigate data quality issues.	
Day - 4	Data transformation techniques.	Applying transformations like normalizations and aggregation	
Day - 5	Summary of the week's learnings.	Applying and understanding the concepts of data preparation	
Day - 6			

ACTIVITY LOG FOR THE <sup>3rd</sup> WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to data visualization concepts.	Basics of effective data visualization.	
Day - 2	Creating basic visualizations in Power BI	Ability to create charts, graphs, and visual reports.	
Day - 3	Building interactive dashboards	Developing dashboards for data exploration.	
Day - 4	Exploratory Data Analysis (EDA).	Gaining insights through visual data exploration	
Day - 5	Review and feedback on dashboards.	Improving visualizations based on feedback.	
Day - 6			

4th

ACTIVITY LOG FOR THE   WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to DAX (Data Analysis Expressions)	Understanding and applying DAX for advanced calculation.	
Day - 2	Statistical techniques for trend analysis	Able to analyze trends and patterns in data.	
Day - 3	Building predictive models.	Basics of predictive analytics in Power BI.	
Day - 4	Incorporating advanced analytics in dashboards.	Enhancing Dashboards with Predictive insights.	
Day - 5	Recap and Practice Sessions.	Solidifying advanced analytical skills.	
Day - 6			

5<sup>th</sup>  
ACTIVITY LOG FOR THE   WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to Performance Optimization	Understanding factors that impact data model performance	
Day - 2	Performance testing with large datasets.	Techniques to handle and optimize large datasets.	
Day - 3	Performance tuning in Power BI	Reducing query load and optimizing refresh rates.	
Day - 4	Streamlining dashboards for better user experience	Creating faster, more responsive dashboards.	
Day - 5	Finalizing optimized dashboards	Completed a set of high-performance dashboards	
Day - 6			

6th  
ACTIVITY LOG FOR THE ~~1ST~~ WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to real-world datasets and challenges	Understanding the complexity of real-world data.	
Day - 2	Identifying data quality issues.	Techniques to diagnose and address data quality problems	
Day - 3	Hands-on practice with a messy dataset.	Experience in cleaning and transforming real-world data	
Day - 4	Case Study Analysis	Applying learned skills to a real-world scenario.	
Day - 5	Practical case study analysis	Practical experience in end-to-end data analysis	
Day - 6			

Activity Log for the ~~10~~ WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to reporting best practices.	Understanding the principles of effective data reporting	
Day - 2	Developing detailed reports in Power PPT	Ability to create comprehensive and clear reports.	
Day - 3	Documenting analysis and findings.	Techniques for thorough and clear documentation.	
Day - 4	Data set storytelling and presentation skills.	Crafting compelling narratives from data.	
Day - 5	Finalizing reports and documentation	Completed professional-level reports and documentation.	
Day - 6			

8th  
ACTIVITY LOG FOR THE   WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Finalizing the end-to-end Projects.	Bringing together all skills in a cohesive project.	
Day - 2	Preparing the Project presentation.	Effective presentation techniques for showcasing data work.	
Day - 3	Rehearsal of the Presentation	Practice delivering a polished and professional presentation.	
Day - 4	Delivering the final presentation	Practice delivering a polished and professional presentation.	
Day - 5	Feedback and reflection	Receiving feedback and reflecting on the learning journey	
Day - 6			

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

### Objective of the Activity Done:

**Detailed Report:** The first week was dedicated to laying the foundation for the internship by introducing fundamental concepts in data analytics and familiarizing the team with the Power BI environment.

The focus was on understanding the data lifecycle, from collection to analysis, and getting hands-on experience with data import and initial exploration using Power BI.

- Orientation and set-up of the Power BI workshop
- learning about the data lifecycle, including data collection storage, processing, and analysis.
- Identification and exploration of the data sources that would be used throughout the internship.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

### Objective of the Activity Done:

**Detailed Report:** Week 2 focused on one of the most critical aspects of data analytics - data cleaning and preparation. The team learned how to use Power Query within Power BI to clean, transform, and prepare data for analysis.

This involved dealing with missing data, outliers, and ensuring that data types were consistent and ready for more advanced analysis.

- Introduction to data cleaning techniques, with an emphasis on the importance of clean data for accurate analysis.
- Hands-on practice with Power Query for data cleaning, including techniques for handling missing data and outliers.
- Data transformation exercises, such as normalising data, aggregating information, and ensuring consistency across datasets.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt.....)

### Objective of the Activity Done:

**Detailed Report:** The third week was dedicated to learning how to create effective data visualizations, and conducting exploratory data analysis (EDAs).

The team focused on building interactive dashboards in Power BI, which allowed them to visually explore data and uncover initial insights. This week was crucial for developing the ability to communicate data-driven insights through visuals.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

### Objective of the Activity Done:

**Detailed Report:** In Week 1, the focus shifted to more advanced analytics techniques. The team was introduced to DAX (Data Analysis Expressions) for performing complex calculation and learned about applying statistical methods for trend analysis. They also explored the basic of predictive modeling enhancing their ability to derive deeper insights from data.

- learning the fundamentals of DAX and using it to create advanced calculations in Power BI.
- Applying statistical techniques to analyze trends and patterns in the data.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

### Objective of the Activity Done:

**Detailed Report:** Week 5 was all about optimizing the performance of data models and dashboards. The team learned how to handle large datasets efficiently and performed tuning on their Power BI dashboards.

This week emphasized the importance of creating fast, responsive, and user-friendly analytics solution.

- Understanding the factors that impact the performance of data models.
- Refining dashboards to improve user experience, ensuring they were both powerful and efficient.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt .....

### Objective of the Activity Done:

**Detailed Report:** This week introduced the team to the complexities of working with real-world datasets. The focus was on applying the skills they had learned to tackle real-world data challenges, including dealing with messy and incomplete data. We also worked on a mini project or case study that simulated real-world scenarios.

- Exploration of real world datasets, identifying common challenges such as data quality issues and incomplete information.
- Hands on practice with cleaning and transforming messy datasets, applying techniques learned in previous weeks.
- Peer review and feedback sessions to refine their approach and solutions.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt.....)

### Objective of the Activity Done:

**Detailed Report:** Week 7 was dedicated to the creation of comprehensive reports and proper documentation of analysis processes. The team focused on summarizing their findings, developing detailed reports in Power BI, and documenting their analysis in a structured and clear manner. This week emphasized the importance of effective communication in data analytics.

By the end of the week, the team had created polished, professional reports and thorough documentation of their analysis. We understood the importance of clear communication in data analytics and were able to present their work in a structured and compelling way.

## WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt.....)

### Objective of the Activity Done:

**Detailed Report:** The final week was dedicated to bringing together all the skills and knowledge the team had acquired throughout the internship.

Their finalized the end-to-end project, prepared a presentation to showcase their work, and delivered it to an audience. This week was the culmination of the internship, providing a platform for the team to demonstrate their expertise.

By the end of this week, the team successfully completed their internship project, demonstrating a comprehensive understanding of data analytics.

## CHAPTER 6: OUTCOMES DESCRIPTION

**Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)**

During this internship, I experienced a work environment that was dynamic, collaborative, and intellectually stimulating. Here are some key aspects of the environment :-

### i) Collaborative Teamwork :-

The work environment encouraged teamwork. As the team lead I worked closely with Anitha and Eekshatha, ensuring open communication and the free exchange of ideas.

### ii) Supportive learning Atmosphere :-

The environment was highly supportive of learning and skill development. Despite the challenges posed by working with a complex dataset and using Power BI, there was always room to ask questions and seek guidance.

### iii) Encouragement of leadership :-

As the team lead, I experienced an environment that encouraged leadership and decision-making. I was responsible for coordinating the team's efforts, making key decisions, and ensuring that the project met its goals.

**Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)**

During this internship, I gained several valuable real-time skills that are critical for both data analytics and professional growth. Here are the key skills I developed,

i) Data Analytics and Interpretation :-

I learned how to analyse and interpret complex datasets effectively. By working with ISRO's launch mission data, I gained hands-on experience in identifying trends, patterns, and insights that are crucial for making informed decisions.

ii) Power BI Proficiency :-

I became proficient in using Power BI, a powerful tool for data visualization and business intelligence. I learned how to import data, create dashboards, design reports, and use various visualizations techniques to represent data clearly and effectively.

iii) Critical thinking and Problem Solving :-

I gained critical thinking and problem-solving abilities by tackling challenges during data analysis and visualization process. This included finding ways to simplify complex data, making decisions on visualization techniques, and trouble-shooting technical issues.

**Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.**

Throughout this internship, I have developed and refined several key managerial skills that are essential for effective leadership and project management.

i) Team leadership:-

I learned how to lead a team effectively by setting clear goals, delegating tasks, and motivating team members. As team lead I took the responsibility for guiding the project to completion.

ii) Project management :-

I gained experience in planning, executing, and overseeing a project from start to finish. This included setting timelines, tracking progress, and ensuring that project was completed within scope on time.

iii) Conflict Resolution :-

I developed skills in managing and resolving conflicts within the team. Whether it was differing opinions or misunderstandings, I learned how to mediate discussions and find common ground.

**Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.,)**

Communication plays a key role in Professional growth and effective team work.

i) Active listening:-

Active listening reduces misunderstandings and help build a stronger, more collaborative relationships.

ii) Clear and concise communication :-

This ensures that your message is easily understood, reducing the risk of misinterpretation.

iii) Feedback reception:-

Constructive feedback helps us continuously refine our communication skills and fosters a culture of open dialogue.

iv) Non-Verbal Communications:-

Pay attention towards your body language, facial expressions, and eye contact. Ensure that your non-verbal cues align with your verbal message.

**Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.**

Enhancing our abilities in group discussions and leading a team requires a combination of interpersonal skills, strategic thinking, and self-awareness. Some strategies include,

i) Setting clear Goals:-

As a team leader, setting clear goals and communicating them effectively to your team.

Ensure that each team member understands their role and how it contributes to the overall project's objectives.

ii) Delegation :-

Identify strengths and skills of each team member and delegate tasks accordingly. Trust your team members to take ownership of their responsibilities.

iii) Motivating and Inspiring :-

Lead by example and maintain a positive attitude, even in challenging situations. Recognise and celebrate your team's achievements, and provide constructive feedback to help them grow.

**Describe the technological developments you have observed and relevant to the subject area of training (focus on digital technologies relevant to your job role)**

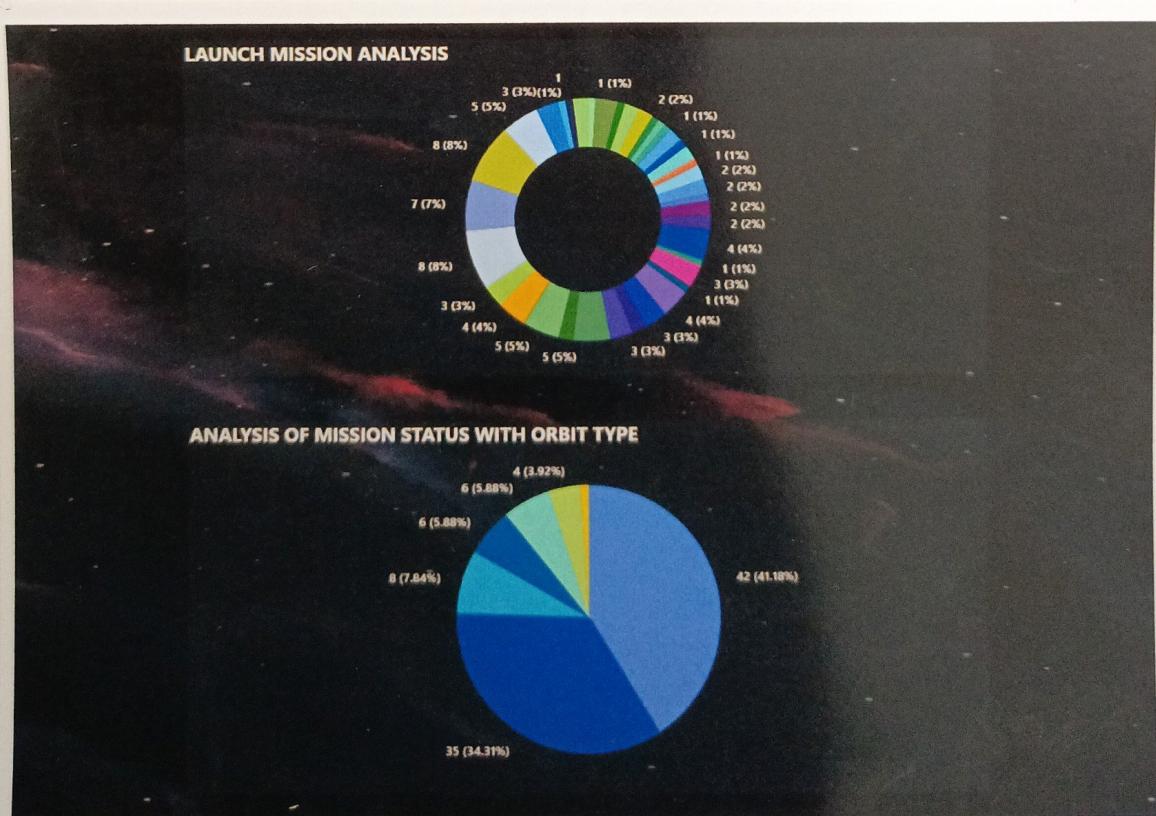
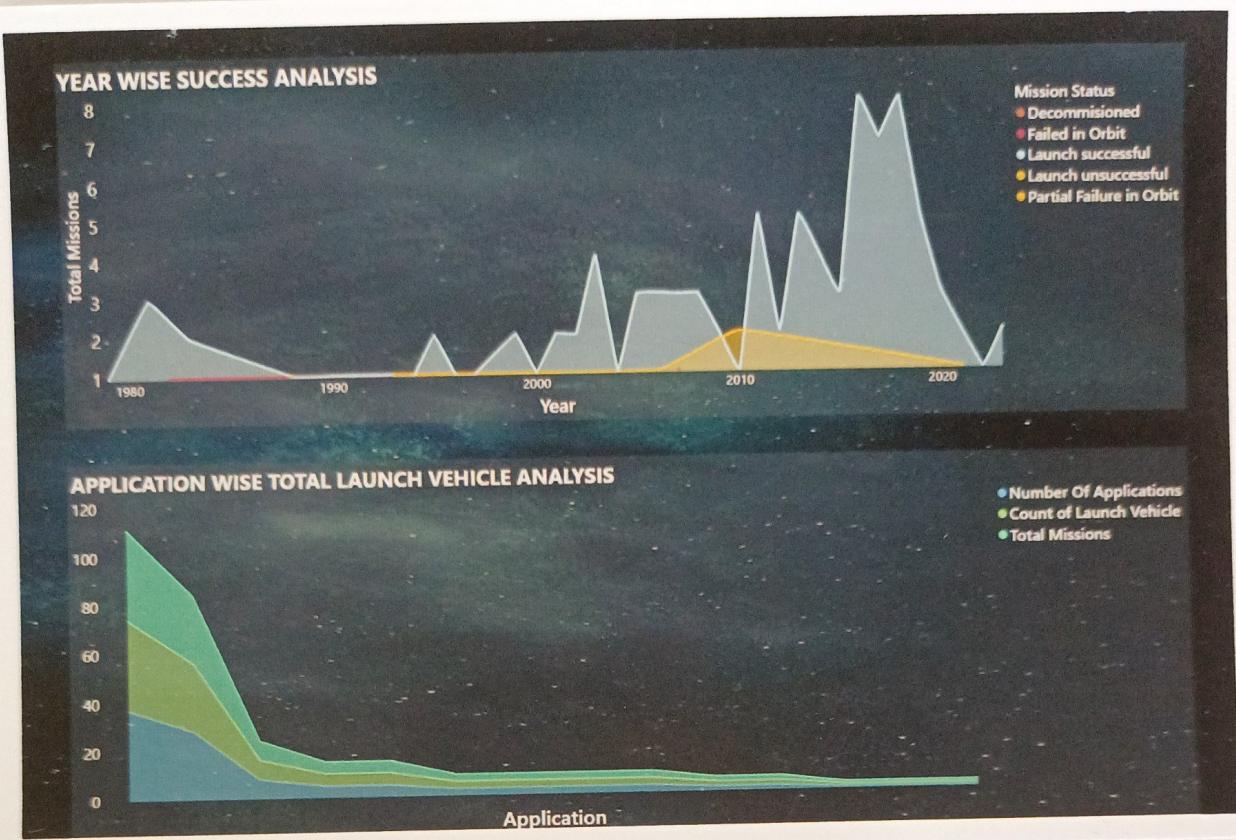
During the project several technological developments and tools were utilized and explored to effectively analyze ISRO's mission launches using Power BI.

These advancements played a crucial role in ensuring that the project was completed successfully and that the insights generated were both accurate and valuable.

- i) Power BI for visualization of datasets
- ii) Integration of multiple datasets from different sources.
- iii) Data transformation and cleaning - Power BI Query editor.
- iv) Advanced Analytical Techniques (DAX)
- v) Interactive Dashboard Designs
- vi) Collaboration and establishment of Git-hub.

These technological developments during the project not only enhanced our ability to analyze and visualize data but also equipped us with valuable skills in using advanced analytics tools like Power BI. The experience gained through this project has provided a solid foundation for future data-driven projects, where technology will continue to play a crucial role in achieving success.

## PHOTOS & VIDEO LINKS



## PHOTOS & VIDEO LINKS

