



## SHORT-TERMINTERNSHIP



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VISAKHAPATNAM**

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## Acknowledgements

I would sincerely like to thank APSCHE for providing me this short - term internship which helped me gain practical experience and knowledge on Data Analytics.

I would like to thank our principal sir, Dr. G.S.K. Chakravarthy for giving me this wonderful opportunity.

I would also like to thank our Head of the Department Miss. Hymavathi mam, Department of BSC Computer Science and our guide K. Mreddula Praveena mam for being a wonderful mentor throughout my project.

I thank my lecturers, mentors and my friends who helped me to do this project. Without them this project would not have been completed.

**This page content gives an idea only, which topics have to write.**

### **1: EXECUTIVE SUMMARY**

The internship report shall have a brief executive summary. It shall include five or more Learning Objectives and Outcomes achieved, a brief description of the sector of business and intern organization and summary of all the activities done by the intern during the period.

### **2: OVERVIEW OF THE ORGANIZATION**

#### **Suggestive contents**

- A Introduction of the Organization
- B Vision, Mission, and Values of the Organization
- C Policy of the Organization, in relation to the intern role
- D Organizational Structure
- E Roles and responsibilities of the employees in which the intern is placed.
- F Performance of the Organization in terms of turnover, profits, market reach and market value.
- G Future Plans of the Organization.

### **3: INTERNSHIP PART**

*Description of the Activities/Responsibilities in the Intern Organization during Internship, which shall include - details of working conditions, weekly work schedule, equipment used, and tasks performed. This part could end by reflecting on what kind of skills the intern acquired.*

## CHAPTER 1: EXECUTIVE SUMMARY

Description of the sector of business & Intern Organization:

Smartbridge operates in the data analytics sector, providing innovative solutions to enhance business intelligence. The organization leverages Power BI to empower clients with actionable insights, enabling data-driven decision-making.

Learning Objectives and Outcomes:

- 1) Understand Power BI fundamentals
- 2) Data Modeling
- 3) Proficiency in Power BI Tools
- 4) Data cleaning & Transformation
- 5) Data Visualization
- 6) Report Design and Sharing.

Summary of Internship Activities:

- 1) Attending live training sessions and project-mentoring sessions.
- 2) Selection of topic - "Student Performance Analysis" and gathering, cleaning and analyzing its related datasets in Excel.
- 3) Team formation and assignment of tasks to team members.
- 4) Designing & Developing interactive dashboards, story-report on project using Power BI.
- 5) Drafting a project video demonstration and preparation of final report.

## CHAPTER - 2 : OVERVIEW OF THE ORGANIZATION

Smart Bridge is a platform that offers virtual internship to the students. The platform's goal is to prepare students for the job market by establishing a cooperative relationship between industry & Academic. Smart Bridge partners with companies such as Google to offer virtual internships. The internships provide students with hands-on experience with the latest technologies, and enable project-based learning. Smart Bridge's flagship event is the "Summer Internship Program". The program develops students' skills in emerging technologies i.e., 1) Artificial Intelligence, 2) Machine learning 3) Internet of things.

### Organization's Objective :

Smart Bridge's main objective is to bridge the existing gaps between prevailing industry standards and what the academics offer to the graduates while passing out of University. Smart Bridge offers suitable skill development & training to the young talent before on boarding their first job. Their skill development programs are designed considering the present in demand skills in the industry. We thereby work along the line

to offer best programs that helps the students to gain practical knowledge and hands on training to learn skills of the future. Therefore, the main objectives of Smart bridge is providing Internship for every student, promote Industry approved professional Electives & become a talent factory of India by 2026.

## CHAPTER-3 : INTERNSHIP PART

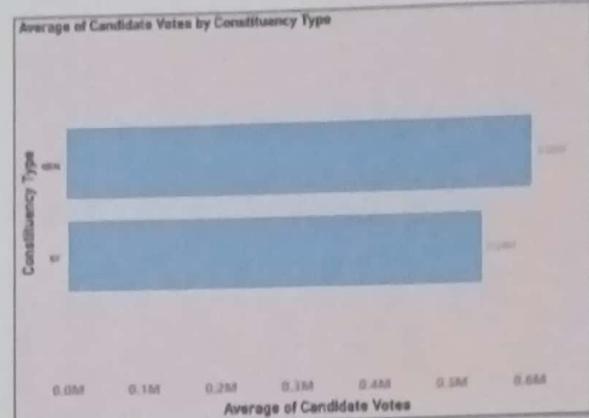
Description of the Activities / Responsibilities Undertaken.

- 1) Registering with APSCHE Smart Interns & enrolling for Smartbridge's data analytics course i.e., live training sessions as per the pre-scheduled training calendar.
- 2) Participating weekly quiz & completing weekly assignments with respect to data analytics.
- 3) Team formation & selection of project topic "Student "Quantitative Analysis of 2019 Lok Sabha Candidates"
- 4) Gathering, cleaning & analyzing the excel data sets of the project topic - "Quantitative analysis of 2019 Lok Sabha candidates".
- 5) Attending project - Mentoring sessions and designing and developing interactive dashboard, Report on the Project topic using Power BI.
- 6) Web integration of above project deliverables with team's webpage using visual studio code, Drafting a project video demonstration and preparation of final report.
- 7) Submission of team project via uploading the project files in Github Repository of the team.

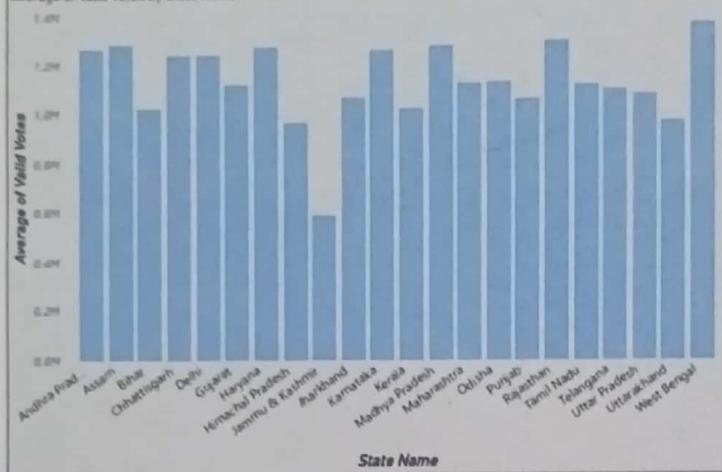
Average of candidate vote share% by gender



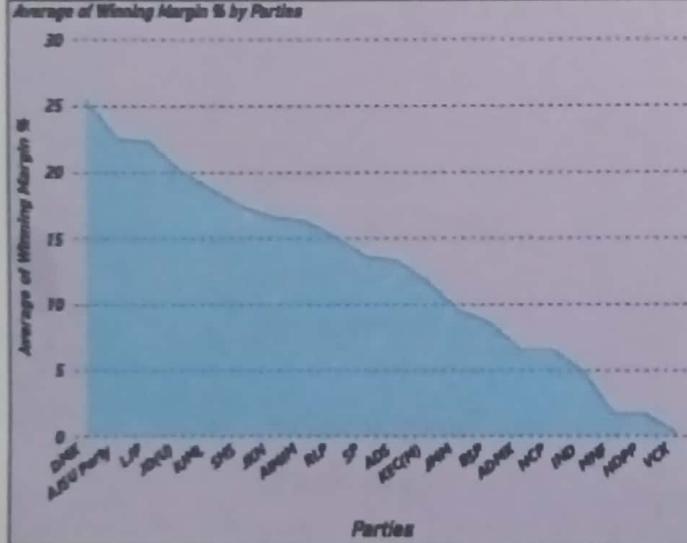
Average of Candidate Votes by Constituency Type



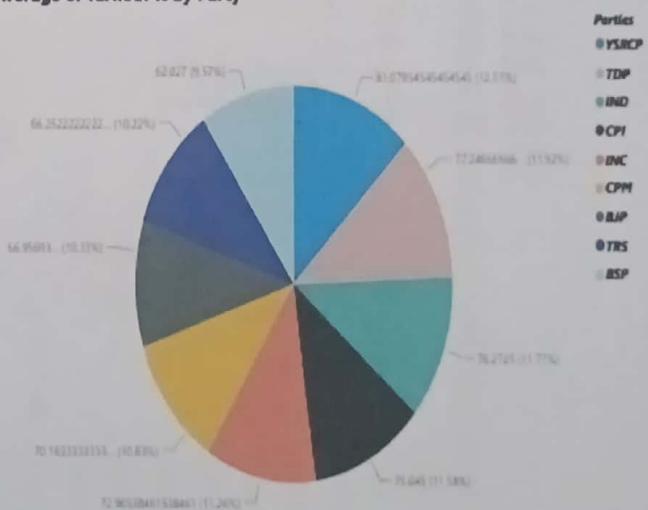
Average of Valid Votes by State Name



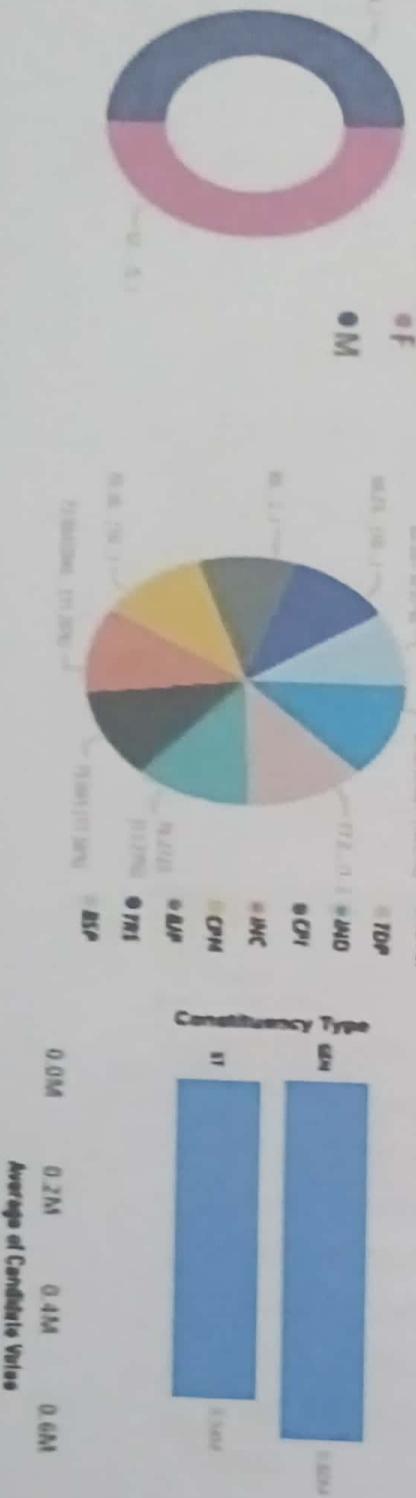
Average of Winning Margin % by Parties



Average of Turnout % by Party



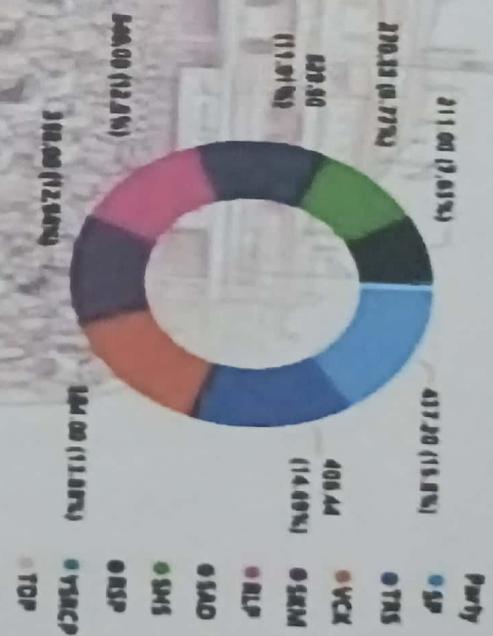
LOKSABHA RESULTS ANALYSIS OF 2019



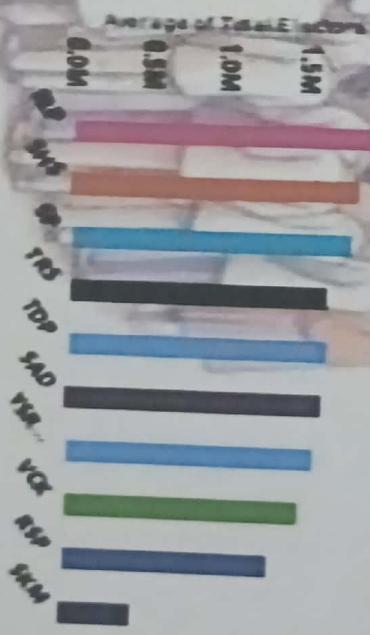


ANALYSIS OF LOKSABHA RESULTS IN 2019

#### Average of SL No by Party and State Name



#### *Analyses of 1964 Elections by Party and State Name*



**REPORT: The 2019 Lok Sabha elections in India were held from April 11 to June 19. This election was crucial as it determined the composition of the 17th Lok Sabha and had significant implications for the country's political landscape. The elections were held in seven phases across different states and union territories.**

### ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction of data analytics	Analysis of the topic	
Day - 2	Introduction of data analytics	Analysis of the topic	
Day - 3	Agenda and understanding customer	clear view of business problem and solutions	
Day - 4	Analysis and implementing data	Putting the data in visual form	
Day - 5	Data analytics application	Learned about different tools and insights.	
Day - 6	Researched the additional information in online.	Additional information about data analytics.	

## WEEKLY REPORT

WEEK - 1 (From Dt. 2/2/24 to Dt. 5/7/24.....)

Power BI

Objective of the Activity Done: Introduction to data analytics and

Detailed Report:

In the first week, we were introduced to the fundamentals of data analytics, emphasizing the role of data-driven decision making in modern businesses. The sessions covered in this are the basics of data analysis, different types of data, and the importance of data visualization.

We also explored Power BI, understanding its interface, features and how it integrates with other Microsoft products.

The week concluded with a hands-on session on loading and transforming the data in Power BI.

**ACTIVITY LOG FOR THE SECOND WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Data analytics application	Learned about different tools and insights.	
Day - 2	Data Analytics application	Where it is used in different sections.	
Day - 3	Data analytic process and steps in data analytics	Learned about data clearing and processing	
Day - 4	Data analytics process and steps in data analytics.	Learned about data clearing and processing	
Day - 5	Types of data analytics.	Different types of data analytics in clear way	
Day - 6	Revision on given topic.	Revised about Data analytics.	

## WEEKLY REPORT

WEEK - 2 (From Dt. 8-7-24 to Dt. 12-7-24....)

Objective of the Activity Done: Data transformation and modeling.

Detailed Report:

The second week focused on data transformation and data modeling within Power BI.

We learned to clean, reshape, and prepare data using power query editor. The training covered essential functions like filtering, merging and appending data sets.

Additionally, we were introduced to data modeling concepts such as relationships, cardinality and data hierarchies.

The practical sessions helped us in strengthen these concepts by allowing us to create and manage data models effectively.

### ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Business problems and the solutions (practise)	challenges faced in organization	
Day - 2	Business Problems and the solutions (practise)	challenges faced in organization	
Day - 3	Power BI in action	visible insights @ sales for cost	
Day - 4	BI architecture	learned about structure	
Day - 5	BI Architecture	learned about structure	
Day - 6	Revision on given topics.	Revised about data analytics.	

## WEEKLY REPORT

WEEK - 3 (From Dt. 15-7-24. to Dt....19-7-24.....)

Objective of the Activity Done: Data visualization Techniques.

Detailed Report:

In the third week, the emphasis was on data visualization techniques using Power BI.

We explored various types of charts, graphs and maps that can be created in power BI to visualize data insights.

The sessions included best practices for selecting the right visualizations based on the type of data and the message we want to convey. We also learned about customizing visual elements, using themes and enhancing reports with interactive features like slicers and drill-throughs.

### ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Data to Insights flow in power bi	Learned about data and model view.	
Day - 2	Table and merges	Learned about the kinds in merges.	
Day - 3	Tables and merges	Learned about the kinds in merges.	
Day - 4	ERL Tools in power query	Visualizing power BI data flows.	
Day - 5	ETL Tools in power query	Visualizing Power BI data flows.	
Day - 6	Researched the additional information online.	Additional information about BI	

## WEEKLY REPORT

WEEK - 4 (From Dt 28-7-21 to Dt 26-7-21)

Objective of the Activity Done:

Advanced analytic and DAX.

Detailed Report:

Week four delved into advanced analytics and data analytic expression (DAX) in powerBI.

We learned how to create, calculated columns, measures and custom tables using DAX.

The training covered complex DAX functions such as time intelligence, filtering and aggregation.

We also explored advanced analytical techniques like trend analysis, forecasting and what-if scenarios.

The week ended with exercises to build dynamic reports using DAX-driven insights.

**ACTIVITY LOG FOR THE FIFTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Data sources, dashboards and insights.	learned how these are used in BI.	
Day - 2	Data collection and data cleaning.	learned about the process in data analytics.	
Day - 3	Data correction and Data cleaning.	learned about the expression and functions.	
Day - 4	Data analytics expression (DAX)	learned about the expression @ function.	
Day - 5	Data analytics expressions (DAX)	learned about the expression and function	
Day - 6	Discussion Regarding project	Discussed about project.	

## WEEKLY REPORT

WEEK - 5 (From Dt. 29-7-24 to Dt. 05-08-24....)

**Objective of the Activity Done:** Power BI service and collaboration.

**Detailed Report:**

The fifth week covered the Power BI service and its collaborations features.

We learned how to publish reports to the Power BI service, share dashboards and collaborate with team members in real-time. The sessions emphasized data security, row-level security (RLS), and managing workspaces.

We also explored Power BI's integrations with other Microsoft tools like Excel, Teams and SharePoint, making it easier to collaborate and share insights across the organization.

**ACTIVITY LOG FOR THE SIXTH WEEK**

<b>Day &amp; Date</b>	<b>Brief description of the daily activity</b>	<b>Learning Outcome</b>	<b>Person In-Charge Signature</b>
Day - 1	Filter functions in DAX.	Different filters in DAX.	
Day - 2	Filter functions in DAX.	Different filters in DAX.	
Day - 3	Preparations for grand assessment test.	Preparation for assessment test.	
Day - 4	Preparation for grand assessment test.	Preparation for assessment test.	
Day - 5	Grand assessment Test.	Gave the grand assessment test.	
Day - 6	Researched the additional information online.	additional information about Power BI.	

## WEEKLY REPORT

WEEK - 6 (From Dt. 5/8/24 to Dt. 9/8/24....)

**Objective of the Activity Done:** Best practices and Industry applications.

**Detailed Report:**

On the final week of internship classes, we focused on best practices in data analytics and real-world applications of power BI across various industries.

We discussed key strategies for optimizing data models, enhancing report performance, and maintaining data governance.

The sessions also included case studies showing how companies use powerBI for business, Intelligence, sales analysis, financial reporting, and operational efficiency, the week wrapped up with an overview of the upcoming project work.

## WEEKLY REPORT

WEEK - 7 (From Dt. 12/8/24 to Dt. 16/8/24.....)

Objective of the Activity Done:

Project work data analysis & visualization

Detailed Report:

The seventh week marked the beginning of the project phase.

We started by defining the project scope, objectives and deliverables.

The project involved analyzing a data set provided by Smart Internz cleaning and transforming the data and building a data model.

Our data set consists of rows named as states, constituency names & types, candidate names, their gender and party they belongs to and votes and vote share percentage, turnout % and winning margin % and total electors of state and valid votes in it.

The initial reports and dashboards were created to visualize these insights, using the skills and techniques learned over the past six weeks.

## WEEKLY REPORT

WEEK - 8 (From Dt 19/8/24 to Dt 23/8/24)

**Objective of the Activity Done:** Finalization and presentation.

**Detailed Report:**

In the final week, we completed the project by refining our reports and dashboards, ensuring they met the project requirements.

We focused on enhancing the visual appeal and usability of the dashboards by adding interactive elements and ensuring the data was accurately represented. The week culminated with a presentation to the Smart Interns team, where we showcased our findings, explained the methodologies used, and demonstrated the insights could be applied to analyze 2019 Lok Sabha candidate results.

The project was well received by making dashboards and reports as a successful conclusion to be a part of this internship.

## 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.)**

Description Of work environment :

The internship at SmartBridge has been a transformative experience, equipping me with practical skills in data analytics and a deep understanding of Power BI. The hands-on experience & exposure to real-world projects has not only sharpened my technical abilities but also improved my communication skills and project management skills. The work environment fostered a collaborative atmosphere with clear task-roles, well-defined protocols & structured procedures. The facilities were equipped with necessary tools for data analysis. Team members exhibited mutual support & teamwork, contributing to a harmonious relationship. Overall, the internship provided a well-organized comprehensive experience in data analytics and supportive work environment.

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

Description of technical skills acquired

- \* Data Analysis : Proficiency in examining and interpreting complex datasets.
- \* Statistical Analysis : Understanding and applying statistical methods to derive insights.
- \* Data Visualization : Mastery in creating compelling visualizations for effective communication of data.
- \* Programming language : Knowledge & expertise in programming language
- \* Visualization generation : Skills in developing interactive dashboards, comprehensive reports in Power BI.
- \* Data Transformation : Transforming data using Power Query, which involves data cleaning, merging, appending.
- \* Performance Optimization : Improving the performance of reports by optimizing data models, reducing data set size and managing relationships.
- \* Error handling : Diagnosing and fixing issues related to data refresh, query errors and visual inconsistencies.

**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.**

Description Of managerial skills acquired :

- \* Project Management : Coordinating tasks, setting goals & ensuring the timely completion of the data analytic project.
- \* Team Collaboration : Working effectively in a group setting, delegating tasks & fostering a collaborative environment.
- \* Leadership Skills : Taking initiative, guiding the team, and making decisions to achieve project objectives.
- \* Time Management : Prioritizing tasks, meeting deadlines, & efficiently allocating resources.
- \* Problem Solving as a team : Addressing challenges collectively & finding solutions through group discussions & collaboration.
- \* Adaptability : Being flexible & adapting to changes in project scope or requirements.
- \* Quality Assurance : Ensuring the accuracy & quality of quality of the data analytic project deliverables produced by the team.

**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.,)**

Description of the communication skills acquired :

- \* Technical Communication : Effectively conveying complex data analytics concepts & findings.
- \* Presentation Skills : Creating & delivering engaging presentations to communicate insights, dashboard, visualization & project.
- \* Team Collaboration : Collaborating with team members to share information, discuss project progress & update.
- \* Written communication : Crafting clear & concise reports, documentation and emails related to data analytics processes.
- \* Conflict Resolution : Addressing & Resolving conflicts within the team to maintain a positive & productive environment between team members.
- \* Feedback Delivery : Providing constructive feedback to mentors, and trainers and receiving feedback ∴ Fostering a culture of continuous improvement.

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

Reflecting on my experience in data analytics at Smartbridge Internz, I've identified key areas for enhancing my abilities in group discussions, team participation and leadership.

To improve my contributions in group discussions, I aim to actively listen to others, ask insightful questions and share my opinions, perspectives clearly & effectively. As a team leader, I plan to strengthen collaboration by proactively offering support, leveraging my technical skills and embracing different viewpoints of team members.

Lastly to enhance my leadership capabilities I plan to focus on taking initiative, creating a positive team environment and effectively coordinating team activities. Through these measures, I am committed to continuous growth and excellence in my role within the team.

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

Description of digital technologies Of powerBI:

- 1) Data connectivity: PowerBI connects to a wide array of data sources, including databases, cloud services, and web API's. This technology allows live connection to data sources, enabling real-time data analysis without importing data into PowerBI.
- 2) Data Transformation and Modeling: Power query editor enables users to clean, transform and shape data through a user-friendly interface. PowerBI provides capabilities for creating relationships between different data tables, calculated columns using DAX.
- 3) Data Visualization: Users can create interactive dashboards with a wide range of visualizations such as charts, graphs, tables. These can be customized and tailored to specific needs.
- 4) Natural language processing (NLP): A feature enables users to ask questions about their data using natural language and PowerBI will generate visualizations based on the queries. This helps users interact with data in a more intuitive way.