



## SHORT-TERMINTERNSHIP



**Dr. LANKAPALLI BULLAYYA COLLEGE  
VISAKHAPATNAM**

2024/8/29 21:00



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## Acknowledgements

I would sincerely like to thank APSCHIE 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 chakravathy for giving me this wonderful opportunity.

I could also like to thank our head of the Department Miss. Hymavathi mam, Department of BSC Computer Science and our guide K. Mrudula 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 fundamental
- 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: "Exploring Rural population all over the world by using power BI" and gathering, clearing and analyzing its related datasets in Excel.
- 3. Team formation and assignment of tasks to team members.
- 4. Designing and 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:-

Smartbridge is a platform that offer virtual internship to the students for the job market by establishing in a cooperative relationships between industry & Academic , smart Bridge partners with companies such as google to offer virtual internship provide students with hands on experience , the internships provide students with project based learning with the latest technologies, and enable project based learning . Smart Bridges Flagship event is the " summer internship program " The program develops students skills in emerging technologies i.e., 1. Artificial Intelligence 3. Internet of Things 2. machine learning

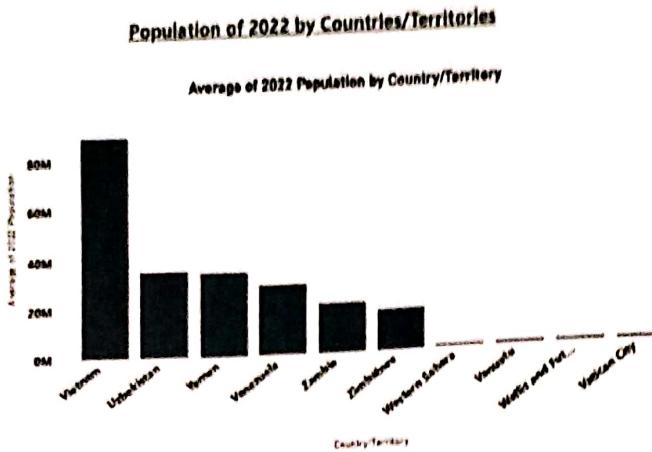
### organization's Objective:

Smart Bridges main objective is to bridge the existing gaps between prevailing industry standards and what the academic offer to the graduate while passing out of university . Smart Bridge offers suitable skills development & training to the young talent before on boarding their first job . Their skills 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:

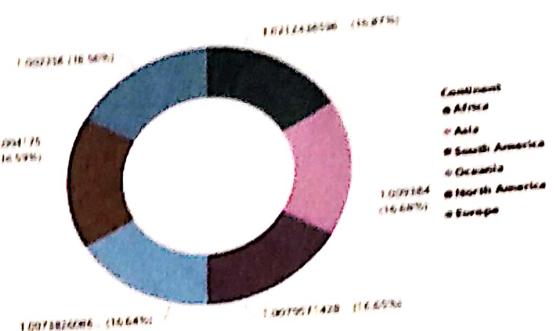
Description of the Activities / Responsibilities undertaken :

1. Regarding with APSCIE smartinternz & enrolling for smartbridge data analytic course i.e five training sessions as per the pre-scheduled training calendar.
2. participating weekly quiz & completing weekly assignment with respect to data analytics.
3. Team formation or selection of project topic "Exploring the Rural population all over the world"
4. Gathering, cleaning & analyzing the excel data skills (sets) of the project topic - "Exploring the Rural population all over the world".
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 file in Github Repository of the team.



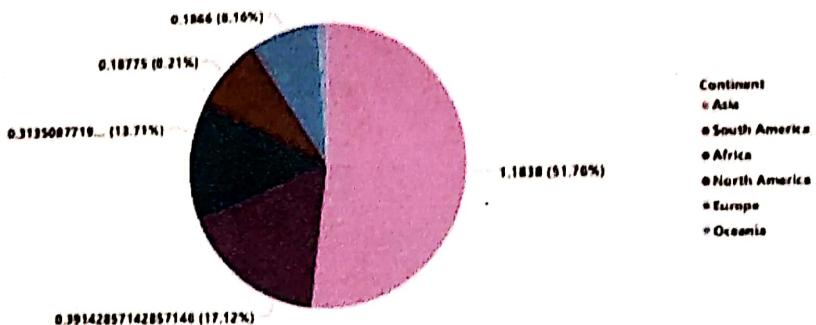
### Growth Rate by Continents

#### **Average of Growth Rate by Continent**



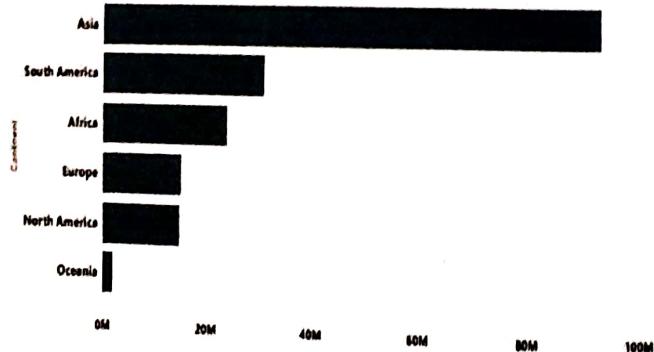
### World Population Percentage by Continents

#### **Average of World Population Percentage by Continent**



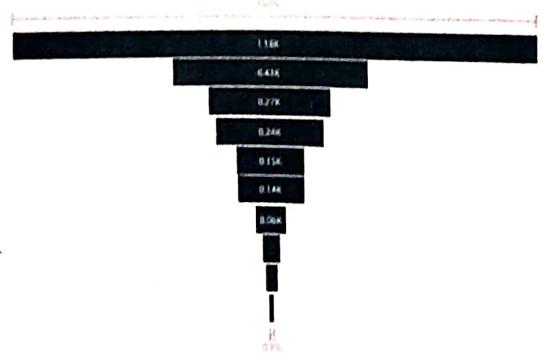
### Population of 2020 by Continents

#### **Average of 2020 Population by Continent**



### Density (per km<sup>2</sup>) by Capitals

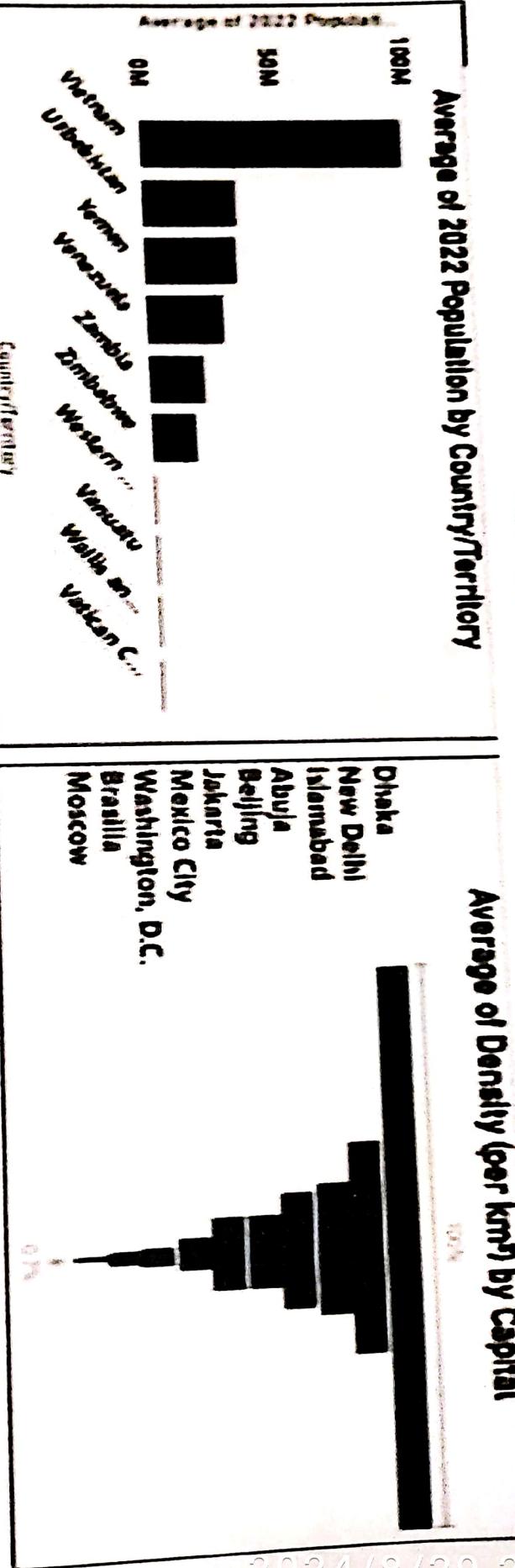
#### **Average of Density (per km<sup>2</sup>) by Capital**



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# RURAL POPULATION ANALYSIS

Average of Density (per km<sup>2</sup>) by Capital



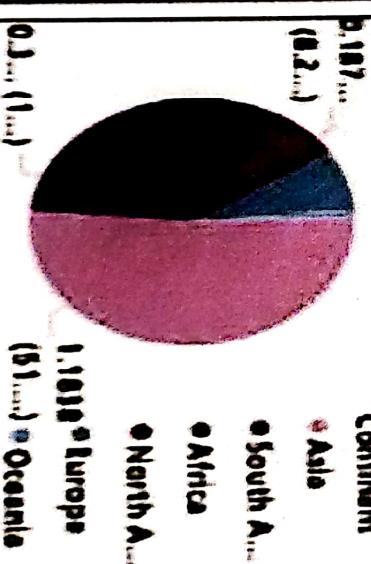
Average of 2020 Population by Country/Territory

Country/Territory



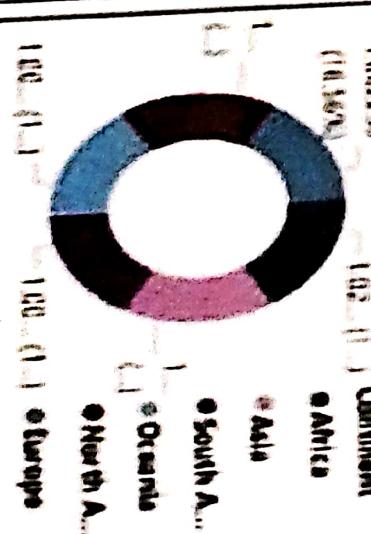
Average of World Population Percentage by Continent

Continent



Average of Growth Rate by Continent

Continent



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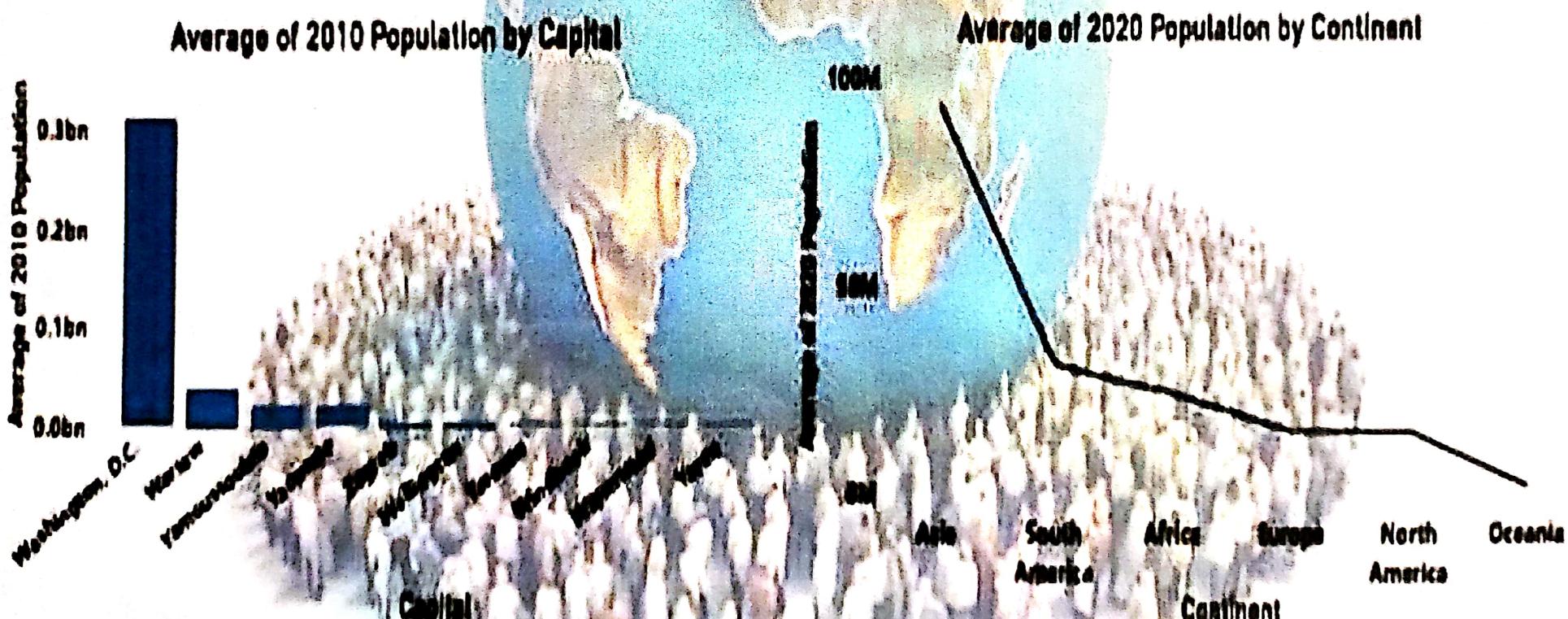


# ANALYSIS OF RURAL POPULATION

Average of  
Population of the  
world by 2022

**34.07M**

**REPORT:** The rural population refers to individuals living in areas classified as rural, which are typically characterized by lower population density and larger areas of open space compared to urban areas. Understanding the percentage of the rural population globally is essential for planning, development, and resource allocation.



## ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
monday Day - 1 8-7-2024	Introduction of data Analytics	analysis of the topic	
Tuesday Day - 2 9-7-2024	Introduction of data Analytics	analysis of the topic	
wednesday Day - 3	Agenda and understanding customers.	clear view of business problem and solutions	
Thursday Day - 4	Analysis and implementing data	Putting the data in visual form	
friday Day - 5	Data Analytics application	where it is used to learn about different tools and insights	
saturday Day - 6	Researched the additional AI information online.	additional information about Data Analysis.	

WEEKLY REPORT  
WEEK - 1 (From Dt... 3/7/24 to Dt... 5/7/24.....)

**Objective of the Activity Done:**

Introduction to Data Analytics and Power BI

**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 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 data in Power BI.

## ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
monday Day - 1	Data Analytics applications	Learned about different tools and insights	
Tuesday Day - 2	Data Analytics application	where it is used in different method .	
wednesday Day - 3	Data Analytics process and steps in Data Analytics	learned about data clearing and data processing	
Thursday Day - 4	Data Analytics process and steps in Analytics	learned about data clearing and data processing	
friday Day - 5	Types of Data Analytics	Different types in data analytics in clear way	
Saturday Day - 6	Revision on given topics	Revised about Data Analytics.	

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## 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 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 datasets.

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

The practical sessions helped reinforce 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
monday Day - 1	business problems and the solutions [practise]	challenges faced in organization	
-Tuesday Day - 2	Business problems and the solutions [practise]	challenges faced in organization	
wednesday Day - 3	power BI in Action	visible insights & sales for cost	
thursday Day - 4	power BI Architecture	learned about structure	
friday Day - 5	Power BI Architecture	learned about structure	
saturday Day - 6	Revision on given topics	Revised about Data Analytics	

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## WEEKLY REPORT

WEEK - 3 (From Dt 15/7/21 to Dt 19/7/21)

### 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 drills through.

## ACTIVITY LOG FOR THE FOURTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Data to insights flow in power BI.	learned about data and master view	
Tuesday Day - 2	Tables and merges	learned about the kinds in merge	
Wednesday Day - 3	Tables and merges	learned about the kinds in merges	
Thursday Day - 4	ETL tools in power query	visualizing power BI data flows	
Friday Day - 5	ETL tools in power query	visualizing power BI data flows	
Saturday Day - 6	Researched the additional information online	Additional information about BI.	

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## WEEKLY REPORT

WEEK - 4 (From Dt 22/7/24 to Dt 26/7/24.....)

### Objective of the Activity Done:

Advanced Analytics and DAX

### Detailed Report:

Week four delved into advanced analytics and Data Analysis Expression (DAX) in power BI.

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.

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**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>
monday Day - 1	data sources dash boards and insights	learned how these are used in BI.	
Tuesday Day - 2	Data collection and data cleaning	learned about the process in Data Analytics	
wednesday Day - 3	Data correction and Data cleaning	learned about the expression and functions	
Thursday Day - 4	Data Analytics expression (DAX)	learned about the expression & function	
Friday Day - 5	Data Analytics expression & (DAX)	learned about the expression and Functions	
Saturday Day - 6	Discussion Regarding project	Discussed about project	

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## WEEKLY REPORT

WEEK - 5 (From Dt. 29/7/24 to Dt... 2/8/24.....)

### Objective of the Activity Done:

Power BI service and collaboration

### Detailed Report:

The fifth week covered the Power BI service and its collaboration 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.

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## ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Monday Day - 1	Filter functions in DAX	different filters in DAX	
Tuesday Day - 2	filter functions in DAX.	different filters in DAX	
Wednesday Day - 3	Preparations for grand assessment test	preparation for assessment test	
Thursday Day - 4	preparation for grand assessment test	preparation for assessment test	
Friday Day - 5	Grand assessment test.	gave the grand assessment test	
Saturday Day - 6	Researched the additional information online	additional information about power BI.	

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## WEEKLY REPORT

WEEK - 6 (From Dt..... 5/8/24 to Dt..... 11/8/24.....)

### Objective of the Activity Done:

Best practices and industry applications

### Detailed Report:

In 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 power BI 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 and 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 model data, and building a data model.

Our team focused on identifying country / territory, capital, Continent, 1990-2022 population, area, density, Growth Rate by using those rows we created dashboard.

The initial report and dashboard were created to visualize their insights, using the skills and techniques learned over the last six weeks.

## WEEKLY REPORT

WEEK - 8 (From Dt. 19/8/21 to Dt. 23/8/21.....)

**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 requirement.

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 term, where we showcased our findings, explained the methodology used, and demonstrated how the insights could be applied to explore the rural population all over the world.

The project was well received by making dashboards & 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 of exposure to real-world projects has not only sharpened my technical skills and 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 and structured procedure. The facilities were equipped with necessary tools for data analysis. Team members exhibited mutual support of 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)**
- \* **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 visualization for effective communication of data.
  - \* **Programming language:** knowledge of expertise in programming language.
  - \* **Visualization generation:** skills in developing interactive dashboards
  - \* **Data transformation:** transforming data using power BI.
  - \* **Data transformation:** transforming data using power query, which involves data cleaning, merging, appending.
  - \* **Performance optimization:** improving the performance of report by optimizing data models, reducing data set size and managing relationships.
  - \* **Error handling:** Diagnosing and fixing issue 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 of ensuring timely completion of the data analysis project.
- \* Team Collaboration: Working effectively in a group setting, delegating tasks and fostering a collaborative environment.
- \* Leadership Skills: Taking initiative, guiding the team, and making decision to achieve project objectives.
- \* Time Management: Prioritizing tasks, meeting deadlines & effectively allocating resources.
- \* Problem Solving as a Team: Addressing challenges collectively & finding solutions through group discussions and collaboration.
- \* Adaptability: Being flexible and adapting to change in project scope or requirement.
- \* Quality Assurance: Ensuring the accuracy & quality to quality of the data analysis project deliverables produced by our 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 analytic concepts and findings.
- \* Presentation Skills: Creating & delivering engaging presentations to communicate insights, dashboard, visualization of project.
- \* Team Collaboration: Collaborating with team members to share information, discuss project progress and update.
- \* Written Communication: Crafting clear and concise documents within the team to maintain reports, documentation and emails related to data analytics processes.
- \* Conflicts 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 enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

Reflecting on my experiences in data analytics at smartBridge intern, I have 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, perspective clearly & effectively. As a team leader, I plan to strengthen collaboration by proactively offering support leveraging my technical skills and embracing different viewpoint 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 can 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 Power BI:

1. Data connectivity: Power BI connects to the wide array of data sources, including databases, cloud services, and web APIs. This technology allows live connections to data sources, enabling real-time data analysis without importing data into Power BI.

2. Data transformation & modeling: Power Query Editor enables user to clean, transform and shape data through a user-friendly interface. Power BI provides capabilities for creating relationships between different data tables, calculated columns using DAX.

3. Data visualization: Users can create interaction [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]: Questions and answers enables user to ask questions about their data using natural language and Power BI will generate visualization based on the queries. This helps user interact with data in a more intuitive way.