

SHORT-TERM INTERNSHIP



**Dr. LANKAPALLI BULLAYYA COLLEGE
VISAKHAPATNAM**

1. EXECUTIVE SUMMARY

Course Objectives and outcomes achieved :

- Understand Data Analytics Fundamentals.
- Mastery of Power BI Interface and Tools.
- Proficiency in Data Preparation and Transformation.
- Expertise in Data Modelling and Relationships.
- Proficient Data Visualization Skills.
- Advanced Analytics and DAX Functions.
- Advanced Power BI features and Interactivity.
- Application in Real-World Scenarios.

Intern Organization :

Apsche Smartintenz

An initiative of SmartBridge in collaboration with APSCHE to build a Job-Ready Talent Pool via Project-Based Learning.

The organization helps students build the profile aligned to a job role through hands-on-project based learning under guidance of industry mentors. It helps students acquire technical and professional competencies while working on real-world challenges and creating innovative solutions.

The program encourages students to think critically and creatively, designed to provide industry-level training at college level.

Summary of activities done by Intern :

- * Live Instructor-led Training
- * Self-Paced learning
- * Project Development
- * Productivity Tools
- * Mentoring
- * Career Development.

2. Overview of The Organization

Introduction of the Organization :

APSCHE (Andhra Pradesh State Council of Higher Education) Smartinternz.

It is aimed at bridging the gap between academia and industry by providing students with hands-on-internship opportunities.

Vision, Mission, and Values of the Organization :

The organization's vision is to empower students by enhancing their employability.

Core values include integrity, innovation, collaboration, and excellence.

Policy of the Organization in Relation to the Intern Role :

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

Organizational Structure :

This structure includes executive leadership, project managers, mentors and administrative staff, ensuring a collaborative environment for interns to learn and grow.

Roles, Responsibilities of the Employees in which the Intern is Placed:

Interns are placed in relevant teams where they assist with projects, learn from mentors, and develop both technical and soft skills.

Futureplans of the Organization

Futureplans include expanding partnerships, introducing new programs in emerging technologies, enhancing digital infrastructure, and building a strong alumni network.

3. Internship Part

During my virtual internship in Data Analytics, with Power BI at APSCHE Smartinternz,

I was involved in several key activities:

- Data Collection and Cleaning - Gathered and cleaned data from various sources to ensure accuracy for analysis.
- Data Transformation - Used Power BI to transform data, including filtering, merging datasets and creating calculated columns.
- Data Modeling - Established relationships between datasets within Power BI to build effective data models.
- Data Visualization - Created interactive dashboards and reports using Power BI to visualize data trends and insights.
- Report Generation - Developed and shared analytical reports highlighting key findings and recommendations.

- Collaborations - Worked with team members and mentors through virtual meetings to receive feedback and improve project outcomes.
- Presenting Findings - Presented analysis results to stakeholders weekly, enhancing communication and presentation skills.
- Learning and Development - Engaged in online learning sessions to improve technical skills in Power BI and data analytics.

Working Conditions :

The internship was fully virtual, with flexible working hours (10 hrs per week) and required reliable internet, a laptop and familiarity with tools like Microsoft Teams and Slack.

This internship helped me gain practical experience in data analytics and enhanced my skills in Power BI.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to power BI and its interface	Gained a foundational understanding	
Day - 2	Overview of various tools and features available.	Familiarization with basic functionalities.	
Day - 3	Importing data from different sources	Learning how to efficiently import data.	
Day - 4	Importing data from Excel, CSV, SQL etc.	Importance of data sources.	
Day - 5	Demonstration of importing data.	Understanding data formats.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done: To familiarize with power BI

Detailed Report:

Gained a foundational understanding of the power BI environment, including navigating through various menus and panels. Familiarization with the basic functionalities of Power BI including visualizations and report creation tools.

Learned about data formats and structures. Methods to convert and import data from multiple formats into power BI.

Developed a solid understanding of the different data formats and how they impact the data import process in power BI.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Cleaning of data within Power BI	Data transformation	
Day - 2	Use of Power Query Editor in Power BI	Acquired skills for transforming.	
Day - 3	Modifying the datasets.	How to merge, remove or reshape.	
Day - 4	Creating basic visualizations like bar, pie charts.	Developed the ability to create charts.	
Day - 5	Understanding the concept of data visualization.	Customizing basic visualizations.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done:	To build foundational skills.
Detailed Report:	<p>The week began with an essential task of cleaning data within power BI. This process involved identifying and correcting errors, removing duplicates and ensuring that the data was in a reusable format. The Power Query Editor was utilized to perform advanced data transformation tasks, such as filtering, sorting, and applying complex transformations. The datasets were modified which are crucial to make it suitable for analysis.</p> <p>Visualizations were created graphically representing data making it easier to interpret and communicate insights.</p>
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ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1	Introduction to Data Analysis Expressions (DAX)	Gained an understanding of DAX.	
Day -2	Writing basic DAX formulas : SUM, AVERAGE, COUNT etc.	Learned how to apply basic DAX formulas.	
Day -3	Exploring relationships between tables.	Developed skills in establishing them.	
Day -4	The concept of Data Modeling.	Understanding one-to-one or many relationship.	
Day -5	Created calculated columns and measures using DAX.	Enhanced ability to use DAX.	
Day -6			

WEEKLY REPORT

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

Objective of the Activity Done:	Data Analysis Expression (DAX)
Detailed Report:	<p>This week focused on mastering Data Analysis Expressions (DAX) in Power BI.</p> <p>The DAX was introduced and gained understanding of DAX basics.</p> <p>Practiced basic DAX formulas like SUM, AVERAGE, COUNT.</p> <p>Explored relationships between tables, improving skills in establishing the relationships and data modeling concepts, focusing on one-to-one and one-to-many relationships.</p> <p>Created calculated columns and measures using DAX, enhancing proficiency.</p>

**ACTIVITY LOG FOR THE ~~LAST~~ WEEK
FOURTH**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Introduction to Time Intelligence	Working with dates and times.	
Day - 2	Applying time-based calculations	Analyzing trends over time in DAX.	
Day - 3	Learned about other visualizations	Expanded knowledge of creating.	
Day - 4	Used slicers and filters to create reports.	Gained the ability to make reports.	
Day - 5	Made dashboards which serve as a summary.	Understood to create dashboards in power BI.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done:	Data Manipulation
Detailed Report:	
	Learned to apply time-based calculations with Time Intelligence in DAX. Expanded knowledge of creating advanced visualizations like Scatter plots, Treemaps and Waterfall charts to represent data in diverse ways.
	Gained ability to add interactivity to reports using slicers and filters enhancing user engagement.
	Customized themes for consistent and professional report design.

**ACTIVITY LOG FOR THE ~~FOURTH~~ WEEK
FIFTH**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Creating dynamic titles and labels using DAX.	Developed skills using DAX.	
Day - 2	Made modifications in the report to make it understandable.	To create dynamic report elements.	
Day - 3	Exploring Power BI's built-in themes	Learned to customize themes.	
Day - 4	Customizing the design of the report.	Learned to apply and make professional design.	
Day - 5	Introduction to custom visuals.	Gained experience in making reports.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done:

Creating Visualizations

Detailed Report:

Dynamic titles and labels were created using DAX; where skills were developed like creating dynamic report elements that update based on user interactions.

Exploring Power BI's built-in themes and customizing report design.

Learning to apply and customize themes for report.

Reports with custom visuals available in the Power BI marketplace, importing, and using such visuals providing the viewer insights into the dataset.

**ACTIVITY LOG FOR THE ~~SIXTH~~ WEEK
SIXTH**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Understanding data refresh processes.	Gained knowledge of data refresh strategies.	
Day - 2	Optimizing DAX queries	Learned techniques to optimize.	
Day - 3	Best practices in data modeling	Developed an understanding of data modeling.	
Day - 4	Efficient and better report design	Ensuring maintainability.	
Day - 5	Implementing security in power BI.	Acquired skills in setting it up.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done:	Performance Optimization
Detailed Report:	<p>Understood and optimized data refresh processes.</p> <p>Gained knowledge of data refresh strategies to better performance.</p> <p>Ensuring faster and more efficient data processing.</p> <p>Developing an understanding of industry best practices in data modeling, and report design to ensure scalability. Row-level security to control data access within Power BI reports, reports remain efficient and meet user needs.</p>

**ACTIVITY LOG FOR THE ~~FIRST~~ WEEK
SEVENTH**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Monitored power BI usage	Learned to monitor performance.	
Day - 2	Introduction to power BI service	Gained an understanding of power BI service	
Day - 3	Publishing reports and dashboards.	Learned to publish and manage reports.	
Day - 4	Managing workspaces, apps and sharing options.	Developed skills in sharing.	
Day - 5	Introduction to power BI mobile app.	Learned to optimize reports.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done:

Collaborating on Reports

Detailed Report:

Conditional formatting and advanced formatting options : Implementing conditional formatting to highlight specific data points. Using advanced formatting options for detailed customization.

Introduction to sharing, and permissions, Advanced Power BI Features , Row-level security and data governance , advanced techniques for effective data analysis .

Updates and best practices , staying updated with the latest Power BI features and best practices for efficient data analytics.

**ACTIVITY LOG FOR THE ~~EIGHT~~ WEEK
EIGHT**

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1	Discussed briefly about the steps to analyze data.	Recall of information taught before.	
Day - 2	Demonstration of data understanding and uploading.	Learned to efficiently load data.	
Day - 3	Editing the data using Power Query.	Knowledge about data modifying.	
Day - 4	Creating dashboards and report.	To create understandable reports.	
Day - 5	Use of visualizations to conclude the given dataset.	Developed skills to use power BI.	
Day - 6			

WEEKLY REPORT

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

Objective of the Activity Done: Use of Dataset in Power BI

Detailed Report:

The data is first collected and extracted from the database to evaluate outcomes and generate insights from the data.

The data is then prepared for visualization which involves data cleaning, and transformation into a understandable format.

Data visualization is the process of creating graphical representations of data to help people understand and explore information, by using, charts, graphs, maps.

A dashboard provides data in a easy to read format. A report is a comprehensive document that provides detailed and structural account of data analysis, findings and insights.

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 my Data Analytics internship, I experienced a collaborative and supportive work environment characterized by several key elements:

→ People interactions and Teamwork

The internship encouraged regular interactions with mentors, peers and team members through virtual meetings and other institutional platforms.

→ Time management and Discipline

The flexible nature of the virtual internship allowed me to develop strong time management skills. I learned to prioritize tasks, adhere to deadlines ensuring all deliverables were completed on time.

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

During my virtual internship with Smartinternz APSCHE, I gained significant hands-on experience in data analytics, specifically using Power BI.

- I learned to clean and process raw data using Power Query in Power BI. This included handling missing values, normalizing data, and creating calculated columns and measures to enhance data quality.
- I developed proficiency in creating dynamic and interactive dashboards. I used various visualizations techniques such as bar, chart, line graph, pie charts, and scatter plots to represent data insights effectively.
- I was involved in building comprehensive reports that consolidated various data sources.

- I gained experience in using DAX (Data Analysis Expressions) to create advanced calculations and perform complex data analysis within Power BI.
- Working on a project-oriented approach, I collaborated with team members to define project goals, set timelines, and deliver a final project. This experience helped me improve my teamwork, communication and project management skills.
- I learned how to work with real-time data streams and incorporate them into Power BI dashboards, allowing for up-to-date analysis and decision-making.

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

During my Data Analytics with power BI internship,

- * I developed and honed several key managerial skills essential for effective project execution and teamwork.
- * I learned to effectively plan project timelines and milestones ensuring that tasks were completed on time.
- * Working in a team environment, I took on leadership roles by guiding team discussions, delegating tasks, and ensuring everyone was on the same page.
- * Throughout the internship, I maintained professional attitude adhering to high standards of work quality and consistency.
- * Focused on optimizing my workflow by prioritizing tasks and managing my time.

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.)

Throughout my virtual internship with Smartintern, I identified several areas in which I can improve my communication skills both in oral and written forms to enhance my professional effectiveness.

→ Oral Communication :

While presenting my analysis and findings during the internship, I realized the importance of clear and concise verbal communication.

I aim to improve my ability to articulate key points more effectively, ensuring that my audience can easily grasp the main ideas.

→ Written Communication :

My experience in documenting reports and dashboards highlighted the need for precise and structured written communication.

→ Conversational Abilities :

During team collaborations, I learned the value of active listening and the importance of understanding others before responding.

→ Confidence Level :

I observed that my confidence while communicating in meetings or group discussions could be improved. To build this confidence, I plan to engage in more practice scenarios.

→ Maintaining Professional Niceties and Protocols :

Recognizing the importance of professional etiquette such as appropriate greetings, thanking and appreciating others, I aim to be more mindful of these practices.

→ Effective Closing of Conversations :

Practicing summarization techniques and clearly outlining next steps at the end of meetings will be focused.

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

- Active Participation in Discussions :

During the virtual internship, I can make a conscious effort to actively engage in group discussions by sharing insights, asking questions, and offering constructive feedback. This would not only improve my understanding of the concepts but also contribute to the collective knowledge of the group.

- Collaboration and Teamwork :

I would focus on collaborating effectively with my peers by respecting different perspectives and working together towards common goals.

By taking on responsibilities, I can ensure that I contribute meaningfully to the team's success.

- Leadership in Projects :

If leaded properly , it could lead to coordinating tasks, managing timelines, and ensuring the team stays on track to achieve our objectives . Leading a team actively enhanced my leadership and organizational skills .

- Skill Enhancement :

Efforts to further develop my technical skills in Power BI and data analytics by participating in additional training sessions or self - learning .

This would enable to contribute more effectively to the project by applying advanced techniques and tools .

Data Analytics using Power BI

Power BI, a leading tool in the data analytics field, has seen significant enhancements. The integration of AI capabilities for automated insights, natural language processing and advanced data modeling has revolutionized how data is analyzed and visualized, making it more accessible and user-friendly for students, and professionals alike.

The use of cloud-based solutions in Power BI allows for seamless data sharing, real-time collaboration, and ability to handle large datasets. With the increasing focus on data privacy and security, Power BI has implemented robust security features.

UNESCO HERITAGE SITES ANALYSIS

- A Global Preservation Initiative

Distribution of Heritage Sites



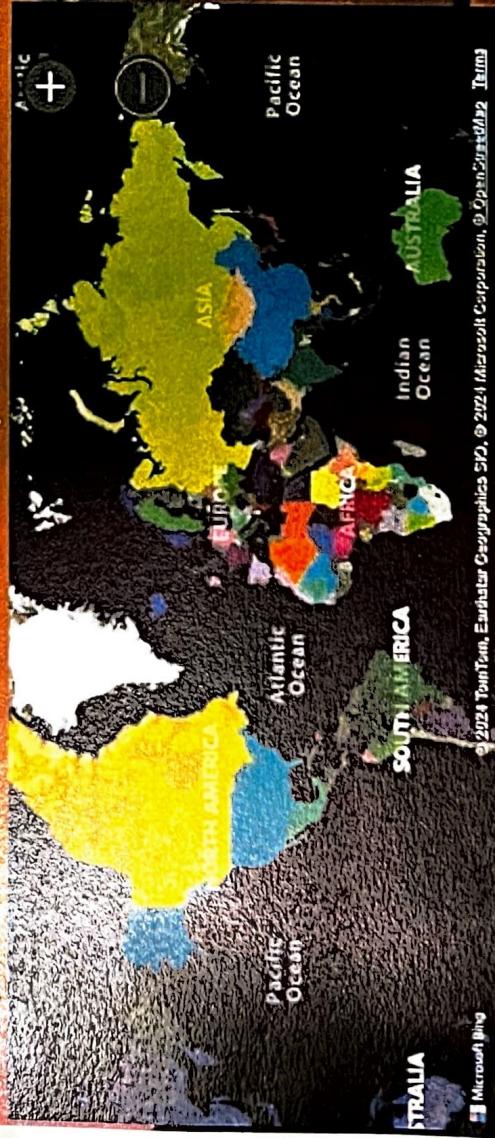
Region	Number of Sites
Africa	1 (2.56%)
Arab States	1 (2.56%)
Asia and the Pacific	1 (2.56%)
Europe and North America	1 (2.56%)
Latin America and the Caribbean	1 (2.56%)
North America	1 (2.56%)
South America	1 (2.56%)
United States of America	1 (2.56%)
Other Regions	1 (2.56%)
Total	528



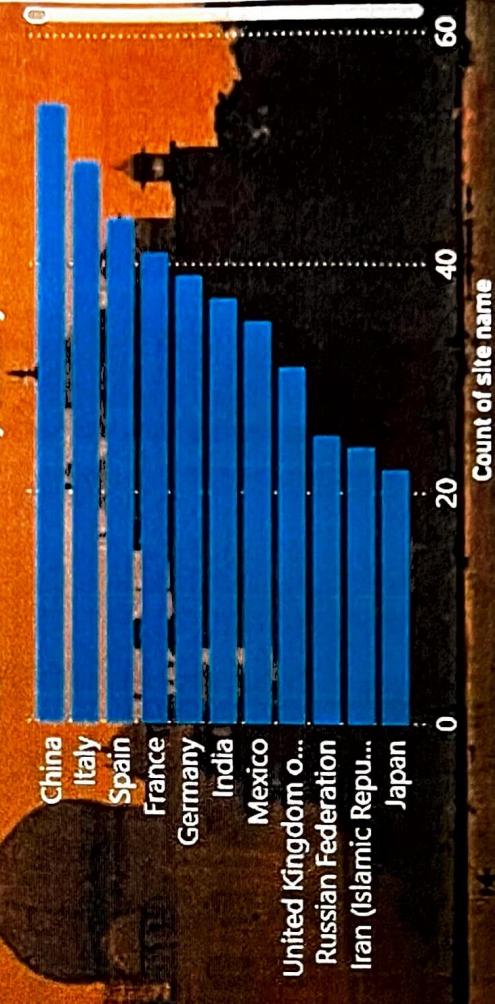
UNESCO Heritage Sites Analysis

A Global Preservation Initiative

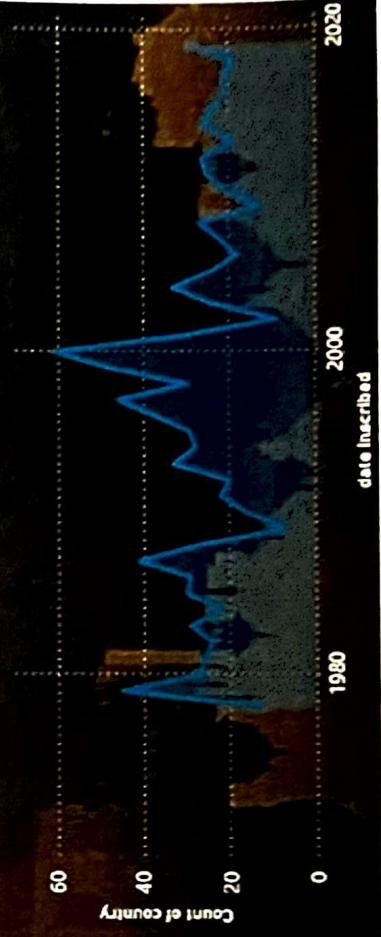
country and site description



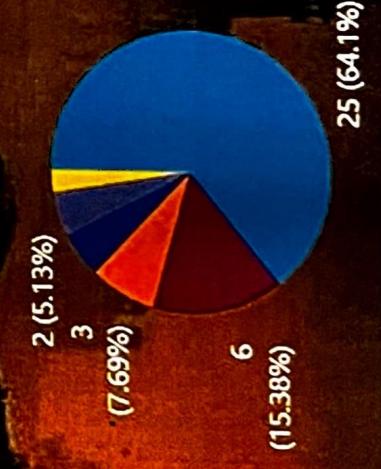
Count of site name by country



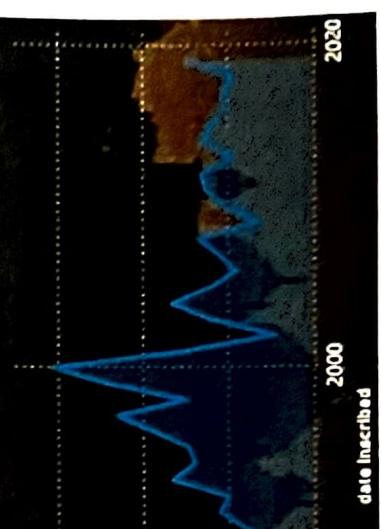
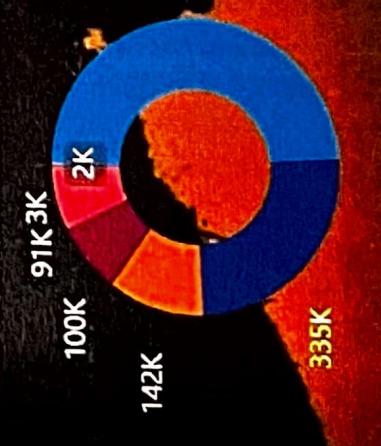
Count of country by date inscribed



Sum of transboundary by continent



Sum of unique number by continent



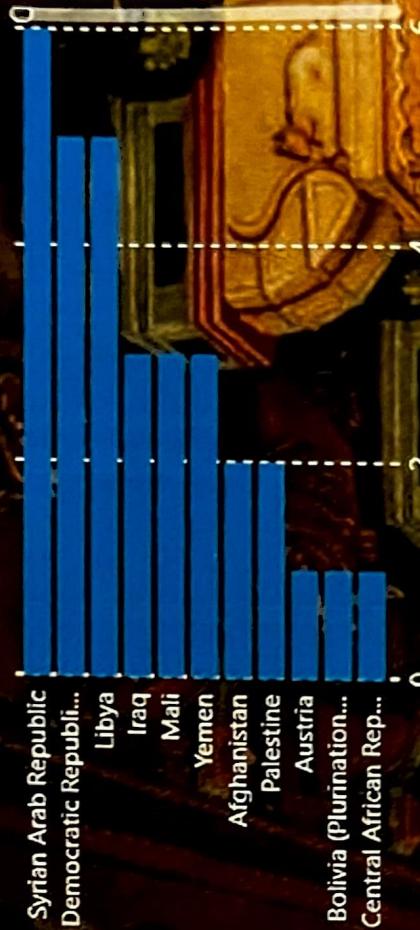
UNESCO Heritage Sites Analysis

A Global Preservation Initiative

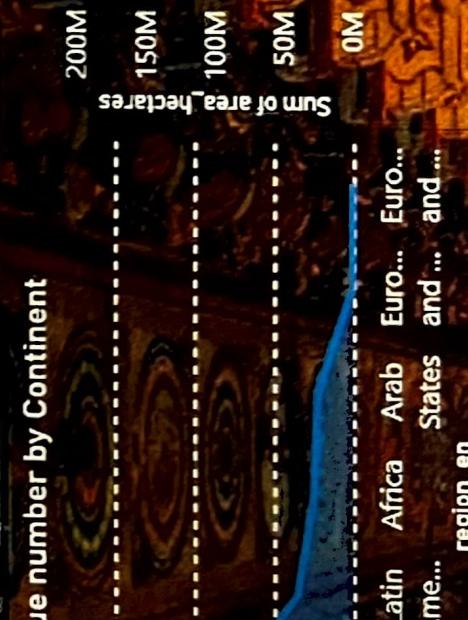
Continent and site code



Sum of danger by country



Sum of area (hectares) by Continent



Sum of unique number by Continent



Analysis of Danger Sites on the Basis of Category

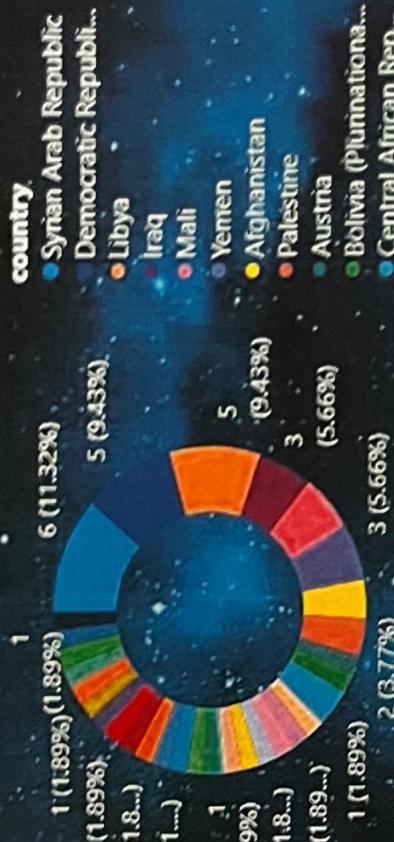
17

(32.08%)

- Cultural
- Natural
- Mixed

36 (67.92%)

Analysis of Danger Site According To Country



UNESCO DANGER SITES PRESERVATION

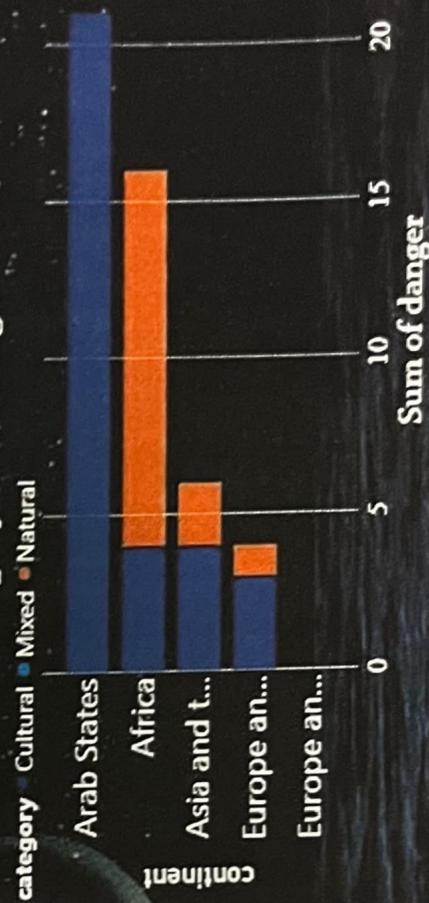
A Tree Chart for Category

Cultural

Natural



Category wise Danger List



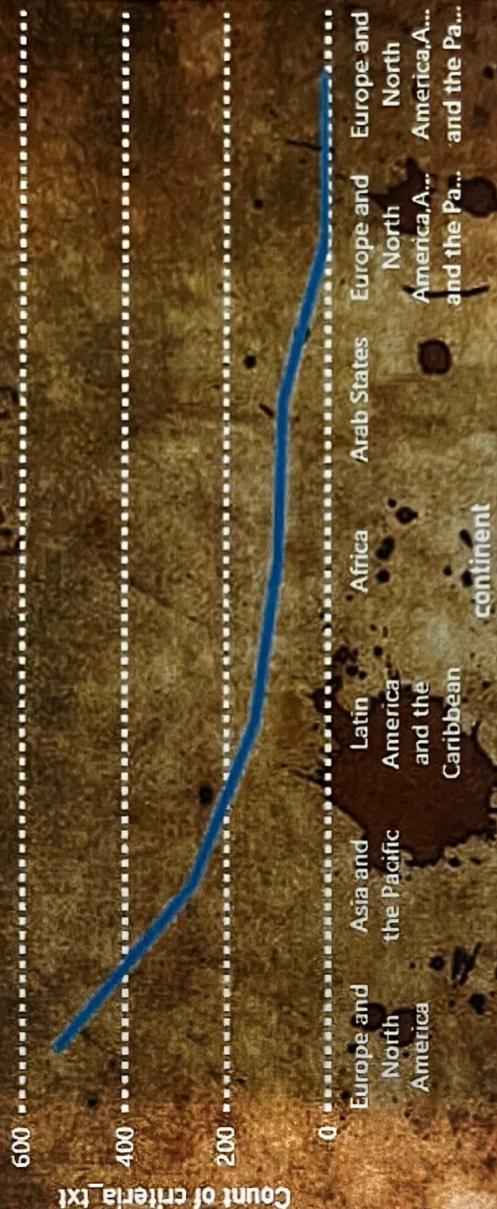
UNESCO Heritage Sites Analysis

A Global Preservation Initiative

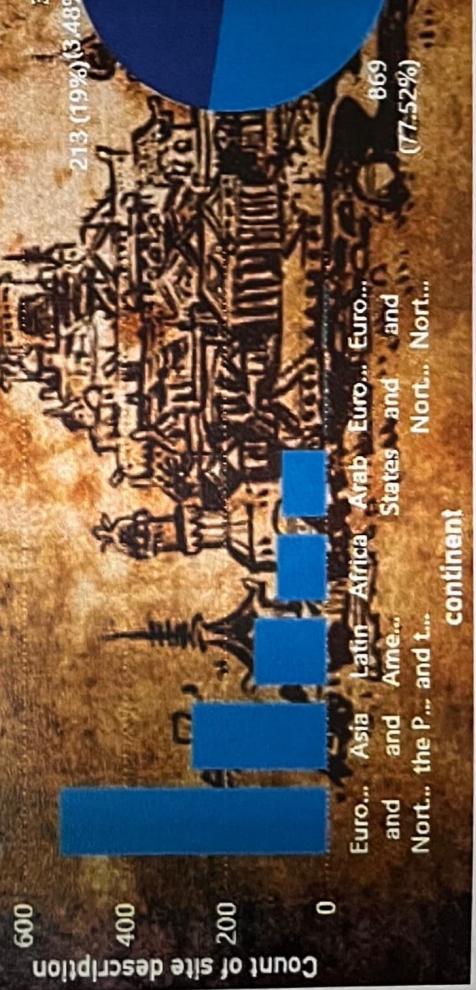
Continent and site description



Count of criteria by continent



Count of site description by continent



Count of continent by category



Sum of danger by continent



UNESCO Heritage Sites Analysis: A Global Preservation Initiative

Overview

This analysis provides an insightful look into the distribution, types, and current status of UNESCO Heritage Sites across the globe. The dashboard visualizes key aspects such as the types of heritage sites, their distribution across continents, sites at risk and transboundary sites.

Distribution by Category:

Cultural Sites dominate the list, with a total of 869 sites, representing 79% of the total heritage sites. **Natural Sites** account for 213 entries, or 19%, highlighting significant natural landmarks and ecosystems. **Mixed Sites** (both cultural and natural) make up a smaller portion with 39 entries, constituting 3% of the total.

Sites on the Danger List:

88 sites are currently listed on the danger list, representing approximately 8% of all heritage sites. These sites are under threat due to factors such as environmental changes, urbanization, conflict, and natural disasters, necessitating immediate preservation efforts.

Regional Distribution of Heritage Sites:

Europe and North America hold the majority with 528 sites, making this region the most represented in UNESCO's heritage list.

Asia and the Pacific follow with 266 sites, showing the region's rich cultural and natural diversity.

Latin America and the Caribbean and Africa have 142 and 96 sites respectively, while the **Arab States** account for 86 sites.

There are a few sites that span multiple regions, indicating their global significance.

Transboundary Sites:

39 transboundary sites are shared between multiple countries, demonstrating international cooperation in preserving significant cultural and natural heritage. The majority of sites, **1,082 in total**, are contained within a single country's borders.

Geographic and Size Analysis:

The sites vary significantly in size, with the smallest being just a few hectares and the largest covering over **67 million hectares**. The median size of heritage sites is around **187 hectares**, while the majority of sites are relatively small, with 75% of them being under **13,551 hectares**.

Conclusion

- **The UNESCO World Heritage Sites dataset underscores the global commitment to preserving cultural and natural landmarks.**
- **Europe and North America dominate in the number of sites, but regions like Asia and the Pacific and Latin America also play a crucial role in global heritage.**
 - **The presence of 88 sites on the danger list highlights the ongoing threats to these invaluable sites, necessitating focused conservation efforts.**
- **This analysis serves as a tool for understanding the current state of World Heritage Sites and aids in the prioritization of preservation efforts globally.**