

## **A Project Report On**

# **Analyzing-the-Performance-Efficiency-of-The- Radisson-Hotels-using-Data-Visualization- Techniques**

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**(Approved by AICTE, Affiliated to JNTUA, Accredited by NBA & ISO 9001:2008 Certified)**

## **Project Report Format:**

### **1 Introduction**

#### 1.1 Overview

A Brief Description About Your Project

#### 1.2 Purpose

The use of this project. What Can be Achieved using this.

### **2 Theoretical analysis**

#### 2.1 Block diagram

Diagrammatic overview of the project.

#### 2.2 Hardware/Software Designing

Hardware and software requirements of the project

### **3 Result**

Final findings (Output) Of the project along with screenshots.

### **4 Advantages & Disadvantages**

List of advantages and disadvantages of the proposed solution

### **5 Applications**

The areas where this solution can be applied

### **6 Conclusion**

Conclusion summarizing the entire work and findings.

### **7 Futurescope**

Enhancements that can be made in the future.

## Introduction

The analysis of Radisson Hotels Internship, conducted in association with SmartInternz and SmartBridge, was a comprehensive six-month program designed to provide aspiring data analysts with hands-on experience in using IBM Cognos and Spyder web integration using Flask. The internship aimed to bridge the gap between theoretical knowledge and practical application, empowering interns to analyze and visualize data effectively for hospitality industry insights. The Radisson Hotels face the challenge of efficiently analyzing their operational performance to enhance guest experiences and optimize resource allocation. The absence of a comprehensive data visualization strategy hinders their ability to quickly identify trends, bottlenecks, and areas of improvement. As a result, the hotel's decision-making process lacks data-driven precision, potentially leading to missed revenue opportunities, guest dissatisfaction, and operational inefficiencies. To address these challenges, this study aims to explore and implement data visualization techniques that will enable The Radisson Hotels to effectively analyze their performance efficiency, make informed decisions, and elevate their competitive edge within the ever-evolving hospitality landscape." SmartBridge, a pioneer in IT training and skill development, collaborated with SmartInternz to offer a unique opportunity for interns to develop expertise in data analytics and web development.

### A Brief Description About Your Project

Our project on analysis of Radisson Hotels is a data-driven initiative aimed at evaluating and understanding the academic performance of students in educational institutions. Through advanced data analytics techniques, we collect, preprocess, and analyze relevant data sets to gain valuable insights into Radisson Hotel achievements, strengths, and areas of improvement.

Using cutting-edge tools such as IBM Cognos for data visualization and Spyder for data analysis, we present the findings through visually compelling charts, graphs, and dashboards. These data visualizations enable hotel management and stakeholders to make informed decisions for enhancing teaching methodologies, curriculum design, and student support systems. Moreover, we leverage Flask, a web development framework, to create dynamic and interactive web applications that facilitate easy access to the analyzed data. By providing users with the ability



to interact with the visualizations, we aim to promote a user-centric approach and empower stakeholders to explore the data intuitively.

## **Purpose**

The use of this project. What Can be Achieved using this.

**Data Analysis Skills:** Aspiring data analysts can gain practical experience in analyzing the performance efficiency of the radission hotels using data visualization techniques.

**IBM Cognos Proficiency:** Interns will learn how to use IBM Cognos, a powerful business intelligence and data visualization tool, to create interactive and insightful reports and dashboards.

**Spyder Web Integration:** Interns will understand how to integrate data analysis code written in Spyder (an IDE for Python) into web applications.

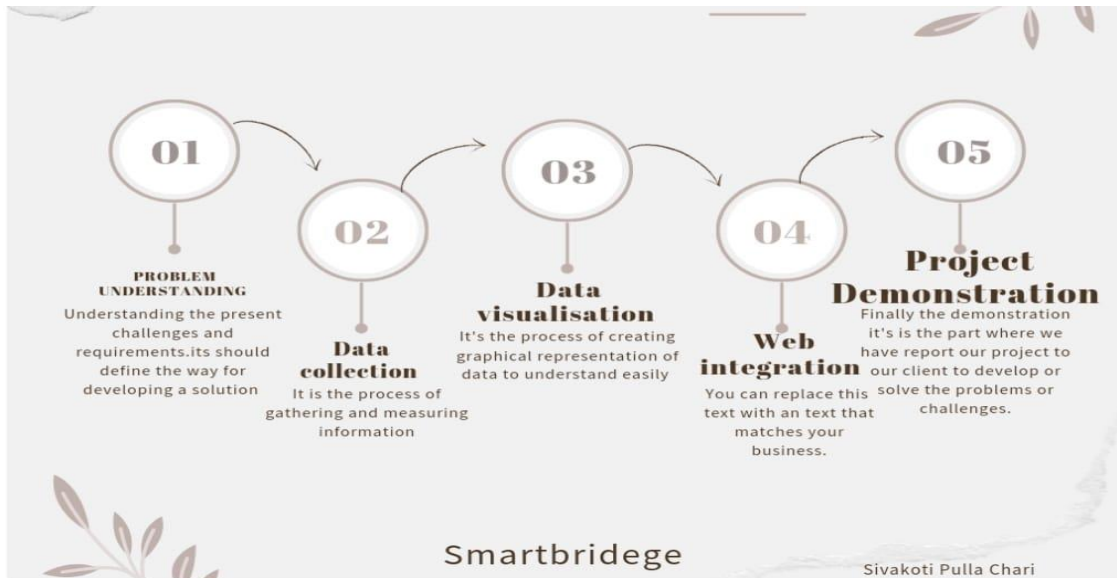
**Flask Web Development:** Participants will learn how to use Flask, a web framework in Python, to build interactive web applications that showcase data analysis results.

**Real-World Experience:** By working on a comprehensive six-month project, interns will get hands-on experience, simulating a real-world data analysis project from start to finish.

**Enhanced Employability:** Completion of this internship can significantly boost the interns' employability as they would have acquired valuable skills that are in high demand in the data analysis job market.

**Portfolio Development:** Interns can create a portfolio of their project work, showcasing their practical skills and accomplishments, which can be presented to potential employers.

## Theoretical analysis :



Diagrammatic overview of the project.

## Hardware/Software Designing

Designing hardware specifically for radission hotel analysis would involve creating a system capable of collecting, processing, and storing data related to data sets. Here's a general outline of the hardware components and considerations for such a system:

Data Storage:

Cloud-Based Storage: To handle large volumes of data, a cloud-based storage solution (e.g., Amazon S3, Google Cloud Storage) can be utilized. This ensures scalability and accessibility from multiple locations.

**Hardware and software requirements of the project Windows 11 pc IBM Cognos Cloud 365 days Cloud Trail**

Python idle

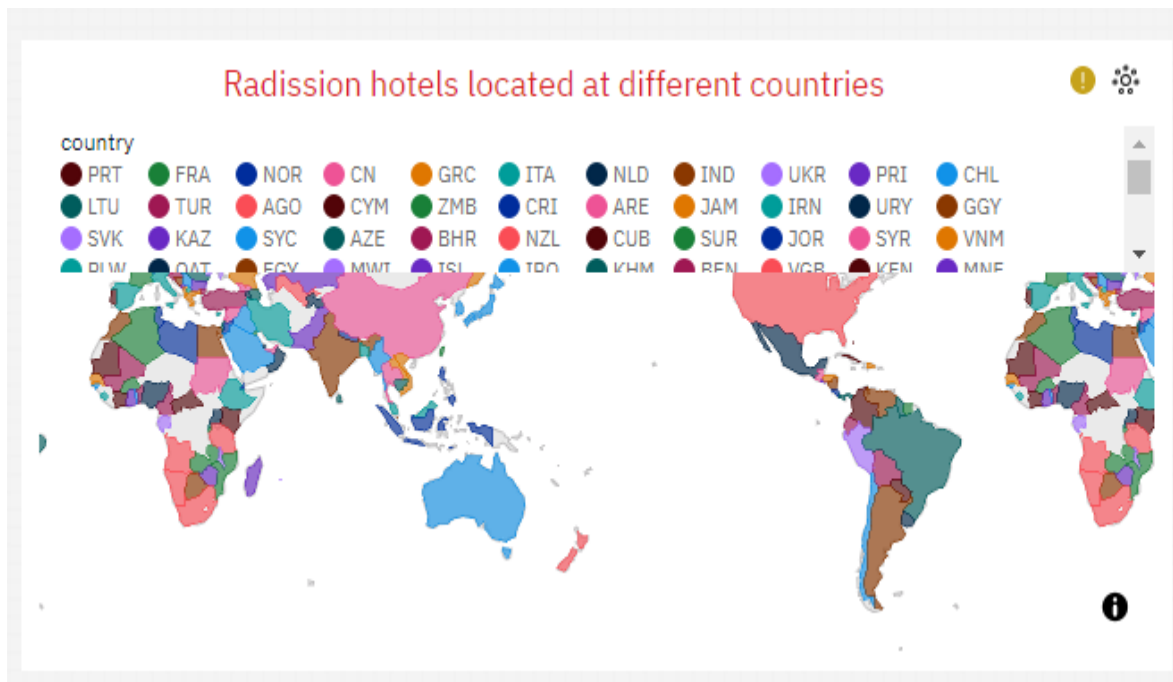
Anaconda 3

Spyder 3.0

Bootstrapmade templat , Web browser

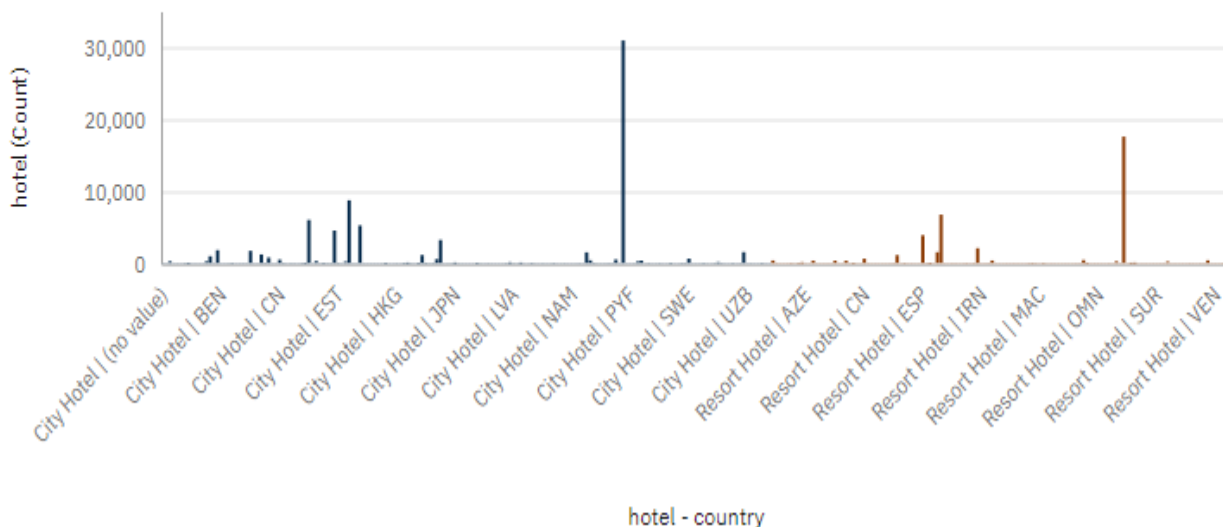
↑↓	Name	Cost	Collections	Cuisines	Timings
	Beyond Flavours	800	Food Hygiene Rated Restaurants in Hyderabad, Corporate Favorites, Great Buffets, Top-Rated, Gold Curated, Live Sports Screenings	Chinese, Continental, Kebab, European, South Indian, North Indian	12noon to 3:30pm, 6:30pm to 11:30pm (Mon-Sun)
	Paradise	800	Hyderabad's Hottest	Biryani, North Indian, Chinese	11 AM to 11 PM
	Flechazo	1300	Great Buffets, Hyderabad's Hottest	Asian, Mediterranean, North Indian, Desserts	11:30 AM to 4:30 PM, 6:30 PM to 11 PM
	Shah Ghouse Hotel & Restaurant	800	Late Night Restaurants	Biryani, North Indian, Chinese, Seafood, Beverages	12 Noon to 2 AM
	Over The Moon Brew Company	1200	Best Bars & Pubs, Food Hygiene Rated Restaurants in Hyderabad, Top-Rated, Gold Curated, Hyderabad's Hottest	Asian, Continental, North Indian, Chinese, Mediterranean	12noon to 11pm (Mon, Tue, Wed, Thu, Sun), 12noon to 12midnight (Fri-Sat)
	The Fisherman's Wharf	1500	Sunday Brunches, Corporate Favorites, Great Buffets, Hyderabad's Hottest, Food Hygiene Rated Restaurants in Hyderabad, Top-Rated, Gold Curated	Seafood, Goan, North Indian, Continental, Asian	12Noon to 3:30PM, 4PM to 6:30PM, 7PM to 11:30PM (Mon, Tue, Wed, Thu, Sun), 12Noon to 3:30PM, 4PM to 6:30PM, 7PM to 12Midnight (Fri-Sat)

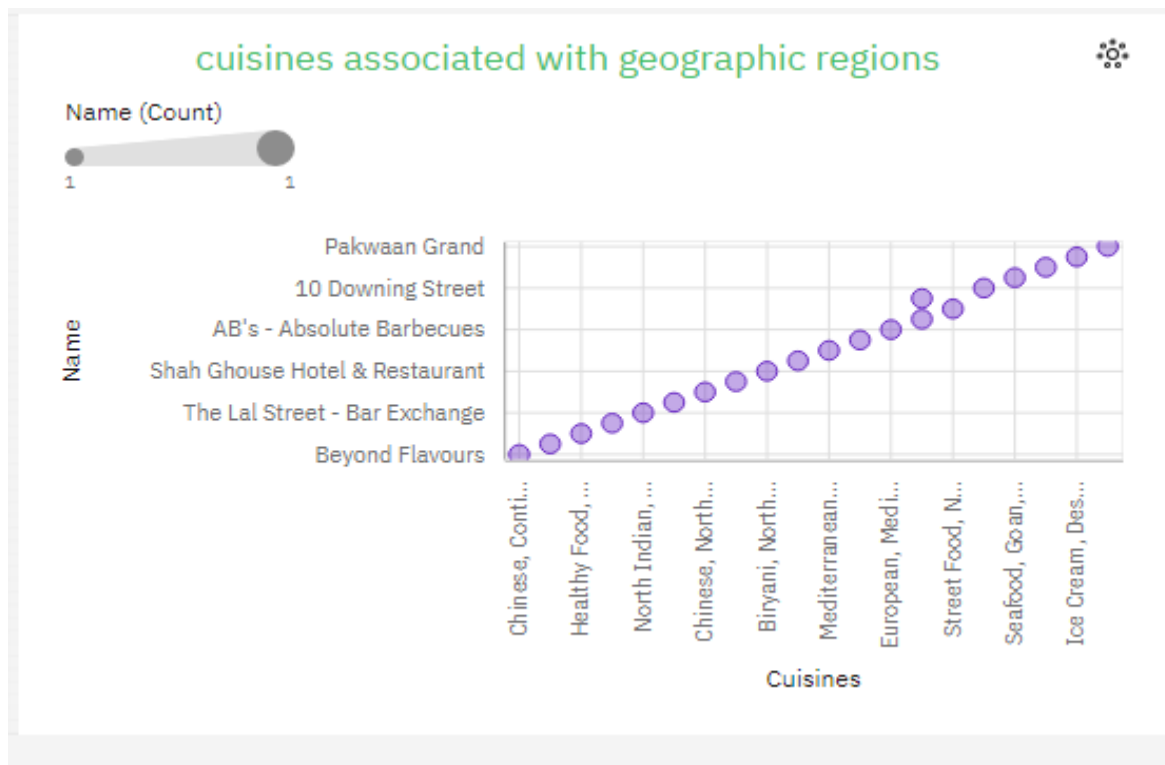
## RESULTS:





● City Hotel      ● Resort Hotel





## CHALLENGES:

- Radisson Hotel Group is one of the world's largest and most dynamic hotel companies, with seven distinctive hotel brands and more than 1,400 hotels in operation and under development around the world.
- Targeting accelerated growth with its 5-year operating plan and aiming to be one of the three top-of-mind hotel companies in the world, the Group rebranded in 2018 and launched a new brand architecture – including new commercial drivers - to leverage the powerful brand awareness of Radisson.
- The goal? To leverage the greater equity of the Radisson brand to drive up consumer awareness, while increasing the efficiency of global marketing spend and continuing to curate [exceptional digital customer experiences](#).
- With direct-to-consumer channels ever more important in today's hospitality industry, Radisson Hotels also wanted to drive more traffic to its branded website and enhance its ability to increase digital sales and create new cross-selling and up-selling opportunities.



## **Advantages of Radisson hotels:**

- **Data-Driven Decision Making:** By analyzing efficiency metrics, the hotel management can make informed decisions backed by data, reducing the reliance on guesswork and intuition.
- **Risk Mitigation:** Identifying operational inefficiencies can help prevent potential issues before they escalate, minimizing the risk of negative guest reviews and reputational damage.
- **Investment Decisions:** Analyzing efficiency can guide decisions about investments in technology, infrastructure, and renovations, ensuring that resources are directed where they can yield the most significant returns.
- **Strategic Alignment:** Efficiency analysis can help align hotel operations with the overall strategic goals of the Radisson brand, maintaining consistency and reinforcing the brand's identity.
- **Forecasting and Planning:** Historical efficiency data can aid in forecasting demand patterns and planning for peak periods, ensuring that the hotel is adequately staffed and stocked.

## **Disadvantages of Radisson hotels:**

- **Overemphasis on Metrics:** Relying solely on efficiency metrics could lead to a narrow focus on quantitative measures, potentially neglecting the qualitative aspects of guest experiences and employee well-being.
- **Data Overload:** Gathering and analyzing large amounts of data can be overwhelming and time-consuming, diverting resources from other important tasks.
- **Resistance to Change:** Employees might resist changes that result from efficiency analysis, fearing job role changes or increased pressure to meet performance targets.
- **Unforeseen Consequences:** Tweaking one aspect of operations for efficiency might inadvertently lead to negative consequences in other areas that aren't immediately apparent.
- **Cost of Implementation:** Implementing new technologies or processes to improve efficiency can be expensive and might not yield immediate returns.
- **Employee Stress:** Intense focus on efficiency targets might lead to increased stress and pressure on employees, affecting their job satisfaction and performance.



- **Loss of Flexibility:** Over-optimization can make the hotel less adaptable to unexpected changes in guest preferences or market dynamics
- **Incomplete Picture:** Relying solely on quantitative metrics might miss qualitative aspects that contribute to the overall guest experience, like ambiance and atmosphere.

## **Applications:**

- **Demand Forecasting:** Data analytics can help predict periods of high and low demand, allowing the hotel to adjust staffing levels, inventory, and pricing strategies accordingly.
- **Optimizing Room Allocation:** Analytics can assist in efficiently assigning rooms based on guest preferences, occupancy rates, and maintenance schedules, minimizing wait times and improving guest satisfaction.
- **Personalized Marketing:** By analyzing guest data, the hotel can tailor marketing efforts to individual preferences, increasing the likelihood of repeat bookings and upselling opportunities.
- **Guest Feedback Analysis:** Analyzing guest reviews and feedback can provide insights into areas needing improvement, helping the hotel prioritize enhancements that matter most to guests.
- **Inventory Management:** Data analytics can optimize inventory levels for amenities, toiletries, and other supplies, preventing stockouts and reducing excess inventory costs.
- **Predictive Maintenance:** Sensors and data analytics can predict when equipment or facilities need maintenance, reducing downtime and minimizing guest disruptions.
- **Operational Efficiency:** Data-driven insights can uncover bottlenecks in various processes, such as check-in, housekeeping, and food service, leading to streamlined operations.
- **Staff Performance Optimization:** Analyzing staff performance metrics can help identify training needs and recognize top performers, leading to improved guest interactions.
- **Guest Segmentation:** Data analytics can segment guests based on demographics, behaviors, and preferences, allowing the hotel to offer customized experiences and packages.

## **CONCLUSION :**

- In conclusion, utilizing data visualization techniques to analyze the performance efficiency of The Radisson Hotels offers a powerful approach for gaining actionable insights and driving impactful improvements. By transforming complex data sets into visually engaging representations, this strategy enables hotel management to make informed decisions with clarity and precision.
- The ability to compare and contrast data across different time periods, hotel locations, and services is instrumental in recognizing both successes and challenges. As a result, the management can implement targeted strategies to replicate success and address inefficiencies promptly.
- However, it's important to acknowledge that the effectiveness of data visualization hinges on the accuracy and relevance of the underlying data. Clean, accurate, and up-to-date data sources are essential to ensure that the visualizations provide an accurate representation of the hotel's performance.
- In a highly competitive industry like hospitality, staying ahead requires not only an adept understanding of guest preferences but also a deep grasp of operational efficiency. Data visualization techniques provide a transformative means of achieving both objectives simultaneously. By harnessing the power of visual representations, The Radisson Hotels can elevate guest experiences, optimize resources, and achieve sustainable growth in today's dynamic and ever-evolving landscape.

## **FUTURE SCOPE :**

- The application of data visualization techniques to analyze the performance efficiency of The Radisson Hotels holds immense potential for the future, offering a pathway to continued growth and innovation. Here are some key areas of future scope:
  - **Real-time Monitoring:** As technology advances, integrating real-time data feeds into visualizations can enable instant monitoring of key performance metrics. This empowers hotel managers to make quick decisions and respond promptly to changing circumstances.

- **Predictive Analytics:** Incorporating predictive modeling into data visualizations can provide insights into future trends, allowing the hotel to proactively address potential challenges and capitalize on emerging opportunities.
- **Guest Experience Enhancement:** Future data visualization tools could go beyond operational metrics to incorporate sentiment analysis from guest feedback. This will enable the hotel to gain a holistic view of guest experiences and identify areas for improvement.
- **Virtual Reality (VR) Insights:** Visualizations in virtual reality can provide an immersive way for hotel managers to explore data, uncover hidden patterns, and simulate the impact of operational changes in a 3D environment.
- **Integration with Internet of Things (IoT):** Connecting IoT devices within the hotel to data visualization platforms can provide insights into the utilization of resources, such as energy and water, leading to more efficient operations.
- **Global Performance Dashboards:** For hotel chains with international presence, centralized visualizations can offer a global perspective on performance, facilitating strategic decisions across regions.