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Power-BI Based Customer Satisfaction Analysis a Review

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Abstract *– In the hospitality industry, customer satisfaction analysis is extremely important, especially in hotels, and visitors' experience can have a major impact on company outcomes. Using Power BI, this study examines the smartness of customer happiness in hotels and shows key metrics and knowledge from guest feedback data. By using skilled data visualization, trend analysis and mood analysis, this study aims to provide useful information on hotel management to increase visitors and increase service standards. This concerns the skilled use of Power BI, a robust business intelligence tool for creating interactive dashboards to visualize customer feedback in the field of hotel management. This data record contains different feedback spectra collected from surveys and reviews. By developing this dashboard, the project aims to provide hotel managers with user-friendly tools to gain comprehensive insight into the customer mood. The project also compares how well the hotel is working compared to other similar locations. This will help you understand how effective a hotel is in the company. These graphic findings provide practical recommendations and allow hotel managers and stakeholders to make intelligent decisions based on the data. This visualization of data allows for performance analysis and better results*

Keywords- *Data Visualization, Feedback, Performance Analysis, Power-BI Sentimental Analysis, Customer Satisfaction Analysis.*

INTRODUCTION

The Customer Satisfaction Project is an innovative initiative aimed at using data knowledge to improve the gasstar experience and general satisfaction in hotels [1]. Developing interactive BI dashboards from Power BI provides realtime visibility into projects that are delivered by customer feedback trends and moods. This dashboard contains dynamic elements such as diagrams, diagrams, and warming caps, presenting information in a slightly easier to digest format [2]. Completion metrics (KPIs) such as Net Promoter Score (NPS) and Customer Satisfaction (CSAT) are prominently presented, providing a quick snapshot of customer satisfaction. Additionally, the dashboard includes benchmarking capabilities that allow hotels to compare their performance with industrial standards and competitors[3]. This gives you a comprehensive understanding of where hotels are in relationships with others in the industry, highlighting areas of improvement. Customer Satisfaction covers aspects such as staff attitude, room service, cleanliness, food quality, and more, with the feedback of promoter, passive, and critical net promoter segments. Drilling thinning features within the dashboard allows users to address a specific period, department, or service, and facilitate target analysis and identification of areas that require attention.

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Overall, the project for customer satisfaction aims to enable hotel management with implementable knowledge to promote continuous improvement and provide an exceptional gaster experience[4].

OBJECTIVES

The purpose of the Power BI hotel customer satisfaction project is to develop an interactive dashboard that provides real-time insights into customer feedback. This dashboard provides prominent and important performance indicators (KPIs) such as Net Promoter Score (NPS) and Customer Satisfaction (CSAT), allowing hotel management to quickly assess satisfaction levels. We pursue KPIs such as NPS promoters, passives, critics, and feedback categories such as CSAT attitudes, room service, and food quality. The dashboard provides adjustments and allows users to adapt to specific requirements. Predictive analytics can help you predict future satisfaction. Overall, the dashboard forwards insights into implementable strategies to improve customer satisfaction and drive business success through continuous improvement efforts.

KEY FEATURES OF POWER BI

Microsoft has created Power BI, an effective tool for business analytics. This allows users to visualize and analyze data from a variety of sources, allowing organizations to create data-controlled decisions. Power BI is a complete business intelligence and analytics solution as it offers many features for data preparation, modeling, visualization and collaboration. Included

Data Connectivity: Connect a large number of data sources to Power BI, including files, databases, web services, and cloud-based apps. Both structured and unstructured data are supported.

Data Preparation: The user-friendly interface of Power BI and integration features allows users to easily clean, convert and shape data. This includes data modeling, data cleanup, and the possibility of connections between different data sources.

Data Visualization: A wide range of visualization tools, including tables, diagrams, diagrams, cards, and custom visualizations are available in Power BI. To explore the data and gain insights, users can create dynamic, interactive reports and dashboards.

Augmented Analysis: Machine Learning Analysis, Statistical Modeling, and Integration Prediction are examples of the enhanced analysis capabilities provided by Power BI. These features allow users to use their data to find correlations, trends, and patterns.

Natural Language Queries: Power BI allows customers to use natural language queries to provide data inquiries. Based on the data, the tool analyzes these queries and creates knowledge or visualizations.

Collaboration and sharing: Share reports and dashboard stakeholders and other colleagues can collaborate. Power BI provides tools to manage access to data and knowledge and share, publish and embed reports.

Mobile Access: Power BI offers IOS, Android and Windows apps that allow users to look at dashboards, report on the go, and deal with reports.

Overall, Power BI is a versatile, user-friendly device that allows organizations to unlock data value, drive business growth and achieve competitive advantages and competitive advantages in today's data-controlled world.

METHODOLOGY

Dataset for Customer Satisfaction Analysis to perform customer satisfaction analysis with Power BI or another analytics tool, you need a data record that contai ns relevant information about your customer and interact ions with the product or service. The recommended struc ture for such a dataset is:

Customer Information: Customer-id: A clear identifier for all customers, Customers other Information: Information such as age, gender, check-out date etc.

Satisfaction Metrics: NPS represents the net promoter score, a common metric used in customer experience programs. NPS scores measure customer loyalty by addressing the odds of recommending a particular business and CSAT score means Customer satisfaction is often based on research questions that customers are asked to rate their satisfaction (e.g., a scale of 1 to 5). Ratings on basis of Staff Attitude, Check in process, Room cleanliness, Room Service, Food quality, Variety of food, Broadband & TV and Gym etc[5].

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Review Title	Customer ...	Rating	Date	Category	Comments	Useful
Another Midrange killer Smartphone by Xiaomi	Rishikumar Thakur	4.0 out of 5 stars	on 1 October 2018	Display	Another Midrange killer Smartphone by Xiaomi Major Highlights: ϕ The Redmi 6 Pro sports a 5.84-inch...	
vry small size mobile	Raza ji	3.0 out of 5 stars	on 15 September 2018	Others	All ok but vry small size mobile	7 people found this helpful
Full display not working in all application.	Vaibhav Patel	3.0 out of 5 stars	on 18 September 2018	Others	Quite good	7 people found this helpful
Value for Money	Amazon Customer	5.0 out of 5 stars	on 28 September 2018	Display	Redmi has always have been the the king of budget segment.And yet another they gave us the Redmi 6 p...	2 people found this helpful
Not worth for the money	Sudhakaran Wadakkancheri	2.0 out of 5 stars	on 18 September 2018	Others	worst product from MI. I am a hardcore fan of MI. But this one really disappointing.	6 people found this helpful

Fig. 1- fig shows sample dataset of customer review

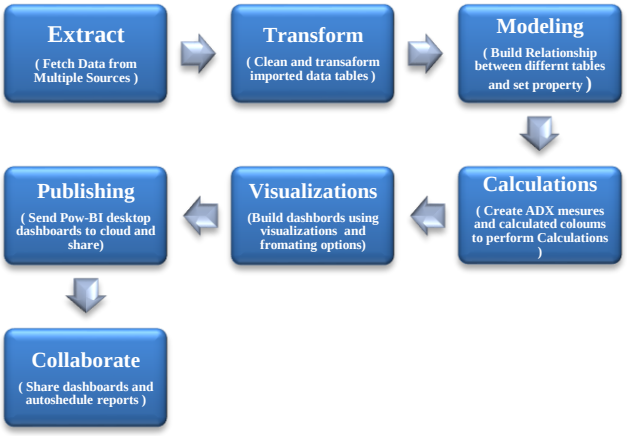

Fig. 2- fig shows steps of customer satisfaction measurement

Data Collection**:** This project starts with collecting feedback data from reputable sources such as Kaggle and Lean Excel Solutions. This data record contains information that is likely collected from research, online reviews, and other sources.

Data Cleaning and Preprocessing: Data records must be cleaned and processed before analysis begins. This includes processing missing data, deleting duplicates, and formatting the data for analysis.

Dashboard Generation: POW-BI creates interactive dashboards using cleaned data records. This includes selecting the right visualizations, such as diagrams, diagrams, tables, etc. to effectively provide insights from your data

Analytics and Visualization: Dashboards provide hotel managers with the opportunity to analyze customer feedback across different dimensions, such as time, place, and service. This way you can identify mood patterns and trends for your customers.

Comparative Analysis: This benchmark helps you understand the areas in which the hotel is characterized and areas in need of improvement.

Continuous improvement: Includes a continuous improvement process that includes user feedback and continuous data analysis of dashboard format and improvements and strategies to improve customer satisfaction.

MODULE DESCRIPTION

Data Integration Methods: Learn how to summaries feedback data from a variety of sources, including online reviews, research, and social media platforms, and ensure a comprehensive data record for analysis.

Key Performance Indicators (KPIs): Module emphasizes the calculation and interpretation of critical KPIs such as Net Promoter Score (NPS) and Customer Satisfaction (CSAT), allowing participants to effectively measure and persecute guest suffering[8].

NPS Measure Formula:

NPS Measure = IF (General [NPS Rating>8,"Promoters", IF (General [NPS Rating] < 7,"Detractors","Passive"))

Promoters: Promoters are customers who rate the product or service highly (usually 9 or 10).

*NPS Promoters % = (CALCULATE (COUNT (General [NPS Rating]), General [NPS Rating] > 8) /COUNT (General [NPS Rating])) *100*

Passive: Passive are customers who rate the product or service 7 or 8.
Detractors: Detractors are those who rate it poorly (usually 0 to 6).

*NPS Detractors % = (CALCULATE (COUNT (General [NPS Rating]), General [NPS Rating] < 8) / COUNT (General [NPS Rating]))*100.*

NPS Score = General [NPS Promoters %]-General [NPS Detractors %]

Drill-Down Capabilities: This feature allows users to focus on a specific period, department, or service and provide a targeted approach to determining areas for improvement.

Below diagram records the relationship between customer relationships and feedback regarding hotel experiences. "Customer" entity represents an individual

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customer, and "feedback" entity contains information that the customer provides[6], such as metrics such as Net Promoter Score (NPS), Customer Satisfaction (CSAT), Visit Purpose, Information Source, etc[7].

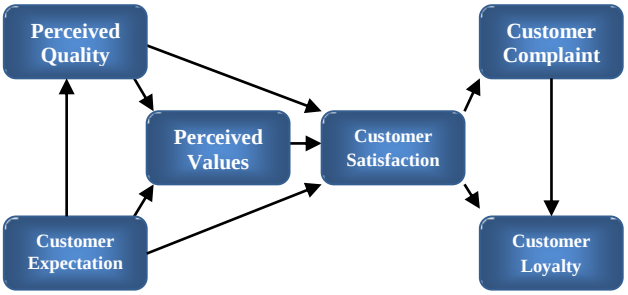

Fig. 3- fig shows flow of entity relationship

Customers interact with hotels and provide feedback on various channels such as research and online reviews. This feedback is stored in the "feedback" entity, with each entry assigned to a specific customer. The "feedback" entity attribute, including NPS, CSAT, visit purpose, and source, allows for a detailed analysis of customer sentiment and ideas.

Analysis of these feedback data will allow hotel managers and stakeholders to understand how well the hotel is working compared to similar facilities. Visualizations and findings from this data provide practical recommendations for improving your operation and improving the overall customer experience. Through data-controlled decisions, hotel managers can work on improvement areas, use their strengths, and ultimately promote customer satisfaction and loyalty[9].

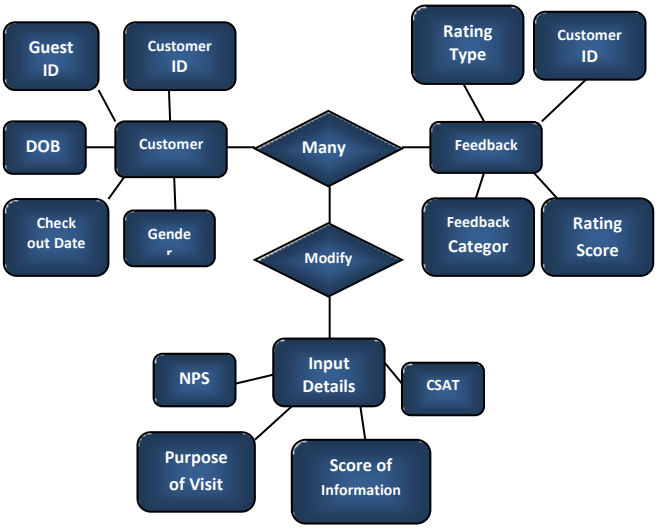

Fig. 4- fig shows entity relationship diagram

CONCLUSION

Dashboards provide a centralized platform for visualizing customer satisfaction, enabling data analysis and for decision-making. However, areas of improvement include check-in efficiency and dining opportunities. Using these findings, we streamline the process, improve cleanliness standards, expand restaurant options and expand to meet guest expectations. Continuous monitoring using Power BI ensures a positive response to the development of needs, confirms our commitment to providing an exceptional gaster experience and maintaining our position as the hospitality goal for our first class. By implementing interactive features and ensuring a user-friendly interface, interest groups can provide meaningful knowledge and take targeted measures to address areas of improvement. In the future, this analysis will be used across all domains to ensure customer satisfaction and improve your business.

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