<u>Acknowledgment</u>

I would like to take this opportunity to express my heartfelt gratitude to all those who have contributed to the successful completion of my Class 12 IP project, "Sales Insight."

First and foremost, I would like to extend my deepest appreciation to my IP teacher Vaibhav Sharma for their unwavering support, guidance, and expertise throughout this project. Their invaluable insights, constructive feedback, and dedication to my learning have been instrumental in shaping this project into what it is today.

I would also like to thank my parents and family for their constant encouragement and understanding during this project. Their patience and belief in my abilities have been a tremendous source of motivation.

I extend my thanks to my classmates and friends who provided valuable input and encouragement along the way. Your discussions and brainstorming sessions were immensely helpful in refining the project's ideas and concepts.

Furthermore, I would like to acknowledge the support and cooperation received from Sanskar The Co-Educational school, which provided the necessary resources and infrastructure for the successful execution of this project.

This project has been an enriching experience, and I am grateful for the opportunity to work on it. The knowledge and skills I have gained during this project will undoubtedly prove beneficial in my future endeavors.

Sincerely,

Omansh Arora XII sci

<u>Certificate</u>

This is to certify that Omansh Arora of Class 12 sci has successfully completed the project titled "Sales Insight" of Subject: Informatics Practices under the guidance of Vaibhav Sharma on   . This project demonstrates exceptional competence in the field of Informatics Practices and showcases a deep understanding of the concepts related to sales data analysis.

This project reflects the dedication and hard work put forth by the student in mastering the principles of Informatics Practices, data handling, and analysis. It demonstrates their ability to apply these skills to real-world scenarios effectively.

We commend the student for their commitment to excellence in the subject of Informatics Practices and wish them continued success in their academic and professional endeavors.

The principal

Chhaya Agarwal

Sanskar The Co-Educational school

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Signature of external examiner   Signature Subject in charge
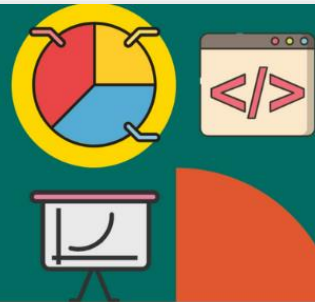
<u>INDEXX</u>

INTRODUCTION:

The project on "*Sales Insight*" is to present a project on sales insight data analysis using pandas and other Python libraries provides companies with a powerful toolset to analyze their data in a graphical form.

Insight Data Analysis refers to the process of analyzing and interpreting data to gain meaningful insights and make informed decisions.

By leveraging these tools, businesses can gain valuable insights, regrow their operations, and generate innovative ideas for new marketing campaigns. Data-driven decision-making is crucial in today's competitive business landscape, and this project aims to empower companies in their pursuit of success.

Sales Insights

Requirements

Hardwear Requirements

- Pentium 4 processor or higher
- 512MB of RAM
- 500MB Storage

Software Requirements

- Python3.7+
- numpy
- pandas
- streamlit
- idle/jupyter notebook
- matplotlib

Dashboarding

1

2 ANALYZE

Sale insight

6

3

DEVELOP

Ploting

5

4

READING DATA
reading and obtaining sql data as per usage
1

DATA ANALYSIS
analysing Data in python using pandas
4

OPTAIMISING SQL DATA
using SQL commands for optimising data for further usage
2

GRAPH PLOTING
ploting graphs by using streamlit and matplotlib
5

IMPORTING DATA INTO PYTHON
importing SQL data into python using library
3

DASHBORAD
dashboard making using streamlit
6

Objective:

- Aims to provide companies with a comprehensive understanding of their data by analyzing and identifying trends, patterns, and key performance indicators, then presenting them in graphical form.
- Create interactive dashboards and reports for stakeholders to visualize sales insights
- To empower companies in their pursuit of success
- To analyze sales data and gain insights that can be used to make strategic business decisions.
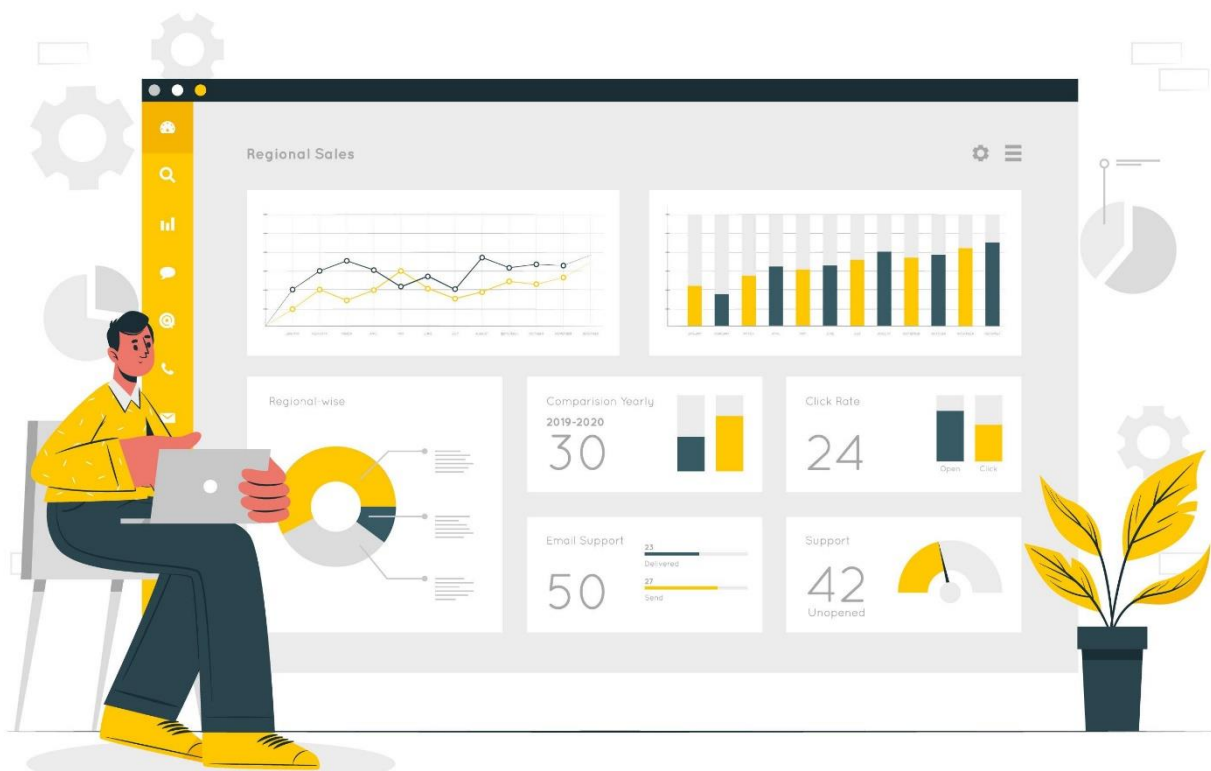- Better and easy understanding of areas for improvement though visualization

Scope:

By updating and cleaning up the data, we will be able to use this tool even in the future to analyze the sales in more detail. According to the needs of the firm, upgrading happens once a week and undesired and filthy data is cleaned up once or twice a month.

upgrading of the back-end program and graphical interface in accordance with database changes made by the business when it launches a new product or expands to a new city.

The Existing System:

The xyz company (sales company) has gone through a heavy loss in sales due to some issues, which they were trying to find out, so as they do analysis manually of all the details related to sales by gathering and analyzing data without relying on automated tools or software. This approach may trouble the company and require significant efforts, the difficulties company faced:

- **Time-Consuming:** Manual analysis is typically time-consuming, especially when dealing with large volumes of data. It can take a significant amount of effort to input, organize, and analyze data manually.

- **Error-Prone:** Human errors, such as data entry mistakes, miscalculations, and data inconsistencies, are common in manual processes. These errors can lead to inaccurate insights and decisions.

- **Limited Scalability:** Manual analysis becomes increasingly challenging as your business grows and the volume of data increases. It may not be feasible to manually analyze large datasets or complex data structures.

- **Lack of Real-Time Insights:** Manual analysis is often a retrospective process, which means you may not have access to real-time insights. This can be a significant disadvantage in fast-paced industries or situations that require immediate decision-makings.

- **Difficulty Handling Big Data:** Manual analysis struggles to handle large datasets commonly associated with big data analytics. It lacks the computational power and speed needed to process and analyze vast amounts of information effectively.

- **Limited Insights:** Manual analysis may not uncover subtle or complex insights hidden within the data, as it relies on the analyst's expertise and the specific questions they ask. Automated algorithms can reveal patterns and correlations that humans might miss.

- **Reduced Agility:** Manual analysis may not keep up with rapidly changing market conditions or customer behaviors. Automated systems can adapt more quickly and provide insights in near real-time.

- **Risk of Data Loss:** Storing and managing data manually can increase the risk of data loss due to accidental deletions, data corruption, or inadequate data backup procedures.

By facing all these problematic situations company got troubled and unable to fix the issue.

Proposed System:

A proposed system refers to a concept or plan for a new or improved system, process, or solution that is put forward for consideration, development, or implementation. Here are some common contexts in which the term "proposed system" is used:

- **Information Technology:** In the realm of IT, a proposed system often refers to a new software application, infrastructure, or technology solution that is suggested to replace an existing system or to address a specific business need. It includes details about the software or hardware to be used, its functionality, and the expected benefits.

- **Business Process Improvement:** In business management, a proposed system might involve changes to existing workflows, procedures, or operational methods. It could aim to streamline processes, reduce inefficiencies, or enhance productivity.

- **Policy Changes:** In government or organizational settings, a proposed system may pertain to the introduction or modification of policies, regulations, or guidelines to achieve particular goals, such as ensuring compliance or improving governance.

- **Project Planning:** In project management, a proposed system might involve changes to project plans, resource allocation, or project timelines. It outlines adjustments to ensure the project's success.

- **Strategic Planning:** In strategic management, a proposed system could relate to changes in an organization's long-term strategies, goals, or objectives. It often includes a detailed strategy proposal that outlines the path to achieving these objectives.

- **Research and Development:** In scientific or research contexts, a proposed system might refer to a new experimental setup, research methodology, or data analysis approach that researchers suggest using to advance their studies.

In all these cases, our company served as a proposed system and took some major steps which conclude.

Requirements:

Hardware requirements:

- Dual core
- 512MB ram
- 50GB HDD

Software requirements:

- Python 3.7+
- Numpy
- Pandas
- Stream lit
- IDLE/Jupiter notebook
- Matplotlib

ER Diagram