“An analytical study on the Sales Performance of Padmalaya FPC Using Power BI”

A PROJECT REPORT SUBMITTED TO SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

IN PARTIAL FULFILMENT OF REQUIREMENT FOR THE AWARD OF THE DEGREE OF

MASTERS OF BUSINESS ADMINISTRATION

By

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UNDER THE GUIDANCE OF

Dr BHUSHAN PARDESHI

PCET’s

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(BATCH 2022-24)

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DECLARATION

I, the undersigned, hereby declare that the project report titled **" An analytical study on the Sales Performance of Padmalaya FPC using Power BI"** written and submitted by me to the **Savitribai Phule Pune University, Pune** in partial fulfilment of requirement for the award of the degree of **Masters of Business Administration** under the guidance of **Dr. Bhushan Pardeshi** sir is my original work and the conclusion drawn therein are based on the material collected by me.

Place: Pune

Date: **Gaurav Mahajan**

COLLEGE CERTIFICATE

This is to certify that the Project Report entitled "**An analytical study on the Sales Performance of Padmalaya FPC using Power BI**" which is being submitted herewith for the award of the degree of Master of Business Administration of Savitribai Phule Pune University, Pune is the result of the original research work completed by **Mahajan Gaurav Santosh** under the supervision and guidance and to the best of my knowledge and belief, the work embodied in this project report has not formed earlier the basis for the award of any degree or similar title of this or any other university or examining body.

PROF. Dr.

(Internal Guide) (Director)

ACKNOWLEDGEMENT

I express my sincere thanks to **Dr. Kirti Dharwadkar** Ma'am, Director ,**S.B. Patil Institute of Management.** I pay my deep sense of gratitude to **Dr Bhushan Pardeshi** Sir, to encourage me to the highest peak and to provide me the opportunity to prepare the project. I feel to acknowledge my indebtedness and deep sense of Gratitude to my guide Dr. Bhushan Pardeshi Sir whose valuable guidance and kind supervision given to me throughout the project which shaped the present work as its show.

Internship Certificate

Chapter 1 :
Executive Summary &
Theoretical Background

Executive Summary :

The project, "An Analytical Study on the Sales Performance of Farmer Producer Company Using Power BI," aims to analyze and enhance the sales performance of Pamalaya Farmer Producer Company (FPC) by leveraging the data analytics and visualization capabilities of Microsoft Power BI. FPCs play a crucial role in the agriculture sector, facilitating market access for farmers and ensuring the economic well-being of rural communities. However, optimizing sales performance is a complex challenge for these organizations.

1.1 Introduction to the study

In this project, we will go through data visualization, data processing and later analysing the charts and tables for company's sales pattern based on the data provided by the company and interpret the same.

1.2 Theoretical Background :

- **Analytics:** Analytics is the scientific process of discovering and communicating the meaningful patterns which can be found in data. It is concerned with turning raw data into insight for making better decisions. Analytics relies on the application of statistics, computer programming, and operations research in order to quantify and gain insight to the meanings of data. It is especially useful in areas which record a lot of data or information. data analytics is an important tool for gaining business insights and providing tailored responses to customers. Data analytics, sometimes abbreviated to "analytics," has become increasingly important for organizations of all sizes. The practice of data analytics has gradually evolved and broadened over time, providing

many benefits. The use of analytics by business can be found as far back as the 19th century, when

Frederick Winslow Taylor initiated time management exercises. Another example is when Henry Ford measured the speed of assembly lines. In the late 1960s, Analytics began receiving more attention as computers became decision-making support systems. With the development of big data, data warehouses, the cloud, and a variety of software and hardware, data analytics has evolved, significantly. Data analytics involves the research, discovery, and interpretation of patterns within data. Modern forms of data analytics have expanded to include:

- **Predictive Analytics** Predictive analytics is used to make forecasts about trends and behaviour patterns. Predictive analytics uses several techniques taken from statistics, data modelling, data mining, artificial intelligence, and machine learning to analyse data in making predictions. Predictive models can analyse both current and historical data to understand customers, purchasing patterns, procedural problems, and in predicting potential dangers and opportunities for an organization.
- **Big Data Analytics :**

Big data analytics is the often-complex process of examining big data to uncover information -- such as hidden patterns, correlations, market trends and customer preferences -- that can help organizations make informed business decisions. Big data analytics is a form of advanced analytics, which involve complex applications with elements such as predictive models, statistical algorithms and what-if analysis powered by analytics systems.

- **Data Visualisation:** Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools

provide an accessible way to see and understand trends, outliers, and patterns in data. In the world of Big Data, data visualization tools and technologies are essential to analyse massive amounts of information and make data-driven decisions.

- **Theoretical Background on Sales Performance :**

Theoretical background of sales performance is an important aspect of understanding the factors and concepts that influence a company's ability to achieve its sales goals and objectives. Sales performance theory encompasses various principles, models, and frameworks that help businesses optimize their sales efforts. Here are some key elements of the theoretical background of sales performance:

1. **Sales Process Models**: Sales performance is often evaluated within the context of a structured sales process. Theoretical models like the "sales funnel" or "sales pipeline" provide a framework for understanding how leads and prospects move through various stages before becoming customers. These models help sales teams manage and improve their performance at each stage of the process.

2. **Sales Performance Metrics:** Sales theory emphasizes the importance of key performance indicators (KPIs) that measure the effectiveness of the sales team. Common sales performance metrics include conversion rates, average deal size, sales cycle length, and customer acquisition cost. These metrics help organizations track their progress and identify areas for improvement.

3. **Sales Motivation and Incentives:** Theoretical frameworks address the role of motivation and incentives in driving sales performance. The Expectancy Theory, for example, suggests that salespeople are motivated when they believe their efforts will lead to positive outcomes (e.g., commissions, bonuses, recognition). Sales theory explores how to design effective incentive systems that align with organizational objectives.

4. **Customer Relationship Management (CRM):** Theoretical concepts related to CRM emphasize the importance of maintaining strong customer relationships. This involves understanding customer needs, delivering value, and building trust. The Relationship Marketing Theory, for instance, highlights the long-term, mutually beneficial relationships between companies and customers.

5. **Sales Training and Development:** Sales performance theory underscores the need for ongoing training and development of sales professionals. The "Sales Training Effectiveness Model" and theories like Social Learning Theory offer insights into how to design and deliver effective sales training programs.

6. **Market Research and Segmentation**: Understanding customer needs and preferences is a fundamental aspect of sales theory. Market segmentation models and consumer behavior theories guide businesses in tailoring their sales and marketing strategies to specific target audiences.

7. **Sales Technology and Automation:** The use of technology and sales automation tools is integral to sales performance. Theoretical underpinnings include concepts related to customer relationship management (CRM) systems, sales enablement technologies, and the role of artificial intelligence in sales.

8. **Sales Ethics and Compliance:** Theoretical frameworks in sales performance also address ethical considerations. Sales theory encourages ethical behavior and compliance with legal and industry regulations. Theoretical concepts such as ethical decision-making models and corporate social responsibility play a role in ensuring ethical sales practices.

9. **Sales Strategy and Planning:** Sales theory emphasizes the importance of aligning sales strategies with overall business goals. It includes concepts related to sales strategy development, competitive positioning, and strategic account management.

10. **Sales Leadership and Team Dynamics:** Theoretical foundations related to sales leadership and team dynamics explore how effective leadership can influence the performance of sales teams. Concepts like transformational leadership and team development theories are relevant in this context.

Understanding these theoretical aspects of sales performance can help organizations develop and implement strategies that lead to improved sales results and better customer relationships. It's important to adapt these theories to the specific industry, market, and organizational context to achieve the best outcomes.

- ## Sales Performance on the basis of Category, Sub-Category, Months & Payment Methods :

  The theoretical background of analyzing sales performance based on categories, sub-categories, months, and payment methods involves understanding various concepts and methodologies related to sales analytics and data analysis. Here's an overview of the theoretical background for this type of analysis:

  1. Sales Performance Analysis:

  Sales performance analysis is the process of evaluating an organization's sales data to gain insights into its revenue generation, customer behavior, and market trends. It helps businesses make data-driven decisions to improve sales strategies and optimize revenue.

  2. Categories and Sub-Categories:

  In sales analysis, "categories" typically refer to high-level product or service groupings, while "sub-categories" are more specific divisions within those categories. Analyzing sales by categories and sub-categories helps identify top-performing and underperforming product lines.

3. Monthly Analysis:

Monthly analysis involves examining sales data on a month-to-month basis. It helps in identifying seasonal trends, understanding the impact of promotions or events, and making informed decisions about inventory management and marketing strategies.

4. Payment Methods:

Payment methods refer to the various ways customers use to pay for products or services, such as credit cards, cash, digital wallets, or other forms of payment. Analyzing sales by payment methods can help businesses understand customer preferences and optimize payment processing.

5. Key Performance Indicators (KPIs):

KPIs are critical metrics that provide insights into the health and performance of sales. Relevant KPIs for this analysis may include Total Sales, Sales Growth, Average Transaction Value, Conversion Rate, and Customer Acquisition Cost (CAC).

6. Data Visualization:

Data visualization tools, like Power BI, play a crucial role in sales performance analysis. They help transform raw sales data into meaningful and actionable insights by creating visually appealing charts, graphs, and dashboards.

7. Trend Analysis:

Trend analysis involves identifying and understanding patterns and trends in sales data over time. It helps businesses anticipate future sales trends, align inventory levels, and adjust marketing strategies accordingly.

8. Seasonal Effects:

Seasonal effects refer to fluctuations in sales that occur due to seasonal variations, holidays, or specific events. Recognizing and accounting for these effects is essential for accurate sales forecasting.

9. Cohort Analysis:

Cohort analysis groups customers based on specific characteristics, such as their first purchase month or payment method. This analysis can provide insights into customer retention, lifetime value, and behavior patterns.

10. Machine Learning and Predictive Analytics:

Advanced techniques like machine learning and predictive analytics can be employed to forecast future sales trends, detect anomalies, and optimize pricing, promotions, and inventory management.

11. Business Intelligence Tools:

Business intelligence tools like Power BI offer powerful features for data analysis, visualization, and reporting. They enable users to explore and interpret sales data in real time, facilitating data-driven decision-making.

By understanding these theoretical concepts and leveraging the appropriate tools and techniques, businesses can gain valuable insights into their sales performance based on categories, sub-categories, months, and payment methods. This, in turn, enables them to make informed decisions, enhance customer experiences, and maximize revenue.

Power-BI for Data Analytics :

Power BI is a powerful business intelligence tool developed by Microsoft for data analytics. It allows users to connect to various data sources, transform and clean data, create interactive data visualizations, and share insights. Here are some key aspects of using Power BI for data analytics:

1. **Data Sources**: Power BI can connect to a wide range of data sources, including databases, spreadsheets, cloud services, and web services. You can import data from these sources for analysis.
2 **Data Transformation**: Power BI provides tools for data transformation and cleaning. You can reshape and combine data, remove duplicates, and apply various data cleansing operations to prepare your data for analysis.
3 **Data Modelling**: Power BI allows you to create data models by defining relationships between tables. This is crucial for building meaningful relationships in your data and creating accurate visualizations.
4 **Visualization**: You can create interactive and customized data visualizations, such as charts, graphs, maps, and tables, to represent your data. Power BI offers a wide variety of visualization types.
5 **Dashboards**: Power BI allows you to build dashboards that display key metrics and insights at a glance. Dashboards can contain multiple visualizations and can be customized to meet your specific needs.
6 **DAX**: Data Analysis Expressions (DAX) is the formula language used in Power BI to create custom calculations and measures. It's essential for performing advanced analytics.

7 **Sharing and Collaboration**: You can share your Power BI reports and dashboards with others within your organization. Power BI also integrates with SharePoint and other Microsoft tools for collaboration.

8 **Real-time Analytics**: Power BI can handle real-time data streams and provide live dashboards that update in real-time, making it suitable for monitoring and analytics in dynamic environments.

9 **Mobile Compatibility**: Power BI offers mobile apps for iOS and Android, allowing you to access your reports and dashboards on the go.

10 **Security**: Power BI provides robust security features, including role-based access control, data encryption, and integration with Azure Active Directory for user management.

Power BI is a versatile tool for data analytics and is widely used in various industries for reporting, data visualization, and decision-making. It's suitable for both beginners and advanced users and can help transform raw data into actionable insights.

Reasons for using Power-BI:

There are several compelling reasons for using Power BI for data analytics and reporting. Here are some of the key advantages and reasons why organizations and individuals choose Power BI:

1. **User-Friendly Interface**: Power BI has a user-friendly and intuitive interface that allows users with varying levels of technical expertise to create compelling visualizations and reports.

2. **Data Integration**: Power BI can connect to a wide range of data sources, both on-premises and in the cloud, making it a versatile tool for data integration and analysis.

3. **Data Transformation and Cleansing**: Power BI provides robust data transformation and cleansing capabilities, enabling users to prepare their data for analysis efficiently.

4. **Interactive Visualizations**: Power BI offers a vast library of interactive data visualizations, including charts, graphs, maps, and tables, making it easy to represent data in a meaningful way.

5. **Cross-Platform Compatibility**: Power BI is available as a desktop application, web service, and mobile app, allowing users to access and interact with their data from various devices.

6. **Data Modelling**: Power BI allows for the creation of complex data models with relationships between tables, which is crucial for accurate and insightful analysis.

7. **DAX Language:** The Data Analysis Expressions (DAX) language in Power BI enables the creation of custom calculations and measures, making it suitable for advanced analytics.

8. **Real-Time Analytics:** Power BI can handle real-time data streams, making it ideal for monitoring and analytics in dynamic environments.

9. **Integration with Microsoft Ecosystem:** If your organization uses other Microsoft products like Azure, Excel, SharePoint, or Teams, Power BI seamlessly integrates with these tools for enhanced collaboration and data sharing.

10. **Scalability:** Power BI can handle large datasets and is suitable for small businesses and large enterprises alike.

11. **Customization:** Users can customize and tailor reports and dashboards to meet their specific needs and branding requirements.

12. **Sharing and Collaboration:** Power BI enables easy sharing of reports and dashboards within your organization, and it supports collaboration on data analysis projects.

13. **Security:** Power BI provides robust security features, including role-based access control, encryption, and integration with Azure Active Directory.

14. **Cost-Efficiency:** Power BI offers various pricing options, including a free version (Power BI Desktop) and paid plans, making it accessible to organizations of all sizes.

15. **Active Community and Support:** Power BI has a large and active user community, with plenty of online resources, forums, and support available for troubleshooting and learning.

Overall, Power BI is a versatile and powerful tool for data analytics and reporting, making it a preferred choice for organizations looking to derive actionable insights from their data and enhance data-driven decision-making.

Chapter 2 :
Review of Literature

2.1 General Introduction to the review :

This chapter presents a review of business intelligence tool literature to understand the importance & benefits of the BI tool and to understand the relationship between business intelligence tool, quality of decision making and organizational growth. Many research portals were referred for studying the articles and research papers so as to gain a deep insight into the developments which have already taken place in the field.

2.2 Impact of BI tool on quality of decision-making and organizational growth

Bartram (2013) in his study has highlighted 8 ways of using BI tools for getting optimized results - (i) develop an analytical culture in the organization ,(ii) deliver information wherever it's needed, (iii) make use of unstructured data to get better insights,(iv) implement predictive analytics rather than analysing too much of historical data,(v) view information pictorially in the form of dashboards for quicker decision-making,(vi) keep information up to date to address current/future business problems,(vii) extract intelligence from social sites to give full picture of the competition,(viii)ensure that managers use the information for decision-making. The article is conceptual in nature and does not provide details on how above practices can be implemented for efficient use of BI tool.

Bhatia (2013) has highlighted in her article that the business data volumes have increased tremendously in last decade which has increased the complexity in processing and analysis. The author has highlighted that traditional BI tool approach is not meeting the current needs of high volume/big data processing. The author has highlighted that big data analytics enables organization to take advantage of totality of their information (internal & external) in real time and enables fast decision-making for serving the customer & society in unique and innovative

way. The author has highlighted some of the use cases of big data analytics like better understanding customer needs, making process more efficient, and further reducing costs. The author has also highlighted that there is need to educate the organizations on the available big data opportunity to ensure they are not missing the competitive advantage.

According to Najibeh Abbasi Rostami (2014), in today's world, data are so numerous that technology is needed to cope with this knowledge. Business Intelligence (BI) is a process that involves sorting all the collected information and select those that are relevant. BI provides critical insights that help organizations make right decisions. Knowledge Management (KM) is a key approach to solving current problems. KM can be defined as a systematic process of finding, selecting, organizing, distilling and presenting information in a way that improves an employee's comprehension in a specific area of interest. BI and KM play an important role in improving the qualitative and quantitative value of information available for decision making. KM and BI can also benefit from each other. It seems that integration of BI and KM can help organizations achieve wider benefits. Integration of BI and KM will not only help to promote and enhance knowledge for better decision making, but also improve an organization's performance. Therefore, it is imperative for organizations to have both BI and KM as an integrated system to get full value from both. This paper shows the importance of BI and KM Integration through a series of models.

In his opinion, Lawton (2006), businesses continue to use computer systems for a growing number of functions, they face the challenge of processing and analysing huge amounts of data and turning it into profits. In response to this, vendors are trying to upgrade their business intelligence (BI) products, which are sets of tools and technologies designed to efficiently extract useful information from oceans of data. If successful, upgrading the technology would

not only help users but could also let BI vendors widen their products' audience. However, despite the recent improvements, widespread adoption still faces several key challenges, such as high costs and the need for BI systems to integrate and interoperate with the many heterogeneous corporate data sources.

According to Vikas Khurana (2015), in today's business environment, the organization needs insightful information to make decisions for gaining competitive advantage in the industry. The data analysis has become a priority activity in all organizations for proper decision-making and the data is available in multiple sources & formats within the organization. The Business Intelligence (BI) tools convert the data from multiple sources & formats into insightful information enabling organization to make better & quicker decision and thus provide competitive advantage. The study proposes a conceptual model of organizational growth with the use of business intelligence tools. The study also identifies emerging trends in business intelligence tools. Here it suggests that, organizations need to conduct further exploration for use of BI tools in several business functions (supply chain, purchasing, and human resource). Further studies are required for analysing the impact of BI tools on quality decision-making and organizational growth.

2.3 Relationship between BI tool-based quality decision making and decision categories :

According to Namvar and Cybulski (2014) , Business intelligence (BI) offers opportunities for managers to master vast data resources for operational and strategic gains, and allows BI-based organizations to generate significant business value. Here they emphasized the importance of BI

to assist making quality decisions by exploring the use of BI for improved understanding of business before such decisions are made and assessing the impact of the actions derived from these decisions. theory of organizational sensemaking. The presented research uses hermeneutic phenomenology to study the experiences of decision-makers in using Generated insights to guide their actions while altering business processes, structures and information. The study emphasizes the necessity of using BI in the creation and maintenance of individual and organizational identity, as well as, enactment of this identity on the business and its environment, which need to be moulded in response to changing circumstances.

Curko and Pejic (2007) has highlighted in their article that BI tool has become a crucial technology in banking industry for achieving strategic goals and gaining competitive advantage for the future growth .BI techniques can be used to balance & rationalize business operations, improving performance and reducing operational costs at banks. The authors have highlighted that larger data volumes of banks can be analysed by using BI analytics for risk management, additional products selling to the customers, reducing churn rate, customer segmentation, client lifetime value in the banking industry for strategic decision-making. The authors have mentioned that BI technology helps bankers in enhancing relations with customer, improving efficiency of marketing & campaigning activities, increased risk management, quickly responding to market changes and improving efficiency & quality of business processes. The rise of new trend of business process intelligence opens novel improvement areas in banking processes & operations.

Jourdan et al. (2008) have performed secondary research on business intelligence journals published in ten leading information systems journals during 1997 to 2006 and have classified 167 articles based on research strategy and BI category. The authors classified 56% of the research as formal theory/ literature review followed by 13% based on primary data and 12% based on secondary data and concluded that majority of the research work follows exploratory methodology. The authors have classified BI article based on five categories such as benefits, decisions, implementation, strategies and artificial intelligence and found that 35% articles on strategies related to using BI tool in the current business environment and 16% articles correspond to improving the decision-making. The authors highlighted that all BI categories have used the formal theory/ literature review research strategy and artificial intelligence used field-secondary and computer simulations strategy. The lab experiments approach was followed for technology-focused category of decisions and sample survey approach was followed for implementation, benefits and strategies categories .The authors also highlighted that there is increasing trend on BI articles/activity over the period of analysis The authors highlighted that limited work done in decision area is due to challenges in quantifying the benefits of BI system based improved decision making and further work is required in the field of decision and benefits.

2.5 Inferences from the reviews :

The findings from the literature reviews depicted that business intelligence tool information have significant influence on quality of decision-making and quality of decision-making has significant influence on organizational growth. It is depicted that there is significant difference in the quality of decision-making after BI tool implementation. Some of them reveals that there is significant improvement in the organizational growth after BI tool implementation.

2.6. LITERATURE REVIEW OF BUSINESS INTELLIGENCE :

❖ Rasmey Heang and Raghul Mohan

School of Business and Engineering Halmstad University, Sweden

Abstract: Due to the rapid growth of new technologies, the Business Intelligence (BI) market is growing as well that forces the corporations to adopt their offerings to the needs of the customer. Adoption of Business Intelligence system has become one of the most important technological and organizational innovations in modern organization that promote knowledge diffusion, and cornerstone of business decision making processes. Since the way of BI integrated and implemented is quite different among organizations, it is important to approach BI literature by adaption of BI application and its implementation, BI architects, and enabling factors in BI projects. Furthermore, we are also going to discuss how technological capabilities such as user access, data quality and the integration of BI with other systems in the firm, as well as organizational capabilities such as flexibility and risk management support, are essential for BI success, regardless of the decision environment. Last but not least, this paper will also discuss how the idea of BI has been built on the school of thought. We expect that results could create the value and input for enterprises that plan to implement a BI application in their organization.

Methodology: In this paper, we are going to use secondary data from the previous literature review of the Business Intelligence with dozens of articles and secondary

sources of data collection. The paper is concluded with the literature review of Business Intelligence. Business Intelligence mainly focuses how to collect, organize and interpret the data to relevant department to make an effective decision under the uncertainty to obtain the organizational goal. In the discussion session, we will try to draw a link between Business Intelligence aspect and Thematic School of Thought under the theme of uncertainty, information and game theory which mainly related to decision making. Furthermore, we will rationalize how Business Intelligence is related or has been built on the School of Thought.

Conclusion: Even though the concept of BI just emerged several decades ago, it now is becoming a major concern for enterprises regardless of its size to take it into consideration whether they should invest in this system or not in order to satisfy the customer needs and wants. Nowadays, BI establishes a real business value of data asset and provides remarkable improvement in recognizing and taking advantage of business opportunities. Many multinational corporations have adopted BI system, but some of them failed in adapting this system. Operational and organizational factors such as strategy, human capital, leadership, culture, quality management and strategic orientation of a firm significantly affect BI system's implementation and integration. Understanding capabilities of both technological and management aspect is a key success in adopting BI system in the firm.

Chapter 3 :
Profile of the Organisation

- **Name of the company :** Padmalaya FPC
- **Address :** GAT NO.83/1 ,

  Majre Hol, Chopda

  District - Jalgaon

  Chopda - 425107

  Maharashtra – India

- **Incorporation Date :** 26th December 2017
- **Age (Years active) :** 6 Years
- **Last Reported AGM Date** : 30th September 2022
- **Industry :** Agriculture and Allied Activities

- **Type :** Unlisted Private Company

- **Category :** Company limited by Shares

- **Sub-Category :** Non-govt company

- **Contact No.** : +918806000869

Organisation Chart of the Company :

- **Mr. Rahul Patil**
  (Director - Padmalaya FPC)

- **Mr. K.H. Patil**
  (Head of Operations)

- **Ms. K.S. Patil**
  (Head-Quality Department)

About the Company

Padmalaya Farmer Producer Company Limited is a Private incorporated on 26 December 2017. It is classified as non-govt company and is registered at Registrar of Companies, Mumbai. It is involved in Agricultural and animal husbandry service activities, except veterinary activities.[This class includes specialized activities, on a fee or contract basis, mostly performed on the farm.

Padmalaya Farmer Producer Company Limited's Annual General Meeting (AGM) was last held

on N/A and as per records from Ministry of Corporate Affairs (MCA), its balance sheet was last filed on 31 March 2022.

Vision & Mission

- **Vision:**

  "To empower and uplift the lives of our farmer members and transform the agricultural landscape through sustainable, inclusive, and profitable farming practices."

- **Mission:**

  1. **Enhancing Farmer Prosperity:** Our mission is to improve the economic and social well-being of our farmer members by providing them with access to resources, knowledge, and markets that enable them to increase their income and enhance their quality of life.

  2. **Promoting Sustainable Agriculture:** We are committed to promoting and implementing sustainable agricultural practices that conserve natural resources, reduce the environmental impact of farming, and ensure food security for current and future generations.

  3. **Market Access and Fair Pricing:** We aim to create opportunities for our members to access fair and transparent markets. We work to eliminate middlemen and ensure that our members receive a fair price for their agricultural produce.

  4. **Knowledge Sharing and Capacity Building:** We strive to empower our members by providing them with the necessary knowledge and training to improve their farming techniques, productivity, and adapt to changing agricultural trends.

5. **Collective Strength:** Our FPC is built on the principles of cooperation and collective action. We aim to pool resources, share risks, and create a united front to address common challenges faced by our farmer members.

6. **Inclusive Growth:** We are committed to ensuring that marginalized and vulnerable farmers, including women and smallholders, have equal opportunities and access to our services and benefits.

7. **Community Development:** We believe in giving back to our local communities. Our mission includes initiatives to support rural development, education, healthcare, and infrastructure improvement in the areas where our members reside.

8. **Transparency and Accountability:** We are dedicated to maintaining the highest standards of transparency and accountability in our operations. We aim to build trust and confidence among our members and stakeholders.

9. **Adaptation and Innovation**: Agriculture is subject to constant change and challenges. We will adapt to emerging trends and technologies and strive for continuous innovation to ensure the sustainability of our farming activities.

Chapter 4:
Outline of the Problem

4.1 Statement of the Problem:

This project aims to conduct a comprehensive analytical study to assess and enhance the sales performance of Padmalaya Farmer Producer Company (Padmalaya FPC) by leveraging the powerful data visualization and business intelligence capabilities of Microsoft Power BI. The problem to be addressed in the project is to analyse the sales pattern of the company with respect to all the products, months, category & sub-category of products & payment methods which will help the company to plan the production cycle as per the analysis.

4.2 Objectives of the study :

The objectives of the study are as follows:

- To collect and analyze sales data of the FPC to identify trends & patterns.
- To design and develop a Power BI dashboard that provides real-time insights into sales performance, including sales volume, revenue, payment methods and product distribution.
- To do a quarter-wise comparison of the yearly sales of the company and extract some patterns and insights.

4.3 Scope of the study :

The project will focus on the Farmer Producer Company and its sales data, providing a detailed analysis of sales performance within a defined time frame. The scope will encompass data collection, data transformation, Power BI dashboard development, and the generation of meaningful insights.

Chapter 5:
Research Methodology

5.1 Methodology of the study :

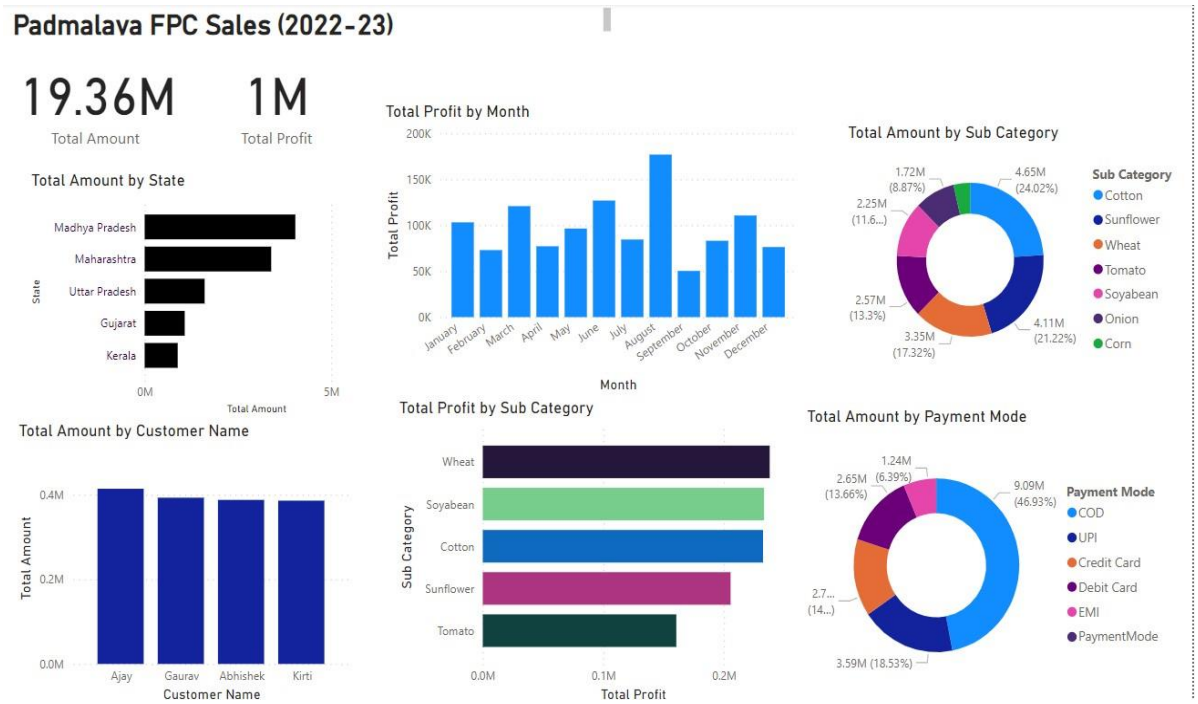
- The secondary data collected from the company is then presented through data visualisation with the help of tools like MS-Excel and Power-BI. This will help us to gain the insights and identify the sales pattern within the same.
- In this study, the sales data of the company from 2022-23 is visualised & analysed using MS-Excel and Power BI and then the further interpretation is carried out.
- The data of the sales of the company is further divided into 4 quarters namely:
    i. Quarter 1
    ii. Quarter 2
    iii. Quarter 3
    iv. Quarter 4
    - The data divided further is analysed and visualised with the help MS-Excel & Power BI with the help of dashboards and the interpretation is done for the same.
    - **Nature of the Data:**

Type of Research	Quantitative
Tools Used	Microsoft Power BI & MS-Excel
Data Type	Secondary Data
Sampling Technique	Census
Data Range (Year)	2022-23

Chapter 6 :
Analysis and Interpretation of Data

Padmalaya FPC Sales Visualisation:

(For 2022-23 ((Overall manner))



The dashboard shown above represents the overall record of the sales in 2022-23 for Padmalaya FPC. Where the visualisation consists of 6 key visuals namely :

1. Comparison of Total Amount by Sale.
2. Comparison of Total Profit by Month.
3. Comparison of Total Amount by the Sub-Category.
4. Comparison of Total Amount by Customer Name.
5. Comparison of Total Profit by Category
6. Comparison of Total Amount by Payment Mode.

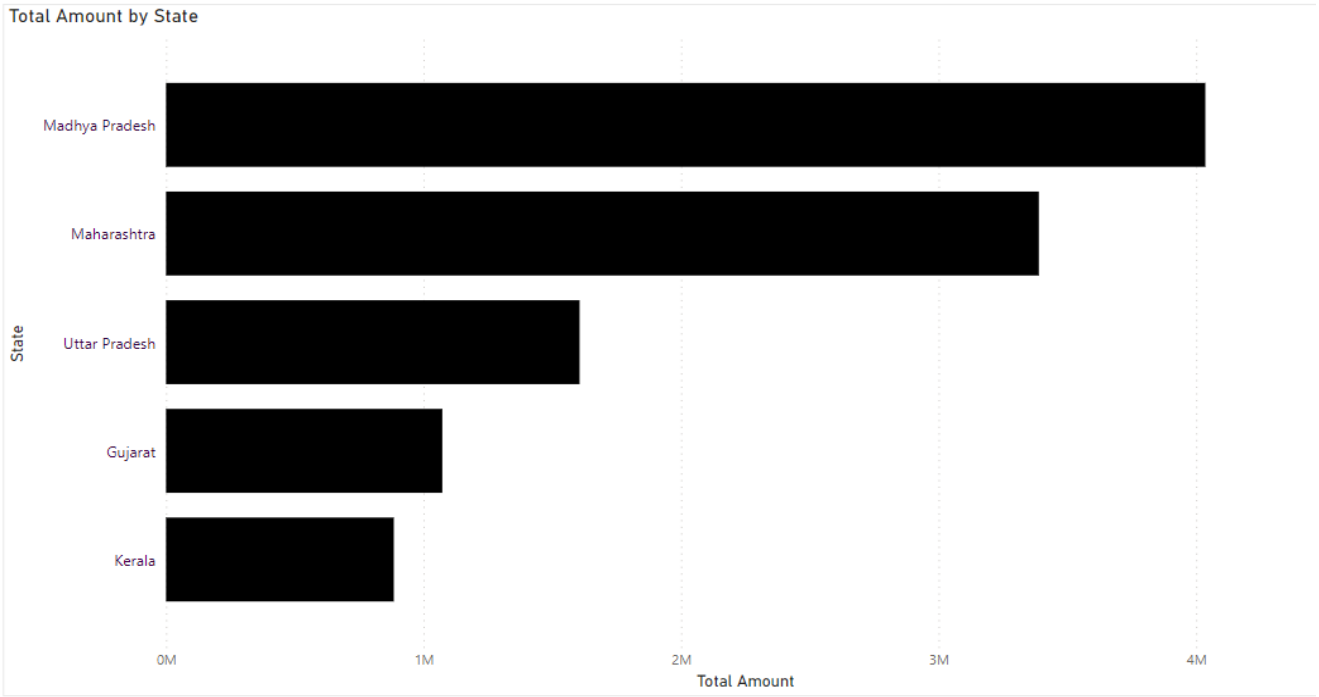
- **Key Observations :**

  The total amount recorded was of **19.36 M** while the Total amount of Profit was recorded around **1M.**

  Each visual is interpreted as follows :

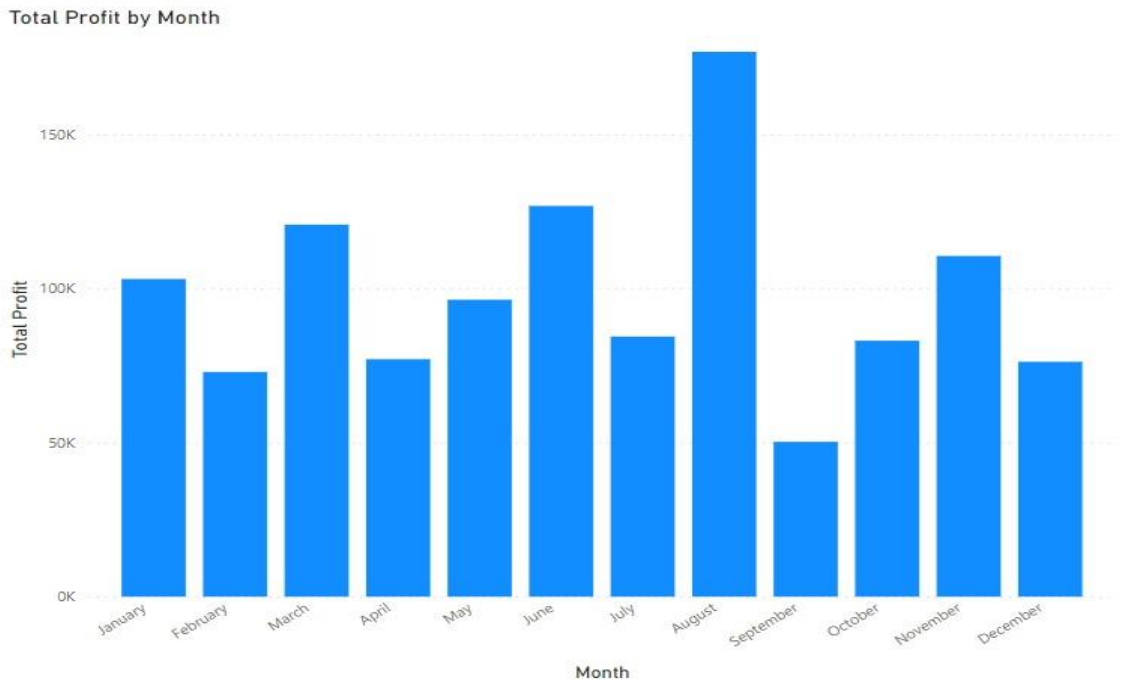
- **Interpretation for the individual visual (Yearly Basis) :**

:



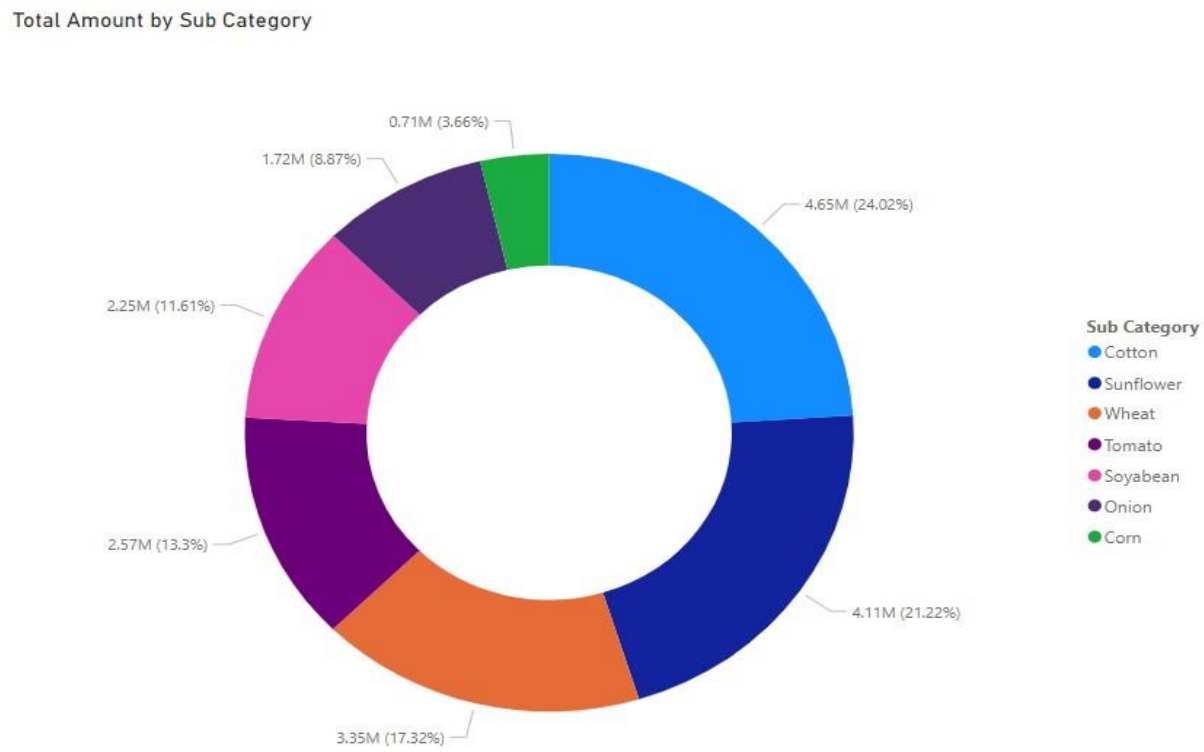
Interpretation :

- At 40,35,687, Madhya Pradesh had the highest Total Amount .
- Madhya Pradesh accounted for 36.73% of Total Amount.
- Across all 5 State, Total Amount ranged from 8,84,336 to 40,35,687



Interpretation :

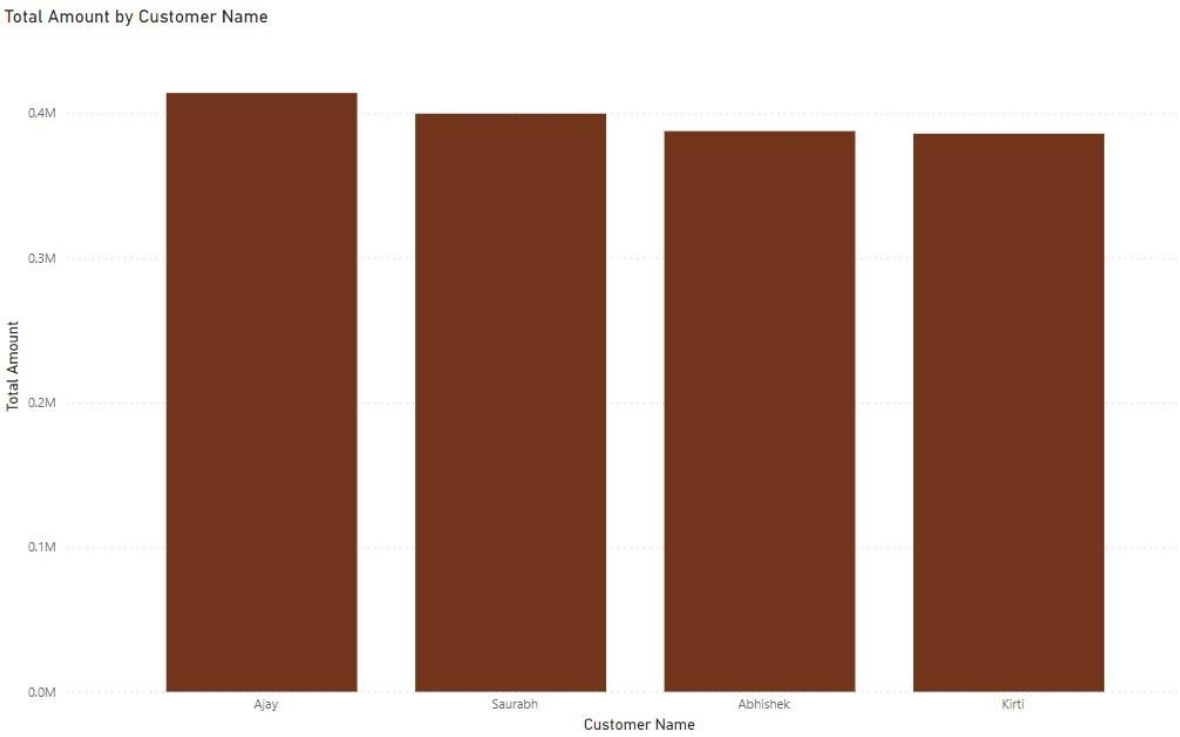
- At 176881, August had the highest Total Profit and was 251.95% higher than September, which had the lowest Total Profit at 50,257.
- August accounted for 15.01% of Total Profit.
- Across all 12 Months, Total Profit ranged from 50,257 to 1,76,881.



Interpretation :

1. Cotton seeds were accounted for 24.02 % (4.65M)
2. Sunflower seeds were accounted for 21.22 % (4.11M)
3. Wheat flour was accounted for 17.32 % (3.35M)
4. Tomato seeds were accounted for 13.3% (2.57M)
5. Soyabean seeds accounted for 11.61%(2.25M)
6. Onion seeds accounted for 8.87% (1.72M)
7. Corn flour was accounted for 3.66 % (0.71M)
8. The Total Amount is Calculated at 19.36M

9.



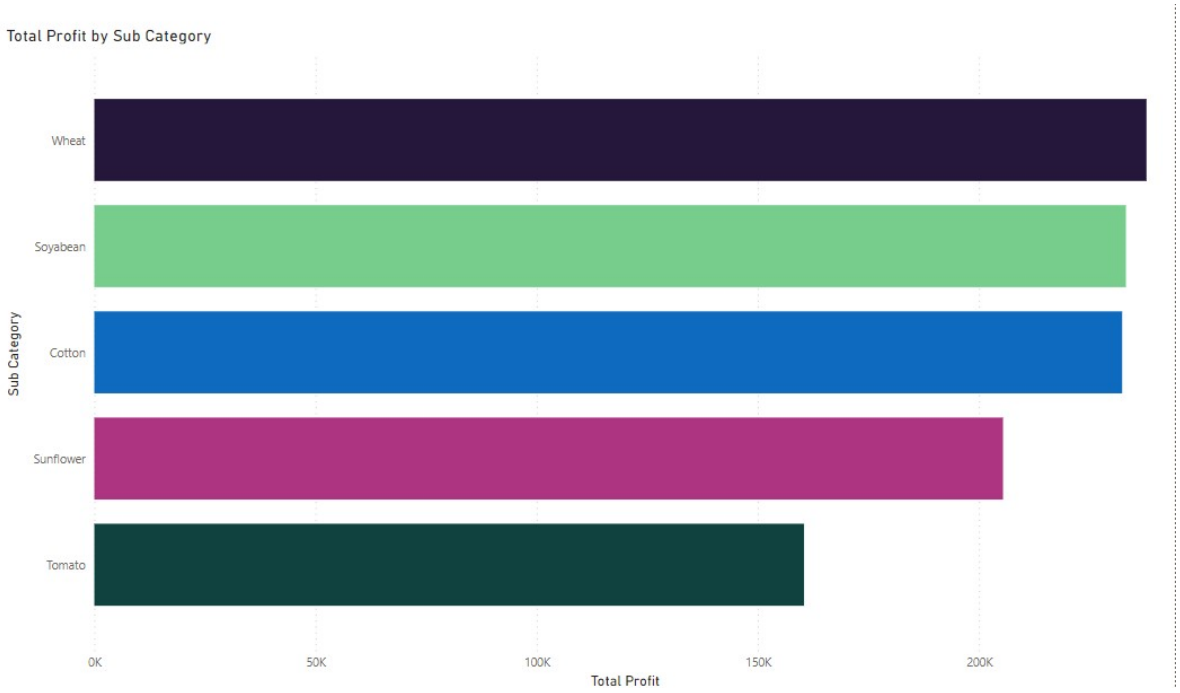
Interpretation :

1. At 4,14,084, Mr. Ajay had the highest Total Amount and was 7.29% higher than Ms. Kirti, which had the lowest Total Amount at 3,85,9393.

2. Mr. Ajay had the highest Total Amount at 4,14,084 followed by Mr. Saurabh, Mr. Abhishek, and MS. Kirti.

3. Mr. Ajay accounted for 26.08% of Total Amount .

4. Across all 4 Customers Total Amount ranged from 3,85,939 to 4,14,084.

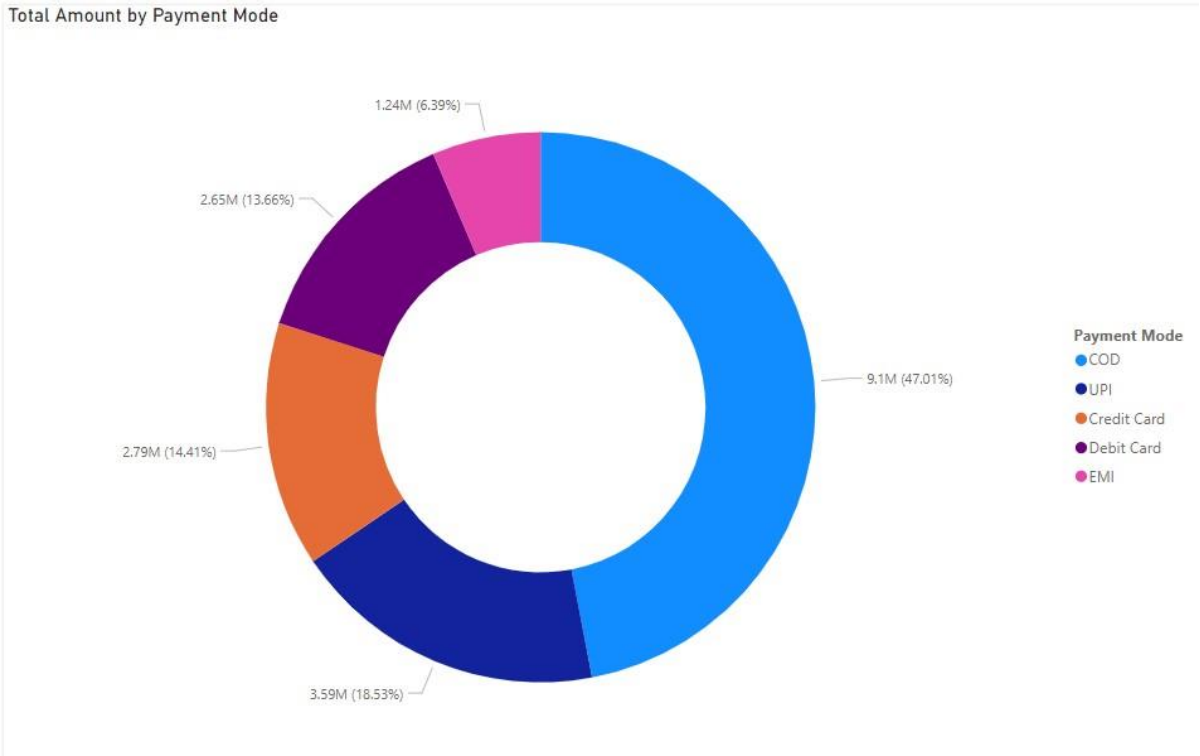


Interpretation :

- At 2,37866, Wheat had the highest Total Profit and was 48.25% higher than Tomato, which had the lowest Total Profit at 160451.

- Wheat accounted for 22.24% of Total Profit.

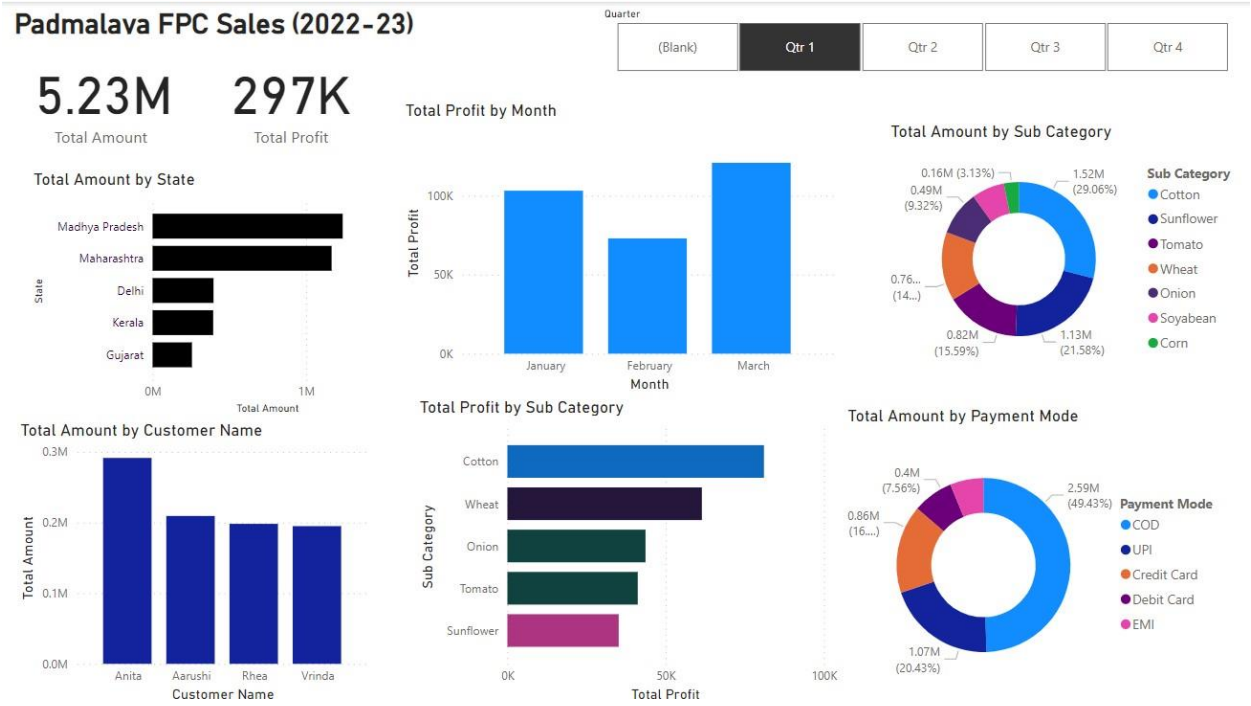
- Across all 5 Sub Category, Total Profit ranged from 160451 to 237866.



Interpretation :

1. **47.01 % (9.1 M)** of the payment was done through **Cash on Delivery**.
2. **18.53 %(3.59M)** of the payment was done through **UPI.**
3. **14.41 % (2.79M)** of the payment was done through **Credit Card**.
4. **13.66 % (2.65M)** of the payment was done through **Debit Card**.
5. **6.39 %(1.24M)** of the payment was done through **EMI.**

Now, let's take a look at the sales visualisation for the 1st quarter for the year 2022-23.



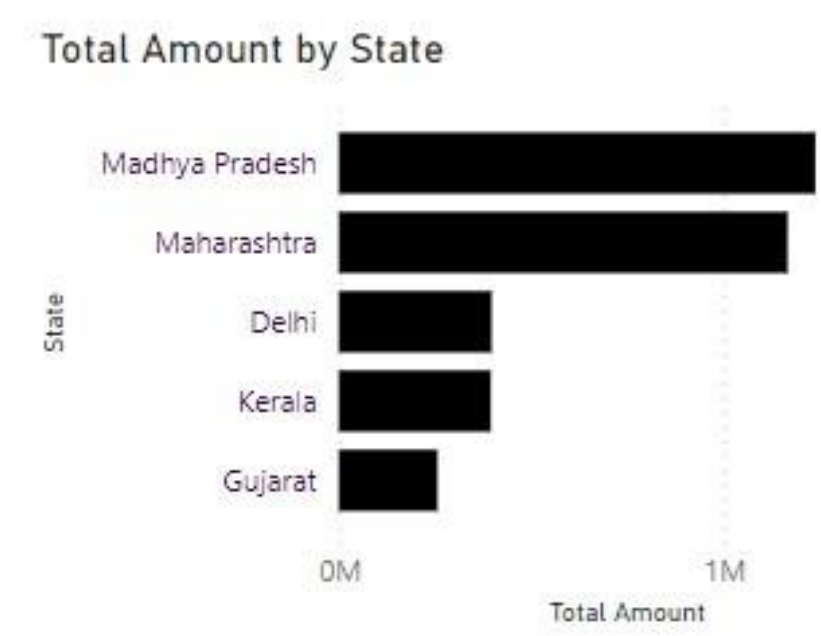
The dashboard shown above represents the overall record of the sales of the first quarter of 2022-23 for Padmalaya FPC. Where the visualisation consists of 6 key visuals namely :

1. Comparison of Total Amount by Sale.
2. Comparison of Total Profit by Month.
3. Comparison of Total Amount by the Sub-Category.
4. Comparison of Total Amount by Customer Name.
5. Comparison of Total Profit by Category
6. Comparison of Total Amount by Payment Mode.

- **Key Observations :**

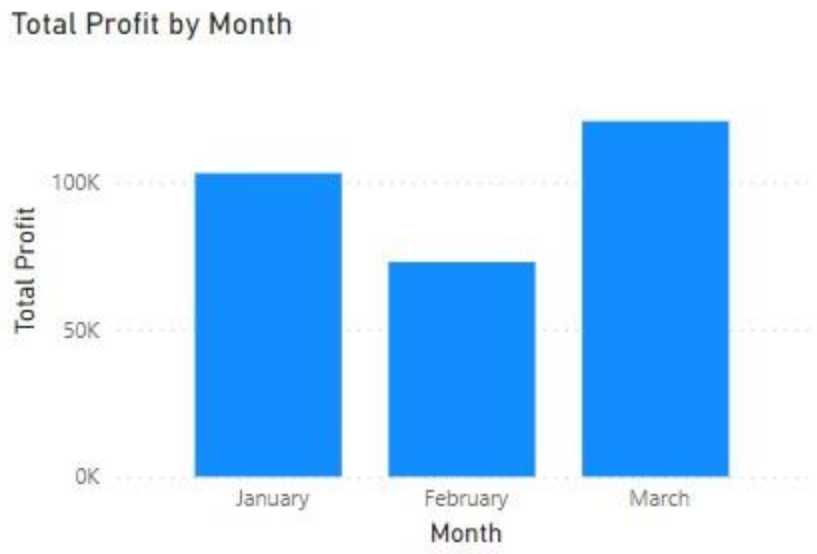
  The total amount recorded was of **5.23 M** while the Total amount of Profit was recorded around **297K.**

  Each visual is interpreted as follows :



Interpretation :

1. At 12,38,993.10, Madhya Pradesh had the highest Total Amount
2. Gujarat, had the lowest Total Amount at 2,56,351.
3. Madhya Pradesh accounted for 35.87% of Total Amount.
4. Across all 5 States, Total Amount ranged from 2,56,351 to 12,38,993.



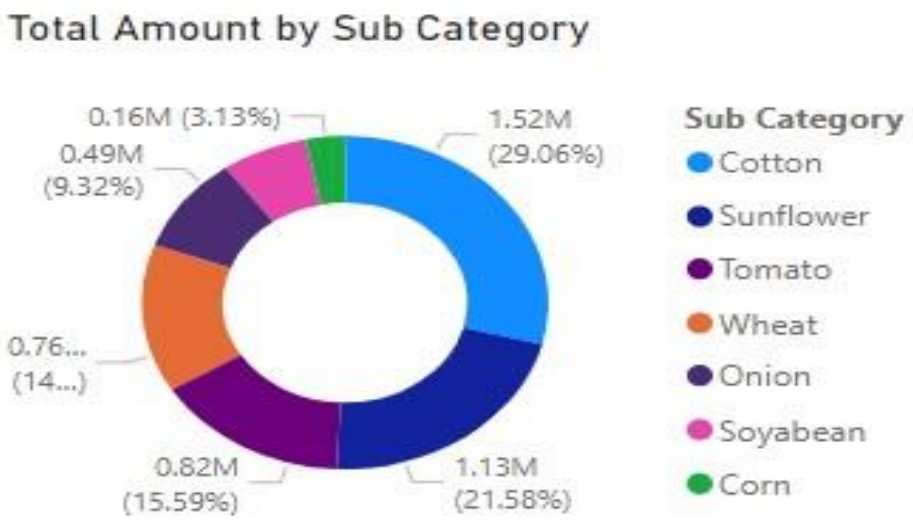
Interpretation

1. At 1,20,773, March had the highest Total Profit and was 65.57% higher than February, which had the lowest Total Profit at 72,945.

2. March had the highest Total Profit at 120773, followed by January at 103125 and February at 72945.

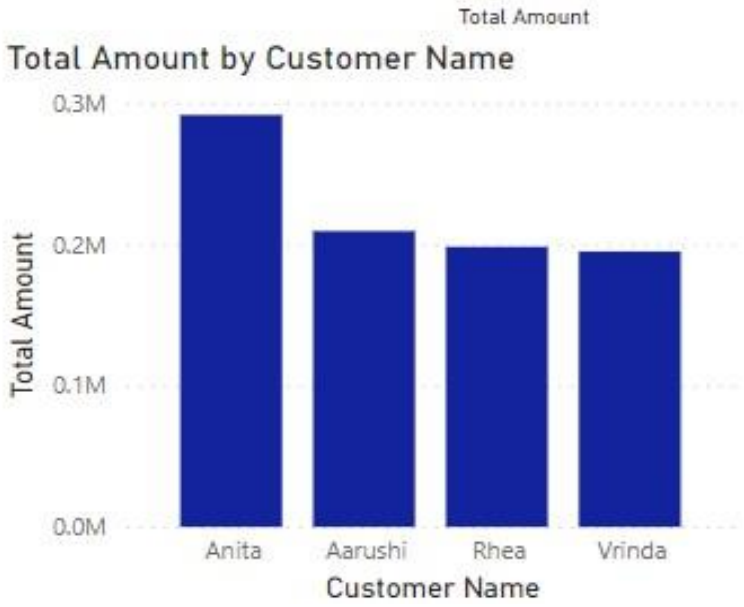
3. March accounted for 40.69% of Total Profit.

4. January had 103125 Total Profit, February had 72945, and March had 120773.



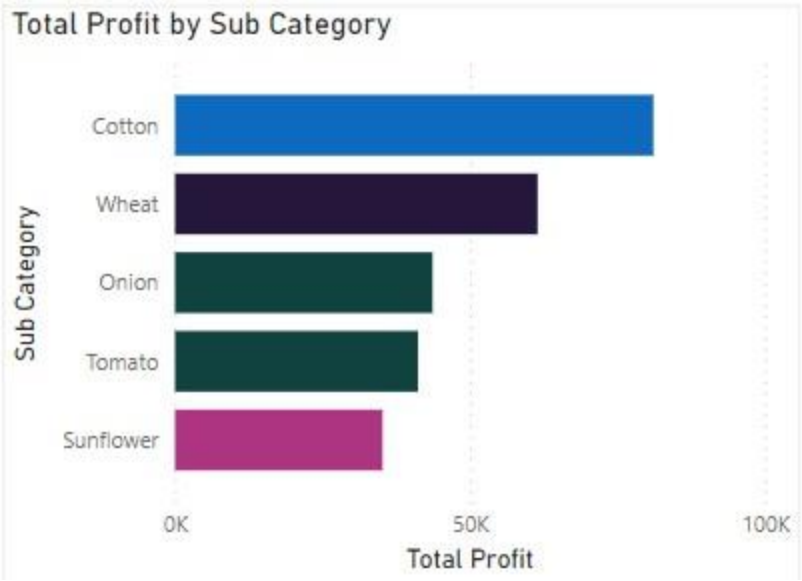
Interpretation:

1. Cotton seeds were accounted for 29.06% of (1.52M)
2. Sunflower seeds were accounted for 21.58% (1.13M)
3. Wheat flour was accounted for 14.44% (0.76M)
4. Tomato seeds were accounted for 15.59% (0.82M)
5. Soyabean seeds accounted for 6.88%(0.33M)
6. Onion seeds accounted for 9.32% (0.49M)
7. Corn flour was accounted for 3.13 % (0.16M)
8. The Total Amount for the first quarter is Calculated at 5.23M



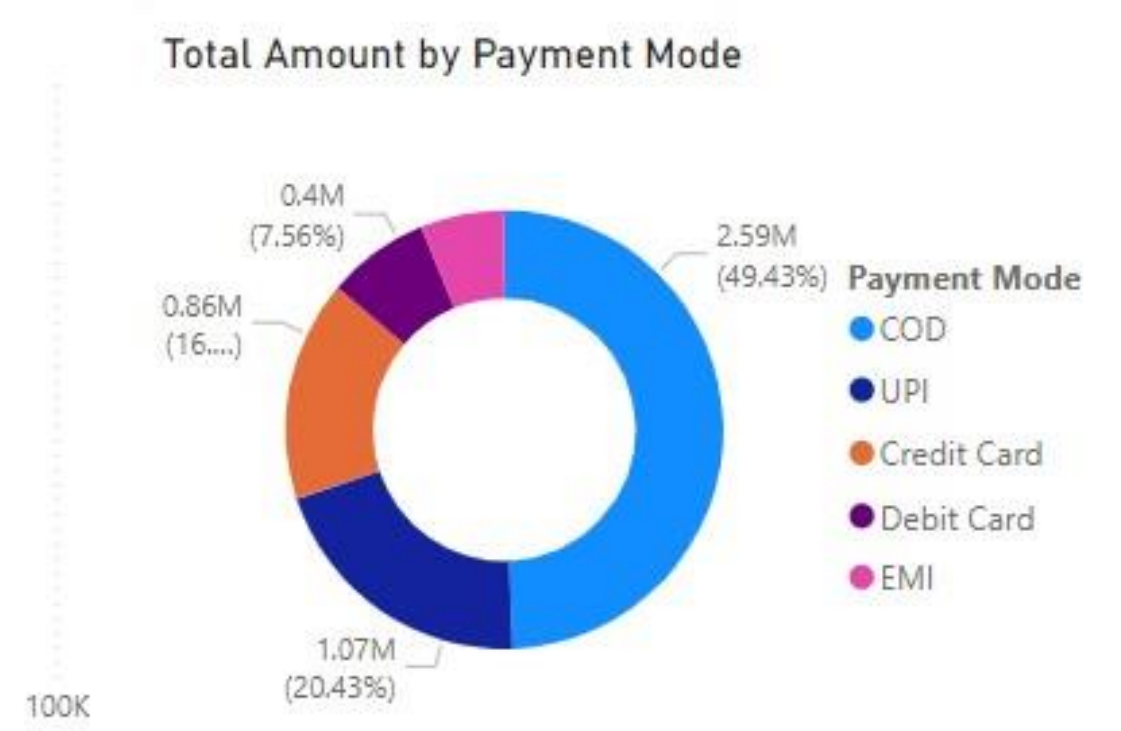
Interpretation :

1. At 2,91,550.73, Anita had the highest Total Amount and was 49.53% higher than Vrinda, which had the lowest Total Amount at 1,94,976.97.
2. Anita had the highest Total Amount at 2,91,550.73, followed by Aarushi, Rhea, and Vrinda.
3. Anita accounted for 32.61% of Total Amount .
4. Across all 4 Customers, Total Amount ranged from 1,94,976.97 to 2,91,550.73.



Interpretation :

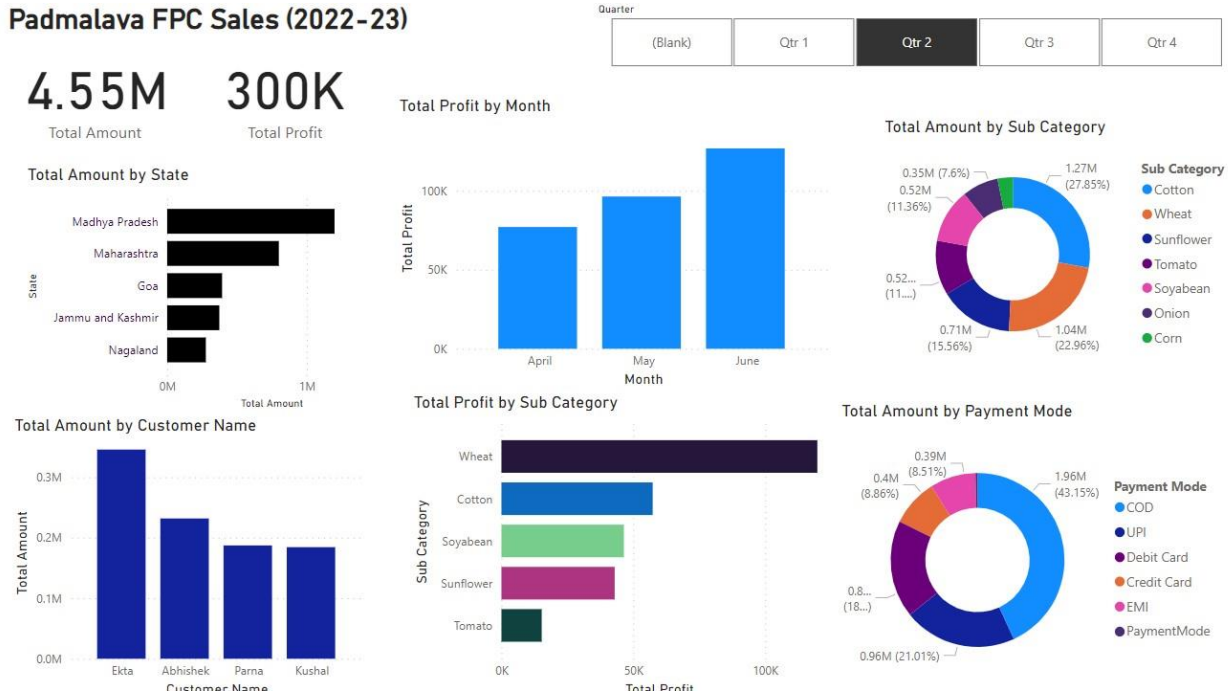
1. At 81084, Cotton had the highest Total Profit and was 130.51% higher than Sunflower, which had the lowest Total Profit at 35176.
2. Cotton accounted for 30.88% of Total Profit.
3. Across all 5 Sub Categories Total Profit ranged from 35176 to 81084.



Interpretation :

1. **49.43 % (2.59 M)** of the payment was done through **Cash on Delivery**.
2. **20.43 %(1.07M)** of the payment was done through **UPI.**
3. **16.37 % (0.86M)** of the payment was done through **Credit Card**.
4. **7.56 % (0.4M)** of the payment was done through **Debit Card**.
5. **6.21 %(0.3M)** of the payment was done through **EMI.**

Here's a look at the sales visualisation for the 2nd quarter of year 2022-23.



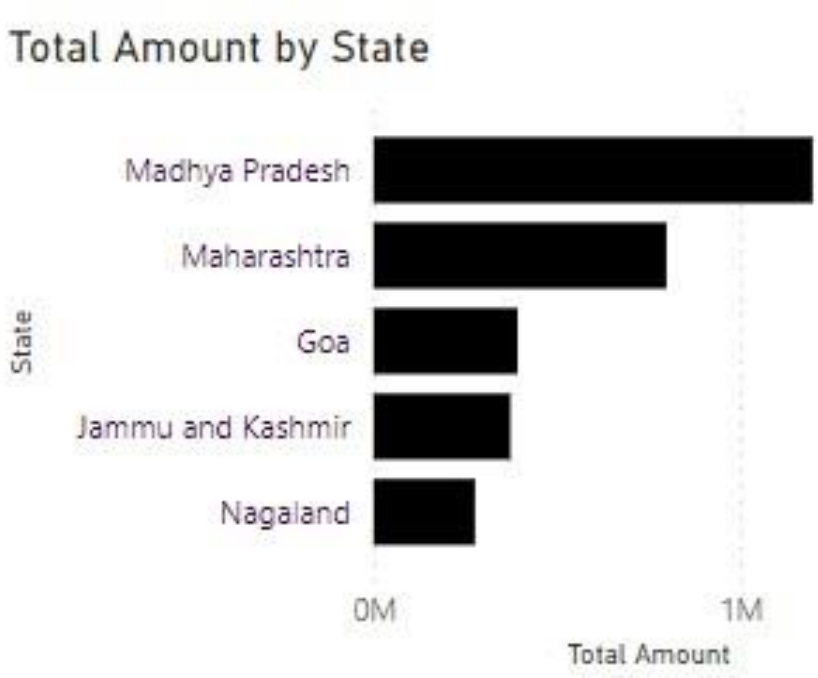
The dashboard shown above represents the overall record of the sales of the 2nd quarter of 2022-23 for Padmalaya FPC. Where the visualisation consists of 6 key visuals namely :

1. Comparison of Total Amount by Sale.
2. Comparison of Total Profit by Month.
3. Comparison of Total Amount by the Sub-Category.
4. Comparison of Total Amount by Customer Name.
5. Comparison of Total Profit by Category
6. Comparison of Total Amount by Payment Mode.

- **Key Observations :**

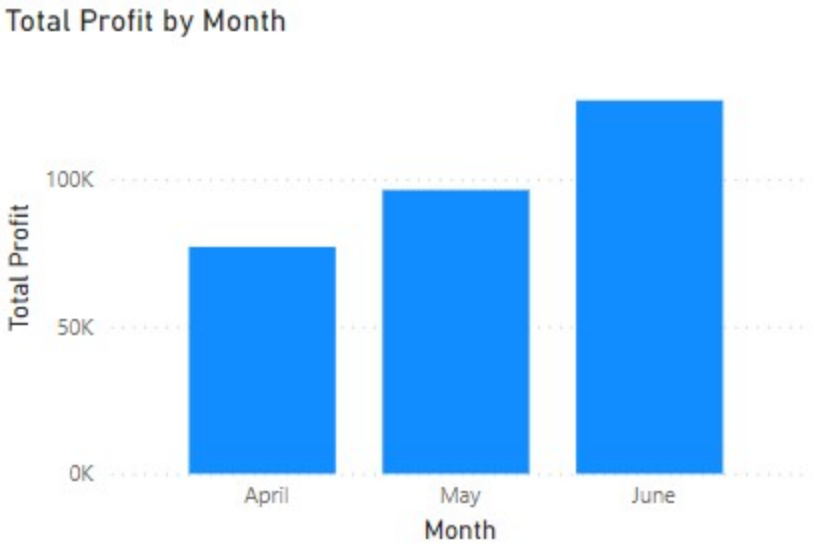
  The total amount recorded was of **4.55 M** while the Total amount of Profit was recorded around **300K.**

  Each visual is interpreted as follows :



Interpretation

1. At 11,97,758.43, Madhya Pradesh had the highest Total Amount and was 332.88% higher than Nagaland, which had the lowest Total Amount at 2,76,692.58.
2. Madhya Pradesh accounted for 39.41% of Total Amount.
3. Across all 5 States, Total Amount ranged from 2,76,692.58 to 11,97,758.43.

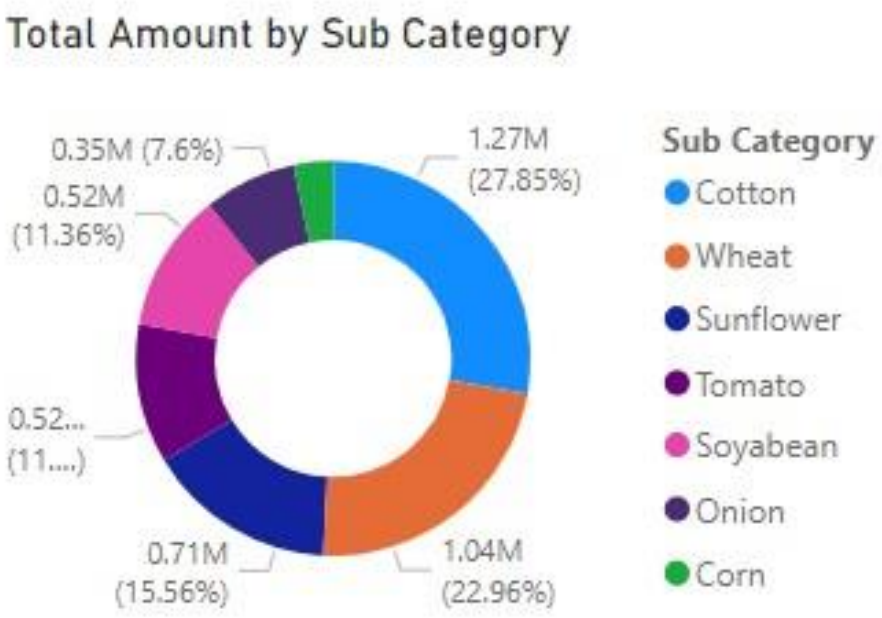


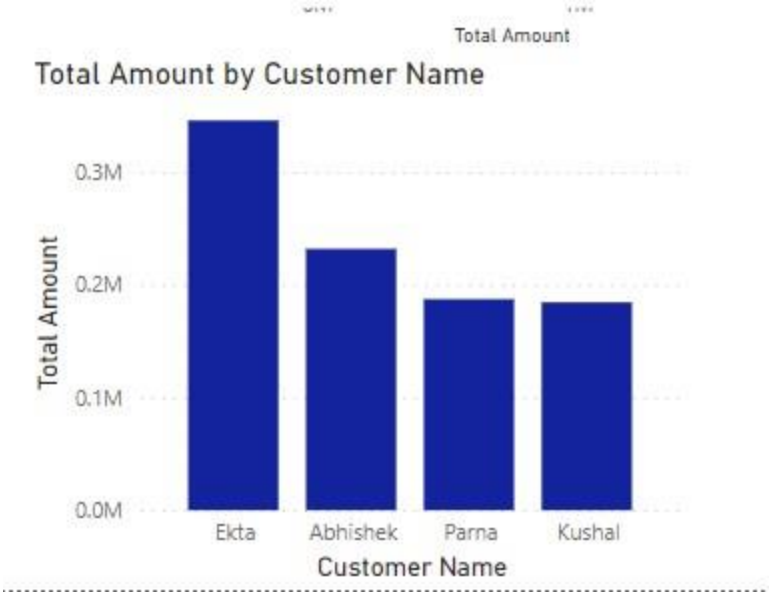
Interpretation :

1. At 126839, June had the highest Total Profit and was 64.56% higher than April, which had the lowest Total Profit at 77076.
2. June had the highest Total Profit at 126839, followed by May at 96399 and April at 77076.
3. April had 77076 Total Profit, may had 96399, and June had 126839.

Interpretation:

1. Cotton seeds were accounted for 27.85% of (1.27M)
2. Sunflower seeds were accounted for 22.96% (1.04M)
3. Wheat flour was accounted for 15.56% (0.71M)
4. Tomato seeds were accounted for 11.44% (0.52M)
5. Soyabean seeds accounted for 11.36%(0.51M)
6. Onion seeds accounted for 7.6% (0.35M)
7. Corn flour was accounted for 3.22 % (0.15M)
8. The Total Amount for the first quarter is Calculated at 4.55M





Interpretation

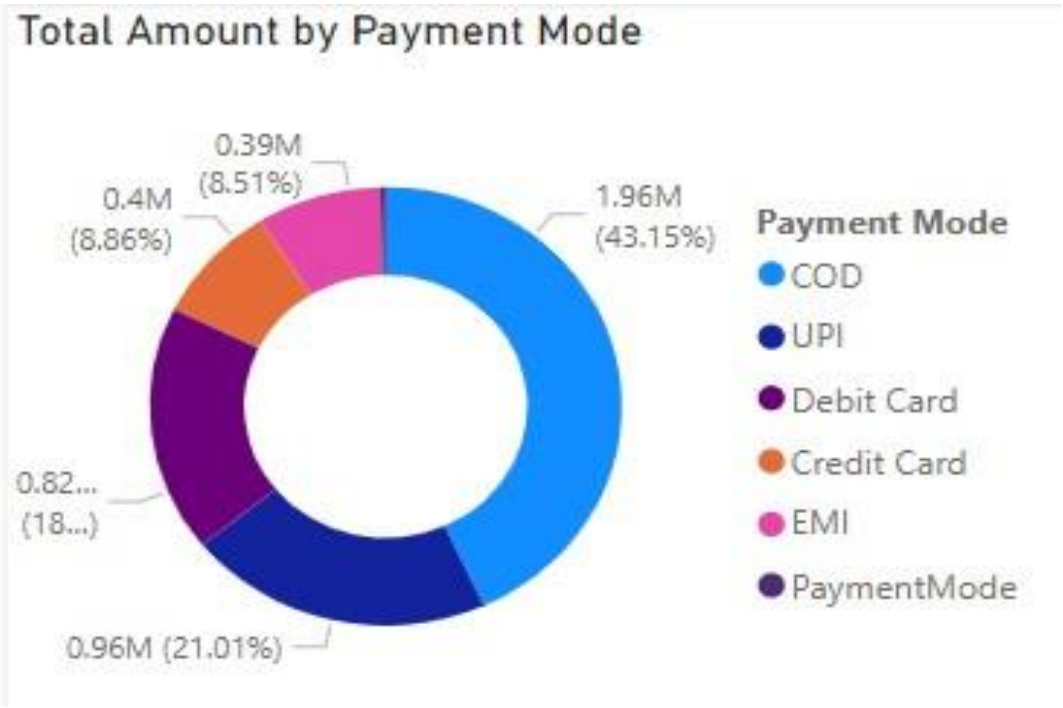
1. At 3,45,707.37, Ekta had the highest Total Amount and was 87.45% higher than Kushal, which had the lowest Total Amount at 1,84,424.84.

2. Ekta had the highest Total Amount at 3,45,707.37, followed by Abhishek, Parna, and Kushal.

3. Ekta accounted for 36.42% of Total Amount .
4. Across all 4 Customers, Total Amount ranged from 1,84,424.84 to 3,45,707.37.

Interpretation

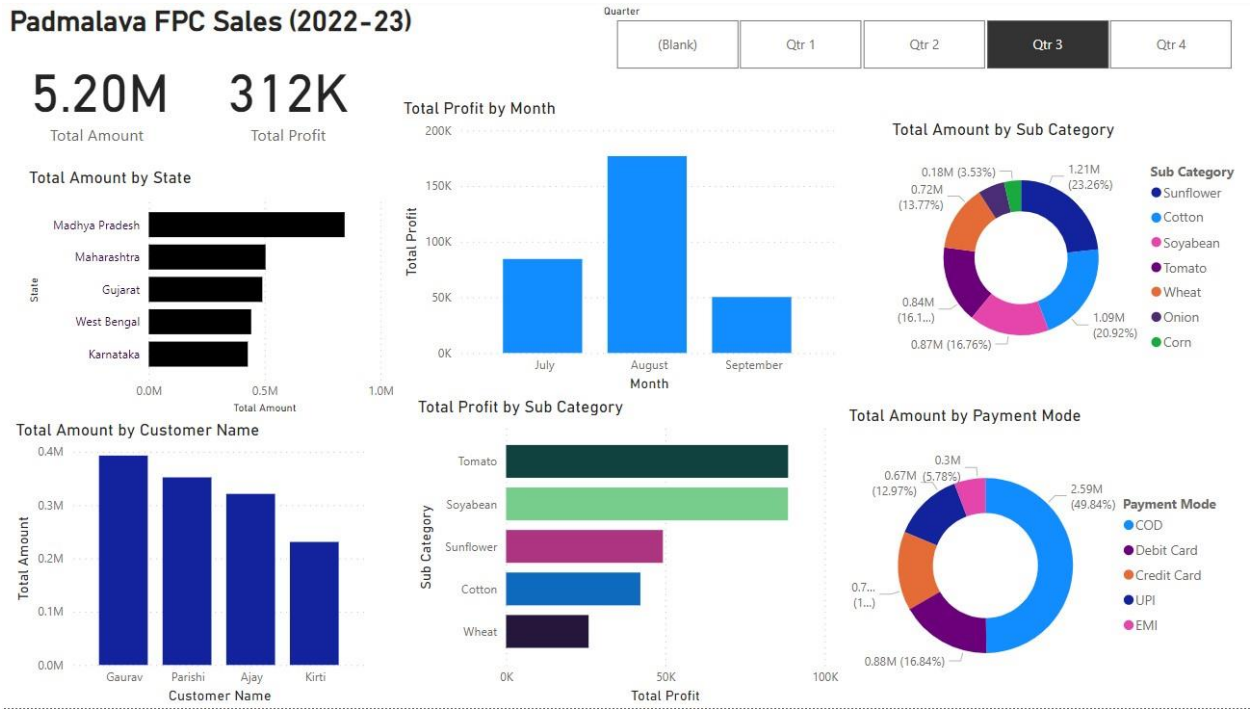
1. At 119802, Wheat had the highest Total Profit and was 684.76% higher than Tomato, which had the lowest Total Profit at 15266.
2. Wheat accounted for 42.51% of Total Profit.
3. Across all 5 Sub Category, Total Profit ranged from 15266 to 119802.



Interpretation :

1. **43.15 % (1.96 M)** of the payment was done through **Cash on Delivery**.
2. **21.01 %(0.96M)** of the payment was done through **UPI.**
3. **18.1 % (0.82M)** of the payment was done through **Credit Card**.
4. **8.86 % (0.4M)** of the payment was done through **Debit Card**.
5. **8.51 %(0.39M)** of the payment was done through **EMI.**

Here's the sales visualisation for the 3rd quarter of year 2022-23.



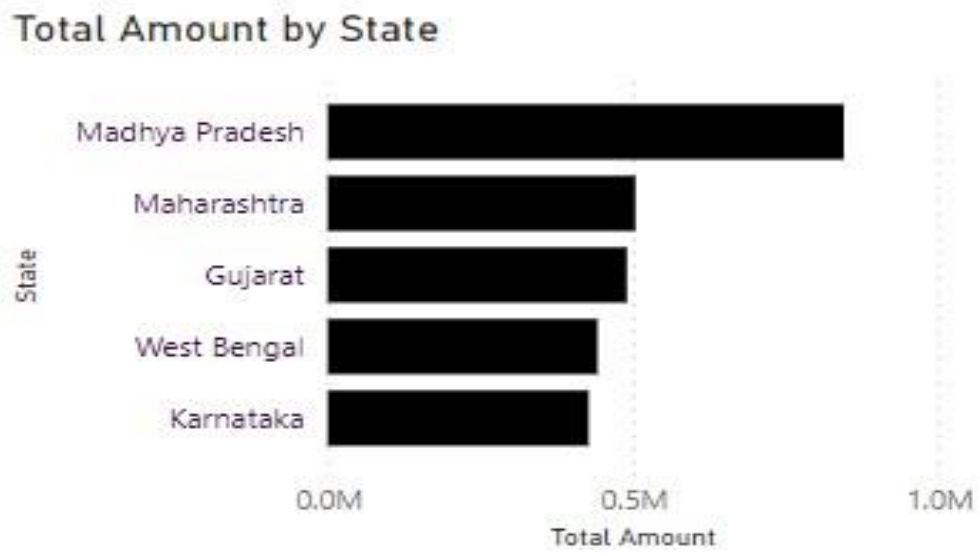
The dashboard shown above represents the overall record of the sales of the 3rd quarter of 2022-23 for Padmalaya FPC. Where the visualisation consists of 6 key visuals namely :

1. Comparison of Total Amount by Sale.
2. Comparison of Total Profit by Month.
3. Comparison of Total Amount by the Sub-Category.
4. Comparison of Total Amount by Customer Name.
5. Comparison of Total Profit by Category
6. Comparison of Total Amount by Payment Mode.

- **Key Observations :**

  The total amount recorded was of **5.20 M** while the Total amount of Profit was recorded around **312K.**

  Each visual is interpreted as follows :



Interpretation :

1. At 8,44,944.66, Madhya Pradesh had the highest Total Amount and was 97.82% higher than Karnataka, which had the lowest Total Amount at 4,27,137.10.

2. Madhya Pradesh accounted for 31.21% of Total Amount.

3. Across all 5 States, Total Amount ranged from 4,27,137.10 to 8,44,944.66.

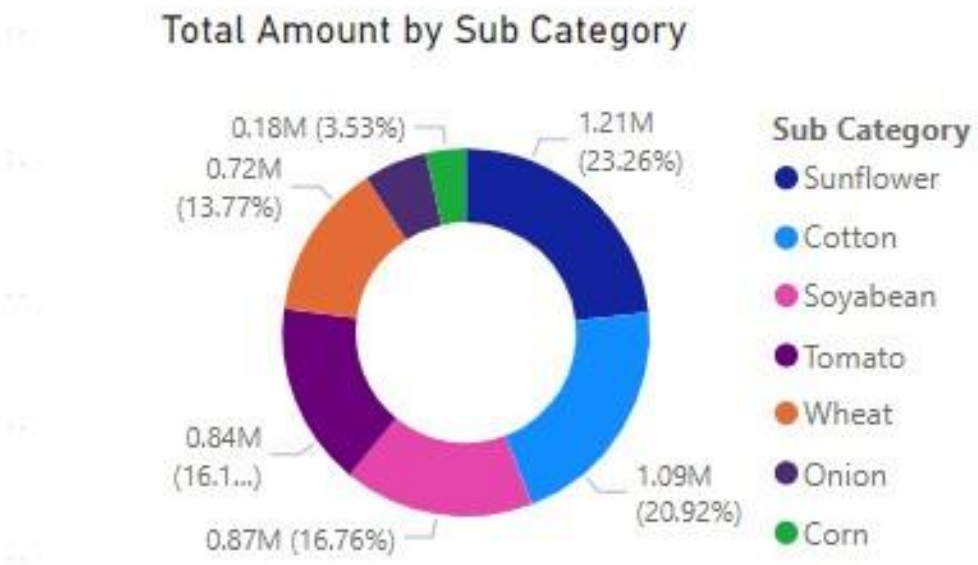
Total Profit by Sub Category

Interpretation :

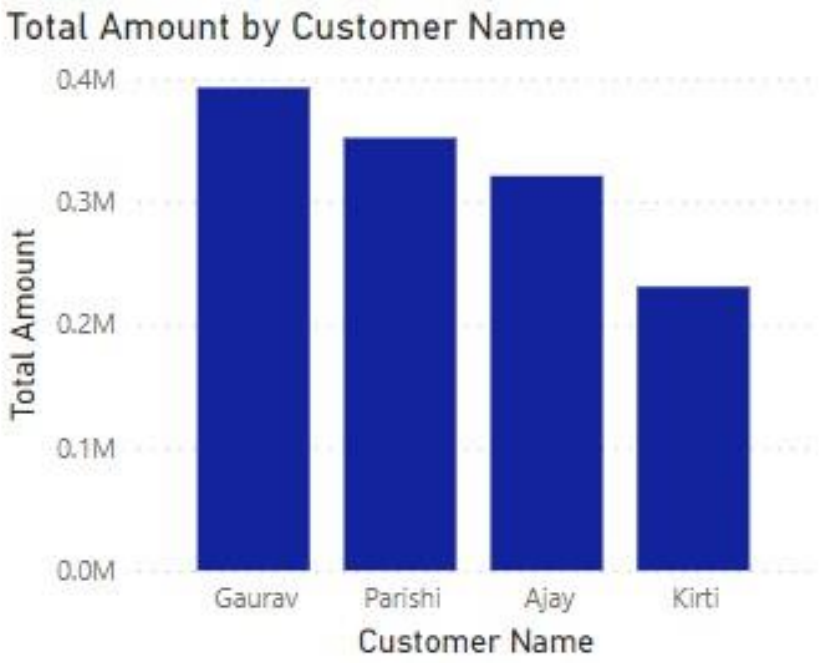
1. At 8,44,944.66, Madhya Pradesh had the highest Total Amount and was 97.82% higher than Karnataka, which had the lowest Total Amount at 4,27,137.10.

2. Madhya Pradesh accounted for 31.21% of Total Amount.

4. Across all 5 States, Total Amount ranged from 4,27,137.10 to 8,44,944.66.



1. Sunflower seeds were accounted for 23.26% of (1.21M)
2. Cotton seeds were accounted for 20.92% (1.09M)
3. Soyabean seeds were accounted for 16.76% (0.87M)
4. Tomato seeds were accounted for 16.12% (0.84M)
5. Wheat flour was accounted for 13.77%(0.72M)
6. Onion seeds accounted for 5.57 % (0.29M)
7. Corn flour was accounted for 3.53 % (0.18M)
8. The Total Amount for the 3rd quarter is Calculated at 5.20M

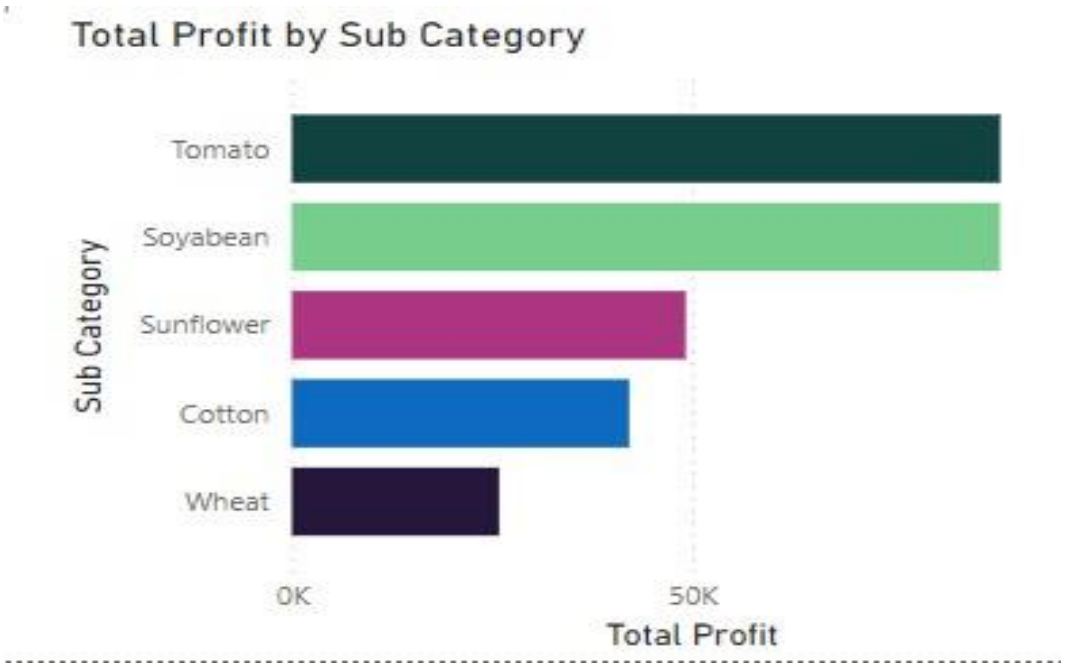


Interpretation :

1 .At 3,92,913.16, Mr. Gaurav had the highest Total Amount and was 70.16% higher than Kirti, which had the lowest Total Amount at 2,30,905.93.

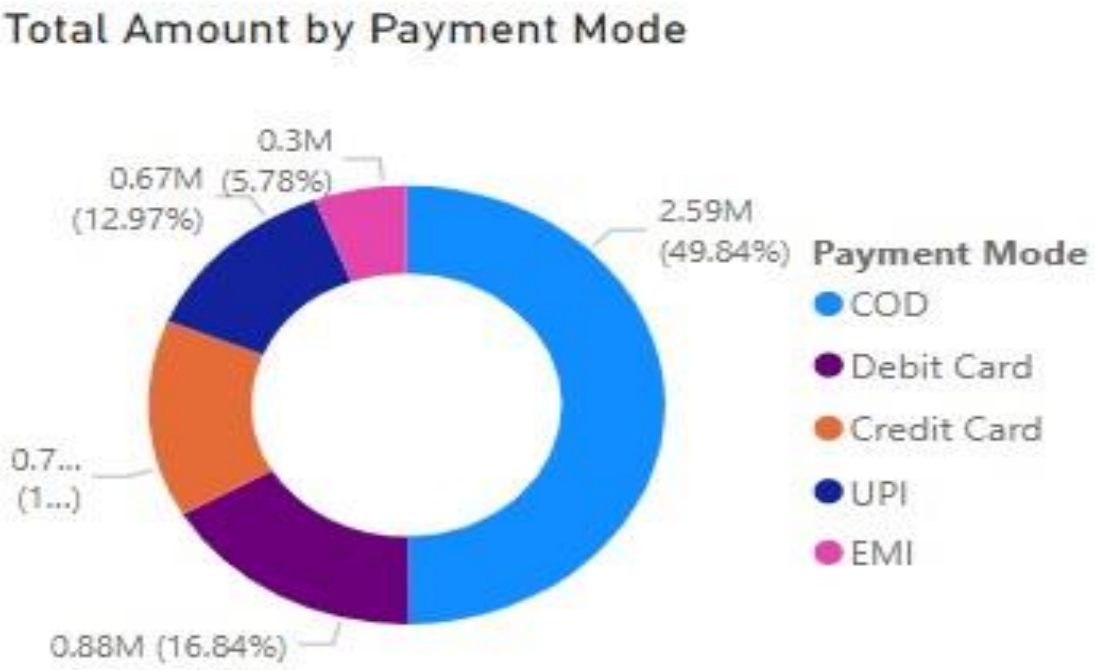
2. Mr. Gaurav had the highest Total Amount at 3,92,913.16, followed by Parishi, Ajay, and Kirti. Gaurav accounted for 30.30% of Total Amount .

3. Across all 4 Customers, Total Amount ranged from 2,30,905.93 to 3,92,913.



Interpretation:

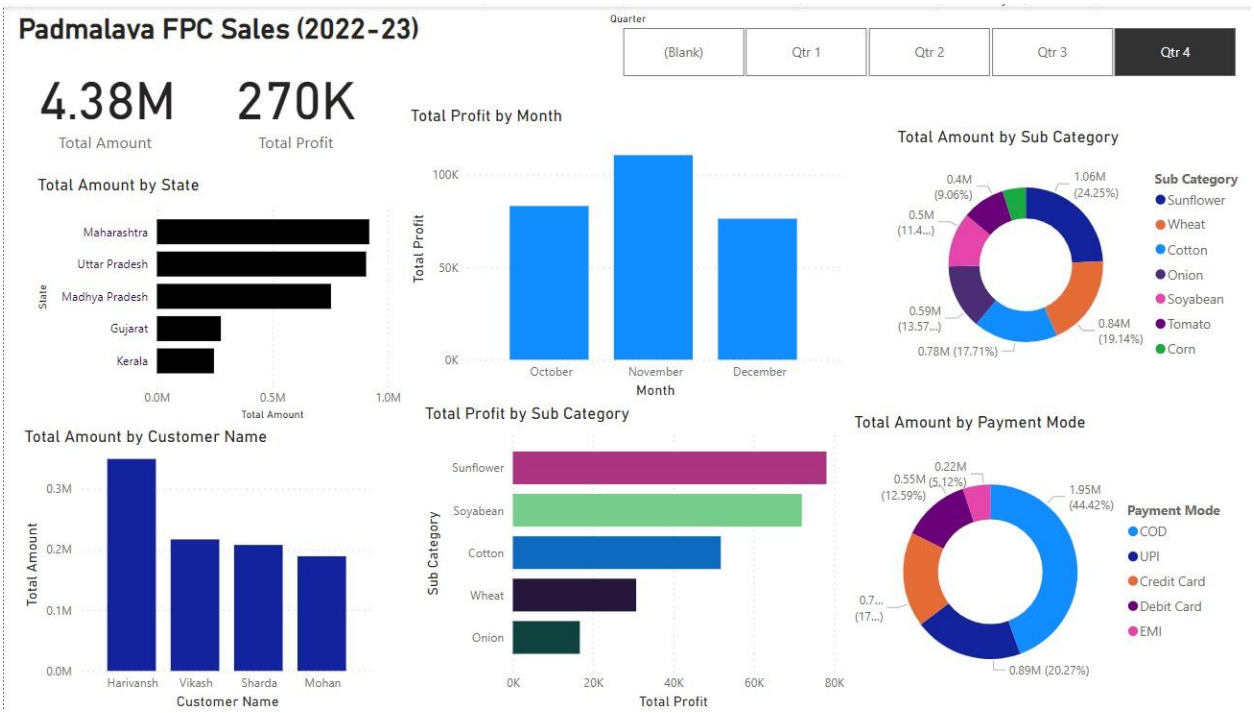
1. At 88,512, Tomato had the highest Total Profit and was 241.81% higher than Wheat, which had the lowest Total Profit at 25895.
2. Soyabean on the other hand, had total profit of 88484.
3. Tomato accounted for 30.08% of Total Profit.
4. Across all 5 Sub Categories,
5. Total Profit ranged from 25895 to 88512.



Interpretation:

1. **49.84 % (2.59 M)** of the payment was done through **Cash on Delivery**.
2. **16.84 %(0.88M)** of the payment was done through **Debit Card**
3. **14.57 % (0.75M)** of the payment was done through **Credit Card**.
4. **12.97 % (0.67M)** of the payment was done through **UPI**.
5. **5.78 %(0.3M)** of the payment was done through **EMI.**

The sales visualisation for the 4th quarter of 2022-23 is given below.



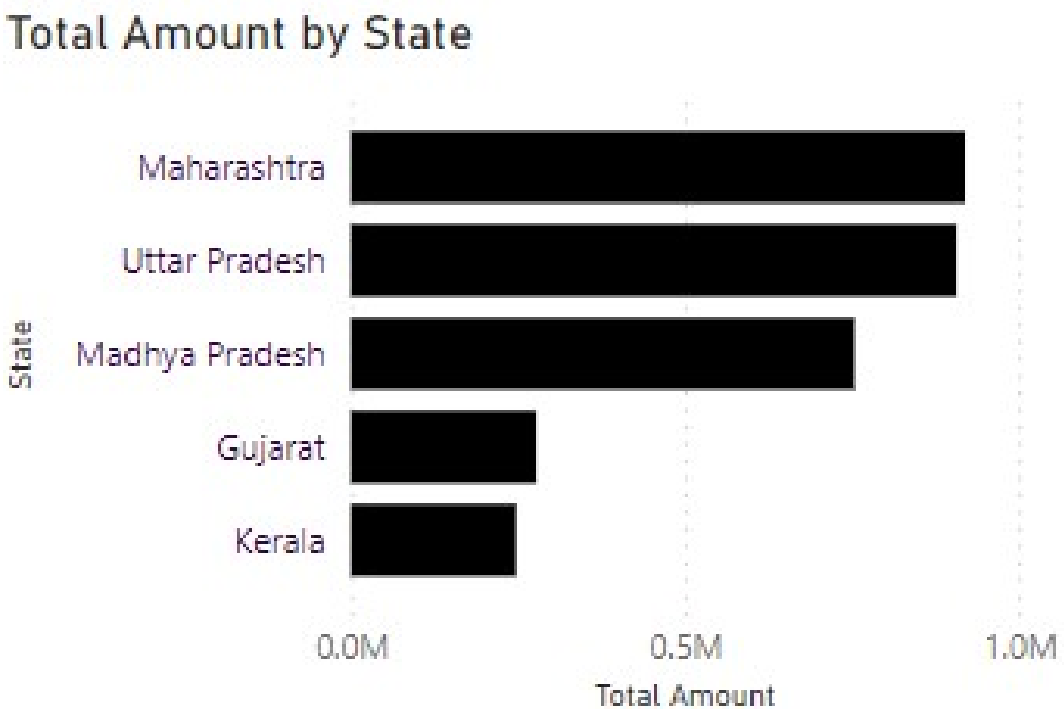
The dashboard shown above represents the overall record of the sales of the 3rd quarter of 2022-23 for Padmalaya FPC. Where the visualisation consists of 6 key visuals namely :

1. Comparison of Total Amount by Sale.
2. Comparison of Total Profit by Month.
3. Comparison of Total Amount by the Sub-Category.
4. Comparison of Total Amount by Customer Name.
5. Comparison of Total Profit by Category
6. Comparison of Total Amount by Payment Mode.

- **Key Observations :**

  The total amount recorded was of **4.38 M** while the Total amount of Profit was recorded around **270K.**

  Each visual is interpreted as follows :

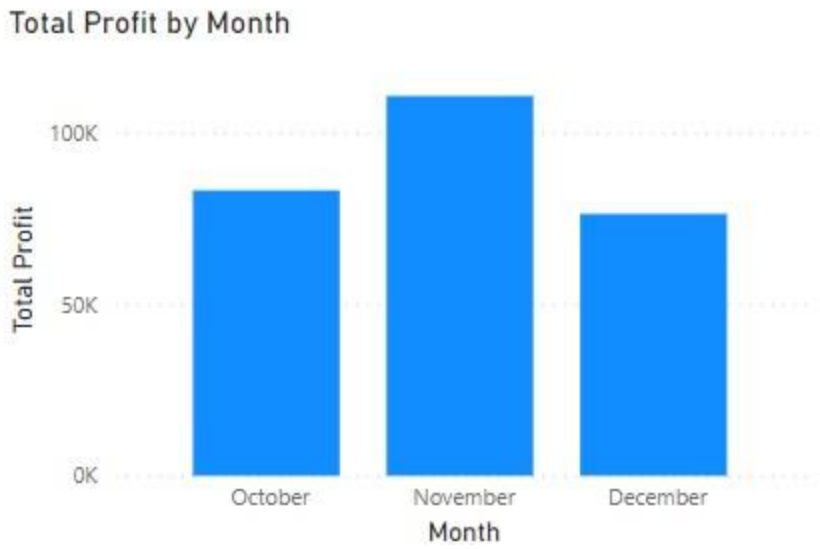


Interpretation:

1. At 9,19,754.02, Maharashtra had the highest Total Amount and was 272.40% higher than Kerala, which had the lowest Total Amount at 2,46,981.

2.Maharashtra accounted for 29.63% of Total Amount.

3. Across all 5 States, Total Amount ranged from 2,46,981.58 to 9,19,754.02.



Interpretation:

1. At 1,10,588, November had the highest Total Profit and was 45.03% higher than December, which had the lowest Total Profit at 76252.

2 November had the highest Total Profit at 110588, followed by October at 83092 and December at 76252.

1. November accounted for 40.97% of Total Profit.
2. October had 83092 Total Profit, November had 110588, and December had76252.

Interpretation:

1. Sunflower seeds were accounted for 24.25% of (1.06M)
2. Wheat flour was accounted for 19.14% (0.84M)
3. Cotton seeds were accounted for 17.71% (0.78M)
4. Onion seeds were accounted for 13.57% (0.59M)
5. Soyabean seeds accounted for 11.4%(0.5M)
6. Tomato seeds accounted for 9.06% (0.4M)
7. Corn flour was accounted for 4.87 % (0.21M)
8. The Total Amount for the first quarter is Calculated at 4.38M

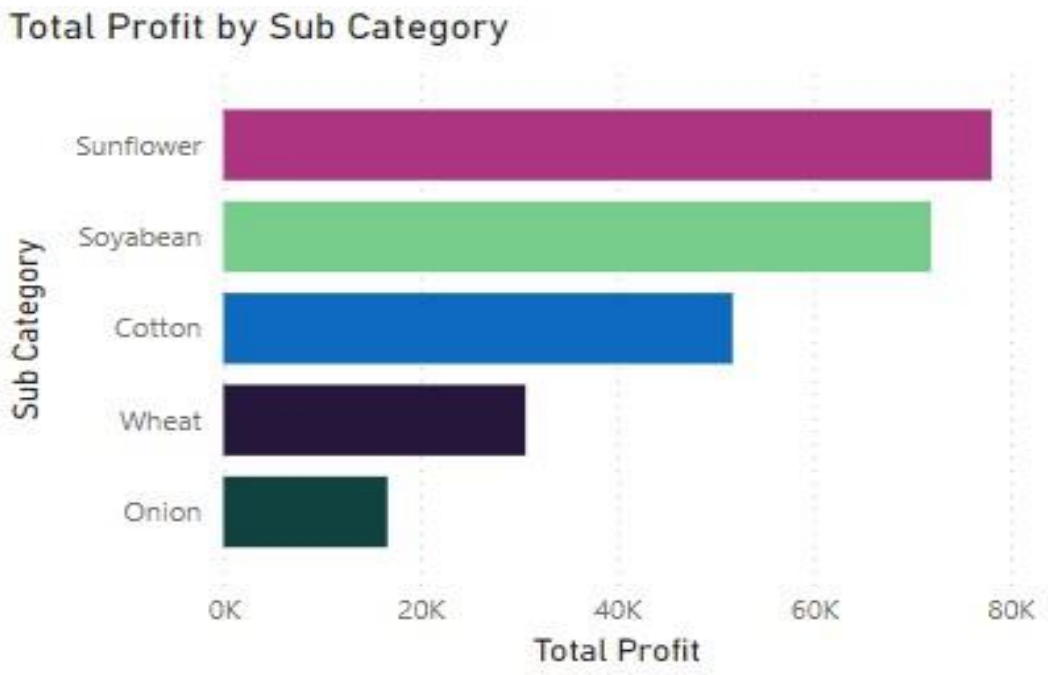
Interpretation:

1. At 3,48,959.44, Mr. Harivansh had the highest Total Amount and was 84.83% higher than Mr. Mohan, which had the lowest Total Amount at 1,88,805.12.

1. Mr. Harivansh had the highest Total Amount at 3,48,959.44, followed by Mr. Vikash, Ms. Sharda, and Mr. Mohan.

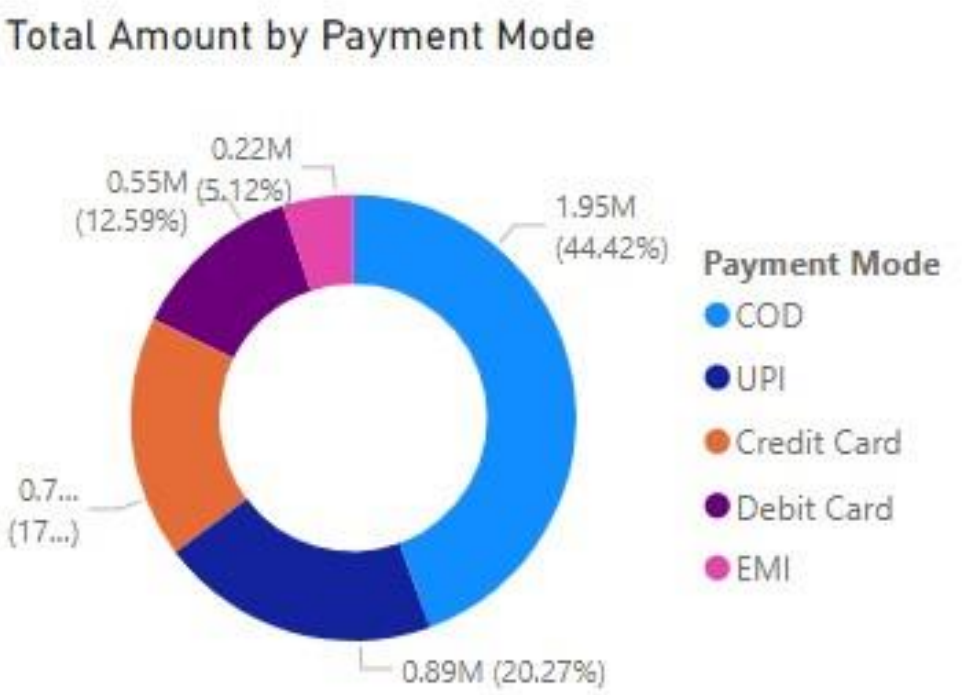
3. Mr. Harivansh accounted for 36.29% of Total Amount .

4. Across all 4 Customer Name, Total Amount ranged from 1,88,805.12 to 3,48,959.44.



Interpretation:

1. At 78097, Sunflower had the highest Total Profit and was 368.26% higher than Onion, which had the lowest Total Profit at 16678.
2. Sunflower accounted for 31.34% of Total Profit.
3. Across all 5 Sub Categories, Total Profit ranged from 16678 to 78097.



Interpretation :

1. **44.42 % (1.95 M)** of the payment was done through **Cash on Delivery**.
2. **20.27 %(0.89M)** of the payment was done through **UPI.**
3. **17.61 % (0.71M)** of the payment was done through **Credit Card**.
4. **12.59 % (0.55M)** of the payment was done through **Debit Card.**
5. **5.12%(0.22M)** of the payment was done through **EMI.**

Chapter 7 :
Findings, Suggestions and Conclusion

Using data visualisation tools such as MS-Excel & Power BI in analysing sales data for a Farmer Producer Company can yield valuable insights, inform data-driven decision-making, and improve overall business performance. Here's a breakdown of the findings, suggestions, and a conclusion based on the usage of Power BI:

Findings:

1. **Sales Trends**: Power BI allows for the visualization of sales trends over time. You may have found patterns such as seasonal fluctuations, product-specific trends, or changes in sales volume.
2. **Product Performance**: You can analyse which products are the best-sellers, and which ones need improvement. This insight can guide inventory management and marketing efforts.
3. **Customer Segmentation**: Power BI can help you segment your customers based on various criteria, like geography, purchase history, or demographics. This can highlight your most profitable customer segments.
4. **Pricing Analysis**: Analysing the relationship between pricing strategies and sales performance can help in optimizing pricing for better margins and customer retention.
5. **Geographical Insights**: Mapping tools in Power BI can help identify regions with high or low sales. This data can be used to target marketing and distribution efforts more effectively.
6. **Sales Team Performance**: If applicable, you can assess the performance of your sales team. Identify top-performing individuals and areas where training or support may be needed.

7. Among the all 4 quarters from year 2022-23, in Quarter 1, Company has the highest amount of sales of 5.23M along with the Total profit of 297K.
8. While the 2nd quarter (has a smaller number of sales as compared to 1st quarter of 4.55M.

   Along with total profit of 300K which is greater than the 1st quarter.
9. While the company has earned maximum profit of 321K in the 3rd quarter of year 2022-23 with the total sales of 5.20M.
10. The Company has earned lowest number of profits accounted at 270K along with the sales of 4.38M in the 4th quarter of the year 2022-23.
11. Among all the states, Madhya Pradesh was recorded as the most frequent buyer state & was on the top in 3 consecutive quarters of the year 2022-23.
12. Madhya Pradesh was also the top most buyer in overall manner of the year 2022-23 and was accounted 36.73% of the total amount of 19.36M.

Suggestions:

1. **Data Integration:** Ensure all relevant data sources are integrated into Power BI for a comprehensive view of your sales data. This includes point-of-sale systems, inventory records, and customer databases.
2. **Automate Reporting**: Use Power BI's automation features to generate regular reports. This ensures that the team always has access to up-to-date sales information.
3. **Interactive Dashboards**: Develop interactive dashboards for quick access to real-time data. These dashboards should be user-friendly, allowing non-technical staff to extract valuable insights.

4. **Predictive Analytics**: Implement predictive models within Power BI to forecast future sales trends, helping with inventory management and demand planning.
5. **Drill-Down Analysis**: Enable drill-down capabilities in your reports, allowing users to explore data in more detail. This can help in identifying root causes of sales trends and anomalies.
6. **Feedback Loop**: Create a feedback loop where insights from Power BI are used to inform marketing, product development, and sales strategies.

Conclusion:

In conclusion, leveraging Power BI for sales data analysis in a Farmer Producer Company has the potential to transform the way you operate. The tool allows for the efficient extraction of insights, informed decision-making, and more effective sales strategies. By continuously monitoring and analysing sales data, you can adapt to changing market conditions, improve customer relationships, and optimize your product and service offerings. Power BI's flexibility and scalability make it a valuable asset for data-driven organizations, helping you stay competitive and agile in the agricultural industry.

Chapter 8 : References

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