	Details	Questions	Brainstorming
Empathize	Stakeholder Challenge	What problems are stakeholders solving? What difficulties are they facing?	Devise market expansion strategies and select strategic products
	Dashboard Goal	What's the dashboard's goal?	Provide stakeholders with information about the current business situation
	Data Exploring	What are Dimension and Measure Data? - Dimension is qualitative data. - Measure is quantitative data.	_ **Dimension**: Order ID, Ship mode, Customer ID, Customer Name, Segment, City, State, Country, Postal Code, Market, Region, Product ID, Category, Product Name, Order Priority, Salesperson. _ **Measure**: Sales, Quantity, Discount, Profit, Shipping Cost. _ **Time:** Order Date, Ship Date.
	Data Cleaning	_ Are there "Null" values in Datasets? If yes, are they reasonable? _ Are there any outliers? _ Are fields in right data type? …	_ The Postal Code field has 81% Null values, these values are normal because there are countries that are not geographically divided by postal code. _ There is no outlier. _ Order Date, Ship Date fields need to convert to datetime data.
	Asking	- Who uses this dashboard? - What is this dashboard used for? - What are user's desires?	_ Dashboard for Senior Manager level _ Evaluate the business situation from which to devise a market expansion strategy and select strategic products _ Get actionable insights from data, which markets have good business situations, which products have high revenue.
Define	Top Down	From the stakeholder's view, what are important questions?	_ What is the current business situation like? _ How much revenue and profit. _ Are customers satisfied with products and services? _ Which markets are the largest markets, what are the characteristics of these markets. _ Which products are consumed most? Which products gain the most profit?
	Bottom Up	From the data, determine what are the key dimensions and key measures?	_ **Dimensions**: Order Date, Ship Date, Ship Mode, Segment, Country, Market, Category, Sub-category, Order Priority. _ **Available Measures**: Sales, Quantity, Profit _ **Additional Measures**: Total Sales, Total Profit, Return on Sales, Return rate, Average ship day, Success Order number.
Ideate	Layers Classifying	What are 1st layer dimensions?	_ Total Sales _ Total Profit _ Return on Sales _ Return Rate
		What are 2nd layer dimensions?	_Sales by Segment _ Sales by Ship mode _ Sales by Order Priority _ Profit by Market _ Profit by Category
		What are 3rd layer dimensions?	_ Sales by Country _ Sales by Sub-Category
	Report Layout	What will display on dashboard?	_ Overview to detail. _ Scorecard arranged in the top row. _ The charts are arranged according to each layer.
Prototype	Complete Dashboard	_ What chart to be used? _ How charts are located?	_ Card for key measures. _ Column, pie charts for datetimes date, data groups. _ Line chart for data's trend. _ From overview to detail with hierarchies and filters.