

	Detail	Question	Answer
Stage 1: Empathize	5W1H	Who will be viewing this Dashboard?	1. Production Manager 2. Production Employee
		What problem does this dashboard solve?	Monitoring production efficiency on: Production Yield, Scrapped Ratio, On Time Rate, Average Units Produced, Good Units Produced, Throughput, Cycle Time (hours), and BOM.
		When and where will stakeholders view this Dashboard?	1. Production Manager: view this dashboard to know how effectively the manufacturing process converts raw materials into finished goods. By keeping a constant eye on production metrics, production managers can make immediate adjustments, leading to cost savings, improved product quality, and faster delivery times. 2. Production Employee: view this dashboard to know what raw materials each product has, how many stages the product goes through, where, how long the production time of each stage is, how long it takes to produce a product, and what errors this product usually has if it is defective.
		Why do stakeholders need this Dashboard?	1. See which months are being produced the most. 2. See how much production yield is in 1 year. 3. See total number of Good Units Produced in 1 year 4. See how much is the On Time Rate? Develop strategies to improve On Time Rate.
		How did the stakeholder achieve the goal?	Know which month the company produces the most products, from there predict and make a plan for next year.
	Discover dataset	How many Dim tables are there?	There are 6 Dim tables.
		How many Fact tables are there?	There are 2 Fact tables.
	Evaluating and cleaning datasets	Is there anything unusual in the data?	The data is normal.
		How many rows are in the table? How many are distinct and unique?	1. Fact_WorkOrder: 72.591 records/ WorkOrderID distinct unique. 2. Fact_WorkOrderRouting: 67.131 records/ WorkOrderID 42.625 distinct / 28.512 unique 3. Dim_Location: 14 records, LocationID distinct unique 4. Dim_BillOfMaterials: 2.679 records/ BillOfMaterials ID distinct unique 5. Dim_Product: 239 records/ProductID distinct unique 6. Dim_Category: 295 records/ ProductID distinct unique 7. Dim_Date: 1.111 records/Date distinct unique 8. Dim_ScrapReason: 16 records/ScrapReason distinct unique
	Stage 2: Define POV	Northstar Metric	What value do you want to measure?
			Production Yield
			When does value delivery succeed?
			Products have been stocked.
		What is the Northstar Metric name?	Production Yield
		Why do you choose this metric?	Shows production yield. From there, production efficiency can be evaluated.

	Define Point of View	Dimension data group	Product: ProductID, StockedQty
	Growth Formula	Northstar 1 Formula	Production Yield = $\text{SUM}(\text{StockedQty}) / \text{SUM}(\text{OrderQty})$
Stage 3: Ideate	Brainstorming	View 1: Production Efficiency	1. Evaluate on time rate and production yield. 2. Number of production hours per month. 3. Quantity of good products produced each month. 4. Quantity of good products stored in each warehouse.
		View 2: Information Per Product	1. BOM of a Product. 2. Most Common Defects of a Product. 3. Takt Time of Production of a Product.
		View 3: Production Capacity	1. Ability to meet customer needs by location.
	Structure Idea	Production Efficiency: Evaluate production efficiency.	1. Production Yield: card 2. On Time Rate: card 3. Scrapped Ratio: card 4. Cycle Time: card 5. Good Units Produced: card, stacked bar chart, clustered column chart 6. Throughput: card 7. Production Time: line chart 8. Cycle Time and Takt Time by Location (hours): line and clustered column chart
		Information Per Product: See Cycle Time, BOM, Most Common Defects of Each Product.	1. Production Yield: card 2. On Time Rate: card 3. Scrapped Ratio: card 4. Average Units Produced: card 5. Good Units Produced: card 6. Average Actual Production Time: card, line and clustered column chart 7. ActualResourceHrs: clustered column chart 8. OperationSequence: table 9. Count_Scrapped: pie chart 10. PerAssemblyQty: decomposition tree 11. PlannedProductionTime: line and clustered column chart
		Production Capacity: Cycle Time, Takt Time by Location	1. Frame Forming (10): line and clustered column chart 2. Frame Welding (20): line and clustered column chart 3. Debur and Polish (30): line and clustered column chart 4. Paint (40): line and clustered column chart 5. Specialized Paint (45): line and clustered column chart 6. Subassembly (50): line and clustered column chart 7. Final Assembly (60): line and clustered column chart

Stage 4: Prototype	Build a complete report	1. Choose the color of the report theme. 2. Choose the type of chart suitable for the questions. 3. Presentation layout of each part of the report (chart arrangement, size, color,...)	This part is immediately shown in the report.
Stage 5: Review	Review each part of the report	Review each part of the report	This part is immediately shown in the report.