Solution to Module 2

2.

<u>**MEASURES**</u>

Data Source	Measures	Aggregation Properties
Lead File	Quote_Qty	Additive
	Quote_Price	Non-Additive
	Quote_Value	Additive
Sales Summary	Actual_Units	Additive
	Actual_Amount	Additive
	Forecast_Units	Additive
	Forecast_Amount	Additive
Cost Summary	Actual_Units	Additive
	Actual_Labor_Cost	Additive
	Actual_Material_Cost	Additive
	Actual_Machine_Cost	Additive
	Actual_Overhead_Cost	Additive
	Budget_Units	Additive
	Budget_Labor_Cost	Additive
	Budget_Material_Cost	Additive
	Budget_Machine_Cost	Additive
	Budget_Overhead_Cost	Additive
ERP.Invoice.	Invoice_Amount	Additive
	Invoice_Quantity	Additive
ERP.Job.	Number_Of_Subjobs	Additive
	Unit_Price	Non-Additive
	Quantity_Ordered	Additive
	Quotation_Amount	Additive
	Quotation_Ordered	Additive

ERP.SubJob.	Cost_Labor	Additive
	Cost_Material	Additive
	Cost_Overhead	Additive
	Machine_Hours	Additive
	Quantity_Produced	Additive
	Sub_Job_Amount	Additive
ERP.Shipment.	Boxes	Additive
	Quantity_Per_Box	Additive
	Quantity_Per_Partial_Box	Additive
	Shipment_Amount	Additive
	Actual_Ship_Date	Non-Additive
	Requested_Ship_Date	Non-Additive

CUBES

- What are job revenue trends by location over time?

Cube	Dimensions	Measures
JobsRevenue	-	-
- Job_Id	Time	Quotation_Amount
	Location	

- What are sales agent productivity from leads to jobs over time?

Cube	Dimensions	Measures
Leads2Jobs	-	-
- Lead_Id	Time	Quote_Qty
- Job_Id	SalesAgent	Quote_Price
		Quote_Value
		Number_Of_Subjobs
		Unit_Price
		Quantity_Ordered
		Quotation_Amount
		Quotation_Ordered

- What are production trends for jobs (time to subjob production) for entities over time?
- What are shipment trends for jobs (contract time to shipment) for entities over time as compared to shipment promised dates and first shipping dates?

Cube	Dimensions	Measures
Invoice	-	-
- Invoice_Id	Time	Invoice_Amount
	Location	Invoice_Quantity
	Customer	
	SalesClass	

Cube	Dimensions	Measures
Jobs2SubJobs2Shipments	-	-
- Job_Id	Time	Number_Of_Subjobs
- Sub_Job_Id	Customer	Unit_Price
- Shipment_Id	Location	Quantity_Ordered
	SalesClass	Quotation_Amount
		Quotation_Ordered
		Cost_Labor
		Cost_Material
		Cost_Overhead
		Machine_Hours
		Quantity_Produced
		Sub_Job_Amount
		Boxes
		Quantity_Per_Box
		Quantity_Per_Partial_Box
		Shipment_Amount
		Actual_Ship_Date
		Requested_Ship_Date

- Which entities (such as customers, locations, and products) generate the highest invoice amounts over time?
- What are trends for invoicing of job amounts (time to invoice) for entities (locations and products) over time?
- What are trends over time for returns measured by the difference between invoice quantity and shipping quantity for products, machines, and locations?

Cube	Dimensions	Measures
Jobs2SubJobs2Invoices	-	-
- Job_Id	Time	Number_Of_Subjobs
- Sub_Job_Id	Location	Unit_Price
- Invoice_Id	SalesClass	Quantity_Ordered
	MachineType	Quotation_Amount
		Quotation_Ordered
		Cost_Labor
		Cost_Material
		Cost_Overhead
		Machine_Hours
		Quantity_Produced
		Sub_Job_Amount
		Invoice_Amount
		Invoice_Quantity

- What are the gross margins for a location?
- How much does a location's gross margin vary from its forecast/budget by month?
- What products are the most difficult to budget or forecast?
- What products and locations are the most profitable over time?

Cube	Dimensions	Measures
Sales2Costs	-	-
- Summary_Sales_Id	Time	Actual_Units
- Summary_Costs_Id	Location	Actual_Amount
	SalesClass	Forecast_Units
		Forecast_Amount
		Actual_Units
		Actual_Labor_Cost
		Actual_Material_Cost
		Actual_Machine_Cost
		Actual_Overhead_Cost
		Budget_Units
		Budget_Labor_Cost
		Budget_Material_Cost
		Budget_Machine_Cost
		Budget_Overhead_Cost