Business School
UNIVERSITY OF COLORADO DENVER

Information Systems Program

Module 2
Multidimensional data representation and manipulation

Lesson 5: Overview of Pivot4J

Lesson Objectives

- Gain basic understanding of Pivot4J interface
- Understand relationship of Pivot4J and Microsoft MDX
- Gain motivation and context for guided practice and assignment

Pivot Table

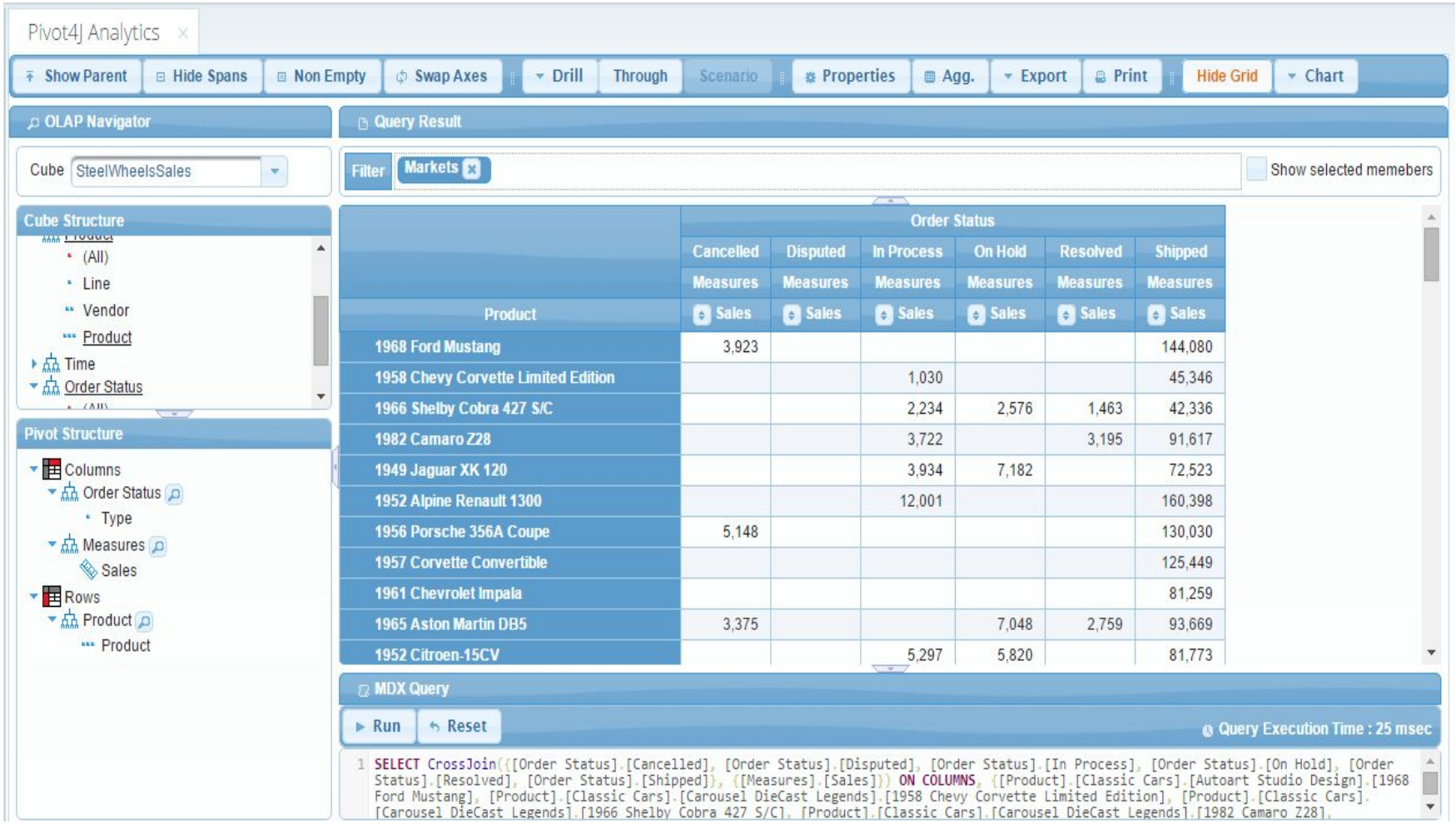
	Order Status						
	Cancelled	Disputed	In Process	On Hold	Resolved	Shipped	Total
	Measures	Measures	Measures	Measures	Measures	Measures	Measures
Product	Sales	Sales	Sales	Sales	Sales	Sales	Sales
1968 Ford Mustang	3,923					149,346	153,268
1958 Chevy Corvette Limited Edition			1,030			46,205	47,235
1966 Shelby Cobra 427 S/C			2,234	2,576	1,463	42,336	48,608
1982 Camaro Z28			3,722		3,195	97,362	104,280
1949 Jaguar XK 120			3,934	7,182		72,523	83,639
1952 Alpine Renault 1300			12,001			179,072	191,073
1956 Porsche 356A Coupe	5,148					135,479	140,627
1957 Corvette Convertible						137,115	137,115
1961 Chevrolet Impala						83,389	83,389
1965 Aston Martin DB5	3,375			7,048	2,759	93,669	106,851
1952 Citroen-15CV			5,297	5,820		81,773	92,890
1969 Chevrolet Camaro Z28			3,386	1,057		66,304	70,747
1992 Porsche Cayenne Turbo Silver	2,367					99,789	102,156
1948 Porsche 356-A Roadster	1,930					77,738	79,669

- Powerful interface for data cubes
- Convenient rearrangement of row and column headings
- Expand or collapse dimensions

Pivot4J

- Allows cube representation similar to pivot table in Microsoft Excel
- Works with Pentaho Business Analytics
- Separate add-on
- Graphical implementation of the MDX language

Pivot4J Interface



Pivot Table with MDX Statement

Query Result

Filter: Product

	Measures	
Time	Sales	Quantity
2003	1,514,407	12,762
2004	1,838,275	16,085

MDX Query

Run | Reset

```
1 SELECT {[Measures].[Sales], [Measures].[Quantity]} ON COLUMNS,
2 {[Time].[2003], [Time].[2004]} ON ROWS
3 FROM [SteelWheelsSales]
4 WHERE ([Product].[Classic Cars])
```


Pivot Table with CrossJoin

Filter | Product

	Order Status			
	Shipped		Cancelled	
	Measures		Measures	
Time	Sales	Quantity	Sales	Quantity
2003	1,501,751	12,658	5,924	44
2004	1,749,782	15,424	82,426	615

MDX Query

Run | Reset | Query Execution Time : 0 msec

```
1 SELECT CrossJoin({[Order Status].[Shipped], [Order Status].
[Cancelled]}, {[Measures].[Sales], [Measures].[Quantity]}) ON
COLUMNS, {[Time].[2003], [Time].[2004]} ON ROWS FROM
[SteelWheelsSales] WHERE ([Product].[Classic Cars])
```


Summary

- Open source implementation of pivot table interface
- Visual interface for MDX
- Complete guided practice and assignment