

Module 2 Assignment using Web PivotTable

The Module 2 Assignment provides experience with WebPivotTable, a web-based application for business intelligence. Using WebPivotTable, you will customize a pivot table and extend it to show more aggregated fields. WebPivotTable is a pure Javascript application that can be used in any browser without plugins.

Before starting this assignment, you should read the Web pivot table tutorial. The tutorial demonstrates the usage of WebPivotTable and the OLAP cube source used for this assignment. It also demonstrates MDX to specify a pivot table. If you have not read the tutorial yet, please refer to it prior to starting this assignment.

1. Load the Data Cube

- a. Select the preloaded OLAP cube Microsoft Adventure Works (same cube used in tutorial) from the Demo list to create the pivot table.
- b. Take some time exploring the data cube before beginning on the details of the assignment.

2. Create the Pivot Table

Create a customized pivot table that shows the following:

- a. Expand the “Promotions” dimension in the Fields List.
- b. Select “Promotions” field inside the “Promotions” dimensions in the Rows area.
- c. Expand the “Delivery Date” dimension in the Fields List.
- d. Select “Delivery Date.Month of Year” in the Columns area. If it appears in the Rows area, move it from the Rows to the Columns area.
- e. Expand the Measures in the Fields List.
- f. Select “Average Sales Amount” in the values area. To improve the layout, choose No Fixed Header and Columns in the Grid Options tab.
- g. Take a screen snapshot and paste it into a document as the snapshot for part 2 of the WebPivotTable assignment. The snapshot should show All Promotions and All Periods with complete expansion on the rows and columns with Average Sales Amount in the cells. The snapshot should show the pivot table areas (rows, columns, filters, values, and measures), pivot table with a partial display of rows,

columns, and cells. If you used the no fixed header option, the row heading should appear readable.

- h. Keep the sheet open for the next part.
- i. Separately, answer quiz questions 1 to 5.

3. Extend the Pivot Table

- a. Add “Source Currency” level inside the Source Currency field from the Source Currency dimension (third level) to the Filters area. Select it and choose “Add to Filters” so that the Source Currency is placed directly in the Filters area. If it goes to the Rows area, move it to the Filters area.
- b. Create a filter such that the pivot table displays value only for “Canadian Dollar” and “US Dollar”. You may need to navigate in the Label selection area to find the US Dollar.
- c. Take a screen snapshot and paste it into a document as the snapshot for the WebPivotTable assignment. The snapshot should show a complete expansion of All Periods and All Promotions with January Average Sales Amount in the cells. The snapshot should show the pivot table areas (rows, columns, filters, values, and measures), and pivot table with a partial display of rows, columns, and cells. If you used the no fixed header option, the row heading should appear readable.
- d. Keep the sheet open for the next part.
- e. Separately, answer quiz questions 6 and 7.

4. Extend the Pivot Table with Filter Changes and Rollups

- a. Modify the filter to show results only for the source Currency “EURO”. I suggest that you clear the filters first before setting the new filter. Otherwise, the old filters remain.
- b. Take a screen snapshot to show the SELECT statement in the MDX window. Paste it into a document as a snapshot for the assignment. You need to take this snapshot before closing the MDX window as WebPivotTable reverts to the MDX statement consistent with the selected filter.
- c. Collapse all reseller promotions except for Excess Inventory. Show only the subcategories within the Excess Inventory item.
- d. Take a screen snapshot and paste it into a document as the snapshot for the WebPivotTable assignment. The snapshot should show the Average Sales

Amount for All Periods along with a subset of the expansion of All Promotions for Excess Inventory promotions.

- e. Select the Switch to Pivot Chart button to display the associated pivot chart. Take a screen snapshot paste it into a document as a snapshot for the Assignment 4. The snapshot should show the pivot chart along with the pivot table areas (rows, columns, filters, values, and measures).
- f. Separately, answer quiz questions 8 to 13.

5. Grading

After completing the assignment, you should take the quiz for the Module 2 Assignment. You may want to use the snapshots to answer the quiz questions. If you cannot complete the assignment due to poor performance of WebPivotTable, you can use the assignment solution to complete the assignment quiz.

Solution

First snapshot (Areas, pivot chart, Rows with expansion of promotions) with fixed headers

<input type="checkbox"/> All Promotions	<input type="checkbox"/> All Periods	\$3,590.42	\$4,484.31	\$5,727.83	\$4,197.65	\$3,590.42
<input type="checkbox"/> No Discount		\$3,407.78	\$4,007.91	\$5,289.69	\$3,735.02	\$2,474.75
<input type="checkbox"/> Reseller		\$2,474.75	\$4,416.00	\$3,886.08	\$4,406.66	\$2,474.75
<input type="checkbox"/> Discontinued Product		\$3,218.92				
Mountain-100 Clea...		\$10,455.32				
Mountain-500 Silve...		\$417.73				
<input type="checkbox"/> Excess Inventory		\$819.44	\$924.91	\$751.04		
Road-650 Overstock		\$819.44	\$924.91	\$751.04		
<input type="checkbox"/> New Product		\$7,184.00	\$8,419.12	\$8,010.33	\$6,375.83	\$1,184.00
Touring-3000 Prom...		\$3,785.88			\$557.97	\$3,785.88
Touring-1000 Prom...		\$5,371.27			\$926.44	\$5,371.27
<input type="checkbox"/> Seasonal Discount		\$250.75				
Sport Helmet Disco...		\$206.91				
Sport Helmet Disco...		\$303.36	\$303.36			
<input type="checkbox"/> Volume Discount		\$2,166.60	\$4,042.45	\$3,191.03	\$3,511.68	\$2,166.60
Volume Discount 1...		\$1,851.21	\$3,158.55	\$2,844.99	\$2,853.76	\$1,851.21
Volume Discount 1...		\$2,990.33	\$4,936.52	\$2,529.87	\$3,377.11	\$2,990.33
Volume Discount 2...		\$1,748.57	\$690.36	\$982.53	\$2,573.99	\$1,748.57
Volume Discount 4...		\$868.49				

Rows: Sport Helmet Discount-2003
Columns: Average Sales Amount
Values: null
DoubleClick to drill through.

Fields List Grid Options

Search

Measures

- ☐ Amount
- ☐ Average Rate
- ☒ Average Sales Amount
- ☐ Average Unit Price
- ☐ Customer Count
- ☐ Discount Amount
- ☐ Discount Percentage
- ☐ End of Day Rate
- ☐ Expense to Revenue Ratio
- ☐ Extended Amount
- ☐ Freight Cost
- ☐ Gross Profit
- ☐ Gross Profit Margin
- ☐ Growth in Customer Base
- ☐ Internet Average Sales Amount
- ☐ Internet Average Unit Price

Drag fields between areas

Filters

Columns

- ☒ Delivery
- ☒ Date.Month of Year
- ☒ (L)(All)
- ☒ (L)Month of Year

Rows

- ☒ Promotions
- ☒ (L)(All)
- ☒ (L)Category
- ☒ (L)Type
- ☒ (L)Promotion

Σ Values

- ☒ (M)Average Sales Amount

First snapshot (Areas, pivot chart, Rows with expansion of promotions) without fixed headers

[Promotion].[Promotions]	All Periods	January	February	March	April
Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...
All Promotions	\$3,590.42	\$4,484.31	\$5,727.83	\$4,197.65	\$3,590.42
No Discount	\$3,407.78	\$4,007.91	\$5,289.69	\$3,735.02	\$2,912.50
Reseller	\$2,474.75	\$4,416.00	\$3,886.08	\$4,406.66	\$2,474.75
Discontinued Product	\$3,218.92				
Excess Inventory	\$819.44	\$924.91	\$751.04		
Road-650 Overstock	\$819.44	\$924.91	\$751.04		
New Product	\$7,184.00	\$8,419.12	\$8,010.33	\$6,375.83	\$1,184.00
Seasonal Discount	\$250.75	\$250.75			
Volume Discount	\$2,166.60	\$4,042.45	\$3,191.03	\$3,511.68	\$2,166.60

Fields List | Grid Options

Search

- (D) Geography
- (D) Internet Sales Order Details
- (D) Organization
- (D) Product
- (D) Promotion
- (D) Reseller
- (D) Reseller Sales Order Details
- (D) Sales Channel
- (D) Sales Reason
- (D) Sales Summary Order Details
- (D) Sales Territory
- (D) Scenario
- (D) Ship Date
- (D) Source Currency
 - (H) Source Currency
 - (L) (All)
 - (L) Source Currency
 - (H) Source Currency Code

Drag fields between areas

Filters

Columns

- (H) Delivery
 - Date.Month of Year
 - (L)(All)
 - (L)Month of Year

Rows

- (H)Promotions
- (L)(All)
- (L)Category
- (L)Type
- (L)Promotion

Σ Values

- (M)Average Sales Amount

Second snapshot (Source Currency filter field) with fixed headers

<input type="checkbox"/> All Promotions	<input type="checkbox"/> All Periods	\$4,331.38	\$5,485.85	\$7,048.03	\$4,974.65	\$3,...
<input type="checkbox"/> No Discount		\$4,111.90	\$4,904.10	\$6,595.94	\$4,456.80	\$3,...
<input type="checkbox"/> Reseller		\$2,667.13	\$4,999.50	\$3,627.81	\$4,741.38	\$2,...
<input type="checkbox"/> Discontinued Product		\$3,589.83				
Mountain-100 Clea...		\$10,455.32				
Mountain-500 Silve...		\$421.13				
<input type="checkbox"/> Excess Inventory		\$796.18	\$822.14	\$779.86		
Road-650 Overstock		\$796.18	\$822.14	\$779.86		
<input type="checkbox"/> New Product		\$6,969.55	\$10,428.79	\$6,808.83	\$6,253.15	\$2,...
Touring-3000 Prom...		\$3,761.72	\$5,589.74	\$3,383.92	\$3,477.77	
Touring-1000 Prom...		\$5,277.55	\$6,873.46	\$5,259.63	\$4,896.13	\$2,...
<input type="checkbox"/> Seasonal Discount		\$224.90	\$224.90			
Sport Helmet Disco...		\$199.05	\$199.05			
Sport Helmet Disco...		\$261.54	\$261.54			
<input type="checkbox"/> Volume Discount		\$2,379.28	\$4,904.20	\$3,251.99	\$3,943.75	\$2,...
Volume Discount 1...		\$2,002.66	\$3,743.68	\$2,934.20	\$3,124.29	\$1,...
Volume Discount 1...		\$3,017.97	\$5,586.41	\$2,285.43	\$3,438.79	\$4,...
Volume Discount 2...		\$1,793.25	\$667.80	\$835.15	\$2,573.99	\$4,...
Volume Discount 4...		\$868.49				

Fields List Grid Options

Search

- ☐ Geography
- ☐ Internet Sales Order Details
- ☐ Organization
- ☐ Product
- ☐ Promotion
- ☐ Reseller
- ☐ Reseller Sales Order Details
- ☐ Sales Channel
- ☐ Sales Reason
- ☐ Sales Summary Order Details
- ☐ Sales Territory
- ☐ Scenario
- ☐ Ship Date
- ☐ Source Currency
 - ☒ (H) Source Currency
 - ☐ (L) (All)
 - ☒ (L) Source Currency
 - ☐ (H) Source Currency Code

Drag fields between areas

Filters

- (H) Source Currency
- (L) Source Currency

Columns

- (H) Delivery
- Date.Month of Year
- (L) (All)
- (L) Month of Year

Rows

- (H) Promotions
- (L) (All)
- (L) Category
- (L) Type
- (L) Promotion

Σ Values

- (M) Average Sales Amount

Second snapshot (Source Currency filter field) without fixed headers

[Promotion].[Promotions]	All Periods	January	February	March	April
Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...
All Promotions	\$4,331.38	\$5,485.85	\$7,048.03	\$4,974.65	\$3,974.65
No Discount	\$4,111.90	\$4,904.10	\$6,595.94	\$4,456.80	\$3,456.80
Reseller	\$2,667.13	\$4,999.50	\$3,627.81	\$4,741.38	\$2,741.38
Discontinued Product	\$3,589.83				
Excess Inventory	\$796.18	\$822.14	\$779.86		
Road-650 Overstock	\$796.18	\$822.14	\$779.86		
New Product	\$6,969.55	\$10,428.79	\$6,808.83	\$6,253.15	\$2,253.15
Seasonal Discount	\$224.90	\$224.90			
Volume Discount	\$2,379.28	\$4,904.20	\$3,251.99	\$3,943.75	\$2,943.75

Third snapshot with MDX SELECT statement

```

MDX

SELECT
NON EMPTY Hierarchize(Union(CrossJoin([~0],[~2]),
CrossJoin([~1],[~2]))) ON COLUMNS ,
NON EMPTY {Hierarchize({[~3],[~4],[~5],[~6]})} ON ROWS
FROM [Adventure Works]
WHERE {Hierarchize({[Source Currency].[Source Currency].&
[Canadian Dollar], [Source Currency].[Source Currency].&
[EURO]})}

```

Run

[Promotion].[Promotions]	All Periods	January	February	March	April
Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...	Average Sale...
All Promotions	\$4,662.41	\$9,618.95	\$6,576.25	\$4,982.50	\$4,452.05
No Discount	\$4,351.30	\$8,072.27	\$5,882.06	\$4,452.05	\$4,452.05
Reseller	\$2,986.94	\$9,571.74	\$4,610.86	\$3,630.38	\$2,986.94
Discontinued Product	\$3,219.78				
Excess Inventory	\$1,016.46	\$986.57	\$1,041.38		
Road-650 Overstock	\$1,016.46	\$986.57	\$1,041.38		
New Product	\$8,320.65	\$12,930.83	\$8,268.74	\$7,327.88	
Seasonal Discount	\$352.69	\$352.69			
Volume Discount	\$2,410.42	\$8,367.08	\$3,399.85	\$1,527.11	\$2,410.42

Fields List Grid Options

Search

- (G) Geography
- (I) Internet Sales Order Details
- (O) Organization
- (P) Product
- (P) Promotion
- (R) Reseller
- (R) Reseller Sales Order Details
- (S) Sales Channel
- (S) Sales Reason
- (S) Sales Summary Order Details
- (S) Sales Territory
- (S) Scenario
- (D) Ship Date
- (C) Source Currency
 - (H) Source Currency
 - (L)(All)
 - (L) Source Currency
 - (H) Source Currency Code

Drag fields between areas

Filters

- (H) Source Currency
- (L)(All)
- (L) Source Currency

Columns

- (H) Delivery
- Date.Month of Year
- (L)(All)
- (L)Month of Year

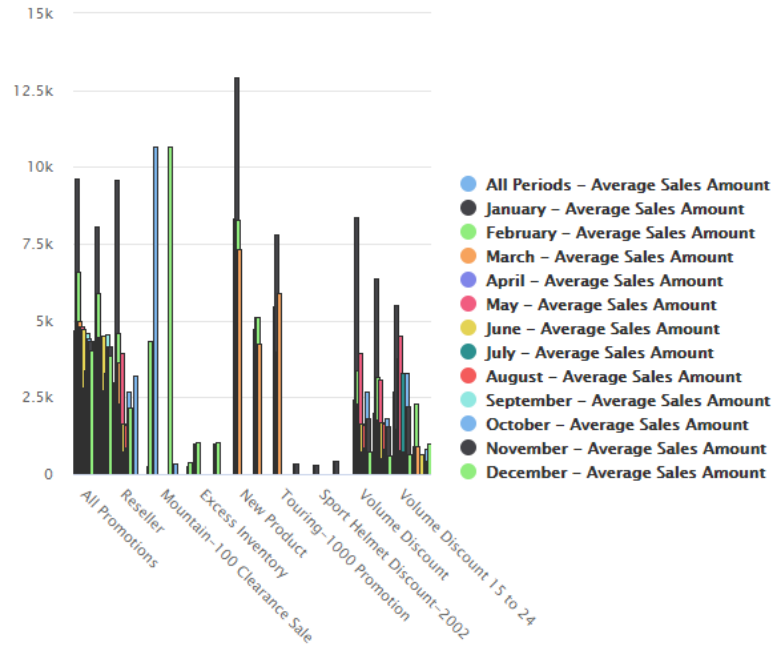
Rows

- (H) Promotions
- (L)(All)
- (L)Category
- (L)Type
- (L)Promotion

Values

- (M)Average Sales Amount

Solution: fifth snapshot with pivot chart



Fields List | Chart Options

Search

- Geography
- Internet Sales Order Details
- Organization
- Product
- Promotion
- Reseller
- Reseller Sales Order Details
- Sales Channel
- Sales Reason
- Sales Summary Order Details
- Sales Territory
- Scenario
- Ship Date
- Source Currency
 - Source Currency
 - (L) (All)
 - Source Currency
 - Source Currency Code

Drag fields between areas

Filters	Columns
(H) Source Currency	(H) Delivery
(L) Source Currency	Date.Month of Year
	(L) (All)
	(L) Month of Year

Rows	Σ Values
(H) Promotions	(M) Average Sales Amount
(L) (All)	
(L) Category	
(L) Type	
(L) Promotion	