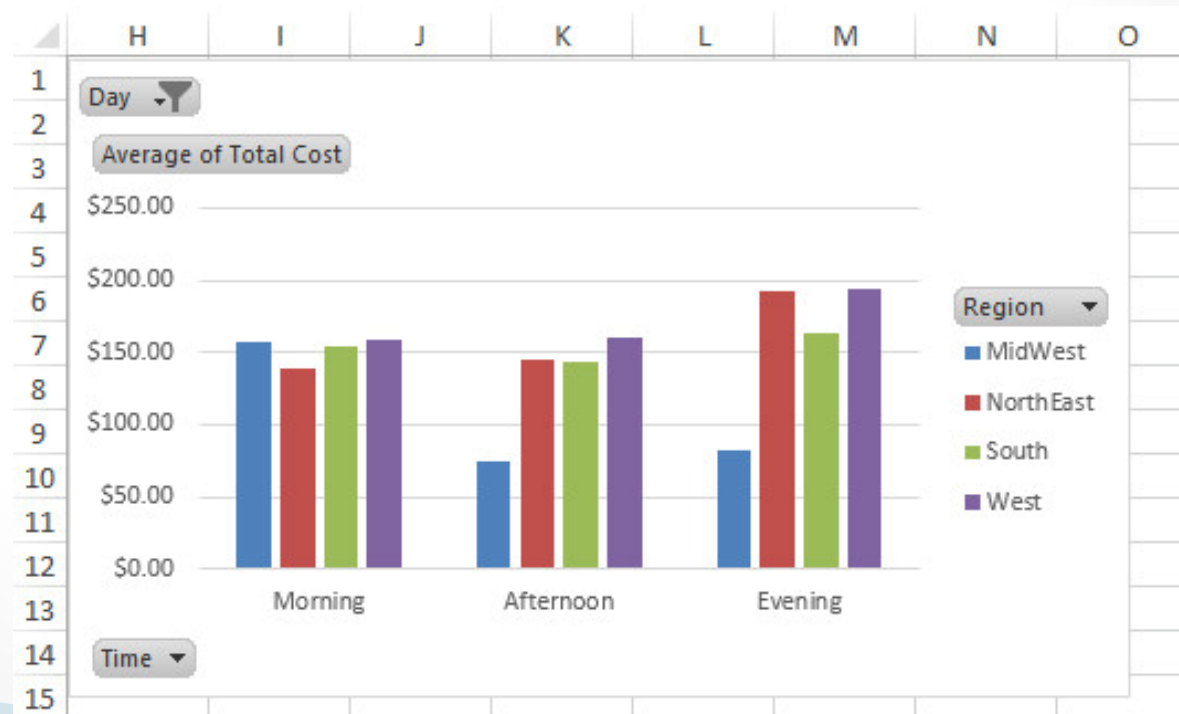# DS342 - Data Analytics

Lecture 5
Finding Relationships among Variables
(Part II)

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Pivot Charts

▸ It is easy to accompany pivot tables with **pivot charts**.
- These charts adapt automatically to the underlying pivot table.
- To create a pivot chart, click anywhere inside the pivot table, select the PivotChart button on the Analyze/Options ribbon, and select a chart type.

Multiple Variables in the Values Area

▸ More than a single variable can be placed in the Values area.

▸ Also, a given variable in the Values area can be summarized by more than one summarizing function.

	A	B	C	D	E	F	G
1	Day	(Multiple Items) ⌄					
2							
3		Column Labels ⌄					
4		MidWest		NorthEast		Total Average of Total Cost	Total Sum of Total Cost
5	Row Labels ⌄	Average of Total Cost	Sum of Total Cost	Average of Total Cost	Sum of Total Cost		
6	Morning	$157.11	785.53	$139.05	695.26	$148.08	1480.79
7	Afternoon	$73.97	147.93	$145.48	1600.23	$134.47	1748.16
8	Evening	$82.45	247.35	$192.46	2117.08	$168.89	2364.43
9	Grand Total	$118.08	1180.81	$163.43	4412.57	$151.17	5593.38

Summarizing by Count

‣ The variable in the Values area can be summarized by the Count function.

◦ This is useful when you want to know, for example, how *many* of the orders were placed by females in the South.

◦ Right-click any number in the pivot table, select Value Field Settings, and select the Count function.

	A	B	C	D	E	F
1						
2						
3	Count	Column Labels ▾				
4	Row Labels ▾	MidWest	NorthEast	South	West	Grand Total
5	Morning	26	33	27	38	124
6	Afternoon	26	48	39	41	154
7	Evening	19	34	27	42	122
8	Grand Total	71	115	93	121	400

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Grouping

▸ Categories in a Rows or Columns variable can be grouped.

▸ Suppose you want to summarize Sum of Total Cost by Date.

◦ Starting with a blank pivot table, check both Date and Total Cost in the PivotTable Fields pane.

◦ Then right-click any date and select Group.

	A	B
1		
2		
3	**Row Labels** ▾	**Sum of Total Cost**
4	Mar	$9,383.26
5	Apr	$14,589.91
6	May	$19,468.11
7	Jun	$18,085.93
8	**Grand Total**	**$61,527.21**

Other Pivot Table Features

▸ Showing/hiding subtotals and grand totals (check the Layout options on the Design ribbon)

▸ Dealing with blank rows, that is, categories with no data (right-click any number, choose PivotTable Options, and check the options on the Layout & Format tab)

▸ Displaying the data behind a given number in a pivot table (double-click any number in the Values area to get a new worksheet)

▸ Formatting a pivot table with various styles (check the style options on the Design ribbon)

▸ Moving or renaming pivot tables (check the PivotTable and Action groups on the Analyze/Options ribbon)

▸ Refreshing pivot tables as the underlying data changes (check the Refresh dropdown list on the Analyze/Options ribbon)

▸ Creating pivot table formulas for calculated fields or calculated items (check the Formulas dropdown list on the Analyze/Options ribbon)

Slicers and Timelines

- In Excel 2010, Microsoft added **slicers**—lists of the distinct values of any variable, which you can then filter on.
  - You add a slicer from the Analyze/Options ribbon under PivotTable Tools.
- In Excel 2013, a Timeline feature was added. A Timeline is like a slicer, but it is specifically for filtering on a date variable.

Pivot Table with Slicers and a Timeline

Dashboards

- A **dashboard** is a visual representation of a set of key business measures. It is derived from the analogy of an automobile's control panel, which displays speed, gasoline level, temperature, and so on.
  - Dashboards provide important summaries of key business information to help manage a business process or function.
- The camera tool is useful for creating PivotTable-based dashboards.
- If you create several different PivotTables and charts, you can easily use the camera tool to take pictures of them and consolidate them onto one worksheet.
- In this fashion, you can still make changes to the PivotTables and they will automatically be reflected in the camera shots.

Dashboards