

## Exercise 5

Download the file from <http://www.peter-lo.com/Teaching/WK-S1101/Source5.zip>, you will use these files to finish the following exercises

1. Open the Excel file “Question 5-1.xlsx”.

- A) Create a pivot table to show that Channel 4's best performing teatime show made number 36 on the weekly chart with 3.58 million viewers

	A	B	C
1			
2			
3	Channel	Channel 4	
4			
5	Sum of Viewers (millions)	Column Labels	
6	Row Labels	Teatime	Grand Total
7	36	3.58	3.58
8	Grand Total	3.58	3.58
9			

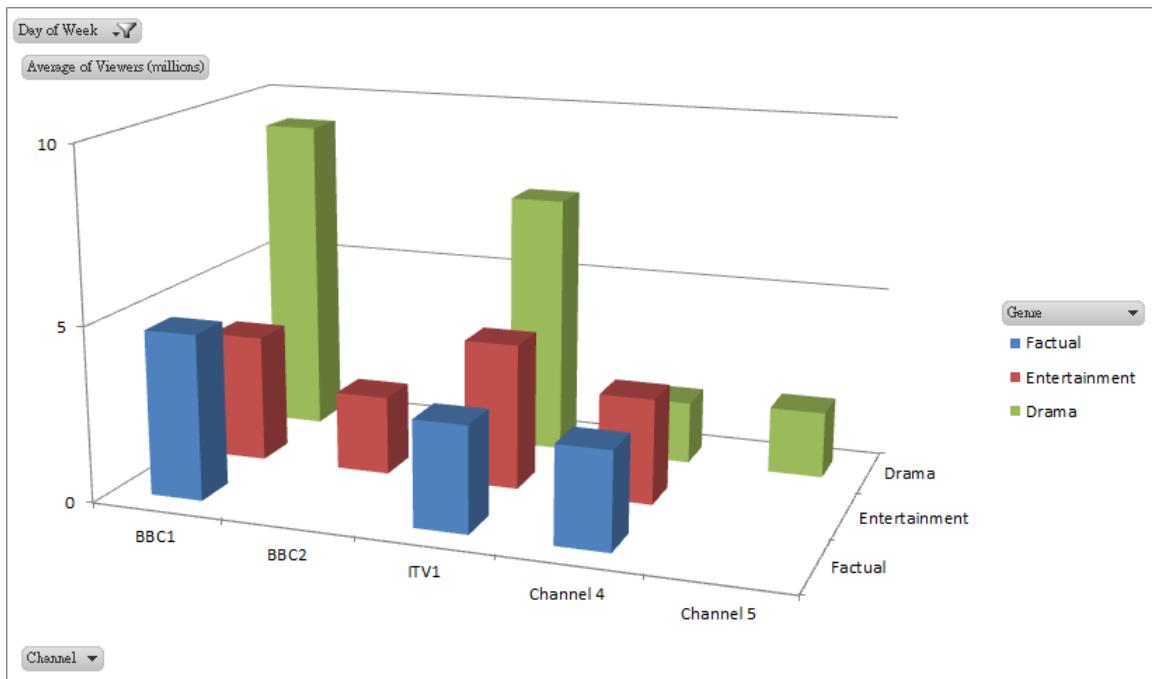
- B) Create a pivot table to show that Two BBC1 dramas shown on Saturday in the peak evening timeslot made the weekly chart with an average of 8.45 million viewers

	A	B
1	Day of Week	Saturday
2	Genre	Drama
3		
4	Average of Viewers (millions)	Column Labels
5	Row Labels	Peak
6	BBC1	
7	Casualty	7.68
8	Doctor Who	9.22
9	Grand Total	8.45
10		

- C) Create a pivot table showing the highest chart positions by channel and timeslot

	A	B	C	D	E
1					
2					
3					
4	Min of Chart Position	Column Labels			
5	Row Labels	Daytime	Late	Peak	Teatime
6	BBC1		11	17	2
7	BBC2			52	13
8	Channel 4			37	41
9	Channel 5			49	34
10	ITV1				63
11				1	19
12					

- D) Create a Pivot Chart showing, in 3D column chart format, the average viewing figures by genre for each channel on Monday



2. Open the Excel file “Question 5-2.xlsx”. This exercise will test both your skill on Data Table and Scenario Manager.
- A) Enter the formulas required to complete this spreadsheet model.

Cell	Formula
<i>Fixed Expense per Copier</i> (B7)	<i>Monthly Lease Cost</i> (B4) + <i>Copier Service Cost</i> (B5) + <i>Other Fixed Costs</i> (B6)
<i>Revenue</i> (B12)	No. of Copiers Leased (E3) × Copies/Month/Copier (B11) × Price Charged per Copy (E5)
<i>Cost of Goods Sold</i> (B13)	No. of Copiers Leased (E3) × Copies/Month/Copier (B11) × Variable Cost per Copy (E6)
<i>Contribution Margin</i> (B14)	Revenue (B12) – Cost of Goods Sold (B13)
<i>General &amp; Admin. Costs</i> (B15)	No. of Copiers Leased (E3) × ( Fixed Expense per Copier (B7) + Space Rental Rate (B8) )
<i>Net Income</i> (B16)	Contribution Margin (B14) – General & Admin. Costs (B15)

Your result should be the same as the figure shown below:

	A	B	C	D	E
1	<b>ABC Co. Ltd.</b>				
2					
3	<b>Average Monthly Expense per Copier</b>			<b>No. of Copiers Leased</b>	<b>40</b>
4	Monthly Lease Cost	\$250.00			
5	Copier Service Cost	\$35.00		Price Charged per Copy	\$0.05
6	Other Fixed Costs	\$50.00		Variable Cost per Copy	\$0.03
7	Fixed Expense per Copier	\$335.00		Margin per Copy	\$0.02
8	Space Rental Rate	\$150.00			
9					
10	<b>Monthly</b>				
11	Copies/Month/Copier	30,000			
12	Revenue	\$60,000			
13	Cost of Goods Sold (COGS)	\$36,000			
14	Contribution Margin	\$24,000			
15	General & Admin. Costs	\$19,400			
16	Net Income	\$4,600			
17					

- B) Start in a blank area of your worksheet, enter values down that column for copy volumes (*Copies/Month/Copier*) ranging from 22,000 to 32,000. You need to track how changes in copy volumes affect **Net Income**, **Revenue**, **Cost of Goods Sold**, **Contribution Margin**, and **General & Admin. Costs**. By using Data Table, generate its iterations of the model.

	=Net_Income	=Revenue	=Cost_of_Goods_Sold	=Contribution_Margin	=General_Admin_Costs
22,000					
23,000					
24,000					
25,000					
26,000					
27,000					
28,000					
29,000					
30,000					
31,000					
32,000					

Your result should be the same as the figure shown below:

	4600	60000	36000	24000	19400
22000	-1800	44000	26400	17600	19400
23000	-1000	46000	27600	18400	19400
24000	-200	48000	28800	19200	19400
25000	600	50000	30000	20000	19400
26000	1400	52000	31200	20800	19400
27000	2200	54000	32400	21600	19400
28000	3000	56000	33600	22400	19400
29000	3800	58000	34800	23200	19400
30000	4600	60000	36000	24000	19400
31000	5400	62000	37200	24800	19400
32000	6200	64000	38400	25600	19400

C) Reformat your layout as follow:

<b>Copy Volume</b>	<b>Net Income</b>	<b>Revenue</b>	<b>COGS</b>	<b>Contrib. Margin</b>	<b>Gen/Admin Costs</b>
22,000	(\$1,800)	\$44,000	\$26,400	\$17,600	\$19,400
23,000	(\$1,000)	\$46,000	\$27,600	\$18,400	\$19,400
24,000	(\$200)	\$48,000	\$28,800	\$19,200	\$19,400
25,000	\$600	\$50,000	\$30,000	\$20,000	\$19,400
26,000	\$1,400	\$52,000	\$31,200	\$20,800	\$19,400
27,000	\$2,200	\$54,000	\$32,400	\$21,600	\$19,400
28,000	\$3,000	\$56,000	\$33,600	\$22,400	\$19,400
29,000	\$3,800	\$58,000	\$34,800	\$23,200	\$19,400
30,000	\$4,600	\$60,000	\$36,000	\$24,000	\$19,400
31,000	\$5,400	\$62,000	\$37,200	\$24,800	\$19,400
32,000	\$6,200	\$64,000	\$38,400	\$25,600	\$19,400

D) Perhaps you're giving a pitch to a manager or boss or there are a few key scenarios you want to be able to return to by looking at them as part of in your model and not by finding them in your Data Table results matrix? Use Scenario Manager to create the following three scenarios between different Copies/Month/Copier (*B11*).

<b>Scenario Name</b>	<b>Copy Volume</b>
Expected Demand	30,000
Very Low Demand	5,000
Very High Demand	50,000

E) Use the Scenario Manager to generate a summary of the above Scenarios. In our model, likely values to have the Scenario Manager track might be **Revenue, Cost of Goods Sold, Contribution Margin, General & Admin. Costs, and Net Income.**

Scenario Summary				
Current Values: Expected Demand   Very Low Demand   Very High Demand				
Changing Cells:	Copies_Month_Copier	30,000	30,000	5,000
Result Cells:	Revenue	\$60,000	\$60,000	\$10,000
	Cost_of_Goods_Sold	\$36,000	\$36,000	\$6,000
	Contribution_Margin	\$24,000	\$24,000	\$4,000
	General_Admin_Costs	\$19,400	\$19,400	\$19,400
	Net Income	\$4,600	\$4,600	(\$15,400)

Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.