Extracting more value from coupons and specials

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Extracting more value from coupons and specials

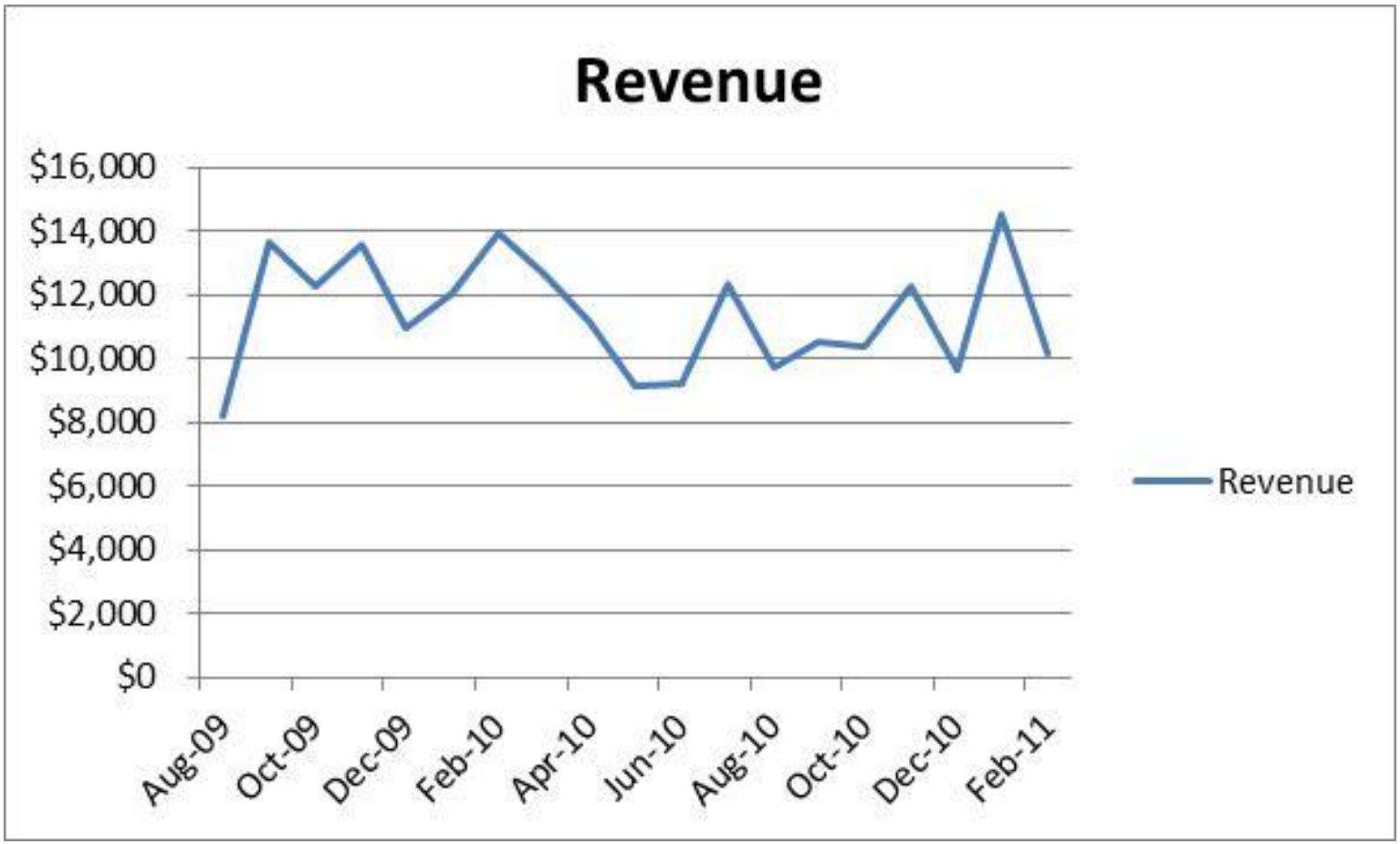
- Problems from having too little information
- Simple ways to get more information and analyze it
- What is a “model” and how can it be useful?

Case Study 1 – Coupon (in print) that expires in a month

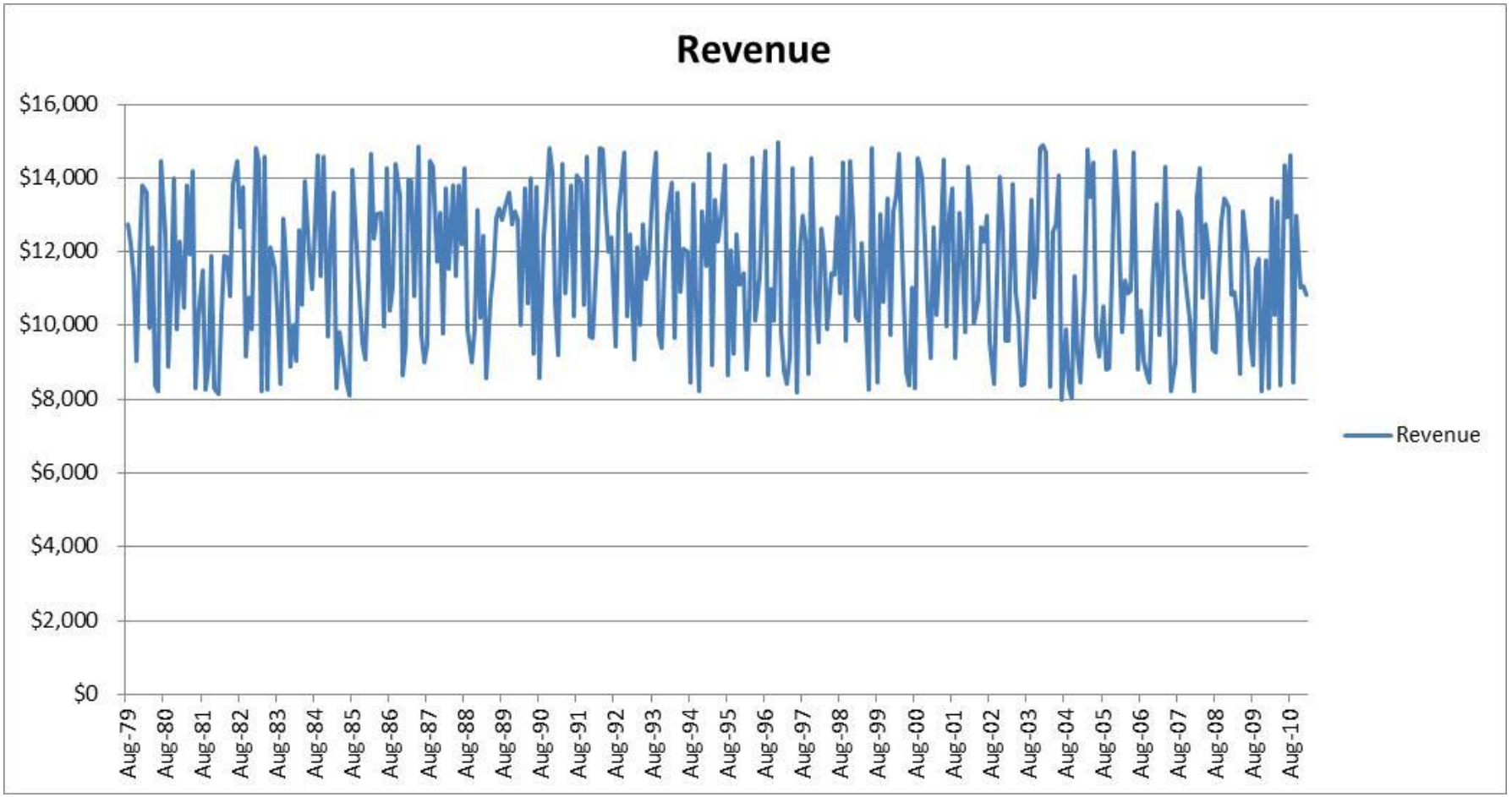
- There are a lot of natural approaches you can take, that provide you little to no information about how effective your coupon was
- There are simple things you can do which give you more information on its effectiveness

What does a chart like this really tell you?

Bigger sample…



Bigger sample?!



Problems

- Want to be able to understand what impact coupon is really having, and compare that to the cost of offering it
- New customers?
- Need to filter out real value of the coupon from “chance”
- Limited access to historical data

Case Study 2 – Offer special on a single item

- Define special for a specific item (e.g. 1-lb bags of whole-bean Columbia Mirador coffee)
- Track daily sales of that item for at least 30 days *before* the special is offered
- Track daily sales of that item for 30 days *while* the special is offered
- Compare – go deeper than the totals

Look Deeper than the Totals

Case 1 - Special is ineffective

Percentile	Units sold before special	Units sold after special
90%	5	4
80%	4	3.2
70%	3.3	3
60%	2.4	3
50%	2	3
40%	2	2
30%	1	2
20%	1	1
10%	0	1
Avg	5.6	2.5
Volatility	17.9	1.3
Total	167	75

Case 2 - Special is effective

Percentile	Units sold before special	Units sold after special
90%	5	9.1
80%	4	8.2
70%	4	6
60%	3	6
50%	3	4
40%	1.6	3
30%	1	2
20%	0	2
10%	0	0.9
Avg	5.6	4.6
Volatility	17.9	3.3
Total	168	139

Case Study 3

	Coupons used this week	*Customers this week*	*Customers in a typical week*
Monday	12	450	450
Tuesday	11	425	425
Wednesday	10	400	400
Thursday	9	375	375
Friday	10	400	400
Total	52	2050	2050

Are these coupons being used by new customers? Or existing ones?

Case Study 3 – Extracting info from a finer time period

- Define a coupon that can only be used during a specific time period (e.g. 20% off everything from 2pm-4pm every day)
- Keep track of customers by hour

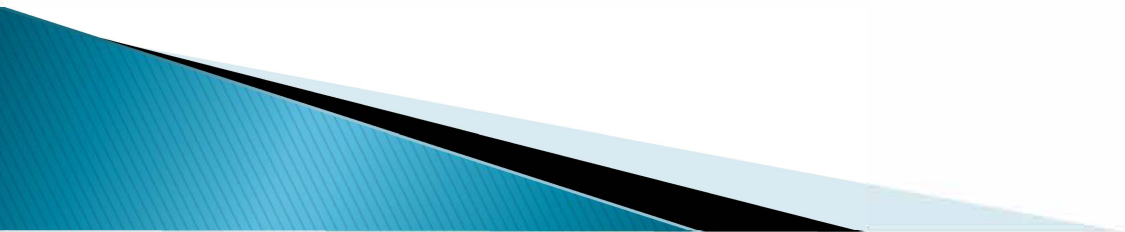
Case Study 3 – Extracting info from a finer time period

Hour	*Coupons Used This Week*	*Customers this Week*	*Customers in a typical week*
6:00 AM	0	300	325
7:00 AM	0	400	375
8:00 AM	0	400	425
9:00 AM	0	300	325
10:00 AM	0	100	125
11:00 AM	0	50	25
12:00 PM	0	50	75
1:00 PM	0	50	25
2:00 PM	37	40	5
3:00 PM	14	20	5
4:00 PM	0	50	50
5:00 PM	1	100	100
6:00 PM	0	100	100
7:00 PM	0	50	50
8:00 PM	0	20	20
9:00 PM	0	10	10
10:00 PM	0	10	10
Total	52	2050	2050

Case Study 3 – Extracting info from a finer time period

- In both examples we had 2050 customers for the week, and 52 coupons used
- With the first approach, we had no information to help us decide whether the coupon was generating new customers or not
- With the second approach, we obtained more of information

Getting value out of modeling



What does a good model do?

- Develops a thorough understanding of a problem and potential outcomes
- Defines relevant metrics to evaluate the outcomes
- Brings simplicity and clarity to the complex problem and communicates it effectively
- Develops insight into what should be done today given uncertainty in the future.

Coffeeshop coupon modeling

- Developing insight into what should be done today given uncertainty in the future
- “The right approach”?
- Leveraging your existing insight
- Embracing uncertainty, rather than running from it

Base case

Cost to run coupon Ad in print	$1,000	
	Expected	Volatility
Number of coupons redeemed	100	25
% of coupons redeemed by new customers	20%	5%
Number of follow-up visits in next 3 yrs from new customers	6	6.00
Revenue from each follow up visit	$5	$5
COGS from follow up visit	$2	$1

Base case

Percentile	Num Coupons Redeemed	Num Coupons Redeemed By New Customers	Num Followup Visits In Next 3 Yrs From New Customers	Revenue Per Visit	COGS Per Visit	Cost Of Ad Campaign	Total Benefit Of Ad Campaign	Net Profit Ad Campaign
95%	139	31	15	$ 13.35	$ 3.60	$ 1,000	$ 2,091.7	$ 1,091.7
90%	131	28	13	$ 11.05	$ 3.26	$ 1,000	$ 1,468.5	$ 468.5
80%	120	25	11	$ 8.67	$ 2.82	$ 1,000	$ 903.2	$ (96.8)
70%	110	22	9	$ 7.23	$ 2.52	$ 1,000	$ 554.3	$ (445.7)
60%	104	20	7	$ 6.12	$ 2.25	$ 1,000	$ 362.3	$ (637.7)
50%	98	19	6	$ 4.92	$ 2.00	$ 1,000	$ 213.7	$ (786.3)
40%	92	17	4	$ 3.78	$ 1.71	$ 1,000	$ 112.9	$ (887.1)
30%	86	15	3	$ 2.34	$ 1.46	$ 1,000	$ 53.1	$ (946.9)
20%	77	13	1	$ 2.00	$ 1.12	$ 1,000	$ 9.9	$ (990.1)
10%	67	11	0	$ 2.00	$ 0.66	$ 1,000	$ (40.8)	$ (1,040.8)
5%	58	8	0	$ 2.00	$ 0.50	$ 1,000	$ (118.7)	$ (1,118.7)
Average	98	19	6.2	$ 5.71	$ 2.01	$ 1,000	$ 512.4	$ (487.6)
Max	181	48	24.0	$ 21.46	$ 5.44	$ 1,000	$ 5,777.6	$ 4,777.6
Min	11	1	-	$ 2.00	$ 0.50	$ 1,000	$ (1,081.3)	$ (2,081.3)
Volatility	25	7	5.0	$ 3.78	$ 0.95	$ -	$ 804.2	$ 804.2

Target more new customers

Cost to run coupon Ad in print	$1,000	
	Expected	Volatility
Number of coupons redeemed	100	25
% of coupons redeemed by new customers	80%	5%
Number of follow-up visits in next 3 yrs from new customers	6	6.00
Revenue from each visit	$5	$5
COGS from follow up visit	$2	$1

Target more new customers

Percentile	Num Coupons Redeemed	Num Coupons Redeemed By New Customers	Num Followup Visits In Next 3 Yrs From New Customers	Revenue Per Visit	COGS Per Visit	Cost Of Ad Campaign	Total Benefit Of Ad Campaign	Net Profit Ad Campaign
95%	140	114	15	$ 13.33	$ 3.63	$ 1,000	$ 9,217.9	$ 8,217.9
90%	131	106	13	$ 11.44	$ 3.28	$ 1,000	$ 6,221.2	$ 5,221.2
80%	120	96	11	$ 9.18	$ 2.85	$ 1,000	$ 3,778.1	$ 2,778.1
70%	113	90	9	$ 7.56	$ 2.52	$ 1,000	$ 2,341.7	$ 1,341.7
60%	106	84	7	$ 6.27	$ 2.24	$ 1,000	$ 1,343.7	$ 343.7
50%	99	79	6	$ 5.06	$ 2.00	$ 1,000	$ 829.0	$ (171.0)
40%	92	73	4	$ 3.69	$ 1.77	$ 1,000	$ 452.6	$ (547.5)
30%	86	68	2	$ 2.37	$ 1.54	$ 1,000	$ 237.0	$ (763.0)
20%	78	62	0	$ 2.00	$ 1.19	$ 1,000	$ 45.6	$ (954.4)
10%	66	51	0	$ 2.00	$ 0.77	$ 1,000	$ (182.6)	$ (1,182.6)
5%	56	45	0	$ 2.00	$ 0.50	$ 1,000	$ (484.4)	$ (1,484.4)
Average	99	79	6.1	$ 5.84	$ 2.04	$ 1,000	$ 2,170.9	$ 1,170.9
Max	180	148	26.0	$ 19.63	$ 5.22	$ 1,000	$ 30,976.6	$ 29,976.6
Min	24	18	-	$ 2.00	$ 0.50	$ 1,000	$ (2,389.7)	$ (3,389.7)
Volatility	25	21	5.1	$ 3.88	$ 0.94	$ -	$ 3,483.1	$ 3,483.1

Increase potential upside

Cost to run coupon Ad in print	$1,000	
	Expected	Volatility
Number of coupons redeemed	100	1000
% of coupons redeemed by new customers	20%	5%
Number of follow-up visits in next 3 yrs from new customers	6	6.00
Revenue from each visit	$5	$5
COGS from follow up visit	$2	$1

Increase potential upside

Percentile	Num Coupons Redeemed	Num Coupons Redeemed By New Customers	Num Followup Visits In Next 3 Yrs From New Customers	Revenue Per Visit	COGS Per Visit	Cost Of Ad Campaign	Total Benefit Of Ad Campaign	Net Profit Ad Campaign
95%	1,770	362	15	$ 13.51	$ 3.58	$ 1,000	$ 14,362.6	$ 13,362.6
90%	1,383	277	13	$ 11.86	$ 3.23	$ 1,000	$ 7,589.8	$ 6,589.8
80%	967	182	10	$ 9.62	$ 2.77	$ 1,000	$ 2,506.2	$ 1,506.2
70%	611	109	8	$ 7.96	$ 2.44	$ 1,000	$ 830.3	$ (169.7)
60%	353	69	7	$ 6.36	$ 2.17	$ 1,000	$ 105.5	$ (894.5)
50%	82	14	5	$ 5.01	$ 1.92	$ 1,000	$ -	$ (1,000.0)
40%	1	-	4	$ 3.74	$ 1.67	$ 1,000	$ -	$ (1,000.0)
30%	1	-	3	$ 2.27	$ 1.42	$ 1,000	$ -	$ (1,000.0)
20%	1	-	0	$ 2.00	$ 1.14	$ 1,000	$ -	$ (1,000.0)
10%	1	-	0	$ 2.00	$ 0.79	$ 1,000	$ -	$ (1,000.0)
5%	1	-	0	$ 2.00	$ 0.50	$ 1,000	$ (236.8)	$ (1,236.8)
Average	451	89	6.0	$ 6.00	$ 1.98	$ 1,000	$ 2,535.4	$ 1,535.4
Max	3,069	879	23.0	$ 20.97	$ 4.99	$ 1,000	$ 88,350.1	$ 87,350.1
Min	1	-	-	$ 2.00	$ 0.50	$ 1,000	$ (8,525.6)	$ (9,525.6)
Volatility	615	128	5.0	$ 4.04	$ 0.92	$ -	$ 7,588.5	$ 7,588.5

Conclusions

- Set clear goals upfront that are meaningful and measurable
- Tracking things on an item-level basis, or on a finer time-step can provide some of the value you would get from a larger sample, without many of the practical difficulties
- You can use mathematical models to extract more value from your existing insight

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