

Weekly Sales Projection Model Multicurv

If you're struggling with next year's sales projections, this model might just give you the structure you need to make your educated guesses look extremely scientific. After all, most of the numbers you will need are already known. It just takes a little time to put them together properly.

Back a few years ago, while working for a nice sized business-to-business mailer, my boss stopped by and asked, "how we doin'?" He just wanted to know if our mailings were doing as well as expected. It was past middle of the first quarter, we had dropped catalogs in late December, mid-January and February. "It's very complicated, probably too early to tell," I mumbled. "We have carry over from our previous season and the January books are kicking in, but the recent drops are just getting started." He seemed to buy that dodge... but his question began to bother me.

Why couldn't we figure this out? We knew exactly how many catalogs we mailed when and I had a pretty good idea of how orders came in (response curve) and we should be able to estimate the revenue per book. In about eight hours we had a working model and have used it for the past five or six years. We have built more complicated models, but this one keeps working within a few percent year in and year out. Here's how you can build it too.

First, you start with the response curve. You can ask your computer operator to pull all the orders for a large key code mailed a few years ago. You can add together as many as you like, but the resulting curve will look something like this.

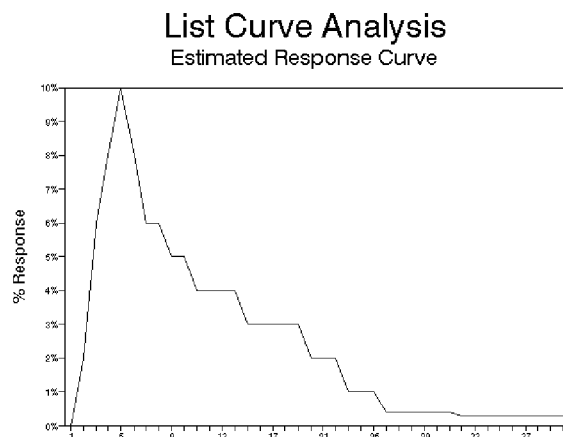
The more data you can find, the smoother your curve will be. Try to smooth it further manually, because when you overlap several mailings any irregularities add up giving you odd projections. What you are really looking for is the total time span of the curve and the peak. Cut the end off after weekly activity falls below 1% of total, or your model will stretch out meaninglessly for months.

At the far left, put in your curve in percents per week. The first week should be 0%... that will represent the week you mailed. Then move down: 4%, 6%, 8%, 10%, 9%, 7%, 5%, 5%, 4%, 4%, etc.

A consumer catalog may have an 18 week curve, B-B 26 weeks, a solo may be only eight weeks.

In the next column, put the starting date for your season. Use the numeric equivalent for the date (the @(TODAY) function will give you a close number) then add or subtract days until you get to the start of your mailing season. Most pick either the Monday or Friday of the week. To your base number add seven (+b4+7) and copy that down the column at least 75 rows.

We usually build a spring and fall set of drops. Lotus 1,2,3 can only stack six sets of data, so divide your year into five drop groups (the sixth contains carry over from the previous season). Most mailers need no



more than a four quarter model. In the next column, we leave space for our actual sales. This keeps us honest and shows how brilliantly our model is working. In the next column we leave room for last season's carry over (we'll need to back up and build a model for a previous period to generate this... but more on that later).

Now on to the fun part! In the next column, we will build our spring weekly projection, next to that, our fall. We will be summing across our drop schedule (and adding in our carry over). Here's what it looks like so far:

Week In Mail	Resp Date Curve	28-Dec-87	Actual Dollars	Past Fall Carry Over	Spring Proj \$
1	0.0%	04-Jan	\$28,500	\$27,703	\$27,703
2	2.0%	11-Jan	\$35,139	\$25,909	\$28,825
3	6.0%	18-Jan	\$31,243	\$27,449	\$36,197
4	8.0%	25-Jan	\$36,143	\$26,476	\$38,140
5	10.0%	01-Feb	\$44,680	\$26,511	\$44,007
6	8.0%	08-Feb	\$46,432	\$27,425	\$47,837
7	6.0%	15-Feb	\$39,896	\$23,422	\$43,834
8	6.0%	22-Feb	\$41,019	\$24,192	\$47,520
9	5.0%	29-Feb	\$48,250	\$21,322	\$43,192
10	5.0%	07-Mar	\$52,750	\$17,953	\$42,739
11	4.0%	14-Mar	\$33,234	\$17,328	\$43,572
12	4.0%	21-Mar	\$41,524	\$15,836	\$43,538
13	4.0%	28-Mar	\$45,432	\$13,856	\$41,558
14	4.0%	04-Apr	\$39,876	\$10,795	\$39,955
15	3.0%	11-Apr	\$42,332	\$9,303	\$39,921
16	3.0%	18-Apr	\$48,953	\$8,100	\$43,092
17	3.0%	25-Apr	\$42,329	\$7,619	\$45,527
18	3.0%	02-May	\$40,210	\$6,035	\$41,027
19	3.0%	09-May	\$48,113	\$5,361	\$43,269
20	2.0%	16-May	\$45,615	\$4,543	\$39,535
21	2.0%	23-May	\$44,534	\$4,302	\$42,210
22	2.0%	30-May	\$43,321	\$3,821	\$41,729
23	1.0%	06-Jun	\$36,534	\$1,973	\$38,423
24	1.0%	13-Jun	\$38,888	\$1,973	\$37,451
25	1.0%	20-Jun	\$44,498	\$1,733	\$36,725
26	0.4%	27-Jun	\$49,950	\$1,155	\$34,300
27	0.4%	04-Jul	\$36,174	\$809	\$32,982
28	0.4%	11-Jul	\$31,324	\$809	\$31,038
29	0.4%	18-Jul	\$39,322	\$809	\$25,303
30	0.4%	25-Jul	\$36,625	\$462	\$23,498
31	0.4%	01-Aug	\$54,028	\$0	\$20,606
32	0.3%	08-Aug	\$30,150	\$0	\$20,422

At the top we put in "Drop 1" etc. to "Drop 5". Underneath, we key our circulation for each drop. Above Drop 1, we put in our revenue per catalog. If you don't track your revenue per book, take last year's sales and divide by the number of catalogs you mailed last year. You may want to count annual circulation from December 1 to December 1 because circulation precedes sales results.

Now put in the following equations ((Absolute Value)Revenue per Book * (Absolute Column)Circulation * (Absolute Column)Percentage Revenue per Week). It will actually look something like this: "+\$2*\$4*\$a4". Now copy this down about fifty rows (at the end you'll get lots of zeros which you can erase later). Now copy this column into the next column, but start at the row which corresponds to the drop date (in column B). Repeat this for the next few drops. If you change a drop date, you can move the entire column of sales figures under that drop to change the model for the new dates.

\$/Cat	#Mailed	Sales				
	\$1.62	600,000	\$972,000			
	Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Drop 6
	90,000	90,000	90,000	90,000	90,000	90,000
	15%	15%	15%	15%	15%	15%
	-----	-----	-----	-----	-----	-----
	\$0					
	\$2,916					
	\$8,748					
	\$11,664	\$0				
	\$14,580	\$2,916				
	\$11,664	\$8,748				
	\$8,748	\$11,664				
	\$8,748	\$14,580	\$0			
	\$7,290	\$11,664	\$2,916			
	\$7,290	\$8,748	\$8,748			
	\$5,832	\$8,748	\$11,664			
	\$5,832	\$7,290	\$14,580	\$0		
	\$5,832	\$7,290	\$11,664	\$2,916		
	\$5,832	\$5,832	\$8,748	\$8,748		
	\$4,374	\$5,832	\$8,748	\$11,664	\$0	
	\$4,374	\$5,832	\$7,290	\$14,580	\$2,916	
	\$4,374	\$5,832	\$7,290	\$11,664	\$8,748	
	\$4,374	\$4,374	\$5,832	\$8,748	\$11,664	
	\$4,374	\$4,374	\$5,832	\$8,748	\$14,580	
	\$2,916	\$4,374	\$5,832	\$7,290	\$11,664	\$0
	\$2,916	\$4,374	\$5,832	\$7,290	\$11,664	\$2,916
	\$2,916	\$4,374	\$5,832	\$7,290	\$8,748	\$8,748
	\$2,916	\$4,374	\$4,374	\$5,832	\$8,748	\$11,664
	\$1,458	\$2,916	\$4,374	\$5,832	\$7,290	\$14,580
	\$1,458	\$2,916	\$4,374	\$5,832	\$7,290	\$11,664
	\$1,458	\$2,916	\$4,374	\$5,832	\$5,832	\$8,748
	\$583	\$1,458	\$4,374	\$4,374	\$5,832	\$8,748
	\$583	\$1,458	\$2,916	\$4,374	\$5,832	\$7,290
	\$583	\$1,458	\$2,916	\$4,374	\$5,832	\$7,290
	\$583	\$583	\$2,916	\$4,374	\$4,374	\$5,832
	\$583	\$583	\$1,458	\$4,374	\$4,374	\$5,832
	\$583	\$583	\$1,458	\$2,916	\$4,374	\$5,832
	\$399	\$583	\$1,458	\$2,916	\$4,374	\$5,832
	\$399	\$583	\$583	\$2,916	\$4,374	\$4,374
	\$399	\$583	\$583	\$1,458	\$2,916	\$4,374
	\$399	\$399	\$583	\$1,458	\$2,916	\$4,374
	\$399	\$399	\$583	\$1,458	\$2,916	\$4,374
	\$399	\$399	\$583	\$583	\$1,458	\$4,374
	\$399	\$399	\$583	\$583	\$1,458	\$4,374
	\$399	\$399	\$399	\$583	\$1,458	\$2,916
	\$399	\$399	\$399	\$583	\$1,458	\$2,916
	\$399	\$399	\$399	\$583	\$583	\$2,916
	\$399	\$399	\$399	\$583	\$583	\$1,458
	\$399	\$399	\$399	\$583	\$583	\$1,458

We can build a graphic representation of these drops by making the X range our dates at the left (Column B) and each additional range, one of our drop columns.

Make sure to start each range at the row corresponding to the first drop date. When we graph this, it generates a beautiful area map of our projected sales by week.

Now, we go back to the spring projection column. We add across the columns for each week " $@sum(f4:j4)+e4$ " (plus the carry over). Be aware that if you move the first or last column (to adjust for drop date changes) this equation will need to be rebuilt and recopied down the column. This mathematically corresponds to the tops of the mountain peaks in our stacked area graph. If you are using Lotus 1,2,3, you'll have to settle for stacked bar graphs. As we go through the season, we can compare our weekly totals to our actual sales, and know exactly "how we're doin'!"

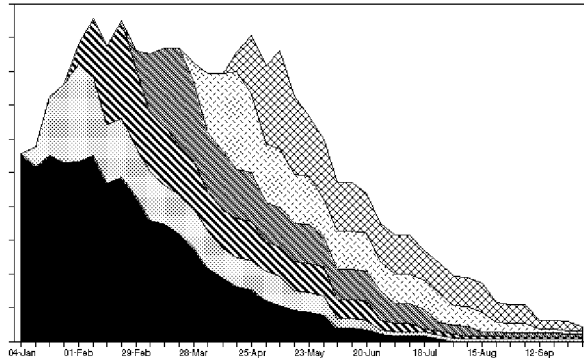
Finally, to keep a running total of our performance against projection, we can add a cum projection and actual column. We simply add a running total of both, and build an annual performance graph.

The model has been enhanced to allow multiple revenue per piece figures for each drop, revenue per piece for different segments (i.e., buyers, house and rented lists) and has been used with different media by substituting advertising dollars for circulation. It has also been used to build a catalog expense schedule which more closely corresponds to expected sales. However, with all these variations, the model has remained fairly intact.

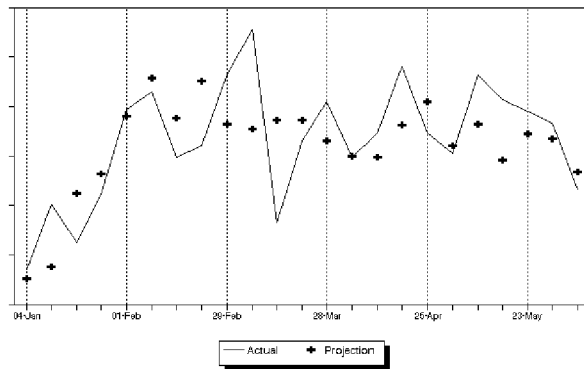
Because it uses very broad (average) numbers, it has proven remarkably accurate. Of course it really depends on a good guess about what the revenue per piece will be. That is nothing short of predicting the future, but if you're not too wild, you'll come very close.

When you compare the actual sales to the projection, there are two distinctly different types of variance. The first is that the projected and actual peaks and valleys seem to go along together pretty well, but one is consistently higher or lower than the other. This indicates that the revenue per piece is off. In the other case, the peaks don't seem to line up, but the cumulative effect is that both projected and actual come out the same. Here, your curve needs adjusting. Try substituting a longer or shorter curve until

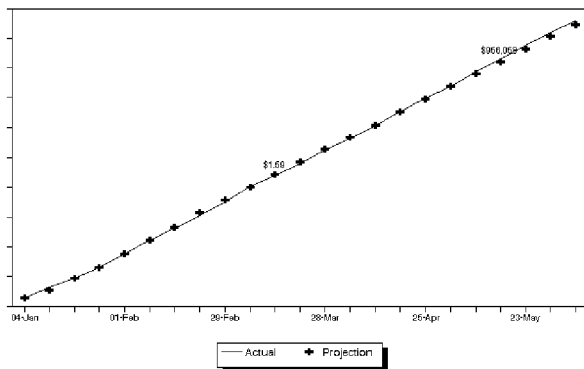
List Curve Analysis
Estimated Response Curve Spring



List Curve Analysis
Spring



List Curve Analysis
Spring



there is better correspondence.

Oh! To build the past carry-over mentioned earlier, simply save this file as '91 Fall. Bring it up, change the starting date to July 1, 1991, and adjust the drop dates and circulation. Then name the part of your sales projection that falls after the first of the year (Jan 1, 1992) as work1 range. Save the file, bring up 92curv and copy the work1 range into the carry over column. You will need to repeat this procedure each time you build a new year's projection model.

Though we have worked with many clients' data, this particular model has been one of our most rewarding. It has regularly been used to help raise capital, because banks and investors may not understand the mail order business, but they do know if you are hitting the numbers that you project. And if you can consistently hit the numbers... then there just might be some science to what you do.

If you are interested in more information about this model, contact John Miglautsch at Miglautsch Marketing, W226 N555 Eastmound Drive, Ste. #, Waukesha, WI 53186-1655, tel: (414)542-5633; fax: (414)542-2066; <http://migmar.com>.