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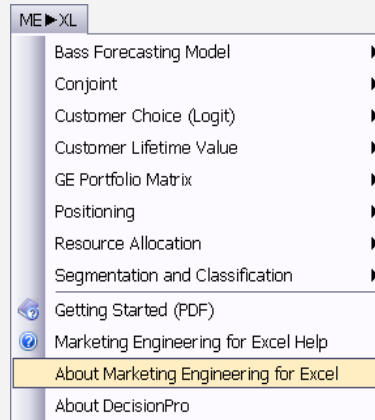
Zach's Garage (Pricing)

Marketing Engineering for Excel is a *Microsoft Excel* add-in. The software runs from within Microsoft Excel and only with data contained in an Excel spreadsheet.

After installing the software, simply open *Microsoft Excel*. A new menu appears, called "*ME▸XL.*" This tutorial refers to the "*ME▸XL/Pricing*" submenu.

Zach's Dream

Over the last 20 years, Zachary Lewis, 52, has built a successful accounting business in the Chicago area, employing more than 30 accountants, clerks and assistants, and serving hundreds of small and medium-sized companies in various industry sectors.

Zachary, also known as "Zach", has the demeanor of a stereotypical accountant... he is polite and well-mannered, wears dark suits, long-sleeve white shirts and out-of-style ties. He could talk for hours about the recent trends in the stock market or the latest developments in the tax code. Only his long, blonde-hair pony tail seems out of place.

"I never remove my vest or roll up my sleeves, even in the middle of the summer", he says to his friends. "Because, you know, then I'd have to explain the skull and snake tattoos." In fact, Zach is a rock fan. A real one. In his twenties, he was even part of a rock band that toured the East Coast a few times, but the band never took off. Actually, his close friends, wife and kids learned the hard way not to say that Zach was part of a "rock band", because they would then have to explain why "rock band" was a misnomer, perhaps even an insult, to Zach's style of "dark metal" music.

Zach's career in the music industry is now long behind him, and only rarely does he even touch his drums. But he had a dream. He always thought that

there were not enough opportunities for young musicians to "cut their teeth" on the stage, learning to work a crowd and testing their music—all skills he knew he should have developed when he was younger. So, two years ago, he decided to turn this insight into a business reality. Zach bought a well-located warehouse from one of his clients, invested his own money to turn into it into a decent workplace environment by getting proper city authorizations, building a stage, installing fire exits, and in general making the place comfortable and safe. He also used his business acumen to promote his new concert hall which he named "Zach's garage".

The idea behind this venture was simple: if you have a band and would like to perform on stage, you just block a night at Zach's garage, invite your friends, your friends' friends, and anyone who would like to join, then you promote the event yourself, and that's it. You play. There is no place for anyone to sit, but neither the band nor the public pays any fees to use the venue. Zach's garage was Zach's gift to the community of aspiring musicians and artists in the city. And, any kind of music was welcome. There is even a locked steel box at the entrance, where anyone could drop a few dollars in thanks for the event. Any money collected goes to the band.

The "quid pro quo" is that everyone participating in an event is expected (but not forced to) sign up on Zach's garage fan page, and give their email address, so they will receive further announcements. Consequently, at every new concert, the potential audience grows, and the whole musician community benefits from it.

Victim of One's Success

"Five months after the grand opening, we had organized only 12 concerts, but we already had 10,000 online fans, even though we never had more than 120 people at a time at any concert. That's when I knew I was in trouble. It was going viral, and I couldn't stop it. It was out of control."

"After 9 months, the place was packed almost every show, 2 or 3 nights a week. I even had to hire security personnel at my own expense to help me manage the crowd and avoid potential problems. Everybody knew that we were doing it for free, and they loved it. They did not come to concerts as paying customers with high expectations; they showed up as fans and supporters, even when they did not know a band. When there was a technical glitch, for instance, the public would rarely boo. That was part of the deal. Everybody knew it. The atmosphere was very friendly, encouraging, and as a consequence, bands performed at their best. It was a win-win situation."

"I guess a good deed never goes unpunished… Today, I'm down about $3,000 per month, and soon I'll have to make additional investments to build supplemental fire exits and invest in high-quality speakers and computer equipment, because with the crowd we have now, we just don't have the firepower. Oh, and I will also need to hire a lawyer, because the authorizations I got earlier are being questioned by some local community associations. I guess they did not anticipate they would have hundreds of music fans in their neighborhood every weekend. Well, frankly, I cannot blame them; I did not expect it either."

"If I don't act now, I'll either go broke or I have to close it down. And I don't want to close it down. Even though I hate the idea of asking anyone to pay, I think I have no choice but to start collecting an entrance fee. I talked to many people I know, including some regulars at the concerts, and they seem to be OK with the idea. They know I didn't do this for the money, and they are actually quite surprised it has stayed free for this long. But, I have no idea how much we should charge, or even if there is a price point at which I would be able to cover my costs. Besides, some of my regulars are students; they

don't have a lot of money, and I don't want to leave them at the door simply because they can't pay."

Pricing Survey

To help answer Zach's pricing questions, a friend of his, Mark Little Jr., a marketing consultant whose books Zach's accounting firm handles, agreed to do a simple pro-bono pricing study on behalf of Zach's garage. Mark stood at the door of Zach's Garage a few event nights, and asked visitors how likely they would have come to that concert if they had to pay an entrance fee equal to the following options: $1, $3, $5, $8, $12, and $20. To reduce order effects, he randomized the order of the price levels presented to a participant. Mark also tried to get a representative sample of the target population, by randomly selecting only some of the event attendees. He also asked a few demographic questions, such as age and gender.

The data he collected is summarized below.

Likelihood of Purchase Scale
Scale options (e.g., "on a scale from 1 to 5") and associated purchase probabilities.
If you would like to override the system suggested values below, please enter the desired values in the appropriate cells in the Associated Probabilities row.

Scale Options	1	2	3	4	5
Associated Probabilities	0%	0%	10%	40%	100%

Respondent Data
Purchase likelihood obtained for each price level from each respondent, and demographics.
Please enter the price levels tested in the Respondents/Price Levels row below, and the responses from each respondent in the appropriate cell.

Respondents / Price Levels	$1	$3	$5	$8	$12	$20	Respondents / Demographics	Age	Gender (1=male)
Respondent 1	5	5	5	5	4	2	Respondent 1	55	1
Respondent 2	5	5	5	5	4	2	Respondent 2	52	1
Respondent 3	5	5	4	2	1	1	Respondent 3	48	0
Respondent 4	5	5	4	2	1	1	Respondent 4	45	1
Respondent 5	5	4	4	1	1	1	Respondent 5	43	0
Respondent 6	5	5	4	2	1	1	Respondent 6	39	1
Respondent 7	5	4	2	1	1	1	Respondent 7	37	1
Respondent 8	5	4	4	2	1	1	Respondent 8	37	0
Respondent 9	4	2	2	1	1	1	Respondent 9	30	0
Respondent 10	5	4	2	2	1	1	Respondent 10	22	1
Respondent 11	5	4	4	4	2	1	Respondent 11	21	1
Respondent 12	5	4	2	1	1	1	Respondent 12	25	0
Respondent 13	5	5	4	4	4	1	Respondent 13	23	1
Respondent 14	4	4	2	2	1	1	Respondent 14	23	0
Respondent 15	5	4	2	1	1	1	Respondent 15	27	1
Respondent 16	5	4	4	2	1	1	Respondent 16	18	1
Respondent 17	5	4	2	1	1	1	Respondent 17	30	0
Respondent 18	5	4	2	1	1	1	Respondent 18	19	1
Respondent 19	5	5	4	4	2	1	Respondent 19	27	1
Respondent 20	5	4	2	1	1	1	Respondent 20	19	1
Respondent 21	5	5	4	4	2	1	Respondent 21	22	1
Respondent 22	4	4	2	1	1	1	Respondent 22	16	1
Respondent 23	5	5	4	4	2	1	Respondent 23	33	1
Respondent 24	5	4	4	2	1	1	Respondent 24	30	0
Respondent 25	5	4	2	1	1	1	Respondent 25	25	1

Questions

Using the "ME ▸ XL/Pricing/Run Analysis" option in the menu, and using the purchase likelihoods reported in the spreadsheet, answer the following questions:

Question 1. Assuming that the data contains a representative sample of Zach's Garage customer base, what price level would maximize expected revenues (profits)? Assume that the average attendance is now about 250 per night, with an average of 12 events per month, would that optimal price be sufficient to cover Zach's costs of $3,000 per month?

Tip: to compute total expected revenues, use the formula TOTAL MARKET × EXPECTED REVENUES, or use the alternative formula TOTAL MARKET × LIKELIHOOD OF PURCHASE × PRICE.

Question 2. Assuming that attendance is currently around 250 per event, at what price level would that attendance decrease to an average of 125? That is, at what price would half the attendees stop coming because of the entrance fee?

Question 3. Looking at the figure "(expected) Revenues", at what price level would Zach exactly cover his monthly costs?

Question 4 (advanced). Zach does not want to lose the youngest customers, who are often students. Assuming that he does not charge an entrance fee to people 21 or younger, what would be the optimal pricing strategy to maximize revenues? What would be the total attendance at that price level?

Tip: Sort respondents by age, and apply the pricing model on those customers 22 years of age or more only. Assume that younger customers (who pay no entrance fee) will not to be impacted by pricing decision (though this is a questionable assumption).

Tip: When extrapolating your results to compute total profit, note that a portion of the total expected market will pay no entrance fee. Assume that 1/3 of the attendees are 21 years old or younger.

Question 5 (advanced). Assume that instead of allowing the youngest customers to attend for free, Zach decides instead to charge a lower price by offering a discount. What is the price that would maximize profit for the younger segment of the population? How much additional profit would that bring in? Compare that figure to the one you obtained for Question 1, and explain the differences. What would be the impact on attendance? Would you recommend such strategy to Zach?

Question 6 (advanced). For running the simulations, the pricing consultant assumes that a response of "5" (absolutely certain) corresponds to a 100% probability of coming to an event. Discuss the pros and cons of that assumption.