Azure Lodging, Inc.

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Company Background

It is June 2018. You are Executive Vice President of Operations for Azure Lodging of Milwaukee, Wisconsin. Azure owns and operates eighty economy-lodging hotels in thirteen states, from North Dakota and Kansas, east to Kentucky and up to Ohio and Michigan. Exhibit 1 provides a list of the number of properties by state.

Azure started in the mid-1960s in the Milwaukee suburb of Brookfield. A family-owned business, the firm expanded by building hotels first in the Milwaukee area and, later, in the Chicago area. As the company matured, the family expanded by acquiring small chains in the surrounding states, in addition to building new properties in select markets.

Characteristics of Economy Lodging Hotels. The hotel industry has multiple tiers, ranging from economy to luxury properties. Azure properties are similar to hotels by Days Inn, Super 8 and Motel 6. Economy lodging hotels provide only one product: hotel rooms for nightly accommodations. There are no food and beverage outlets (i.e., restaurants, bars or banquet facilities), no gift shops, no meeting spaces, no business centers. Unlike other hotel tiers, there is only one room type (no luxury suites, no deluxe rooms, etc.): A basic room that averages 295 square feet and offers minimal features (no microwave, no coffee maker, etc.). A typical room has a bed set, nightstand, television, telephone, desk, desk chair, desk lamp, light fixtures, wall-mounted climate control unit (called "PTAC"), toilet, shower/tub, bathroom sink, shower curtain, shower rod, towel rack, closet rack, mirror and window treatments. Flooring is either low-cost carpet, composite wood or tile. Lobbies are small, with a few tables, chairs, vending machines and, occasionally, a microwave and coffeemaker. Most hotels in warm climates have an unheated pool, but a fitness room/gym is rare. The parking lot is typically asphalt and the grounds are minimal. Buildings are wood-frame construction with 2 or 3 levels and exterior signage on the building and a large, roadside sign. Capital equipment includes a boiler and commercial laundry equipment.

A typical economy lodging hotel is staffed by a general manager (GM), a head housekeeper, a maintenance worker, 6-8 housekeepers and 4-5 front desk attendants. Housekeepers and front desk staff work variable hours based on customer demand. In other words, during the "low season" (October-March) many employees will work less than 40 hours a week. During the summer months, when occupancy is high, full-time staff typically work 40 hours, but additional work requirements are met by part-time workers (to avoid paying overtime wages to the full-time staff). Housekeepers are paid minimum wage and front desk staff are paid slightly more. Because of the low wage and fluctuating hours, average turnover rates are quite high (> 100%).

Renovation Description and Impact. A typical renovation involves renovating guest rooms renovating the lobby and painting exterior surfaces (e.g., walls, stairs, parking lots, signage). Guest room renovation typically involves replacing beds, fixtures, flooring, television, window treatments, etc., and painting interior walls. While most of these changes are cosmetic, some of the changes improve guest comfort (e.g., replacing a sagging bed or reducing allergens by replacing carpets with wood flooring).

Replacing bathroom faucets, shower heads and toilets will update the look while lowering water use (through low-water-use items). Prior experience suggests that new plumbing fixtures will reduce variable water costs by 10%. A more efficient PTAC and improved weather-stripping should reduce the variable electric consumption rate by 5% and fixed costs by 2%. In addition to lower energy use, maintenance costs should also be lower in the years following renovation, although company management is uncertain about its actual financial impact.

A renovation should improve the hotel's prices (known as average daily rate [ADR]), increase occupancy and improve customer satisfaction (higher satisfaction scores, fewer complaints, fewer guest refunds, etc.). GM compensation is a mixture of salary and bonuses, with bonuses for achieving targets in three areas of performance: (1) profit goal [highly achievable, with more than 90% of managers receiving this bonus]; (2) customer satisfaction scores [satisfaction scores above 80% and complaints below a nation-wide target]; and, (3) an internal audit score above 85%. In properties that have not been renovated for a long time, GMs will manage customer expectations regarding quality by reducing the price. What is not acceptable to customers at a room rate of $75 will not be a problem at a rate of $35 per night. As this is well known throughout Azure, financial targets are set lower at properties that have been "neglected" over time (i.e., those needing renovation but for which annual funds were not available for renovation).

Recent accounting research has shown that a renovation increases controllable profit an average of $1.70 per available-room for a period of about three years. In the next three years, controllable profit per room declines to the point where there is no price advantage after six years. That is, after six years, a property's price will continue to decline if the hotel is not renovated.

The Renovation Choice

Each year Azure renovates between 15-20% of its hotels. If evenly allocated, each hotel should undergo renovations every 5-7 years. To do this, the firm sets aside reserves for renovations and each year the firm commits to numerous, significant capital investments. From time to time the firm obtains loans from their bank. The available capital for renovations will be distributed throughout the entire network of properties and the CEO has tasked you with selecting properties for renovation where the firm's expenditures will have the greatest impact. Mary Jones, Executive Vice President and Chief Financial Officer, has told you that fifteen (15) properties will be renovated this year. After analysis and follow-up discussion with Mary, you have decided to allocate renovation expenditures throughout the geographic region. The number of planned renovations by state is also shown in Table 1, column 3, above. Of the two Illinois properties, the Chicago O'Hare airport location has been selected as one of the two Illinois renovations as it was identified last year as one property in need of renovation that was postponed due to insufficient funds.

Most Illinois properties are in the Chicago metropolitan area and you've decided that the second Illinois renovation must also be in the Chicago market. A number of the Chicagoland properties were renovated in the past five years, and several have been slated for franchise sale or closure. This leaves you with two suburban properties as candidates for your second Illinois renovation: one economy-lodging property in Mount Prospect, and an economy lodging property 6 miles away in adjacent Des Plaines.

Description of Candidate Properties, Available Data and Project Expense

Both properties were opened in 1989. The Mount Prospect property was built by Azure, whereas the Des Plaines location was one of the hotels purchased from Scottish Inns. The Mount Prospect location is a 128-room property that was last renovated in 2000, 11 years after its opening. The Des Plaines location, a 143-room property appears to have been last renovated in the mid-1990s. The company's project management data is incomplete prior to 2000, so the best estimate of the last renovation comes from discussions with several long-time employees. Both properties need improvements but, with resources limited once again, you may only select one property for renovation. Being in adjacent cities, both the Mount Prospect and Des Plaines locations cater to essentially the same types of customers—a mix of business and leisure travelers.

To assess these two properties, you have gathered the following historical data: Income statements, customer satisfaction scores, internal audit scores, turnover data and sales performance data on local competitors.

Juan Esquival, Project Lead, in Facilities and Project Management has told you that renovation of the Mount Prospect and Des Plaines locations are projected to cost $545,000 and $730,000, respectively. The higher amount for the Des Plaines location is primarily due to more extensive lobby renovations than what was required for the Mount Prospect location. On a per-room basis, renovation costs will average $4,257 and $5,141, respectively, for the two properties. These amounts are similar to the industry average of $5,000 per room.[1] With a large number of hotels, the Facilities and Project Management department has extensive experience and an established network of vendors, so project estimates are usually quite accurate. A review of the company's project database revealed that actual total project costs for similarly-sized properties were, on average, $10,480 lower than budgeted, although the standard deviation for the difference between budget and actual cost was quite large ($69,500).

Developing Model Estimates

You know that you have to compare the NPVs that result from renovating these two hotels. You also know that you need to identify suitable probability distributions for a number of uncertain parameters (e.g., rooms rented, ADR and project expense). You have previous years' numbers as a starting point, but you also want to get estimates from the local GMs.

You decide in a first step to talk to the two property GMs. Both managers expect there will be an increase in the occupancy rate and ADR in the first year. For the following four years they expect a constant, lower level for these two figures. The newly-hired GM of Mount Prospect, Ken Anderson, expects that ADR and occupancy rate will, at least, increase by 30% and 35%, respectively if the hotel is renovated. As a maximum, Ken believes rates and occupancy could rise as much as 60% and 50%, respectively, but with the most likely outcome being a rate increase of 55% and an occupancy increase of 40%.

The Des Plaines GM, Lucinda Smith, is an experienced Azure employee who has managed three other Azure properties. She expects the following minimum, maximum and most likely values for ADR and occupancy: 8%/4%, 13%/6% and 10%/5%.

[1] HVS Design. 2012. Hotel Cost Estimating Guide 2012. Washington, D.C.: HVS Design JN+A.

You are uncertain whether these numbers are reliable enough for your simulation and you decide to interview the CFO Mary Jones who has been working for the Azure group for many years. She has seen the outcome of prior renovation projects at Azure and elsewhere. She confirms the view of the two GMs that there will be an increase in ADR and occupancy in the first year and that ADR and occupancy will remain at that level in the following years, plus or minus a random component that she assumes to be normally distributed with a mean of 0 and a standard deviation of 0.5% (ADR) and 1% (occupancy). Her view is however, that Ken's predictions are far too optimistic. She assumes that the realistic numbers for the increase in the ADR rate are 4%, 9% and 15% (minimally, most likely and maximally). Similarly, she expects the increase in occupancy to be minimally 5% and maximally 7%. She expects a most likely increase by 6%.

She further thinks that the input of Lucinda Smith is realistic and comes up with estimates that are only slightly different. She assumes the minimum, maximum and most likely values for the increase in the occupancy rate to be minimally 3.5%, maximally 7% and most likely 6%. For the increase in ADR her estimates are 7%, 11% and 14%.

Mary Jones further explains what may probably happen with the ADR, variable costs and the occupancy rate if we did not invest in Des Plaines. She assumes a 2% increase in variable costs per year and 2% higher maintenance costs per year (i.e., an increase in fixed costs). Moreover, it is reasonable to assume that the hotel management has to decrease the price for a room night by on average by 0.5 or even 1% per year in order to keep the occupancy rate constant.

Selection Criteria

CFO Jones has advised you that, for NPV or RI calculations of renovation projects, you should use a discount rate of 9%. The property income statements do not contain any non-cash items, such as depreciation; that is, you can assume that controllable profit is equal to cash flows. Furthermore, assume that cash flows after year 5 will grow at 3% annually. The project will be undertaken during slow months and will have minimal or no impact upon room rentals; in other words, the property will remain open and sales volume won't be materially affected.

Required

Azure's Executive Committee will meet in two weeks to consider the investment opportunities for the coming year. Prior to the meeting, you will need to distribute a report to the Executive Committee. They will review your report and vote on your recommendation. You must:

1. Review the data provided and make a business case for renovating one of the two hotels.
2. The Executive Committee has been developing strategy maps and balanced scorecards. In writing your case study, present metrics for each of the four perspectives of the balanced scorecard and how you weighted each of the four perspectives in determining which property to recommend for renovation.

Exhibit 1 Properties and Current-Year Proposed Renovations, by State

State	Properties	Renovations
Michigan	9	1
Ohio	10	1
Kentucky	6	1
Illinois	12	2
Indiana	8	2
Wisconsin	5	1
Missouri	11	2
Iowa	4	1
Minnesota	8	2
Kansas	3	0
Nebraska	2	1
South Dakota	1	0
North Dakota	1	1
Total	80	15

Appendix Introduction to Monte Carlo Analysis

Monte Carlo simulation method represents a powerful tool that enhances decision-making under uncertainty. While traditional scenario analysis provides a first idea about the possible range of the outcomes (e.g., profit), performing a Monte Carlo simulation allows learning about the likelihood of the outcomes of a decision. Monte Carlo simulations are easy to perform given the widespread availability of competing Excel add-ins (e.g., Crystal Ball and @Risk).[2]

To perform a Monte Carlo simulation, one has to set up in a first step a model in Excel. Different cells are then linked mathematically with each other specifying the effect of the input parameters on the outcome (e.g., *Profits = Revenues – Costs*).

The second step entails identifying uncertain variables and specifying probability distributions for them. Doing this with the Excel add-in Crystal Ball, one clicks in the relevant cell and then selects the "Define Assumption" button (see Exhibit A-1). The menu that opens allows the user to choose a probability distribution. For a triangular or beta pert distribution, the user inputs information on the minimum, maximum and most likely values for a parameter. For a uniform distribution, a minimum and maximum value are supplied, while a mean and standard deviation are input for a normal distribution.

The next step requires the user to define one or more forecast cells (i.e., outputs or results to be evaluated) by clicking in the desired cell (e.g., *Profit*) and selecting the "Define Forecast" button. See Exhibit A-2.

Finally, the user selects "Run Preferences" to specify the number of trials. See Exhibit A-3. Try setting trials to 200,000. When the simulation begins, Crystal Ball will insert random numbers, using the specified distributions, into the spreadsheet model, calculating all cells repeating this process 200,000 times. For each trial, the forecast or output cell (e.g., *Profit*) recorded. At the end of the Monte Carlo simulation (i.e., the set number of trials), the add-in presents a distribution of the 200,000 trials.

[2] For more information, see: Charnes, J. (2012). *Financial Modeling with Crystal Ball and Excel*, 2nd edition. New York: John Wiley & Sons, Inc. Information is also available on the software vendors' web sites.

Exhibit A-1 Selecting probability distributions in Crystal Ball

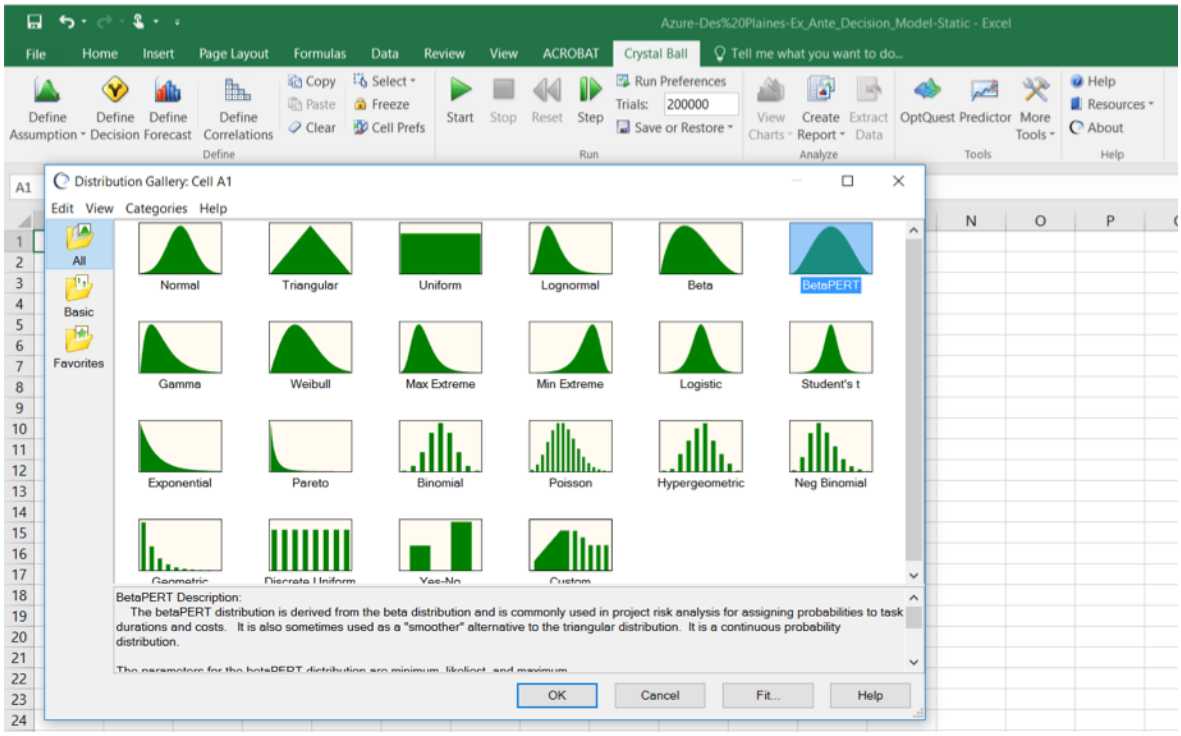

Exhibit A-2 Selecting the forecast, or output, cell

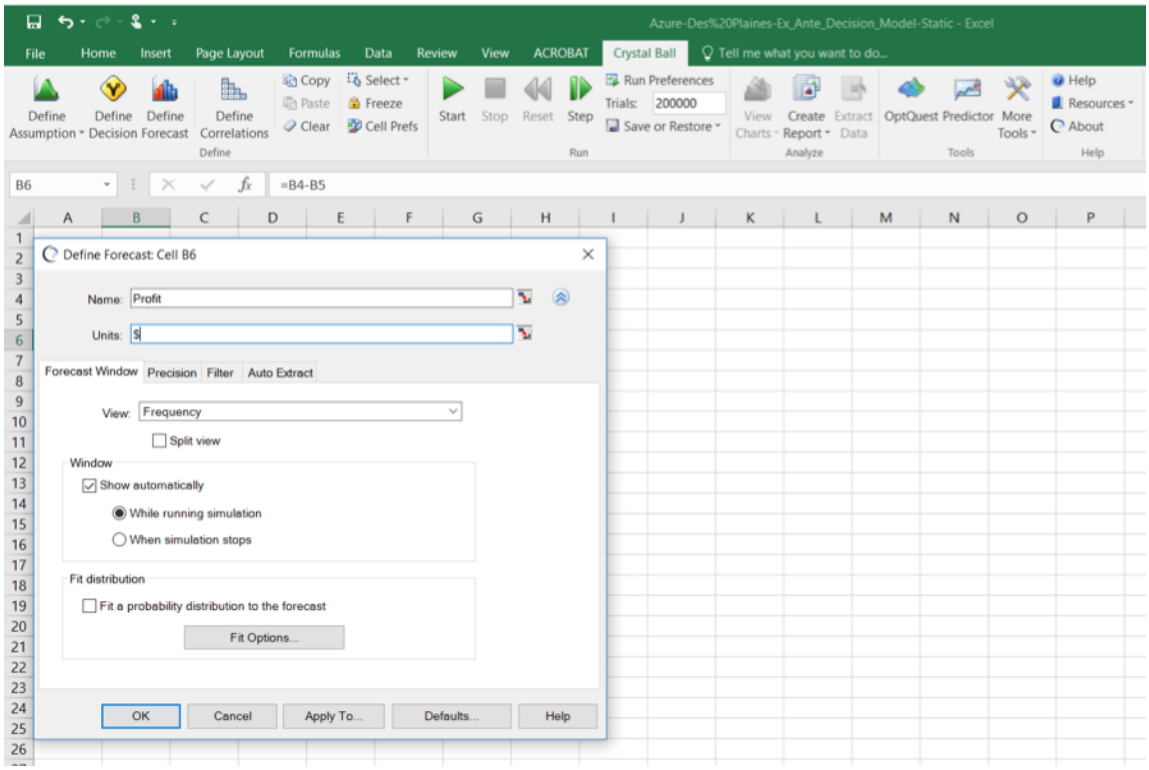

Exhibit A-3 Specifying simulation preferences