Case 22

City Car

National Motors of America has been impressed and distressed by the initial sales of small, very low-cost imports from Eastern Europe, Malaysia, and Korea. These imports are "bare-bones" autos, but at prices of $4000 to $5000 they are very popular. With the much higher labor rates of U.S. auto plants, National cannot compete directly with these autos. National could contract with the foreign automakers and simply distribute imports through its dealership chain—with or without a National nameplate and logo.

Mr. Joe Mercer, the president of National, wants to emphasize a leadership strategy instead. He believes (and his belief is substantiated by market research) that many of these cars are destined for short-range in-town trips with only one or two passengers. He believes it is now time to dust off the futuristic tricycle cars that were suggested during an energy crisis. Their simplicity, small size, and low material cost should allow National to produce them at a cost competitive with the new bare-bones imports. Furthermore, their uniqueness and aerodynamic sophistication will make them more difficult to produce in low-technology, low-wage countries.

When pressed by one of his many doubters, Mr. Mercer stresses the necessity of selling vehicles for each part of the market—including the entry level. In total, the U.S. market for cars with "entry-level amenities" is about one million autos per year.

He also identifies the key strategic disadvantages of the two other competitive responses. First, the imports are very similar to the domestic models in the countries they come from, and they are very dissimilar from the rest of National's line. Thus the offshore manufacturers

have greater economies of scale in production. Second, putting their label on an import can be easily copied by a U.S. major competitor. In fact, National and all of its competitors are already doing this. This provides cars to sell at competitive prices, and it maintains complete lines of products (essential for brand loyalty), but it does not provide a strategic advantage for National.

This could be another Edsel, but Mr. Mercer has decided that the potential gains in sales and in company and personal reputation are worth the risk. National can move rapidly with this innovative design, because the bulk of the design effort was completed before the designs were shelved. Rapidly means that in two years the first car can roll off a modified assembly line. Thus, revenue really begins with the third year after the decision to proceed.

Mr. Mercer does not really expect the first generation of tricycle cars, the TRIO, to provide large profits to National. He does expect this head start to translate into an enduring large share of a new, growing market. Thus, he plans to convert the Joliet plant (which is due for renovation) to the new car, and then, when a second generation is due (about five years later), he plans to build at least one new dedicated facility. Each facility can operate at 50,000 to 200,000 vehicles per year, depending on the number of shifts.

He has asked you to include the impact of this second-generation decision in your analysis. He envisions three options: first, a high demand coupled with at least one new dedicated facility. Second, the TRIO might be moderately successful, but not able to justify construction of a new facility. Third, the TRIO might be canceled entirely after the first generation. Then the Joliet plant would be converted back to production of standard compacts.

The standard interest rate that National uses is 8%, along with a 30-year life span for most plants and 10 years for most production equipment. Mr. Mercer has acceded to the requests of his critics and limited the analysis of the TRIO to the first and second generations. The third generation is more speculative, and it is conservative not to include it.

National's subcompact and compact plants are running at only 65% of capacity, thus Joliet's current output can be absorbed by the other plants. The conversion process will cost $75 million more than the renovation that was scheduled for Joilet. The extra equipment that is replaced will have a salvage value of $14 million. A new plant would cost $450 million, with 60% of this being for equipment.

Mr. Mercer had the marketing department develop tables that summarized their expectations for the TRIO's market (Tables 22-1 and 22-2).

Table 22-1 Sales for First Five Years

		Annual Sales	
Level	Probability	First Year	Last Year
Low	.40	30,000	50,000
Medium	.35	50,000	100,000
High	.25	75,000	200,000

Table 22-2 Sales for Second Generation

	Probabilities for 2nd Generation Sales Given 1st		
First-Generation	Second-Generation Sales		
Sales	Low	Medium	High
Low	.6	.3	.1
Medium	.3	.5	.2
High	.1	.4	.5

For the first year National expects to sell the cars for about $1350 more than their variable costs for production, marketing, and transportation. In later years, this margin should improve by $50 per year as production becomes more efficient. There will also be a $100 drop in variable costs when (and if) a new facility, designed specifically for this product, is built. After five years at Joliet and two years at the new facility, the rate at which costs will drop slows to $25 per year. By this point, costs will have been reduced substantially and further savings become more and more difficult.

Mr. Mercer's assignment to you follows. At these markups, are there reasonable trends in market demand for the second generation that can justify building the first generation? With these trends (reasonable or not), identify National's decision strategy based on the results of the first generation.

Suggestions to the Student

1. There are a number of assumptions concerning conversion and reconversion costs for the Joliet plant that have to be made.

2. More importantly, the extension of growth patterns into the second generation is critical. The assumption of linear trends may be sufficiently accurate for the first generation, but this assumption becomes less tenable as production grows.

3. It will be easier to keep track of the possibilities, if you draw a decision tree.