

# CarpetPro Solutions<sup>\*</sup> (A)

## Developing a Marketing Strategy for a New Carpet Material

Michael Gold, Executive Vice President of CarpetPro was looking over the recently completed market study of the carpet industry in order to think through his strategy for growing the business. CarpetPro, a major carpet manufacturer, traditionally focused the majority of its efforts on residential applications. In an attempt to aggressively grow sales revenue, top-level executives decided to focus more of their marketing and sales efforts toward the commercial applications market. The company was preparing to launch an innovative product that it had recently developed for heavily trafficked applications like commercial airports. His major task was to develop a solid pricing strategy for the product, and it was important for him to get the price right, since it would give the company a strong foothold in that segment of the commercial market.

### The Industry

The U.S. carpet and rug industry has over \$12 billion in worldwide sales, which represents nearly two-thirds of sales for all floor coverings. Worldwide sales of carpeting have been declining over the past few years, as hard surface flooring and area rugs are gaining favor as attractive alternatives.<sup>1</sup> As a result, U.S. manufacturers are marketing more costly area rugs and value-added products as well as diversifying into higher-value floor coverings such as ceramic tiles, laminate flooring, and hardwood flooring.

Sales in the industry are influenced by a number of factors, including the overall strength of the economy, prevailing interest rates, spending for construction and durable goods, and consumer confidence. Sales in the commercial market are highly cyclical, very much affected by factors that lead to cost control measures by businesses and other users of commercial or institutional space. These factors affect the new construction segment more than the renovation segment. Roughly half of industry shipments are made in response to replacement demand, which usually involves exact yardage that typically provides higher profit margins than sales of carpet sold in full rolls. Since it generally involves a higher quality carpet, replacement business tends to be more profitable for manufacturers than the new construction business.

According to the latest information reported by the Carpet and Rug Institute<sup>2</sup> approximately 53% of total carpet sales are for residential applications and 47% for commercial applications. The commercial market is further broken down into six

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<sup>\*</sup> This fictional case was prepared by Dhruv Grewal of Babson College and Jeanne Munger of the University of Southern Maine as a basis for class discussion. © 2012 Dhruv Grewal and Jeanne Munger.

<sup>1</sup> Frank O'Neill, "Focus 100 Manufacturers: A Look at How the Industry is Doing," *Floor Focus*, May 2003, accessed at [www.floordaily.net](http://www.floordaily.net).

<sup>2</sup> This information is taken from the CRI report, "Facts About the Carpet Industry: Commercial vs. Residential Use" accessed on the organization's web site (<http://www.carpet-rug.com/index.cfm>).

different segments: corporate office space (30%); retail space (18%); educational institutions (15%); health care facilities (15%); hospitality facilities (13%); and government institutions, airports, automotive and other (9%). Although sales in all commercial segments are influenced by factors influencing the economy, the corporate office space segment is particularly volatile with changes in market conditions. Each segment has its own unique set of purchase behaviors, processes, and evaluative criteria.

One of the major shortcomings in the floor covering industry is that the infrastructure is beleaguered by very small margins. This is particularly true in the carpet sector, whose average prices are not much above the cost of carpet 25 years ago. This will likely continue as long as the carpet sector is manufacturing-driven rather than market-driven. The most obvious effect of an industry that's driven by manufacturing is that products are only purchased when they desperately need to change, rather than because buyers perceive added value in a new product. The average life cycle of a residential carpet is more than ten years, whereas that of commercial applications is two to seven years, depending on the type of application. Industry leaders believe that an effective marketing campaign to highlight value-added features of new products could add billions of dollars to annual industry sales.

## **The Carpet Manufacturing Process**

Carpet production is a capital-intensive business, which creates high barriers to entry into the industry. The majority of production is automated, requiring a semi-skilled labor force. The process, from start-to-finish, involves ten major steps:

1. Yarns are prepared in a spinning mill.
2. Face fibers are drawn out to increase fiber alignment and twisted to form a yarn that is coarse and thick.
3. Yarns are heatset to stabilize against shrinkage.
4. After heatsetting, the yarn is attached to a primary backing material (tufting process).
5. Carpet is dyed using either a batch or continuous method.
6. The dye is then steam set, rinsed to remove any excess dyes and chemicals, and dried in a gas-fired oven.
7. Anti-soil and anti-staining agents are applied.
8. A foam or woven secondary backing is then applied to the carpet using latex adhesive.
9. The two backings are rolled together to form a tight bond, and the adhesive is cured in a gas-fired oven.
10. The carpet is then ready to cut for distribution to users and resellers.

Two critical aspects of product quality involve the composition and weave of the face fibers and the attention given to bonding those face fibers to the primary and secondary backing materials. The most common face fibers are: nylon (57 percent), polypropylene "Olefin" (36 percent), polyester "PET" (7 percent), and wool (0.4 percent). These are woven into a variety of grades, representing a broad spectrum of uses. Manufacturers of commercial grade carpeting recommend different carpet grades based on the nature of the application. (See Table 1 for examples.)

**TABLE 1**  
**Examples of Different Types of Commercial Applications**

<b>APPLICATION</b>	<b>EXAMPLES</b>	<b>LIFE</b>
Very Heavily Trafficked	Emergency room lobby, airport terminal, outside entrances, elevator lobbies, food service	2 years
Heavily Trafficked	Major corridors, ballroom, meeting room, auditorium	3 years
Moderately Trafficked	Library, office, guest suites, classroom	4-5 years
Lightly Trafficked	Private office, guest rooms	5-7 years

### **Competitive Environment**

The domestic carpet and rug industry is highly competitive and it is estimated that there are currently somewhere between 100 and 200 manufacturers. The industry has experienced a high level of consolidation in recent years. Four companies controlled more than 80 percent of the market for carpet in the United States. Three were established U.S. companies (Shaw, Mohawk, and Interface) whereas the fourth (CarpetPro) was a relative newcomer to the market, owned by foreign interests. All four produce a full range of broadloom<sup>3</sup>, six foot wide roll goods and carpet tiles. Shaw, Mohawk, and CarpetPro all generate the bulk of their revenues from sales of residential carpeting, whereas Interface dominates in a particular market niche—modular carpet tiles, used mainly in office and institutional settings. It is very difficult for new manufacturers to enter the market due to the strength and reputation of the leading firms in the industry and the strong partnerships that existing manufacturers have with their resellers and business customers.

### **CarpetPro**

CarpetPro is a progressive carpet manufacturer, which is relatively new to the U.S. market. The company was first established in the late seventies as the first producer of polypropylene oriental rugs. Several years later, the company was the first to invest in producing its own yarn. As the company expanded and diversified, it opened more manufacturing facilities and began to produce nylon polymers and yarn, eventually moving into weaving primary and secondary backings for carpeting. Through innovative product development and a number of prudent acquisitions, the company has grown to become one of the leaders in the industry. The company has recently repositioned itself through a series of divestitures, placing its primary focus on the broadloom carpet market. Corporate executives want to retain the company's reputation for introducing innovations in production and design of their products.

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<sup>3</sup> Broadloom is carpet produced in widths wider than 6 feet. It is usually 12 feet wide, but may also be 13'6" or 15 feet wide.

## The Airport Facility Market

Whereas there are relatively few customers in the airport segment, taken collectively, it represents a lucrative market since each individual installation involves hundreds of yards of material. Six principal characteristics are considered by commercial buyers in the airport industry: product performance, stain resistance, price, availability of colors and patterns, service, and the environmental practices of the manufacturer. Major considerations relating to product performance involve a carpet's resistance to trafficking, wear resistance, appearance retention in terms of colorfastness and texture, quality of manufacturing, and product life. Buyers, however, are increasingly making purchase decisions based on considerations about the environmental sustainability practices of manufacturers, including issues of material use, production wastes, indoor air quality, and carpet disposal.

Michael Gold was looking over the results of a market study he had commissioned comparing the performance ratings of the top four competitors as perceived by purchasers in the airport market. (See Table 2.) CarpetPro was clearly considered to be the best in terms of product performance, stain resistance and availability of colors and patterns, but was the most expensive provider. Shaws and Mohawk were perceived to be solid competitors, providing good products at reasonable prices. Interface, with its modular carpet tiles, was considered the low cost leader, although its product did not have the reputation for providing the quality needed for heavily trafficked areas like airports. CarpetPro and Shaws were both leaders in the industry in terms of using environmental sustainable business practices in their operations.

**TABLE 2**  
**Importance Evaluations on Six Attributes by Buyers in the Airport Market\***  
**And Performance Ratings Major Competitors**

<b>Attribute</b>	<b><i>Importance</i></b>	<b>CarpetPro</b>	<b>Shaws</b>	<b>Mohawk</b>	<b>Interface</b>
Product Performance	50%	8	7	6	4
Stain Resistance	5%	8	6	7	7
Price	20%	5	6	7	9
Availability of Colors/ Patterns	10%	8	5	7	4
Service	5%	8	6	8	7
Environmental Sustainability Practices	10%	10	10	8	7

\* Ratings are on a 10 point scale. 1=Very Poor and 10 is Excellent.

## New Product Innovation<sup>1</sup>

The Dow Chemical Company recently introduced BIOBALANCE polymers for use in commercial carpet backing. BIOBALANCE polymers are manufactured using SoyOyl,<sup>4</sup> which replaces a portion of the petroleum-based ingredients required to make traditional polyurethane carpet backing. It thus decreases our nation's dependence on petroleum-based polymers and incorporates a renewable resource into the manufacturing process. In addition to being more environmentally responsible, carpet manufacturers who use the product believe the resulting carpeting is a superior product, in part because it reduces the incidence of separation of backing from the carpet (i.e., delamination). CarpetPro had a longstanding partnership with Dow, and both companies were anxious to put the promising new product to the test through a mutually beneficial collaborative effort. Dow had agreed to some very attractive pricing for its raw materials in order to swiftly get the product to market. Dow managers felt the product had such promise, that they were willing to provide product engineers to assist CarpetPro in the manufacturing process in order to assure a top quality product for the final user. Both companies were looking forward to putting it to the rigorous test of a very heavily trafficked application.

## Elements of Cost<sup>5</sup>

Michael had done his homework in order to isolate the additional costs of adding the new product to the production line. The associated materials costs were estimated to be:

- Synthetic face fiber materials - \$2.50 per square yard
- Backing material - \$1.50 per square yard.

Test samples revealed that 10 square yards of the new carpeting need 14 gallons of bonding adhesive, at a cost of \$1.00 per gallon ( $14 \times \$1.00 / 10 = \$1.40/\text{sq. yard}$ ).

Based on CarpetPro's prior experience with similar products and manufacturing operations, managers estimated requiring .10 direct labor hours at the rate of \$10.00 per hour to construct 10 square yards of carpet ( $.1 \times \$10.00 / 10 = \$0.10$  per square yard).

CarpetPro has estimated that the cost of installation of the new carpet would be \$3.00 per square yard, compared to \$2.00 for traditional carpet. Removal costs are the same for both the new carpet and traditional carpeting, at \$1.00 per square yard.

Additional monthly fixed expenses were as follows:

EXPENSE	COST
Selling and Administrative Expenses	\$400,000
Additional Manufacturing Supervision	\$100,000
Final Inspection of Completed Work	\$100,000

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<sup>4</sup> The United Soybean Board has partnered with private industry to replace the petroleum-based products used in carpet backing with SoyOyl, a newly developed soybean-based product.

<sup>5</sup> This section of the case builds using ideas presented in the case "Plastico Company" written by Professor George M. McManmon (University of Akron), date unknown.

In addition to the monthly costs, CarpetPro would need to make a capital investment in new production machinery at a total cost of \$12 million, with a useful life of 10 years. (The prevailing interest rate was 10 percent.)

### ***Manufacturing Capacity***

As indicated previously, it takes approximately .10 direct labor hours to manufacture 10 square yards of carpet. Based on a 180-hour work month, the maximum manufacturing capacity per machine was estimated to be 18,000 square yards per month. Based on this information, CarpetPro managers expected to dedicate 10 machines to the production of this product, resulting in around 180,000 square yards of commercial carpet per month, or 2,160,000 square yards per year.

### ***Other Factors in Determination of the Selling price***

In addition to materials and labor, several other factors should be taken into consideration in the pricing of the product.

### **Product**

The new commercial product would last about three times longer than existing products on the market, and therefore, could be priced at a premium and still deliver value to the customer above the \$5 per square yard for competing products, although the additional cost of installation should be taken into consideration. Furthermore, the product would be more stain resistant, thus providing a more attractive carpet solution.

### **Promotion**

Since CarpetPro was partnering with Dow Chemical, Dow agreed to reimburse the company for 50% of all national advertising that featured the Dow brand during the first two years of the new product rollout. Michael anticipated that creating awareness of the new product would be a very expensive venture, and it would require a big investment into traditional media as well as personal sales support. Since the product would likely cost more than competitive offerings, it was important to sell the commercial buyers on the added value that the product provided.

### **Place/Sales Strategy**

Due to the nature of the buying process for commercial users, CarpetPro was limited to using a direct sales force to call on customer accounts. The sales force would be instrumental in ultimately selling the virtues of the product, with the support of a well-designed promotional campaign. Michael Gold's sales manager, Joel Cohen, had called on the Municipal Airport for some initial conversations about their needs.

### **Market Opportunity**

Michael Gold had just received what appeared to be a very important purchase order inquiry. The manager of Municipal, a leading airport facility, had issued an RFP

(request-for-proposal) for an extensive renovation to its flooring systems. According to preliminary interviews conducted by Joel Cohen, CarpetPro's Sales Manager, the purchasing agent expressed dissatisfaction with the short service life of the traditional carpeting installations used in the past. He emphasized that the new flooring material should not only be attractive but, most important, must be able to withstand the heavy traffic and spills associated with thousands of daily airline travelers. Furthermore, he emphasized the need for an application that maintained indoor air quality with a company that was known for its environmentally sustainable business practices. In addition, the cost of the carpeting system needed to be competitive in price, although the customer would pay a premium price if the installation clearly had a superior useful life for this type of application.

Upon reviewing the specifications for the job, Michael Gold felt this was an ideal application for its collaborative efforts with Dow Chemical. CarpetPro product engineers had already tested the new product manufactured with the innovative backing materials, and initial results were very promising. Synthetic face fibers adhered readily to the soy-based backing, resulting in an environmentally-friendly product that was highly resistant to very heavy traffic, stain resistant, requiring very little effort to clean and maintain. The estimated service life of the new product for a heavily trafficked application was six years (three times the conventional carpet life).

The face material would be constructed at the main CarpetPro factory, with the backing materials provided by Dow. This assured that the company would maintain high standards of quality and short lead times, with minimal costs associated with incoming transportation.

Michael Gold went over his notes about Municipal's specifications and the market data about competitors in order to put together an overall pricing strategy for the Municipal proposal. A lot was resting on getting this contract. He knew that CarpetPro would need to set its price considering all aspects of its marketing strategy, and that it would impact the development of the pricing for other commercial applications in the future.

### Questions:

1. Who are the competitors? Evaluate CarpetPro's position relative to key competitors on key attributes?
  2. How should Michael handle the final Sales pitch? What price should she quote?
  3. Some facets to focus on include:
    - a. What are the variable costs associated with the new rug?
    - b. What are the fixed costs for the new rug?
    - c. What is the maximum price CarpetPro can charge for the new rug? Why?
    - d. Based on all the qualitative factors, what is the best price to charge? Why?
    - e. What is the break even at the maximum price?
    - f. What is the break even at your "best" price?
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