

Schott Applied Power Corporation:
To Be or Not To Be in Retail

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October 29, 2001

Abstract

The Goal of this project is to determine whether Scott Applied Power Corporation (SAPC) should remain in the Retail market and to what degree. The software Expert Choice was used to compare alternatives available in the Retail business with respect to SAPC objectives. The results enable SAPC to make a decision on how to proceed. This paper explains the decision making process and how the results were derived in the following sections:

Background
Alternatives
Financial Considerations
Objectives
Comparing Alternatives with Respect to Objectives
Results
Changing Priorities
Feedback from Decision Makers

Background

SAPC is the largest independent distributor of photovoltaic (PV - solar energy) systems in the United States. The company has two main business functions:

- **The Projects Group** provides turnkey PV Systems. SAPC provides engineering, design, installation, and supply of large-scale and repeatable PV systems.
- **The Distribution Group** provides PV system packages and components to a dealer network. The dealer network sells and installs small-scale systems to retail businesses and consumers.

These two business segments comprise the vast majority of SAPC's revenue. A small portion, approximately 8%, of SAPC revenue is from retail activities:

- Walk-in business to a retail store in Redway, CA
- An online E-commerce site: www.solarelectric.com
- A retail catalog

SAPC Management has been debating whether or not to remain in the Retail business, and if so to what degree for over one year. The commonly remarked reason for staying in or increasing effort in retail is that SAPC receives a large margin from retail customers. On the other hand, being in retail conflicts with serving the larger dealer network; dealers could see SAPC as a competitor, especially if SAPC scaled-up promotion and sales in the retail arena.

With management at a standstill, we employed Expert Choice to structure a model that would assist SAPC in making the decision: **to be or not to be in the Retail Market.**

The Expert Choice software package is based on a decision-making method called the Analytical Hierarchy Process (AHP). Expert Choice and AHP allow users to breakdown complex decision making problems into goals, objectives for the goal, and the alternatives to meeting the goal. The software walks the user through structuring their problem in a hierarchical fashion. Then pairwise comparisons, verbally, numerically or graphically, are made to determine the relative weights of each alternative and objective. After the comparisons have been made, the program calculates the comparative weight that the decision maker(s) gave to each objective and alternative and allows the user to see the results graphically. The process and the software enables decision makers to find the best alternative to meet their goals or solve their problem based on their own objectives and derived priorities.

Alternatives

There are four alternatives for SAPC's retail business:

1. **No Retail** – To disengage in retail operations.
2. **Walk In Only** – To only keep the walk-in store available in the Redway, CA location.
3. **Catalog and Ecommerce Only** – To halt the walk in business but keep the online ecommerce site and catalog.
4. **Expand Retail Operations** – To expand retail operations to capture a larger retail market.

Financial Considerations

Table 1 briefly explains some of the financial considerations that contribute to the decision making process. The associated additional costs between the different options are compared. Costs for marketing and additional personnel are tabulated demonstrating that the Expanded Retail option clearly places the most financial burden on SAPC. This is an important consideration for SAPC, as the budget is limited. The company must spend dollars wisely, and if the marketing budget is spent on Retail, then extra resources will not be used to expand other parts of the business.

Projected sales and additional costs, not including administration, as a percentage of sales are compared. Finally gross margin and what percentage each option contributes to the overall company's gross margin is compared.

The results from the analysis are that:

- Current retail operations are only 1/15th of today's business.
- It would take a significant dollar amount, \$350,000 to increase retail operations.
- Retail does provide high margins. In the second year 28% of gross margin could come from expanded retail effort.
- If there is no increased effort, than the profit, sales and gross margin as a percentage decrease in overall business, unless the Expanded Retail option is chosen.

Table 1

	Web+Catalog	Walk-In	Expanded Retail
Associated Costs			
Management	\$10,000	\$2,000	\$80,000
Technical Support	\$10,000	\$5,000	\$60,000
Printing/Design	\$25,000	\$0	\$40,000
Web Maintenance	\$30,000	\$0	\$80,000
Order Processing	\$20,000	\$20,000	\$50,000
Other Marketing			\$40,000
Total	\$95,000	\$27,000	\$350,000
Sales			
Now	\$1,000,000	\$1,000,000	\$0
In One Year	\$1,500,000	\$1,000,000	\$5,000,000
Costs Percentage of Sales			
Yr 2002	9.50%	2.70%	
Yr 2003	6.33%	2.70%	7.00%
Gross Margin			
Yr 2002	\$350,000	\$350,000	
Yr 2003	\$525,000	\$350,000	\$1,750,000
SAPC total Gross Margin			
Yr 2002	\$3,800,000.00		
Yr 2003	\$6,250,000.00		
Percentage Gross Margin – Each Option			
Yr 2002	9.21%	9.21%	
Yr 2003	8.40%	5.60%	28.00%

Objectives

The six objectives that determine which alternatives are most favorable are:

1. **Additional Resources/Costs** – To decrease as much as possible the resource strain on SAPC so they can focus on distribution and projects business
2. **Margin Effect** – To increase SAPC’s margins. Retail sales have a better gross margin, 35 points verses a current 20 points or expected future 25 points for the distribution business.
3. **Future Market Potential** – To compare which alternative will give SAPC a better future profit.
4. **Effect on Dealer Program** – This objective is to ensure that the dealer market is best served, comparing how each alternative will affect SAPC's dealer business.
5. **Relevance to Core Business** – This, in addition to the dealer program, relates to how each alternative is relevant to the core businesses of distribution and system integration.
6. **Goodwill/Education** – How much goodwill and education in the market will be created from each of the alternatives. Generally with a retail presence you are also helping to educate the public.

These objectives were compared through pairwise comparisons in Expert Choice to determine their relative weights as compared to the goal.

Figure 1

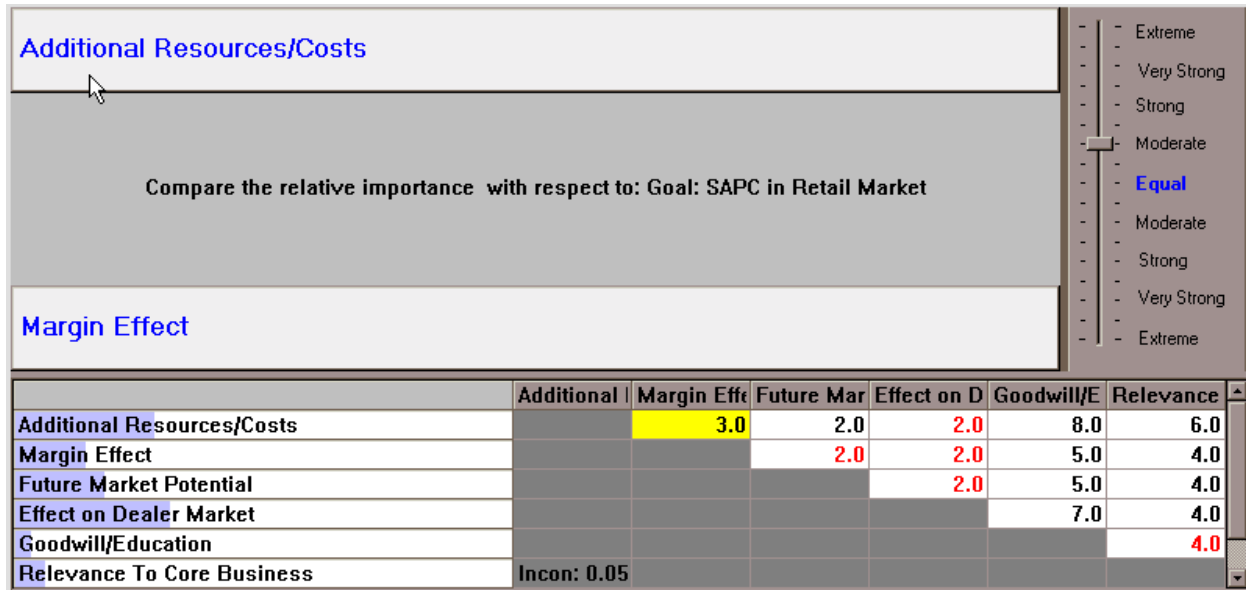
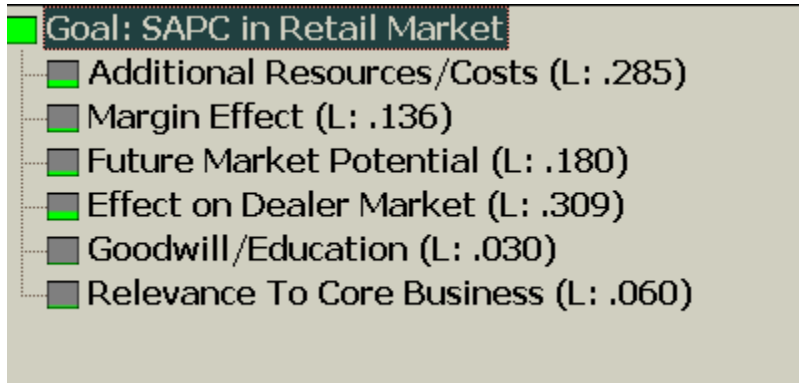


Figure 1 demonstrates the comparison between Additional Resources/Costs versus the Margin Effect. The figure, using verbal comparisons, shows that it is moderately more important to decrease current Additional Resources than enhance Margins.

This same verbal comparison method was used to compare each of the objectives. The derived weights are shown both numerically and visually in Figure 2.

Figure 2

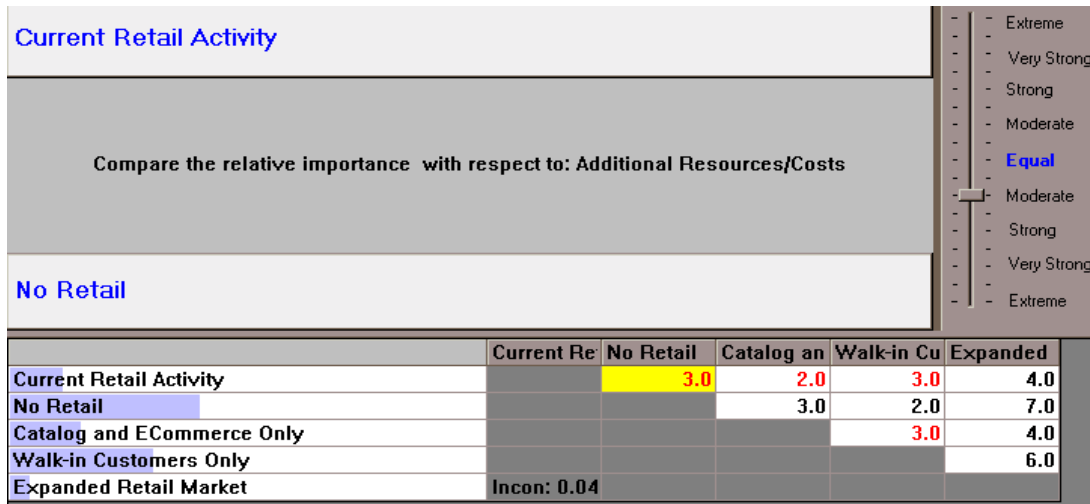


The Effect on the Dealer Market was shown to be the most important objective with a weight of .309 (31%). Additional Resources/Costs were a close second with weight .285 (28.5%). Margin Effect and Future Market Potential weighed in at .136 and .180 respectively. And, Goodwill/Education and Relevance to Core Business were not as critical at .03 and .06 respectively.

Comparing Alternatives with Respect to Objectives

After determining the relative weights of the objectives, Expert Choice was used to compare alternatives with respect to each objective. Again, pairwise comparisons were made. The following four Figures from the model demonstrate the comparison process.

Figure 3



In this specific pairwise comparison it shows that the additional costs would be lessened by a moderate degree with No Retail versus the Current Retail Activity. In the bottom bar graph it also demonstrates that No Retail has clearly the greatest positive effect on lessening Additional Resources/Costs.

Pairwise comparisons can be made verbally, graphically or numerically. In general, the verbal model was used in this project. However, in subsequent figures both the graphical and numerical comparisons are also demonstrated.

Figure 4

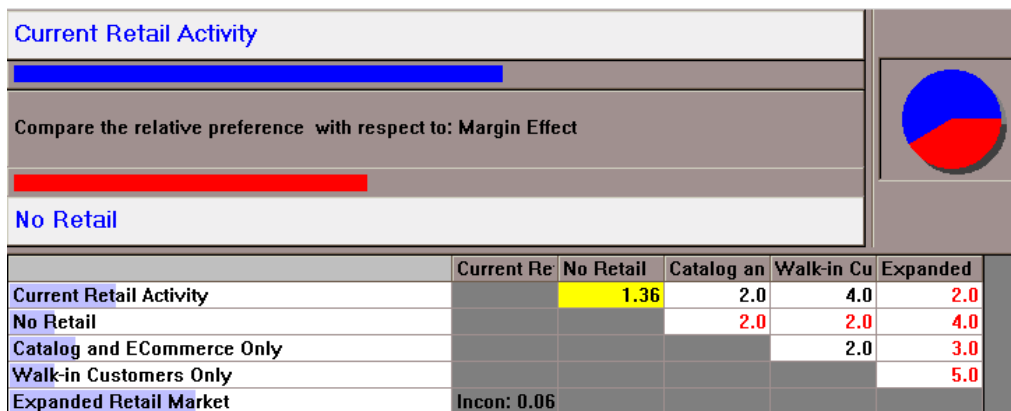


Figure 4 is the pairwise judgement made between the alternative Current Retail Activity and No Retail with respect to Margin Effect. This judgement shows that Current Retail Activities will produce a greater margin effect than No Retail. And, the bar graph at the bottom of the figure shows that the Expanded Retail market produces the greatest positive Margin Effect.

Figure 5

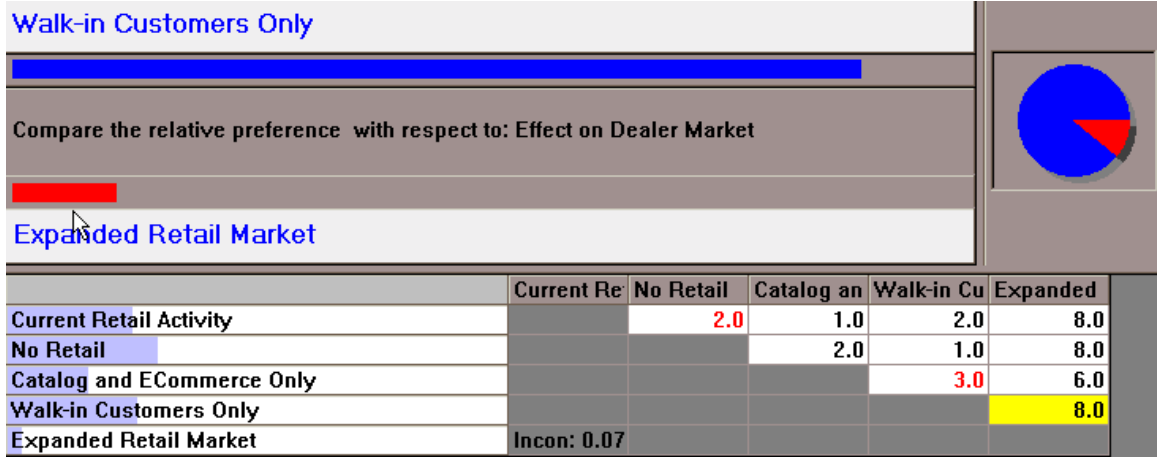
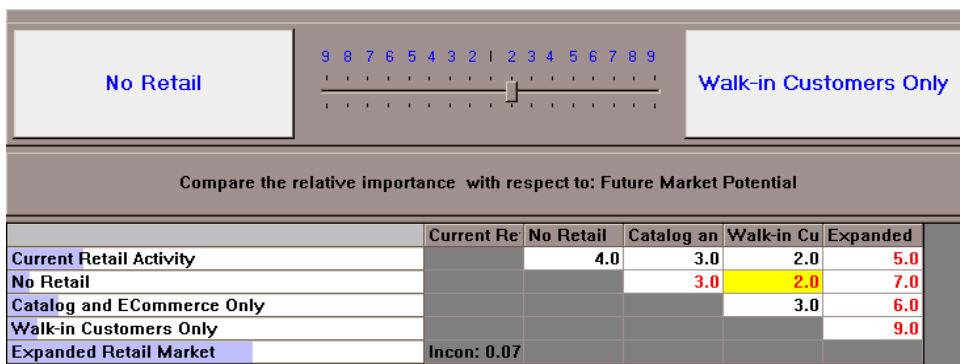


Figure 5 compares Walk-In Customers Only alternative with Expanded Retail and their relative effect on the Dealer Market. Shown by the comparison, Walk-In Customers Only effects the dealer market eight times more positively. And as shown by the bar graph, No Retail has the best Effect on the Dealer Market.

Figure 6



The final pairwise comparison demonstrates that Walk-in Customers Only is a slightly better alternative than No Retail with respect to Future Market Potential. While the bar graph below demonstrates the results of all the comparisons for the Future Market Potential objective; Expanded Retail Market clearly has the greatest effect on Future Market Potential of all the options.

Results

The results of all the pairwise comparisons are demonstrated below in figure 7. With Additional Resources and Costs being the most heavily weighted objectives at 28.5% and 30.9% respectively, the No Retail option is the best Alternative for SAPC.

Figure 7

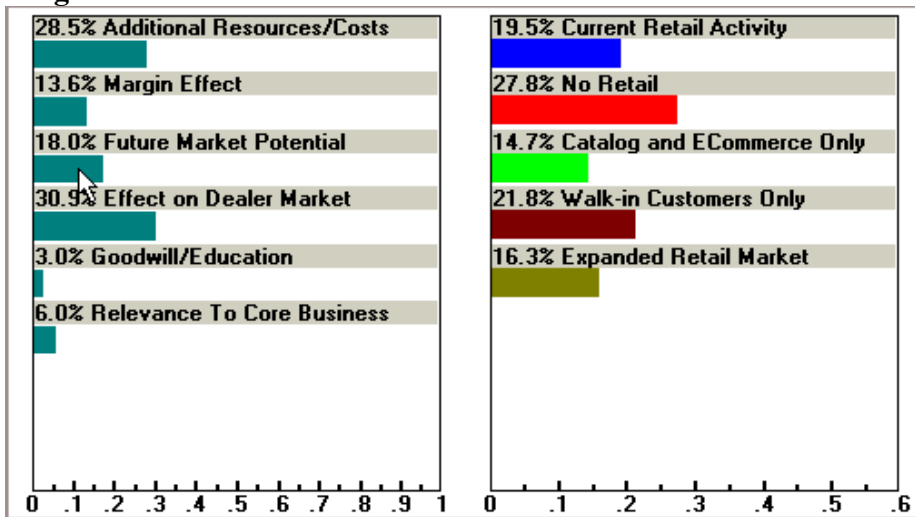
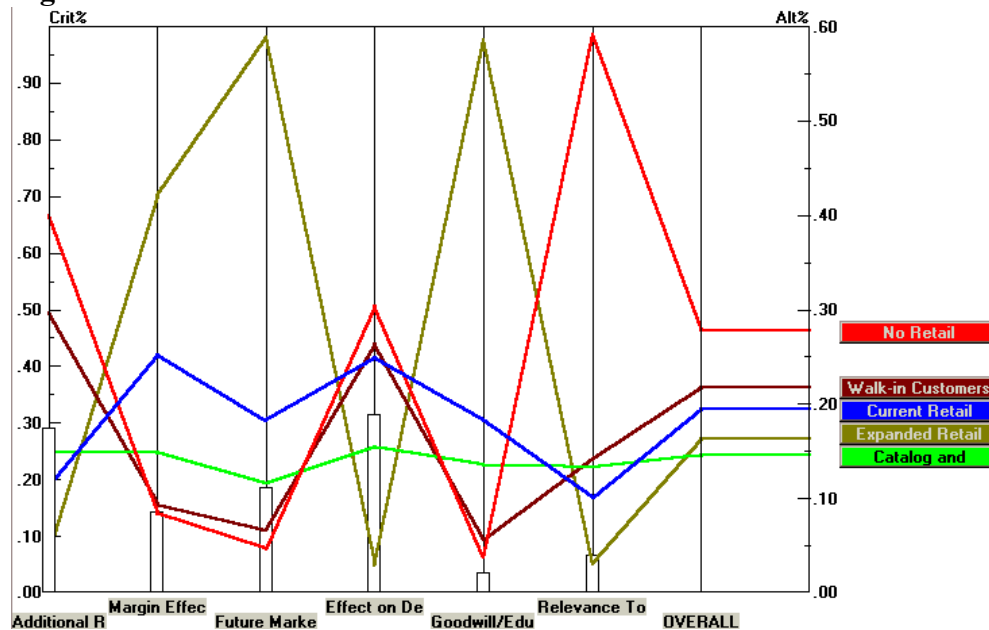


Figure 8 is a sensitivity analysis graph, demonstrating again that No Retail is the clear choice with Walk-In Customers Only being the second best choice. Even though No Retail rates low with respect to the Margin Effect and Future Market Potential objectives, it still is the clear choice.

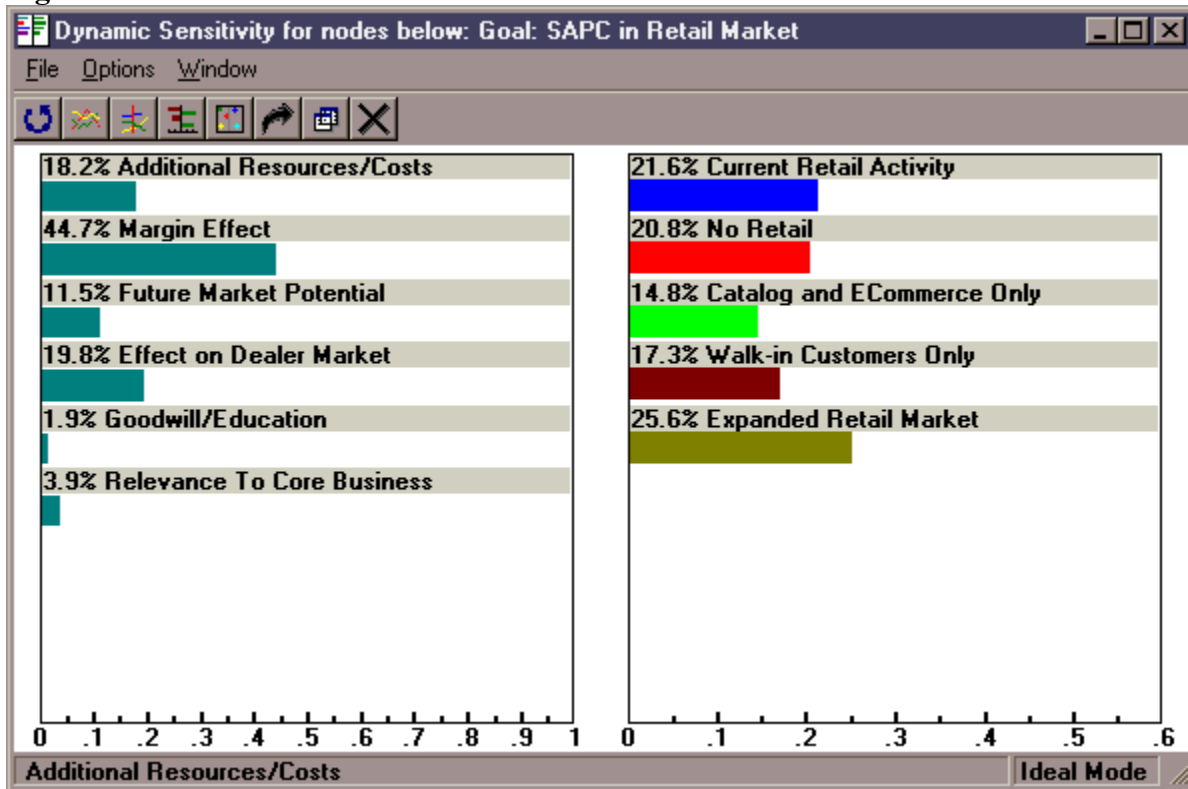
Figure 8



Changing Priorities

The Dynamic Sensitivity Graph below demonstrates how the results would change if the priorities of SAPC changed. If the Margin Effect objective is deemed more important, in Figure 9 raised significantly to 44.7% from 13.6%, then Expanded Retail Market would be the Alternative that would best suit SAPC's needs. However, as the weights derived were deemed suitable, SAPC should choose the No Retail option.

Figure 9



Feedback

According to the model, SAPC should disengage all retail activities. This is graphically demonstrated in Figure 10 below; No Retail is the clear choice. This paper and the model results were presented to the President of SAPC in late October. The President agreed with the choice of objectives, alternatives, and the weights subscribed to them. He stated that the model would be an effective tool to demonstrate to SAPC's Board of Director's why the company should exit the retail market. The paper and model will be presented to the Board at their January meetings.

Figure 10

