G’bye Yellowjacket
Strategic Marketing Plan

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Executive Summary

This report contains the results of our work on the Strategic Marketing Plan for Donahue Environmental Products' (DEP) two new insect traps: G'bye Fly and G'bye Yellowjacket. The report develops and then analyzes some marketing alternatives and makes the following recommendations:

- **Price**
  Set the price of the traps at $9.95 MSRP with refills at $4.45.
- **Promotion**
  Embark on a three-pronged promotion campaign:
  - "Seeding": Send free samples to households in California.
  - Coupons: Include coupons for the refills in the product.
  - Advertising: Devote advertising dollars to in-store displays.
- **Distribution**
  Pursue an aggressive distribution strategy which targets a wide range of ways to reach the consumers.

Background

General Information

The Company

Paul Donahue wants to say "G'bye" to yellow jackets and flies. Three years ago, Mr. Donahue founded Donahue Environmental Products Inc. (DEP) to produce and market his idea for a new line of insect traps. With research and development behind him, he is in the initial stages of selling his two products, "G'bye Yellowjacket" and "G'bye Fly." DEP uses Asian plastic products manufacturers to supply the traps and American companies to supply the attractant. Mr. Donahue contracts with another company to package the products.

The Product

Mr. Donahue worked with entomologists in developing the products' designs and the secret formula for the insect attractant. These products attract insects in order to trap them. The attractants are made from organic materials, and have been proven to attract and trap the two types of insects by the United States Department of Agriculture. The yellow jacket attractant comes in two "flavors" corresponding to regions of the US.

The traps consist of four plastic components and the insect attractant. The consumer assembles the plastic components and places the attractant in the designated chamber. The instructions are very simple and the product can last for two to three weeks covering a twenty five square feet area. The trap is reusable so the consumer can purchase attractant refills, also provided by DEP. A piece of promotional literature with a picture of the two products can be found in Appendix A.

The trap is for outdoor use. The trap *attracts* insects, it does not just trap insects that fly by. Also, the aroma is not very pleasant, even though it does not have an strong odor. Potential consumers are people living in houses with gardens or people going outdoors and staying in one spot for prolonged periods, such as camping or fishing trips or picnics.

The Industry

The most direct competitor to DEP is Sterling Products, which produces both a yellow jacket and a fly trap. Sterling is a privately held company that has been in business for approximately six years. Other competitors include SureFire, Inc., which makes disposable traps; and the companies

that make flypaper. A broader industry definition will show electronic bug "zappers" and insecticides as substitutes for these products.

Using Michael Porter's framework for analyzing the "Five Competitive Forces" of an industry, we discovered the following insights into the yellow jacket and fly trap markets.

- **Competitive products** are either high cost or cheaply made.
- The biggest barrier to entry for new products is the **access to distribution channels.**

The complete Porter Five Forces analysis and diagram can be found in Appendix B.

Problem Statement

Current Challenge

As explained above, the products are ready for the market. Mr. Donahue faces a very broad question, "What should I do to make this business a commercial success?" One way to approach this general question is to prepare a Strategic Marketing Plan, identifying good alternatives, performing analysis, and then choosing the best alternative. The following section explains what we mean by a "Strategic Marketing Plan," and why each of the elements of it are important.

Strategic Marketing Plan

A strategic marketing plan can be prepared considering the four marketing guidelines:

- **Product**
  The Product has just been through the research and development stage and therefore will be considered as is.
- **Place**
  The Place for the initial stage should be a geographical area small enough to allow the company to test its ability to respond to customer demand and consumer acceptance, but large enough to generate enough revenues to start preparing for a national and possibly international stage. Taking into account a possible weather seasonality pattern for the sales of these traps, the initial market should be one favorable for the sales for as much of the year as possible. Considering all these factors, we chose the state of California as the geographical target for this analysis. In addition, DEP is located in Mountain View, CA.

  Given the geographical definition, there remains the problem of making the product available to the consumer. To make the product available a distribution system must be established. Choosing the best distribution alternative is a major decision addressed in this analysis.

- **Price**

  Having the right price can optimize profit levels. The task of pricing a new product can be difficult and thus defining a pricing strategy becomes another major decision.

- **Promotion**

  Finally introductory promotion considerations must be made such that the consumer will know there is a new solution for an old problem. Deciding to implement a promotion that can be cost effective is the last major decision to be considered.

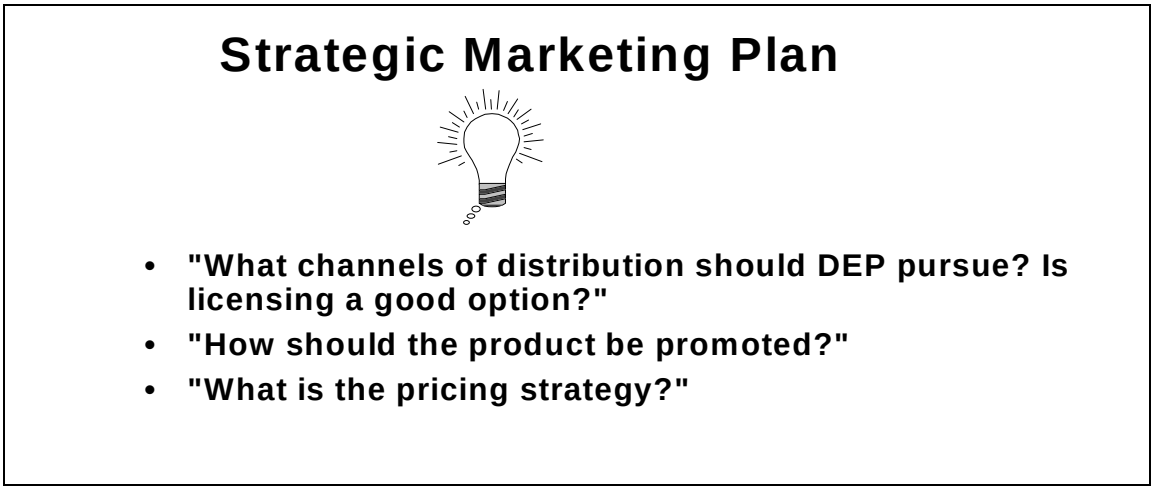


Figure 1: Strategic Marketing Plan

Analysis

Analysis Methodology

This analysis uses a Decision Analysis (DA) framework: the decisions will be made by enumerating alternatives and uncertainties, assessing probabilities, and comparing value measures. As Figure 2 below shows, we also used a variety of conceptual and informational tools to support the DA process. This section on Analysis Methodology will briefly explain how the techniques used together help analyze the major decisions identified.

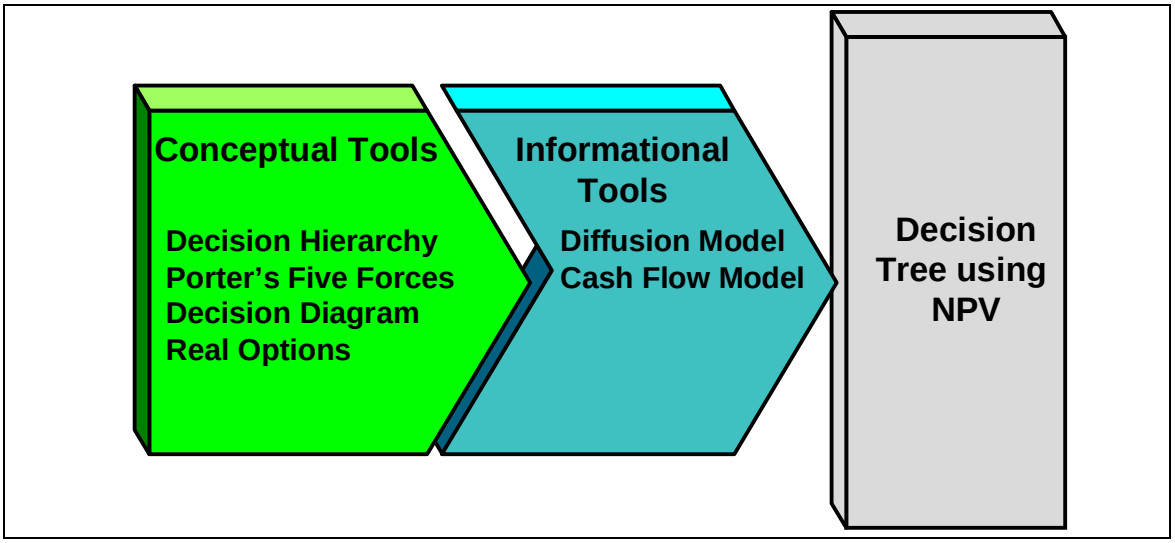


Figure 2: Tools of Analysis

Conceptual Tools

The conceptual tools helped us get a handle on how to approach a Strategic Marketing Plan. The following points summarize how we used each of the conceptual tools shown in Figure 2. The Porter Analysis, Decision Hierarchy and Decision Diagram can all be found in Appendices B and C.

- **Understand the industry with the Porter Five Forces analysis.**
  The Porter analysis emphasized the importance of product differentiation and distribution channels. In addition, based on the Porter analysis, we have decided to not consider the uncertainty of bargaining power of suppliers in our industry. The analysis showed us that suppliers have little power in our case.

- **Frame the problem with the Decision Hierarchy.**
  This tool was very useful in defining the scope of the analysis. As issues came up in our discussions with Mr. Donahue, we would place them either in or out of the analysis. For example, this tool helped us decide to treat the product "as is."
- **Identify the key uncertainties with the Decision Diagram.**
- **Generate alternatives through brainstorming and the "Real Options" approach.**

Informational Tools

Our modeling efforts are directed at complementing our Decision Analysis. The models themselves are explained in more detail in the Analysis Structure section of this report.

- **Forecast sales using a Modified Bass Diffusion Model[1].**
  The ideas behind the new product diffusion models will give us information regarding sales for our decision tree. We feel that this model is a better way to generate this information than direct assessment.
- **Project cash flow with a Cash Flow Model.**
  We will add a cash flow component to the new product diffusion model.

Decision Analysis Framework

While the tools described above help us *understand*, the decision tree will help us *decide*.

- **Compare alternatives through Net Present Value (NPV) of profits over 18 months.**
  Given that these are new products being produced by a new company with the manufacturing process under contract, and with funding and retail acceptance uncertainties, the period for the initial stage should be between one and two years with 18 months as an attractive alternative.
- **Examine the sensitivity of the analysis to selected information.**
  We will examine the sensitivity of the NPV to the uncertainties identified in this model: Market Size and Consumer Awareness. We will also examine the dependence of the value on the decisions made.

[1]The Bass model refers to the New Product Diffusion Model developed by Frank Bass, explained in Handbooks in Operations Research and Management Science, (Marketing, Chapter 8) Nemhauser and Kar, eds. 1993.

Explanation of the Alternatives

This section explains the alternatives for each of the three decisions: price, promotion, and distribution. It explains the alternatives we are considering for each decision and how we generated the alternatives. In order to give structure to this broad problem, we invested a lot of effort in developing creative alternatives.

Price

Generating Pricing Alternatives. DEP is considering two pricing alternatives: $4.95 and $9.95 manufacturer's suggested retail price (MSRP), with corresponding refill prices of $2.40 and $4.45. These alternatives were generated using the following reasoning:

- **Choose two different levels of profitability within a competitive range.**
  The competitive traps are sold in a range of $5.00 to $20.00. These two price alternatives are at the low and medium parts of this range, but still allow acceeptable margins. Working backward from the product cost information, the $4.95 and $2.40 prices represent a 30% margin for traps and a 10% margin for refills and the $9.95 and $4.45 prices represents a 70% margin on both traps and refills.
- **Choose two levels that make a difference to the consumer.**
  We feel that these two prices are different enough to make a significant difference in the probability of a consumer trying the product, an important consideration in our sales forecasting model.

Pricing Alternatives List. These are the alternatives we analyzed for the pricing decision:

- **$4.95 and $2.40 MSRPs** for the traps and the refills, respectively
- **$9.95 and $4.45 MSRPs** for the traps and the refills, respectively

Promotion

Sales of these new products can be seen as a result of consumers acting as *innovators*, people driven by an external influence to buy the product, or *imitators*, people influenced by word of mouth to buy the product.

Generating Promotion Alternatives. With this distinction in mind, we developed three promotional strategies to increase imitators and innovators:

- **Seeding**
  Sending free samples to a small segment of the population creates a base of innovators and therefore increases the number of imitators.

- **Advertising**
  Advertising works to increase the number of innovators by exposing new consumers to the product. In addition, it increases the number of imitators by reinforcing the word of mouth message.
- **"In-package" coupons**
  This promotion encourages innovators and imitators to become repeat buyers.

As additional strategy that we considered and rejected was an "on-package" coupon. We rejected this idea because we felt it gives the impression of overpricing the product. The following paragraphs explain in more detail each of the promotion ideas that we did consider.

Seeding. The seeding promotion involves sending out free traps to potential customers by mail. It is a powerful strategy because the products have been proven to work and seeding is a relatively inexpensive endeavor. Seeding specifics:

- **Scope**
  Send 1250 traps. This number represents .0002% of the approximately 6.5 million detached homes in California.[2]
- **Cost**
  The total cost of seeding is approximately $4,375. This figure comes from an estimate of $3.50 per trap including the cost of the trap, mailing, and administrative costs. We have ignored the opportunity cost of lost sales because of the small number of traps.
- **Timing**
  This promotion should be implemented at the same time as introducing the product into retail outlets. Ideally, it would be done in early summer to take full advantage of the hot weather.

Advertising. The seeding promotion explained above will introduce the products to some customers. In order to inform more potential customers about the products, we considered various methods of advertising. Radio, television, magazines, newspapers would require a large budget in order to cover this broad market. Another promotion idea is in-store advertising. By carefully choosing an adequate and informative display, DEP can be effective in reaching more people and in being cost efficient. Advertising specifics for the 100% advertising level:

- **Display characteristics**

[2]US Department of Commerce, Bureau of the Census, Document STF-3A

Use the colorful packaging box for display, and provide a high cardboard display case on which to stack the boxes. Try to place the display in a busy place in the store.

- **Cost**
  After interviewing several managers from Safeway and Ace Hardware stores, we found that there is no cost to display the product. Targeting 25% of the points of sale results in 1729 outlets. At $2.00 per display case, the cost is $4,780.
- **Timing**
  The advertising campaign should begin one to two months after the seeding campaign.

Coupons. The coupon promotion involves placing a $.50 or $1.00 off the purchase of a refill in the trap package, for the low price and high price respectively. Coupon specifics:

- **Couponing plan**
  100% of the products sold for the first 3 months will include coupons.
- **Impacts**
  This promotional strategy reduces the expected revenues for refills by 25% but increases the probability of product adoption.

Promotion Alternatives List. The alternatives we considered for promotions are

- **High promotion**
  A high promotion level includes the coupon, the seeding promotion, and 100% of advertising.
- **Medium promotion**
  A medium promotion level includes the coupon and 50% of the advertising budget.
- **Minimal promotion**
  A minimal promotion level includes 50% of the advertising budget.

Distribution

Generating Distribution Alternatives. Generating distribution alternatives was a difficult task. The general *categories* of distribution alternatives are listed below.

- **License the product.**
  Licensing agreements can take various forms, but the general idea is that another party handles the manufacturing and distribution of the product, and DEP receives royalties. DEP could seek a licensing agreement now or wait some period of time and then look for this type of agreement.

- **Use direct mailings to households.**
  This is the avenue that DEP is currently using to sell the products. There are a limited number of direct mail brokers, and they like to take on products with proven track records.
- **Use one or more middlemen.**
  This innocuous sounding category generates a huge number of possibilities of feasible distribution channels. Figure 3 illustrates the possibilities. The numbers in parentheses represent the approximate bite that each middleman takes out of profit.

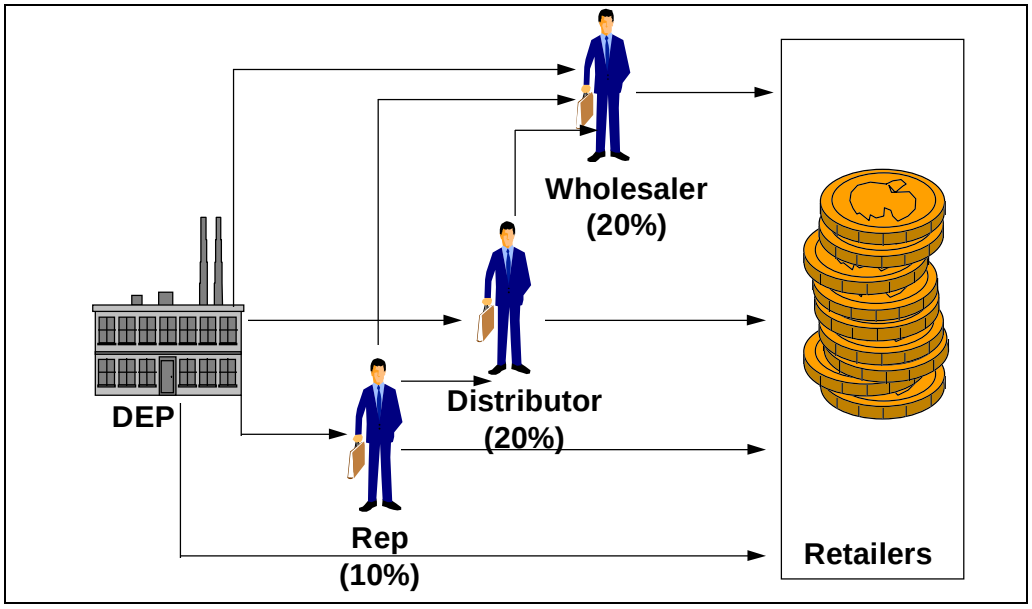


Figure 3: Distribution Middlemen

From the multitude of possibilities, we picked a few good alternatives. The steps of the process to select those alternatives are outlined below. Figure 4 shows a some of the information used in this process. The rest of the data can be found in Appendix D.

- ***Step 1.*** Identify retailing opportunities.
- ***Step 2.*** Match retailing opportunities with distribution channels.
- ***Step 3.*** Set penetration targets for each of the retailing opportunities.
- ***Step 4.*** Evaluate entrance difficulty factors for each of the opportunities.
- ***Step 5.*** Select alternatives that span the range of distribution efforts.

Step 1, identifying retailing opportunities, involves developing a customer profile. The potential consumers are people living in houses with gardens or people going outdoors and

staying in one spot for prolonged periods, such as on camping or fishing trips or picnics. Therefore a first step in defining the consumer profile and thus determining a primary market target would be to consider the people buying products for gardening and other outdoor activities. The retailing opportunities listed in Figure 4 are places that such a person is likely to shop.

The results of ***Step 2*** are shown in Figure 4 below. The matching was done using the following rules of thumb: a sales representative is better for stores with high sales potential per establishment; distributors and wholesalers are themselves large customers which can profitably serve smaller potential points of sale. We developed the following table as a guideline in generating distribution alternatives.

Point of Sale	**Distribution Channel**	**Penetration Target**
Discount Stores	Sales Representative	20.0%
Hardware Stores	Sales Representative	25.0%
Lawn and Garden Stores	Sales Representative -- Distributor/Wholesaler	25.0%
Sporting Goods Stores	Sales Representative -- Distributor/Wholesaler	22.5%
Grocery Stores	Sales Representative -- Distributor/Wholesaler	15.0%
Pet Stores	Sales Representative -- Distributor/Wholesaler	25.0%
Direct Mail	Sales Representative	22.5%

Figure 4: Retail Opportunities and Distribution Channels

We strongly discourage a distribution channel with more than two elements for the introductory phase because

- Profit would be diminished and cash flow is an important consideration for growth
- End consumer contact with the manufacturer could be hampered

Step 3 involved identifying a penetration target (number of stores carrying the products/total number of stores) for each retailing category. The results of this step are shown in Figure 4 above. In general, we decided to concentrate efforts on penetrating the top 15-25% of stores (measured in sales) in each retailing category. The reason for this decision is that the largest stores will do more than proportional share of sales. For example, a marketing rule of thumb for many industries is that 80% of the sales in happen in 20% of the stores.

In ***Step 4***, we examined the entrance difficulties for each of the potential points of sale. For example, the grocery stores have a higher than average entrance difficulty because they charge for shelf space because they depend on high inventory turnover for profits. Due to this difficulty, we adjusted the penetration target of grocery stores down to 20%. Additionally, in order to sell at any location charging up front fees, DEP should guarantee that profits from expected sales there cover all of the charge.

Finally, in ***Step 5***, we selected three alternatives that spanned a wide range of effort and investment in distribution. The actual alternatives are enumerated below.

Distribution Alternative List. In summary, these are the alternatives we analyzed for the distribution decision:

- **Seek a licensing agreement now.**
- **Seek a licensing agreement in 18 months.**
- **High distribution**
  High distribution includes targeting all six retailing opportunities as well as direct mail.
- **Medium distribution**
  Target all but grocery stores, due to the higher entrance difficulty factor.
- **Low distribution**
  Target only discount, hardware, and lawn and garden stores and direct mail.

Variable Definitions

The branches of the decision tree are determined by the alternatives and the uncertainties. The previous section explained and enumerated the alternatives in the analysis. This section explains the uncertainties considered, as well as other factors that are determined by the model or by assumptions. These factors were identified using the original Decision Diagram, which can be found in Appendix C.

Consumer Awareness

Definition. Consumer Awareness is defined through product and brand recognition. The variable represents the number of people who recognize the brand out of 100 randomly selected people from the target market.

Degrees.

- **High:** at least 70 have heard of the brand
- **Medium:** at least 35 have heard of the brand
- **Low:** less than 35 have heard of the brand

Data. Note that this analysis does not actually involve measuring the consumer awareness through these surveys. Instead, Consumer Awareness is one mechanism that allows us to think about how distribution, promotion, and pricing decisions influence sales.

Market Size

Definition. The market size is the number of people in California who would consider buying this product.

Degrees.

- **Maximal:** 6 million
- **Most probable:** 4 million
- **Minimal:** 2 million

Data. We are using information on the number of detached households above the poverty line in California to estimate the market size.[3]

Competition

Definition. It is likely that the competitors will not significantly change their competitive positions in the time frame of this analysis. The reasons for this assumption are

- DEP is a small, capital-poor and therefore non-threatening entrant
- There are many ineffective products in this market.
- The time frame is short.
- Sterling Products, the leading competitor, has had a passive marketing strategy for the six years of its existence.

Sales

Definition. Sales level is the number of units sold by month in the state of California, for the eighteen month horizon of this analysis.

Degrees/Data. The information on sales comes from the new product diffusion model, which is explained in detail in the "Analysis Structure" section below. Sales is completely determined in the New Product Diffusion Model by the branch of the decision tree (including the three decisions,

[3]US Department of Commerce, Bureau of the Census, Document STF-3A

Consumer Awareness, and Market Size). Sales level is still an uncertainty, because what is uncertain is how well the model applies to the real world.

Costs

In this model, costs are completely determined once a distribution and a promotion decision have been made, given that the supplier structure will not be modified for the period under consideration. The cost information is highly confidential.

Revenues

Revenues are determined by multiplying the sales figure by the price.

Discount Rate

We used an annual rate of 6% return.

Analysis Structure

The Analysis Methodology section of this report explained the tools we used in the analysis: conceptual and informational tools within the DA framework. This section goes into more detail on the informational models, how we got the inputs to those models, and how we used the outputs from those models in the decision tree.

Product Diffusion Model Modifications

The product diffusion model for traps and refills is based on the basic Bass model with some modifications. (Refer to Appendix E for the formulation of the model.) The extensions included in our model are

- **Monthly sales data instead of yearly**
  Because of the relatively short time horizon and the seasonal nature of sales, we have adopted the model to forecast month sales. Each month is assigned a "seasonality factor," normalized to a mean of one over the year. The month of May has a peak of 1.25 compared to the low point of .7 in February. The seasonality factor is used in the model to adjust the market size.

- **Price as an input**
  Our incorporation of price into the model was motivated by the analysis of Jain and Rao[4]. Of the three models in their paper, we have used the one that best fit the data for can openers (in the $15-$30 range), instead of the ones that fit the durable product (over $100) data. This model captures the effects of price through the probability of the consumer ever adopting the product. In addition, we feel that a consumer's price sensitivity will affect his chances of being an innovator or an imitator with these products.
- **Refills and traps**
  Refills are considered separately from product sales. Some of the consumers will become product "adopters" and purchase refills consistently. Refills are purchased by the product adopters at a rate of one package per month.
- **Cash flow component**
  The basic Bass model tracks only sales. We have added a cash flow component which tracks revenues and expenses. Our cash flow model calculates the NPV based on the expected revenue and cost. The cash flow model gives us a NPV depending on three decisions regarding distribution, promotion and pricing.

Model Inputs and Outputs

Figure 5 shows the structure of the decision tree used in this analysis. The picture will be helpful in understanding how we got the inputs to the New Product Diffusion model and what we did with the outputs.

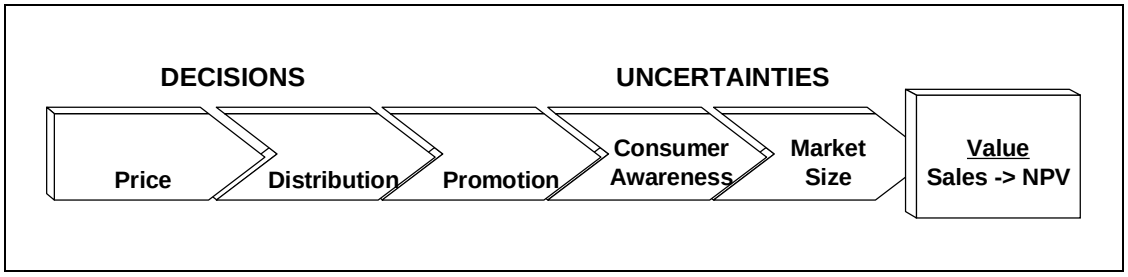


Figure 5: Decision Tree Structure

[4]"Effect of Price on the Demand for Durables: Modeling, Estimation, and Findings." Journal of Business and Economic Statistics, April 1990, Vol. 8, No. 2.

Inputs. Figure 6 shows the input parameters to the product diffusion model and how they depend on the variables in this analysis. The base values of the parameters were taken from Frank Bass' original model, but modified to represent monthly, instead of yearly, values.

Input	**Modified by:**
Coefficient of Innovation	Price, Promotion, Distribution, and Consumer Awareness
Coefficient of Imitation	Price, Promotion, Distribution, and Consumer Awareness
Market Size	Market Size
Price	Price
Distribution Profit Reduction	Distribution
Margin/Unit	Price, Promotion, and Distribution
Promotion Cost	Promotion

Figure 6: Inputs to the Informational Model

Outputs. The new product diffusion model gives a sales forecast. The sales forecast is used in the cash flow component to give NPV, which is a useful value measure for DEP. The steps to calculate the NPV are outlined here. (Appendix H contains a hard copy of the spreadsheet used in the analysis.)

- **Setting inputs**
  Set the inputs to the model according to the degrees and alternatives on each branch.
  Adjust the inputs (innovation, imitation, and probability of adopting) for seasonality.
- **Keeping track of sales**
  Keep track of the total number of trier (innovators and imitators) and adopters.
  Assume that adopters buy refills every month and a new trap every six months.
- **Calculating NPV**
  Using the margin information, calculate NPV. Take the expected value to compute the NPV for each alternative.

Evaluating Licensing

Analyzing the licensing alternatives requires an understanding of what licensing offers to DEP. The first thing to consider is defining licensing. We are considering two types of licensing arrangements.

- **Franchising**
  This alternative involves granting a franchisee an exclusive right to sell DEP products in a particular region. The franchisee would initially pay a lump sum to buy this right. DEP would

manufacture and supply the product at a lower price. The franchisee would market the product. Essentially, the franchisee works as a major distributor. Although DEP may lose some profit by lowering price, it could make up for this loss through saving in distribution cost and sharing the cost of promotion. This makes franchising an attractive option if DEP wishes to expand to other regions without investing in the infrastructure.

- **Granting manufacturing and commercialization rights**
  This alternative grants a company the right to manufacture and to commercialize the product for a price. In addition, DEP may or may not receive a percentage of the sales as a royalty. This alternative is viable if the price for the right is large enough to compensate for potential earnings in the future. This option can also be considered if DEP has no funding to manufacture, distribute, and promote the product at all. DEP can then at least sell its product idea to a company.

Findings

Results

The primary result from the analysis is the NPV for each of the price-promotion-distribution alternatives. This information indicates the recommended course of action. In addition to this recommendation, here we present some other insights from the analysis.

Recommended Alternatives

The following alternatives yield the highest value measure:

- **Price:** $9.95 MSRP for the trap and $4.45 for the refill
- **Promotion:** High promotion level: seeding, coupons, and displays
- **Distribution:** High distribution level: wide coverage

The expected NPV for following this course of action is $740,000. In fact, there is a 50% chance of being over $800,000. (Refer to Appendix F for the "Cumulative Value Lottery.")

Figure 7 shows the expected sales in units for this best alternative.

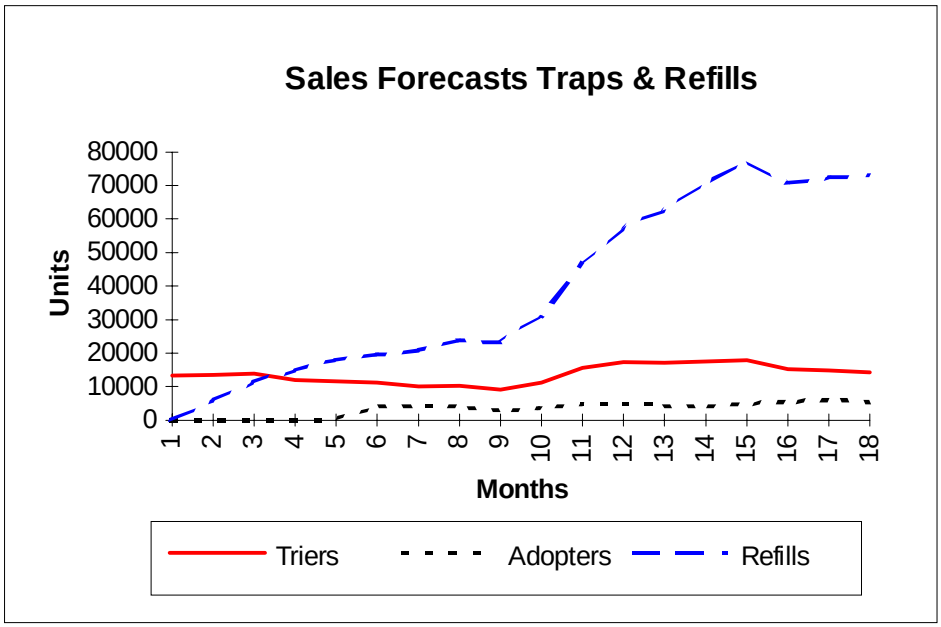


Figure 7: Forecasted Sales with the Best Alternative

Notice that the sales fluctuate seasonally. Refill sales grow dramatically because they depend on cumulative triers.

Rejection of Licensing

Given that the best alternative now yields a margin of approximately 70%, a potential buyer must match this margin on strong expected sales of DEP products in the future. If the buyer can not match this margin, then the buyer should pay a lump sum instead. However, given the low brand awareness of the DEP products, it is not likely that a investor would recognize the strong sales expectation. Therefore, DEP would have a hard time finding a potential buyer who would willing to pay 70% margin on expected sales or a lump sum to equal that.

For the next 18 months, DEP is not considering expanding beyond California. Since the franchising type of agreement is more appropriate for a national expansion, this alternative is not attractive in this time frame. The manufacturing and commercialization rights type of agreement is not viable because DEP *does* have the resources to continue operating. In addition, if the result from our best alternative is considered, DEP could at least obtain $50,000 NPV per month without further growth. This sale growth can continue for a long period of time. Therefore, we can analyze this NPV stream as a perpetual annuity, thus obtaining a value of $10,000,000. given a rate of 0.5%. It is highly improbable that DEP could find a buyer of this licensing who is willing to pay $10,000,000.

Other Insights

- **"Worst case" scenario**
  Picking the worst alternative has an NPV of $94,000. This alternative is the low price, low distribution, and high promotion combination. This combination should be avoided because it creates an unfortunate marketing situation: one with high consumer awareness, but low distribution. In this scenario, the consumers know about the product, but do not have access to it.
- **High or medium promotion dominates low promotion.**
  High or medium promotion is always best no matter what the other decisions are. In other words, given any combination of pricing and distribution alternatives, the low promotion alternative is never optimal. The complete decision tree in Appendix F shows this interesting point clearly.
- **Higher margins make up for lower sales.**
  Even though the number of units sold is higher at the low price alternative, the higher margin with the higher price makes it more profitable.

Sensitivity

The first two insights above, regarding the worst case scenario and promotion, emphasis the importance of the Consumer Awareness uncertainty with these new products. The values of the alternatives are very sensitive to Consumer Awareness. Appendix G contains the deterministic sensitivity analysis (i.e., the "Tornado Diagram") which illustrates this point.

We examined the sensitivity of the result to the pricing decision. Given the best distribution and promotion alternatives, the difference betwee the high and low pricing alternatives amounts to $442,000.

Next, we looked at the effect of the distribution decision on the value. Given high pricing, the difference between the best and worst distribution alternatives is $304,000. Given low pricing, the difference is $148,000.

Conclusions

Paul Donahue has spent three years investing of time and money in the G'bye Yellowjacket and G'bye Fly products. We predict that he will be quite successful if he continues to make calculated investments--specifically, investments that serve to increase Consumer Awareness about his products. In these concluding remarks, we present some reflections on our analysis, as well as a suggestion for further analysis.

Critique

Outstanding Questions. In order to give perspective to this analysis, we would like to point out questions that arose in the last few months, as well as what we feel are the real strengths of the work.

- **How good is good enough?**
  We used the New Product Diffusion Model as a way of forecasting sales by thinking about the different categories of buyers of a new product. Certainly, we acknowledge that the sales figures may vary from the predictions. One possible improvement would be to use initial sales data to further customize the model, instead of using the parameters suggested by the paper.

- What will be the **administrative cost structure?**
  In treating administrative costs, we deducted a fixed amount from the margin, but we did not explicitly model all the sources of administrative costs.

Strengths. The following points capture the value of this analysis.

- We have given **structure to a complicated problem.**
  The entrepreneur's question "What next?" is a difficult one to tackle. We have developed a systematic and analytical answer to this amorphous question.
- **Generated good alternatives.**
  In this analysis, a huge emphasis was placed on generating good alternatives. We wanted to ensure that we were asking the right questions, so that the answer was meaningful.

Further Study

The area of further study that we recommend is the development of more promotions to increase consumer awareness after the 18 month scope of this analysis. For example, DEP may consider some of the following ideas.

- A second round of the seeding promotion
- A more geographically focused promotion
- Having a review by Consumer Reports magazine[5]

Another type of investment in Consumer Awareness is market research, focusing on the acceptability, affordability and availability of the products.

[5]Thanks to Darren Donnelly for this idea.

Appendix A
Product Literature

Appendix B
Conceptual Tools

Porter Analysis: The Competitive Forces of the Insect Trap Industry

Threat of New Entrants (Entry Barriers)

Access to Distribution. Because the products are for large quantities of customers, the distribution channels play a very important role in this industry. The costs associated with distribution are high compared with the manufacturing ones. Furthermore the distribution plays a strategic role in this industry since there are some competitors in the market already. Understanding that any company that produces and/or commercializes any method effective and cheap enough to get rid of flies and/or yellow jackets is a competitor. That is one of the reasons why this analysis allocates a lot of attention to this issue.

Economies of Scale. The large amount of resources (time developing the product and testing its efficiency) required to provide the quality serve as one example of economies of scale. In addition, the huge volume that is required to compete in this industrial sector, since the optimal strategy is cost reduction, serves as a major barrier to entry.

Government Policy. The nature of the technology underlying the product plays a fundamental role, because the registration procedures and permits required vary from state to state as well as in different countries depending on the technology used and the consequences of its application. This represents an advantage for Donahue's products since they are organic and both have been registered already .

Expected Retaliation. The case of Donahue's products entering the industry implies competition with some low quality and high priced products, which represents an advantage to Donahue's products due to their high quality and low cost.

Proprietary Product Differences. Donahue's patents represent an additional advantage to build entry barriers against "clones" of his technology.

Intensity of Rivalry

The most important rivalry determinant in this industry is the product differences: Each competitor tries to exploit their product's features and for Donahue this represents the

opportunity to take advantage of the “environmental culture” that has been growing very fast in California, since the attractants are organic and the traps are reusable.

Determinants of Bargaining Power of Suppliers

Threat of Forward Integration Being High. Since the nature of the products within this industrial sector implies that the technology used plays a fundamental role, there is always the possibility of forward integration; once the patent is not valid anymore or the supplier figures out how to “avoid” the trouble with the “clone” product because of the patent, he has one of the most valuable components of the product, namely the “know how" (technology) to produce it.

Importance of Volume to Suppliers. In the case of components such as the attractant and/or the trap, the larger the volume, the better the discount the supplier can offer.

Determinants of Bargaining Power of Buyers

Buyer Switching Costs are Low. To switch method to get rid of the insects the client incurs a very low cost for the actual products in the market, as for example the trap cost for Donahue’s products.

Buyer information. The reputation of the products built with the word of mouth effects has a very important weight in the demand behavior, as well as the difference in prices. This is an important advantage for Donahue’s products since their price (including the only first time investment in the buying of the trap) is highly competitive.

Brand Identity. In order to compete against the established reputation of the leading products, Donahue’s products must be introduced in a wise way. A good strategy that complies with the design of the trap is to try to build a brand identity, in addition to advertising, promotions are a powerful way to develop it. Furthermore, other strategies would be price discounts carried out by dealers, and/or season based pricing strategies.

Product Differences. Quality plays a major role in the growing rate of the loyal customers, specifically features such as effectiveness, simplicity, and safety (side effects risk). Again Donahue’s traps have very competitive features as the ones mentioned above.

Substitutes

There exists threats from substitutes such as: insecticides, electrocutors and traps. The insecticide has the disadvantage of being toxic. The electrocutor is not safe enough to avoid accidents with children and requires an electric outlet, but - on the other hand - it can be used inside houses. Regarding this fact, it would be smart to take into consideration the analysis of developing attractants that are “nice smelling” for Donahue’s traps.

Decision Hierarchy

Which issues are given and which will be addressed?

Taken as Given:

- Stay in the insect trap business
- Sell the two existing products as is (no product changes)
  e.g. attractant packaging, label as they are now
- Current manufacturing, assembly, and supplier situation

Strategic questions to be addressed:

- Developing a Strategic Marketing Plan for the state of CA
  Channels of distribution
  Promotion
  Pricing Strategy (traps and refills)
- Is licensing the product an attractive option?
- What are the financing requirements of the marketing plan?

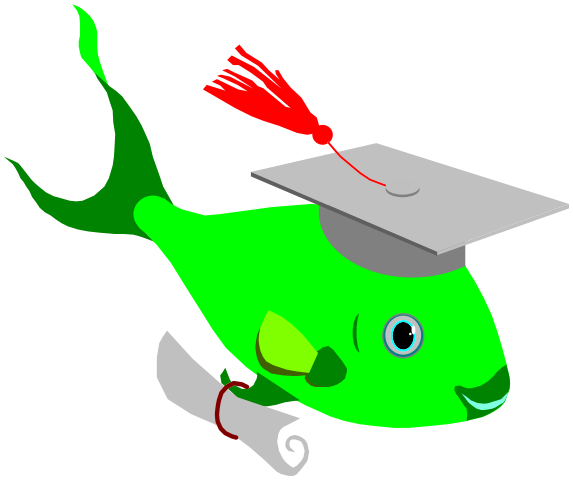
Operational issues outside the scope of the analysis:

- The name of the organization that will provide the financing

Appendix C
Decision Diagrams
and
Generic Decision Tree

Appendix D
Distribution Alternatives

Appendix E
Bass Model Modifications



Appendix F
Results

Appendix G
Sensitivity Analysis

Appendix H
Spreadsheet Analysis