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# **BEBR**

**FACULTY WORKING  
PAPER NO. 1048**

**Multiple Product Positioning: A Note  
on Incorporating Effects of Synergy**

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Multiple Product Positioning: A Note  
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### Abstract

This paper proposes formal models of synergy for incorporation into analytical methods for product-market planning. It is also demonstrated that some conventional inferences about multiple product performance might be substantially revised if synergies among such products are considered.



## 1.0 Introduction

There are several factors that affect the determination of the exact positions of entry of multiple-products into a market. Some of these are 1) consumer preferences, which has received the greatest attention in the marketing research literature, 2) competitive reactions, which has been modeled in the economics research literature using gaming behavior, and 3) product interaction, in the form of cannibalization and synergy. While potential cannibalization has been explicitly incorporated, the effects of synergy have not. Considerable synergies between products positioned in the same product market can be obtained through production, distribution and administration. Synergy from promotion is also possible, depending largely on the strategic decision as to whether such an effect should be developed. Thus, when a firm having multiple products in a product market is considering introducing a new product into this market or when a firm is thinking of introducing multiple new products into a market, it should incorporate not only the deleterious effects of cannibalization, but also evaluate and incorporate the positive effects (called synergy) between multiple products in its analysis. For example, consider the perceptual map used by Chrysler (Exhibit 1). General Motors Corporation (in this map) has five positions under the names Cadillac, Buick, Oldsmobile, Pontiac, and Chevrolet. In areas of highest expected profitable demand, it has multiple brands, e.g., Buick and Oldsmobile. We expect that taking advantage of the synergy from production technology from Toyota and GM, design from Toyota, plant facilities from GM, and marketing/distribution from both GM and

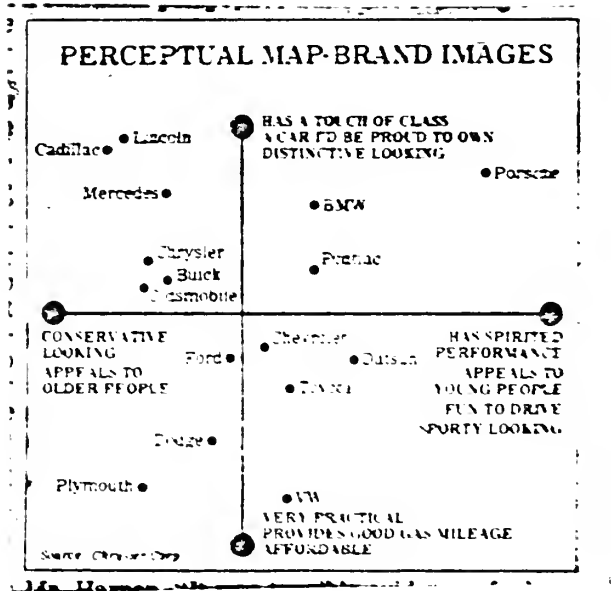


Exhibit 1

(Source: Wall Street Journal, , March, 1984.)

Toyota, the new GM-Toyota product will be in the southeast quadrant, competing more with the Datsuns and the Hondas. Obviously one would expect some cannibalization of their existing brand shares, but in the aggregate, considering synergy and capturing share from competitors (and a larger share of new consumers entering this market), the new portfolio of products in this market is expected to be more profitable.

In this paper, we discuss how these three factors, namely consumer preferences, competitive reactions and product interactions, can be jointly analytically modelled. Explicit forms for synergistic interactions are developed and a computational methodology specified for the calculation of the optimal positions of the products.

## 2.0 Brief Review of Literature

In the marketing strategy literature, several models have emerged for generating an optimal new product concept for a specified product market. Consumer preferences are modeled as being measurable using conjoint analysis--a special case of which is the ideal point model. See Shocker and Srinivasan (1979), Green and Srinivasan (1978), and Sudharshan (1982) for recent overviews of this literature.

Typically, the research in this area has conceived of the problem as one of optimizing, say, preference shares with resource allocation and technical feasibility modelled as constraints--a non-linear programming problem with non-linear constraints (Shocker and Srinivasan, 1974). Alternative solution procedures have been suggested [Albers and Brockoff (1979), Zufryden (1979), May, Shocker and Sudarshan (1983)] and their relative merits evaluated in simulated

market environments by May, Shocker and Sudharshan (1983). These methods, while being important contributions to this area of strategic market planning, need to consider some additional effects, namely the effects of possible competitive reactions and synergy, in their framework. (The deleterious effects of cannibalization have been explicitly modelled and accounted for in the objective function specified by Shocker and Srinivasan (1974)).

The fundamental work on product positioning in the economics literature came in the form of spatial location of firms. Hotelling (1929) modelled the markets based on homogeneous products, competitive reaction from firms based on gaming behavior and used the concept of equilibrium to generate optimum positioning strategies. Extensions of this basic work has been conducted by Leland (1974), Lancaster (1975) and Spence (1976). Lane (1980), building on Lancaster's work, models the consumer preferences based on two attributes of the product, perfect information availability and non-cooperative gaming behavior by the firms in deciding individual product characteristics and prices. However, he introduces a major assumption that all firms operate with perfect foresight which makes it unnecessary for any changes in strategy by any firm. Hauser and Shugan (1984) have built on Lane's work by introducing marketing variables, such as responsiveness of consumer demand to both advertising and distribution expenditures. They attempt to understand product market structures with emphasis and thrust on establishing the optimal strategy a firm should follow given that its product is being attacked by a specified new product. They do not, however, attempt to find the optimal new product strategy

(position, advertising effort, distribution effort and price). Also, their modelling of competition involves the reactions of only immediately local (adjacent) product firms ignoring the reactions of other firms in the market. This is a restrictive assumption and does not permit a complete understanding of the realignment of all firms' strategies after new product entry.

In the models considered so far (to the best of our knowledge), evaluation of products for new product entry is considered only for a single new product at a time. The market place (for consumer non-durable products and automobiles) is replete with firms having multiple products in the same product market (e.g., Procter and Gamble, Colgate Palmolive, General Foods, etc.). These firms also appear to have a policy for such positioning of multiple products in a given market. It appears obvious, therefore, that a priori knowledge is available that multiple products are to be positioned. Thus it is equally obvious that an attempt should be made to consider such multiple positions (if possible) simultaneously. Even in the case of single new product entering into a market where the firm has one or more existing products already, analysis has so far been restricted to incorporating the possible effects of cannibalization. The effects of synergy have not been explicitly incorporated in such models. In the strategic management area, Hofer and Schendel (1978) specify synergy as one of the four components of strategy, the others being scope, resource deployments and competitive advantages. They specify that synergy becomes very important at the business level and the functional level strategic planning with focus on product line, market

development and distribution, R&D and manufacturing system design. Abell and Hammond (1979, pp. 125-127) refer to this synergistic effect as "shared experience," as does Henderson (1979, p. 107), and state: "Opportunities for shared experience must be carefully sought, analyzed, and exploited to gain cost advantage over competition, especially in diversified companies. By focussing new product efforts where shared experience plays a major role, a firm can build diversity and strength."

In the next section, we will put together the factors that affect multiple-product entry strategies in an analytical model that draws on the existing marketing and economics research and adds to it explicit accounting for product-interactions and the computational solution method for obtaining equilibrium product positioning strategies.

### 3.0 The Basic Model

The situation that we would like to describe as the outcome of our model is that of a firm that introduces multiple products in the same product market. The basic model incorporates both the consumer choice problem and also the supply side strategy decision problem. Non-cooperative competition interaction between the actor firms is assumed. We also incorporate the effects of synergy between a firm's own products and permit firms to have objectives other than that of maximizing profit (for the latter, see Anderson (1983)).

We expect a natural limit on the number of products that a firm desires in a given market. The intuition behind this expectation is premised on the following logic:



1) The modelling of synergy as first decreasing costs with increasing number of products. However, beyond a critical point, managing several products becomes cumbersome and costs actually increase. This is consistent with the concept of the "focused factory" in production management (Skinner (1974), Schmenner (1983)). These would naturally limit the number of products that a firm might desire to position in any given market.

2) Use of return on investment (ROI) as the objective of the firm rather than profit. Consider a firm with just one product in a product market. Let its revenue be  $\Delta S_1$ , and let  $\Delta F_1$  be its fixed costs. With the addition of a second product in the same market, let its incremental sales be  $\Delta S_2$  and the incremental fixed cost be  $\Delta F_2$  with  $\Delta F_2 < \Delta F_1$  (due to synergy). It is possible that

$$\frac{\Delta S_1 + \Delta S_2}{\Delta F_1 + \Delta F_2} < \frac{\Delta S_1}{\Delta F_1}$$

i.e., the ROI after introduction of the second product is lower than the ROI with just the first product.

In general, two possible stopping rules could exist:

a) If a firm has a hurdle rate (R) to be crossed for new product entry, then the firm will choose the number of products n such that

$$\frac{\Delta S_1 + \Delta S_2 + \dots + \Delta S_n}{\Delta F_1 + \Delta F_2 + \dots + \Delta F_n} > R$$

and

$$\frac{\Delta S_1 + \Delta S_2 + \dots + \Delta S_{n+1}}{\Delta F_1 + \Delta F_2 + \dots + \Delta F_{n+1}} < R$$

b) Under ROI maximization, the number of products  $n$  will be such that

$$\frac{\sum_{i=1}^n \Delta S_i}{n} = \frac{\sum_{i=1}^n \Delta F_i}{n}$$

is maximum.

To capture this intuition in a sample model, let us assume a three product market, the size of the number of products being exogeneously set and each product differentiated by two attributes. Following Lane (1980), we specify a consumer choice model for product  $i$  as

$$a_i = \int_{\alpha_{i-1}}^{\alpha_i} v f(\alpha) d\alpha, \quad i=1,2,3$$

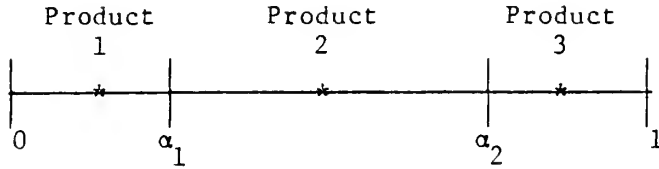
where  $a_i$  is the quantity demanded of product  $i$ ,  $v$  is the number of units consumed by each customer (assumed to equal one in this model), each consumer is associated with a unique value of the parameter  $\alpha$ , which is distributed on the interval  $[0,1]$  with density function  $f(\alpha)$ . Note that  $\alpha_0 = 0$  and  $\alpha_3 = 1$ . Let  $M$  be the total market demand for this product and let it be exogeneously specified. Further, let  $f(\alpha)$  be uniform and under these conditions,  $f(\alpha) = M$  and

$$\begin{aligned} a_i &= M(\alpha_i - \alpha_{i-1}) \\ &= M\beta_i, \quad i=1,2,3 \end{aligned}$$

where  $\beta_i$  is the market share of product  $i$ . We can conceptualize the market distributed over  $[0,1]$  as being partitioned into three mutually exclusive connected sets  $M_i$  where

$$M_1 = [0, \alpha_1], M_2 = [\alpha_1, \alpha_2], M_3 = [\alpha_2, 1]$$

as shown below:



where  $\alpha_1$  is the customer indifferent between products 1 and 2 and  $\alpha_2$  is the customer indifferent between products 2 and 3. (See Hauser and Shugan (1984) for a similar consumer preference distribution.)

To specify the indifferent customers, one needs to specify the consumer choice function and following Lane (1980), let it be of the Cobb-Douglas form given by:

$$U_{\alpha} = w_i z_i^{\alpha} (Y - P_i)^{1-\alpha}, \quad i=1,2,3$$

where  $w_i$  and  $z_i$  are the amounts of the two characteristics contained in product  $i$ ,  $P_i$  is the price of product  $i$ ,  $\alpha$  identifying (as before) the individual consumer (whose behavior is being described), and  $Y$  is the consumer's income. This allows us to obtain a closed-form solution for  $\alpha_i$ ,  $i=1,2$ , given by:

$$\alpha_1 = \frac{\ln\left(\frac{z_1}{z_2} * \frac{(Y-P_1)}{(Y-P_2)}\right)}{\ln\left(\frac{w_2}{w_1} * \frac{z_1}{z_2}\right)}$$

$$\alpha_2 = \frac{\ln\left(\frac{z_2}{z_3} * \frac{(Y-P_2)}{(Y-P_3)}\right)}{\ln\left(\frac{w_3}{w_2} * \frac{z_2}{z_3}\right)}$$

(See Lane (1980), p. 244 for this derivation.) This clearly gives a closed-form solution for the market shares  $\beta_i$  of the three products as a function of the amounts of two characteristics in each product as well as their prices. It should be noted that the market share of each product depends only on its own as well as its adjacent competitor's characteristics and prices.

Turning to the producer side, there are three industry structures that are possible, given the exogeneous restriction of the three products, namely:

- A) Three firms each producing one product--this has been considered by Lane (1980) and has no synergistic effects present.
- B) Two firms with one holding two products and the other one product.
- C) One firm holding all three products (assuming no legal barriers to monopoly).

Both cases B) and C) contain product interactions within a firm, i.e., possibilities of synergy and cannibalism. To model these effects, we will assume that the management of the individual products in a multi-product firm do not act in cooperation with each other. This situation is fairly typical in a (packaged consumer durable goods) firm with product-management type of organizational structure. Product managers of different "brands" compete for organizational

resources and for consumer demand. Then, the cannibalistic effect of product interaction is captured by allowing each product to compete for demand independently.

The effects of synergy in distribution, manufacturing, advertising, etc. will be modelled to affect the fixed costs of producing and selling the products. Let us denote by  $\pi_{jkl\dots}^n$  the profit from product  $k$  for a firm which also has products  $j, \ell, \dots$  in the same product market, there being a total of  $n$  products in the product market. For example,  $\pi_{12}^3$  is the profit from product 2 to a firm which has both products 1 and 2 in a product market consisting of 3 products. To specify the synergy effect, we will assume a sequential ordering of the products that a firm enters into the market, i.e., a firm having products  $j, k, \ell$  in the market introduces them in that order over time. This assumption allows us to allocate synergy effects in the following way: product  $j$  derives no synergy benefits since it is the first product for that particular firm and its fixed costs are  $F$ . Product  $k$  derives synergy benefits from product  $j$  and we will allocate this cost reduction in the form of  $F[1-d_{jk}(w_j, z_j, w_k, z_k)]$ . To make the model simpler, we will assume, as Lane (1980) does, that the production technology is predetermined by the constraint  $w + z = 1$ --this just reduces the problem to a one-characteristic one and leads to the fixed cost of product  $k$  being  $F[1-d_{jk}(z_j, z_k)]$ . Finally, product  $\ell$  derives synergy benefits from both products  $j$  and  $k$  and its fixed costs are given by  $F[1-d_{jkl}(z_j, z_k, z_\ell)]$ .

How should this function  $d$  be defined? Some criteria for  $d$  that are desirable (to some extent driven by our previously discussed

intuitions on natural limits to the number of products entered by a single firm), are:

1)  $d$  should be bounded from above, i.e., given a fixed cost of  $F[1-d_{12\dots k}(z_1, \dots, z_k)]$ ,  $d$  should be bounded away from one, as otherwise the fixed cost would be negative.

2) For a given value of  $k$ , the number of products belonging to the same firm,  $d_{12\dots k}$  should increase as the products are positioned closer together and should decrease as the products are positioned farther apart. The strategy of closer positioning will decrease fixed costs while that of farther positioning will increase it. Of course, there is the opposite effect of cannibalism acting in reverse, i.e., the closer the positioning, the more severe the intra-firm product competition and vice versa.

3) With the number of products  $k$ , that a firm enters into the product market,  $d_{12\dots k}$  will first increase (due to synergy) and after a critical point decrease (implying dysfunctional effects).

Some possible forms for  $d_{12\dots k}$ , which meet the above criteria and are also parsimonious (see Naert and Leflang (1978) for parsimony as a modelling criterion) are as follows:

$$d_{12\dots k}(z_1, \dots, z_k) = \delta[1-\Omega(z_1, \dots, z_k)]$$

with  $\delta < 1$  and

$$a) \quad \Omega = \frac{1}{k} \sum_{i=1}^k \min_{\substack{z_j \\ j \neq i}} (z_i - z_j)^2$$

or

$$b) \quad \Omega = \frac{1}{k(k-1)} \sum_{i=1}^k \sum_{\substack{j=1 \\ j \neq i}}^k (z_i - z_j)^2$$

or

$$c) \quad \Omega = \frac{1}{k} \sum_{i=1}^k (z_i - \bar{z})^2$$

For example, c) is just a variance measure of the product characteristics, with lower variance implying larger  $d_{12\dots k}$  and larger variance implying lower synergy benefits.

Other approaches to measuring synergy has been from a purely statistical viewpoint. For example, in the finance literature [Firth (1978), Franks et al. (1977), Haugen and Langetieg (1975), Mueller (1977)], the effect of synergism is measured in mergers/acquisitions by estimating the values of the firms before and after the merger/acquisition. The standard technique is to use regression including a "synergy" variable. Mahajan and Wind (1983) use information from the PIMS data base to statistically test relationships between various synergy proxies and profitability of a business unit. It should be noted the efforts are to measure the effects of synergy a posteriori rather than to model synergy and use it as a priori information for strategic decisions.

Given this structure for fixed costs, the sales from a particular product  $k$  is given by:

$$n_{S_{jkl\dots}}^k = (p_k - c) \cdot \beta_k^M$$

where  $p_k$  is the price for product  $k$  and  $\beta_k$  is its market share (derived previously). Then, the profit function for a product  $k$  is given by:

$$n_{\Pi_{jk\ell}\dots}^k = (p_k - c)\beta_k M - F[1 - d_{jk}(z_j, z_k)]$$

and the return on investment for product  $k$  given by:

$$n_{ROI_{jk\ell}\dots}^k = \frac{(p_k - c)\beta_k \cdot M}{F[1 - d_{jk}(z_j, z_k)]}$$

We now need to develop the competitive reaction between firms and the behavioural implications leading to a computational algorithm to calculate optimal multiple product positioning strategies for a three product market. Similar to Lane (1980), we will assume a sequential entry of products and firms with perfect foresight. This implies a Stackelberg leader-type behavior with respect to characteristic positioning for the early entrants relative to the later entrants. Any product in the sequence takes the positions of the preceding products as given while perfectly forecasting the optimal positions of the succeeding products as a function of its own and the preceding products' positions. For example, in a three product market, product 2, in making its positioning decision, takes the first firm's position as a given while perfectly forecasting the optimal behavior of product 3 as a function of product 2 and 1's positions.

For price setting, however, we assume that a Nash equilibrium may emerge. This implies that the behaviour of any firm regarding pricing



will take the prices of all its competitors as given, and will optimize its own decision. The equilibrium (Nash) prices are such that, even knowing its competitors are using their equilibrium prices, there is no incentive for any firm to change from its equilibrium price. In a sense, it is a stable price system, which once reached, nobody wants to break out of.<sup>1</sup>

Equilibrium analysis provides insights into behavior and structure of markets, enabling management to understand where their product market may be headed and developing strategies that would either foster or hinder such movement. Equilibrium analysis could also indicate if a firm is capitalizing on all its strengths, whether it is actually receiving its equilibrium profits/market share, and if not, how to strategically achieve it [Karnani (1982), Kumar and Thomas (1983)].

We are now ready to specify the computational algorithm for evaluating optimal equilibrium positioning with respect to characteristics and prices. We will do this, using the three product market assumption, for cases B) and C), which assumed two firms and only one firm respectively in the market.

B) Let us assume that Firm 1 has products 1 and 2 and Firm 2 has product 3, and let Firm 1 be the leader.

Firm 2 takes the positions for products 1 and 2,  $z_1$  and  $z_2$ , as fixed variables. For every position  $z_3$ , it computes the Nash equilibrium prices  $(p_1^*, p_2^*, p_3^*)$  that will obtain, given  $(z_1, z_2, z_3)$ . Lane (1980) shows that such an equilibrium exists and also that there is a closed form solution, assuming that firms maximize profits. The

same is true if one used the behavioral assumption that firms maximize return on investment ROI. Then Firm 2 picks that combination of  $p_3^*$  and  $z_3^*$  as a function of  $z_1$  and  $z_2$ , which maximizes  ${}^3ROI_3^3$ .

Firm 1 has its two products managed by different product managers. The position of product 2 is chosen the following way: for fixed  $z_1$ , and for every position  $z_2$ , it computes  $z_3^*$ , the optimal position for product 3, and then computes the price equilibrium. Then the manager for product 2 picks that combination of  $z_2^*$  and  $p_2^*$ , as a function of  $z_1$ , which maximizes  ${}^3ROI_{12}^2$ . It must be noted that the benefits of synergy are allocated solely to product 2.<sup>2</sup>

The position of product 1 is then easily computed since for each  $z_1$ , one can compute  $z_2^*(z_1)$  and also  $z_3^*(z_1, z_2^*(z_1))$ . Given all three positions, the Nash price equilibrium can be computed. The manager for Firm 1 picks that combination of  $p_1^*$  and  $z_1^*$  that maximizes  ${}^3ROI_{12}^1$ , which in turn defines the equilibrium positions  $z_2^*(z_1^*)$ ,  $z_3^*(z_1^*, z_2^*(z_1^*))$  and the Nash equilibrium prices.

In a similar way, one would compute the equilibrium positions and prices for all other combinations of the firms, products and product entry position, such as for example, Firm 1 with products 1 and 3 and Firm 2 with product 2.

C) Here we have one firm introducing all three products. The computation of the optimal positions and prices proceeds similar to the algorithm described above.

Manager for product 3, given  $z_1$  and  $z_2$ , computes that combinations of  $z_3^*$  and  $p_3^*$ , as functions of  $z_1$  and  $z_2$ , that optimizes  ${}^3ROI_{123}^3$  with synergy from products 1 and 2 included. Then, the manager for product

2 computes  $z_2^*$  and  $p_2^*$ , as a function of  $z_1$ , that maximizes  ${}^3\text{ROI}_{12}^2$  including synergy benefits from product 1. Finally, the optimal position and price of product 1,  $z_1^*$  and  $p_1^*$ , is computed, which in turn gives  $z_2^*(z_1^*)$ ,  $z_3^*(z_1^*, z_2^*(z_1^*))$  and the Nash price equilibrium.

The logical question as to which of these market structures will obtain depends on the total profits that the firm with multiple products obtains. Consider the firm that enters the first product; it will enter a second product if and only if

$${}^3\text{ROI}_1^1 < \left[ \frac{{}^3S_{12}^{*1} + {}^3S_{12}^{*2}}{F + F(1-d_{12}(z_1^*, z_2^*))} \right] \text{ or } \left( \frac{{}^3S_{13}^{*1} + {}^3S_{13}^{*3}}{F + F(1-d_{13}(z_1^*, z_3^*))} \right)$$

i.e., the combined return on investment  ${}^3\text{ROI}_{12}^{12}$  with both products, whether the product 2 is entered second or third, is greater than that of having a single product, in a three product market.

Similarly, it will enter a third product if and only if

$${}^3\text{ROI}_{12}^{12} < \left[ \frac{{}^3S_{123}^{*1} + {}^3S_{123}^{*2} + {}^3S_{123}^{*3}}{F + F(1-d_{12}(z_1^*, z_2^*)) + F(1-d_{123}(z_1^*, z_2^*, z_3^*))} \right]$$

i.e., the combined return on investment  ${}^3\text{ROI}_{123}^{123}$  with all three products is greater than  ${}^3\text{ROI}_{12}^{12}$ . Why does it not enter a fourth product? Possibly because  ${}^4\text{ROI}_{1234}^{1234}$  is lesser than  ${}^3\text{ROI}_{123}^{123}$ .

Why does it choose to enter only two products? Possibly because  ${}^3\text{ROI}_{12}^{12}$  or  ${}^3\text{ROI}_{13}^{13}$  is larger than  ${}^3\text{ROI}_{123}^{123}$ . Why does a second firm enter when Firm 1 has products 1 and 2? Possibly because its  ${}^3\text{ROI}_3^3$  is greater than 1. In a similar fashion, why does a second firm not enter when Firm 1 has products 1, 2 and 3 in the market? Possibly

because  ${}^4\text{ROI}_4$  is less than 1, i.e., the firm is losing money or it does not meet its ROI objective.

One can envision many such multiproduct situations and the questions as to product entry strategy can be analyzed in a fashion similar to that above. One can answer strategic questions as to:

- a) How many new entries?
- b) When to enter them?
- c) When to allow competition in (and possibly flank them)?

Clearly, we could easily substitute profit maximization as the firm's objective, rather than ROI optimization, and the preceding analyses carries over to this case also.

#### Discussion and Conclusion

We have shown, in this paper, how multi-product market structures could be modelled and also the methodology to compute equilibrium positioning and pricing strategies. We have also shown how the incorporation of synergy could easily sway the decision of how many products (and their corresponding positions, prices and entry point) that a firm could have in a given market. For a given market, we can compute the maximum number of products, positions and prices, that would be optimal for the first, second, etc. firms. We can thus normatively understand product market structure evolution. The calculation of equilibria is a hard problem and currently partial enumeration simulation methodology or grid-search non-linear optimization methods are suggested for its solution.

There are numerous avenues open to extend this basic model. The assumptions of Cobb-Douglas consumer preference function could be

relaxed to allow uncertainty and information asymmetries, thus requiring search strategies by consumers and the important effects of information advertising. The allocation of synergy benefits to the succeeding products and the modelling of intra-firm competition can be made more sophisticated by evolving synergy benefit allocation schemes that will allow independent product manager locally optimizing leading to firm optimization over all its products. Another extension could be to relax the assumption of perfect foresight with some sort of myopic behavior, or even conjectural variations, on the part of firms to estimate competitive reaction. The development of efficient algorithms that aid in computing the equilibrium strategies will certainly aid in building more complex, and realistic, models of consumer preferences and producer objectives.

Footnotes

<sup>1</sup>The reason for not assuming Nash behavior in both price and location is due to the possibility of nonexistence of the equilibrium (Eaton and Lipsey, 1976). Also, given technological constraints on product design, foresight is easier to understand for product positions. This allows a natural assumption of Stackelberg type leadership for positions.

<sup>2</sup>While this assumption is debatable, our reasoning is as follows: If these products are going to be introduced sequentially, then the second product is entered after the first one has been in for some time. The product manager of the second product is faced with managing a riskier product, than the first one, and could be given additional motivation in the form of a lower cost structure. This would be a truer evaluation of his performance since he is to be judged on incremental contribution and thus also incremental cost. It would also provide him with a wider range of pricing policies to choose from.

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