
UNIT 3 THE PRODUCT PLANNING SYSTEM

Objectives

After reading this unit you should be able to:

- explain the meaning of a product planning system
- discuss the constituents of a product planning system
- describe some major product planning models
- develop a suitable product planning system for a given organisation.

Structure

- 3.1 Introduction
- 3.2 The Traditional Approaches to Product Planning
- 3.3 A Matrix Approach to Product Planning
- 3.4 A Model to Add Clarity and System to the Judgements Involved in Product Planning
- 3.5 Summary
- 3.6 Self-Assessment Questions
- 3.7 Further Readings

3.1 INTRODUCTION

Development of a strategic product planning system is one of the most critical elements of a company's product management function. In designing such plans, the management requires adequate information on the current and anticipated performance of its existing products. This information can again be broadly classified into two dimensions: (i) the perceptual dimension consisting of the consumers perception about the product per se as well as in relation to the products of the competitors and (ii) the 'objective' dimension consisting of actual raw information about actual and anticipated performance on relevant criteria such as sales, profits and market share.

As you can see for yourself the information on both the dimensions needs to be seen as a whole to develop a proper product planning system. However, most approaches use the information obtained in isolation making the picture incomplete. We shall, in this unit, discuss the different approaches to product planning.

3.2 THE TRADITIONAL APPROACHES TO PRODUCT PLANNING

The product portfolio approach described in the earlier unit is one of the earlier tools used for product planning. Then there is the concept of positioning the product vis-a-vis its competitors. However, both these systems show little concern for the measures like sales, market share and profitability taken together comprehensively. An integrated approach to product planning was been suggested by Yoram Wind and Henry J. Clayclamp in a paper presented in the Journal of Marketing. We shall study the same in the next section.



3.3 A MATRIX APPROACH TO PRODUCT PLANNING

The matrix approach consists of the following phases:

Phase A: This requires definition of the relevant universe in terms of the relevant strategic product/market area. What do we understand by this? It essentially means that

- i) The definition of the product should be clear and unambiguous inclusive of sub categories of the product;
- ii) The strategic market should be a well focussed segment to lend specificity to the analysis;
- iii) The relevant measurement instruments in terms of units of sale and the time period of sales whether monthly or quarterly must be specified.

Phase B: This entails examination of the sales position for the given product in the strategic market area. A graph of industry sales and company sales for a given period is plotted. Thereafter the product is assigned to the stage in the product life cycle on the basis of certain criteria:

If the annual sales trend over the past years is:

- i) negative, assign to the decline category
- ii) 0%-10% increase, assign to the stable category;
- iii) Over 10% increase, assign to the growth category.

Phase C: The market share of the company's given product in the strategic product market area is then determined using certain criteria to assign into categories.

The illustration given below for two products A and B will enable you to understand the process of assignment to categories and determination of the product's strategic position.

Illustration: Assign product to one of the following categories.

Sales	Industry	Company
1). Decline
2). Stable
3). Growth

Market Share

- 1). Marginal Market Position
- 2). Average Market Position
- 3). Leading Market Position

Profitability

- 1). Below Target
- 2). Target
- 3). Above Target

A past trend of the product is also plotted to facilitate the assignment process described above:

Fig. 1: A product-evaluation matrix having two hypothetical products A and B over three years

Company sales		Decline			Stable			Growth		
Industry Sales	Profitability	Below target	target	Above target	Below target	target	Above target	Below target	target	Above target
	Market Share									
Growth	Dominant									
	Average				A73			A74	A75	
	Marginal									
Stable	Dominant									
	Average									
	Marginal									
Decline	Dominant									
	Average						B73			
	Marginal			B74 B75						

On the basis of the assignment done above a product evaluation matrix for two hypothetical products would look somewhat as:

Fig. 2: Incorporating Sales, Market Share and Profit Forecasts into the Product Evaluation Matrix

Product	Current position (C)				Unconditional projection (P)				Conditional forecast (CF)			
	Industry Sales	Company Sales	Market share	Profitability	Industry Sales	Company Sales	Market share	Profitability	Industry Sales	Company Sales	Market share	Profitability
1	Decline	Decline	Av.	Below target	Decline	Decline	Av.	Below target	Decline	Decline	Marg.	Target
2	Stable	Decline	Av.	Target	Stable	Stable	Av.	Target	Stable	Stable	Dom	Target

Source: Adapted from Planning Product line Strategy A Matrix approach by Yoiam Wind and H. J. Claycamp "Journal of Marketing", Vol. 40 January, 1976

Here two products A and B have been traced for three years. Product A which showed a marginal market share in a growth industry had stable but below target profitability in the first year. This improved to growing profits and average market share in the next year to achieve targets. This was followed by an above target profits coupled with an average market share in a growing industry. The performance of product A has thus steadily improved.

The product B on the other hand is in a declining industry with an average market share and stable profits on target in the first year but in the next year a decline in profitability is seen. In the third year the decline in profits continues with a drop in the market share as well.

Suggested Marketing Strategy on the basis of the Product Evaluation

Matrix: The best course available for product A will be to move from average market share to the leading position maintaining above target profits or sacrificing some profits for the leading position to have targeted or even below target profits.

For product B the course of action available would be to improve market share position from marginal to average and also achieve a stability in profits although they may be below target.

As you can very well discern from this exercise that a product evaluation matrix enables a company to take into account four parameters - industry sales; company sales; market share and profits simultaneously. We can make the following inferences regarding a firm's product planning exercise:

Inferences: A firm's major strategic product/market decision alternatives for its existing product line and the component products of that time in a given strategic product market area are:

- 1) Do not change the product or its marketing strategy;
- 2) Do not change the product but do change its marketing strategy. This may involve a change in the type and level of advertising, distribution and pricing strategies associated with a given positioning and given product attributes.
- 3) Change the product. This may involve product modifications either within the parameters of the product's current market positioning or within a new positioning. In either case, a change in the associated marketing strategy is required.
- 4) Discontinue the product or the product line. This strategy may involve an interim product or product line "run out" strategy, gradual chopping of the product line, or the immediate phasing out of the product or the complete line.
- 5) Introduce new products into the line of add new product lanes.

In keeping with the varying degree/intensity of changes required in the five alternatives suggested above, we can identify different levels of analysis and specificity of guidance provided by the Product Evaluation Matrix. This is described in the next section.

3.4 A MODEL TO ADD CLARITY AND SYSTEM TO THE JUDGEMENTS INVOLVED IN PRODUCT PLANNING

Different companies use different systems for product planning. These may range from a system wherein a single person attempts to assimilate the pertinent data, make a decision, and then explain his strategy to his associates. At the other end of the scale is the large company with a well-organised product planning department where the required marketing information is collected and compiled into a whole lot of charts, profile graphs and estimate sheets for the consideration of those responsible for the final decision.

A model for product-planning with particular emphasis on new product introduction in the product line has been presented by John T.O. Meara, in the Harvard Business Review. Let us examine this approach in detail.

The Model: It uses statistical and financial concepts like probability and pay-back period. The exhibit below gives the criteria for awarding ratings to a given product. Thus, rating the product on certain factors and subfactors is the first step in this model for product planning. This exercise is particularly useful in evaluating a new product. On the basis of ratings awarded in the evaluation exercise carried out above, the factor ratings on the four major factors viz. Marketability, Durability, Productive Ability and Growth Potential are obtained. These factors are also assigned weights in accordance with their relative importance. In the same manner, each of the subfactors that comprise the four major factors are weighted. Let us evaluate the subfactors of the factor Marketability. Therein each of the factor ratings are assigned an estimated profitability which essentially evaluates the chances of whether a factor will achieve the rating awarded to it. From the exhibit given below it can be seen that there is at least a 50-50 chance that the merchandisability characteristics of product X will meet the definition of "very good", that there is less chance that it will meet the definition of 'good' and that there is even a smaller chance that it will meet the definition of 'average'. This method of precisely stating one's best judgement will result in a more efficient evaluation than would be possible using a less systematic procedure.

After assigning probabilities to the subfactors, each probability figure is multiplied by the numerical value attached to the rating. This is termed as the expected value. The expected value of all the subfactors and a total of these expected values gives the final evaluation of the factor concerned. The end result is an index number which represents the factor. The total expected values for each factor are then multiplied by their weights to arrive at a final factor evaluation -as follows:

Table 1: Factor Rating for a Product

Proposed Product 1 Factor	Product X 2 Factor weight	Evaluated by 3 Assigned Factor Value	John Smith 4 Final Factor Evaluation
Marketability	0.4	71.4	28.6
Durability	0.3	68.6	20.6
Productive Ability	0.1	91.60.1	9.2
Growth Potential	0.2	69.2	13.8
Final intangible factor index number	1.0		72.2

This final intangible factor index number so obtained is compared for different products which are being evaluated as well as against a standard set by the company.

Exhibit I: Factor and Subfactor Ratings for a New Product

	Very Good	Good	Average	Poor	Very Poor
MARKETABILITY					
A. Relation to present Distribution channels	Can reach major market by distribution through present channels	Can reach major markets by distributing mostly through present channels, partly through new channels	We have to distribute equally between new and present channels, in order to reach major markets	Will have to distribute mostly through new channels in order to reach major markets	Will have to distribute entirely through new channels in order to reach major markets

	Very Good	Good	Average	Poor	Very Poor
B. Relation to present product lines	Complements a present line which needs more products to fill it	Complements a present line that does not need, but can handle, another products	Can be fitted into present line	Can be fitted into a present line but does not fit entirely	Does not fit in with any present product line
C. Quality/price relationship	Priced below all competing products of similar quality	Priced below most competing products of similar quality	Approximately the same price as competing products of similar quality	Priced above many competing products of similar quality	Priced above all competing products of similar quality
D. Number of sizes and grades	Few staple sizes and grades	Several sizes and grades, but customers will be satisfied with few staples	Several sizes and grades, but can satisfy customer wants with small inventory of non-staples	Several sizes and grades, each of which will have to be stocked in equal amounts	Many sizes and grades which will necessitate heavy inventories
E. Merchandisability	Has product characteristics over and above those of competing products that lend themselves to the kind of promotion, advertising, and display that the given company does best	Has promotable characteristics that will compare favourably with the characteristics of competing products	Has promotable characteristics that are equal to those of other products	Has a few characteristics that are promotable, but generally does not measure up to characteristics of competing products	Has no characteristics to all that are equal to competitors, or that lend themselves to imaginative promotion
F. Effects on sales of present products	Should aid in sales of present products	May help sales of present products definitely will not be harmful to present sales	Should have no effect on present sales	May hinder present sales some; definitely will not aid present sales	Will reduce sales of presently profitable products
I. DURABILITY					
A. Stability	Basic product which can always expect to have uses	Product which will have been long enough to earn back initial investment, plus at least 10 years of additional profits	Product which will have uses long enough to earn back initial investment plus several (from 5 to 10) years of additional profits	Product which will have uses long enough to earn back initial investment, plus 1 to 5 years of additional profits	Product which will probably be complete in near future
B. Breadth of market	A national market, a wide variety of consumers, and a potential foreign market	A national market and a wide variety of consumers,	Either a national market of a wide variety of consumers	A regional market and a restricted variety of consumers	A specialised market in a small marketing area
C. Resistance to cyclical fluctuations	Will sell readily in inflation or depression	Effects of cyclical changes will be moderate, and will be felt after, changes in economic outlook	Sales will rise and fall with the economy	Effects of cyclical changes will be heavy, and will be felt before changes in economic outlook	Cyclical changes will cause extreme fluctuations in demand
D. Resistance to seasonal fluctuations	Steady sales throughout the year	Steady sales except under unusual circumstances	Seasonal fluctuations, but inventory and personnel problems can be absorbed	Heavy seasonal fluctuations that will cause considerable inventory and personnel problems	Severe seasonal fluctuations that will necessitate layoff and heavy inventories
E. Exclusiveness of design	Can be protected by a patent with no loopholes	Can be patented, but the patent might be circumvented	Cannot be patented but has certain salient characteristics that cannot be copied very well	Cannot be patented and can be copied by larger, more knowledgeable companies	Cannot be patented and can be copied by anyone

	Very Good	Good	Average	Poor	Very Poor
II PRODUCTIVE ABILITY					
A. Equipment necessary	Can be produced with equipment that is presently idle.	Can be produced with present equipment, but production will have to be scheduled with other products	Can be produced largely with present equipment, but the company will have to purchase some additional equipment	Company have to buy a good deal of new equipment, but some present equipment can be used	Company will have to buy all new equipment
B. Production knowledge and personnel necessary	Present knowledge and personnel will be able to produce new product	With very few minor exceptions present knowledge and personnel will be able to produce new product	With some exceptions present knowledge and personnel will be able to produce new product	A ratio of approximately 50-50 will prevail between the needs for new knowledge and personnel and for present knowledge and personnel	Mostly new knowledge and personnel are needed to produce the new product
C. Raw material availability	Company can purchase raw materials from its best supplier(s) exclusively	Company can purchase major portion of raw materials from its best supplier(s), and remainder from one of a number of companies	Company can purchase approximately half of raw materials from its best supplier(s), and other half from any one of a number of companies	Company must purchase most of raw materials from any one of a number of companies other than its best supplier(s)	Company must purchase most or all of raw materials from a certain few companies other than its best supplier(s)
GROWTH POTENTIAL					
A. Place in market	New type of product that will fill a need presently not being catered	Product that will substantially improve on products presently in the market	Product that will have certain new characteristics that will appeal to a substantial segment of the market	Product that will have minor improvements over products presently in the market	Product similar to those presently in the market and which adds nothing new
B. Expected competitive situation-valued added	Very high value added so as to substantially restrict number of competitors	High enough value added, so that, unless product is extremely well suited to other firms, they will not want to invest in additional facilities	High enough value added, so that unless other companies are as strong in market as this firm, it will not be profitable for them to compete	Lower value added so as to allow, lower medium, and some smaller companies to compete	Very low value added so that all companies can profitably enter market
C. Expected availability of end users	Number of end users will increase substantially	Number of end users will increase moderately	Number of end users will increase slightly, if at all	Number of end users will decrease moderately	Number of end users will decrease substantially



Exhibit II: Example of the Use of an Evaluation Sheet

Proposed Product :		Product X										Evaluated by: John Smith	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Subfactor	Subfactor Weight	Very good EP	(10) EV	Good EP	(8) EV	Average EP	(6) EV	Poor EP	(4) EV	Very Poor EP	(2) EV	Total	Subfactor evaluation (Col. 2 x Col. 8)
Relative to present distribution channels	1.0	0.1	1.0	0.2	1.6	0.5	3.0	0.2	0.8	—	—	6.4	6.4
Relative to present product lines	1.0	0.1	1.0	0.2	1.6	0.4	2.4	0.2	0.8	0.1	0.2	6.0	6.0
Quality/price relationship	3.0	0.3	3.0	0.4	3.2	0.2	1.2	0.1	0.4	—	—	7.5	23.4
Number of sizes and grades	1.0	0.1	1.0	0.2	1.6	0.5	3.0	0.2	0.8	—	—	6.4	6.4
Merchandisability	2.0	0.5	5.0	0.4	3.2	0.1	0.6	—	—	—	—	8.8	17.6
Parts on sale of present products	2.0	—	—	0.2	1.6	0.5	3.0	0.3	1.2	—	—	5.8	11.6
	<u>10.00</u>											<u>Total factor value:</u>	<u>71.4</u>

Note: EP = Estimated probability as judged by management

EV = Expected valued computed by multiplying the value by the estimated probability.

3.5 SUMMARY

In this section we have seen some tools available for product planning and analysis. These may not provide an end to the problem but they definitely serve as a guideline. Depending upon the data available and time available to take decisions a company may adopt one or more of the above methods. It also depends upon the number of products the company has in its product line.

3.6 SELF-ASSESSMENT QUESTIONS

1. Draw comparisons between the first approach suggested for Product Planning (based on industry sales, company sales, market share of the product-and profitability) and the Market-Share Approach Outlined for product planning based on PLC.
2. Briefly enumerate the systematic approach to product planning using probability estimates.

3.7 FURTHER READINGS

Kotler, Phillip, 2002 *Marketing Management*, Prentice Hall of India Pvt. Ltd., New Delhi.

Harvard Business Review Vol. 53 January, February, 1975, *Shifting Role of the Product Manager* by Richard Crewett & Stanley Stasch.

Journal of Marketing, April, 1977, Diagnosing the Product Portfolio by George Day.

