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NEW PRODUCT INVESTMENT DECISIONS:
THE PROCESS AND PROCEDURES

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ABSTRACT

This paper is addressed to persons concerned with improving the way in which new product investment decisions are made in firms. Over the years, there have been a variety of suggestions made on how this process might be improved. The suggestions have ranged from urging the use of more formal quantitative techniques to changing the way in which product groups are organized. There has been little recognition that there must be a relationship between the organizational changes and the procedures used to summarize information. As a result, the literature on product planning continues to be classified as either organizational or procedural. The focus should be on looking at alternative ways of changing standard operating procedures. The purpose of this paper is to show that a better understanding of the relationships between procedure and structure is necessary to achieve the goal of the "right product at the right price."

BACKGROUND OF THIS PAPER

This paper is based on studies being conducted at the Bureau of Business Research as part of a research program on administrative decisions. It was prepared for presentation at the 1971 Fall Conference of the American Marketing Association held at Minneapolis, Minnesota, September, 1971.

NEW PRODUCT INVESTMENT DECISIONS: THE PROCESS AND PROCEDURES

H. Paul Root

A great deal is known about what it takes to have a successful new product program in a firm. Simply develop a new product that satisfies market needs, price it in accordance with benefits, and promote and distribute it so that customers know about the product and can readily obtain it. Then make sure costs are in line with prices to allow reasonable profits to be maintained. As with most things, the theory is well known, but the execution of that theory is often difficult.

This paper is concerned with one of the complex steps in implementing the theory of product planning: deciding when to make a major investment to expand capabilities for the production, promotion, and distribution of a new product. This will be called the new product investment decision, although the decision may not necessarily require capital facilities. That is, many new products receive the attention of top management before being launched because they require the commitment of sizable financial resources for advertising programs and inventory for proper distribution.

One measure of the importance of this decision is the amount of managerial time involved in this investment process. Many levels of

the executive hierarchy become involved before the firm finally commits itself to the full-scale launching of a new product. In most cases, certainly when the expenditures are sizable, the signatures of top corporate officers must be obtained. The act of "signing on the dotted line" has little to do with decision making as it is often discussed in decision theory. But the fact that this formal approval is required influences almost all of the activities that constitute the new product investment process.

The specific problem here is not whether too little or too much managerial time is spent during this process (even though this is probably the most scarce of all the resources available to the firm), but whether this time is spent as effectively as it could be. That is, can improvements be made to increase the effectiveness of the managerial and technical time spent on a project? Obviously there is a relationship between the effective use of time and the amount of relevant information that is obtained, processed, and transmitted through the organization. There is also an obvious need to discuss the effective use of time as it concerns the various individuals in the process. Thus, the central theme here will be whether or not the various individuals involved in the preparation of the technical and market elements of the project proposal feel that it is worth their time and effort to attempt improvements in their inputs to the proposal. It will be argued here that the standard operating procedures used by firms affect these efforts.

To develop the general theme described above, it is helpful to

start with a description of the elements in the new product investment process. This will be followed by a more detailed discussion of the project definition phase of the process. Finally, attention will focus on how the effectiveness of the process might be improved. The thoughts on this last item were developed to be of interest to both managers and researchers concerned with the new product process.

The New Product Investment Process

The starting point toward understanding the new product investment process is to recognize that managers in a firm influence the people above them as well as below them in the organizational hierarchy. This is generally recognized when people comment on the lack of information that an organizational chart conveys about the operations of a firm. It is often ignored, however, when people discuss new decision models that ought to be used by firms, or how a new organizational arrangement will solve the problems of new product development.

It is helpful to start with a sketch of the new product investment process. Every new product begins with someone's bright idea on what the firm ought to offer in its product line. Obviously a variety of causes can spark this idea and a variety of people in the firm may propose it. Once the idea is proposed, almost all of the activities associated with it are concerned with selling it to the appropriate persons in the firm in order to obtain the necessary financial commitment to the project as it moves through various stages. Just as several persons are concerned with the various phases of the new product

project, a variety of corporate checks are devised to assess the financial progress of the product. Most of these assessments are performed as part of the ongoing annual planning cycle in a firm. In most cases, before the new product is announced (particularly when the introduction requires a major financial commitment) it is necessary to have official approval from the corporate officers.

Although the concern here is with the activities leading up to that official approval, it is necessary to recognize that these activities are strongly influenced by the routine planning procedures. That is, the criteria used to judge the product, including financial as well as market and technical criteria, are usually determined by these procedures. One example of how they affect the preparation of the proposal is the extent to which alternatives are considered. Very rarely would an operating unit submit alternative plans as part of its annual updating of the five-year plan. Consequently, one would expect that only rarely would alternatives be explicitly presented in the preparation of the investment proposal. That this is the case has been observed by Aharoni,^{1/} Bower,^{2/} and Root^{3/} among others. Yet almost all formal

^{1/} Yair Aharoni, The Foreign Investment Decision Process (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1966).

^{2/} J.L. Bower, Managing the Resource Allocation Process: A Study of Corporate Planning and Investment (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1970).

^{3/} H. Paul Root, "The Use of Subjective Probability Estimates in the Analysis of New Products," in Marketing Involvement in Society and the Economy, edited by P.R. McDonald (Chicago: American Marketing Association, 1970), pp. 200-207.

procedures advanced for use in evaluating investment proposals assume that alternatives will be compared. Other examples of the effect of the routine planning procedures on the investment process will be discussed later.

The two phases of the new product investment process in which the major activities occur are, using the terminology of Bower,^{4/} the project definition phase and the project impetus phase. The activities of project definition include the critical ones of determining what product characteristics, facilities, and production processes are to be used, and what pricing and promotional plan will be used. The project impetus activities are directed toward moving the product proposal through the organization so that the capital appropriations request will receive the necessary signatures.

A great deal of interaction occurs between these two phases, as will be discussed. The activities that take place are also subject to the direct influence of the various managerial levels. The extent to which various levels become involved in the various activities depends partly on the extent to which the firm is integrated, as discussed by Ackerman.^{5/} More generally they will be influenced by changes in

^{4/} Same reference as footnote 2, at p. 4.

^{5/} R.W. Ackerman, "Influence of Integration and Diversity on the Investment Process," Administrative Science Quarterly, Vol. 15 (September, 1970), pp. 341-45.

procedures or organization brought about by a dissatisfaction with the results of past new product projects.

The process can be understood in somewhat more detail by contrasting it with discussions of managerial decision making. The important points are that there are many decisions made on a new product proposal, and that these occur at many different levels in the firm. The observation by Bower is an excellent summary of this idea. He stated that there has been

[a] fallacious premise that top management made important choices in the finance committee when it approved capital investment proposals. By contrast we have found capital investment to be a process of study, bargaining, persuasion and choice spread over many levels of the organization and over long periods of time.^{6/}

Bower's observation on the complexity of the process should not be taken to mean that top management does not have a major role in the decision process. It is just that it exercises this role by delegating responsibility and authority to various submanagers in a firm. Top management retains its major role of influencing a project by judging the capability of the people who are responsible for the preparation and execution of the projects. The principle is generally accepted in management literature that one of the primary roles of top management is to select and develop capable managers of the various operating units. Unfortunately, this has not been generally recognized in the

^{6/} Same reference as footnote 2, at p. 320.

literature concerned with proposing new procedures for use in project evaluation methods. To develop this point, it is necessary to consider the project definition phase in more detail.

The Project Definition Phase and Quantitative Procedures

Bower pointed out that

... a host of critical decisions are made long before a request for funds reaches the board. Among the most important of these decisions are the choice of sales, forecasts, the definition of a facility scope and design, and the decisions to submit a request.^{7/}

These decisions are the ones that will be discussed here. It is useful to think of the decisions as being related to the development of the marketing plan, the manufacturing plan, and the financial evaluation as discussed by Root.^{8/} This is the phase in which many of the activities usually associated with a decision theoretic approach occur. That is, there is a cycle of formulation of alternatives, estimation, and evaluation. That these activities do occur as a sequential process rather than as a static element is the most significant factor influencing the effective use of quantitative procedures in the decision process.

^{7/} Same reference as footnote 2, at p. 15.

^{8/} H. Paul Root, "Implementation of Risk Analysis Models for the Management of Product Innovations" (Ann Arbor, Michigan: University of Michigan, Bureau of Business Research Working Paper No. 32, 1971).

The activities that occur during the project definition phase can often determine whether or not the new product, when it is finally tested in the market place, will be a winner, a loser, or only so-so. Evidence of this is provided in a survey conducted by Hopkins and Bailey for The Conference Board.^{9/} They reported that the principal cause of the failure of new products was inadequate market analysis, which was interpreted as the failure of market research to provide an accurate forecast of the sales of a new product. If market research could be defined as a purely mechanical procedure, then it would be easier to know how to minimize the deficiencies of a market analysis. The problem, however, is somewhat more complex. The process of deciding first of all how much market research to do, then determining what is to be done, and finally using the results is in fact influenced by the behavioral aspects of the process.

Consider the proposition that the proposal as finally submitted in a firm does not generally incorporate all the information available about the market. Recall that the question of concern is whether or not the people involved in preparing a proposal feel that it is worth their time and effort to try to improve the proposal.

The need exists for improving the information for decision making at all levels of the product investment process. But this demands more than better market research methods. It means we

^{9/} David S. Hopkins and Earl L. Bailey, "New-Product Pressures," The Conference Board RECORD (June, 1971), pp. 16-24.

need better ways of incorporating the information that now exists into the decision-making process. Only then is it possible to assess the benefits of new procedures for obtaining the data.

The measurements used to convey the financial value of the project may discourage anything but the most cursory attempts to determine an accurate sales forecast. Consider some examples of problems that have been observed in working with firms in new product development. In one firm the new product involved a technological breakthrough in manufacturing costs; this would have allowed a significant reduction in selling price compared to products now on the market. The marketing department had designed a market research project to determine the price sensitivity of the product. Their report, which had a major finding that the sales in the first two years would not be significantly affected by a higher selling price, was still being written, when the division manager announced a new selling price in the trade press. His price was based on a payback analysis prepared in the accounting department. The division had always used a target payback period. When this procedure was used, the selling price could be lower than products currently on the market. The result was an initial selling price much lower than what the marketing group had been planning to recommend in their report and one which they felt would impair the introduction of the product because of perceived quality problems by major customers.

Another firm had had a major market research study made to

assess the sales growth of a new product in major market segments as a function of selling price. Almost all of this effort was negated when a manager at a higher level felt that the growth rate was not fast enough to persuade corporate management to back the project. The forecasts were changed to show a faster growth rate so that the payback period would look better, even though the project was profitable when using both present value and time discounted return on investment. Since the product has been on the market, the original sales forecast appears to have been correct. Pressure is now exerted to continue using the revised forecast in the five-year plan because it had been submitted in the project proposal to the corporation and a change would need to be explained.

In another firm extensive effort was devoted to evaluating alternative marketing strategies to be employed in introducing the new product. Because existing procedures on cost evaluation called for only one sales forecast, only the most optimistic forecast was used to develop the facility requirements and cost estimates. Consequently, the marketing department was not able to get a financial evaluation of other alternatives, even though some felt they might be more profitable in the long run.

In all of these situations, and many others like them, more information was available but it was not used. The results were some poor decisions on price and manufacturing facilities as well as frustration among the marketing people involved. The procedures used

not only did not fully utilize the information that was available, but they also discouraged persons involved in the analysis from attempting to do a better job of improving information sources.

Summary

The question raised at the start of this paper was whether or not the time spent by managers and analysts in the new product investment decision process could be used in more effective ways. It has been argued here, by describing the process and citing some typical problems, that improvements can be made in the project definition phase of this process. Because the decisions made in this phase of the project can significantly influence the ultimate success of the project, there is adequate justification for trying to improve the use of information.

It is recommended that procedures such as risk analysis models should be evaluated according to their value in improving the way the new product project is organized and coordinated. Unless a particular procedure will bring improved integration of all the different information needed to develop a project proposal, none of the additional benefits made possible by advanced methods of market research and data analysis can be achieved. Only when we start evaluating new tools for problem solving in terms of both their behavioral and quantitative impact will we begin to make progress in improving decision making.

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