

YARDSTICKS OF MANAGEMENT

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INTRODUCTION

"How good is a company?" "How well has it done?" "How well will it do?"
"What's wrong with a company?" "Where is it weak?" "Where is it strong?"
"What can he do to make it better?" "What can I do?"

These questions, evaluating a company, have always been most difficult to answer. They are important to many people, divisible into three groups. (1) The outsiders; the prospective employee, wondering whether or not to work for a company; the investor, wondering whether his money will be well invested there; the supplier, wondering if it is safe to sell; the purchaser, wondering if it is advisable to buy. (2) The managers - the men at the top level - the board members, the presidents, each wanting to know if the company is the best possible, wanting to be sure that they have fulfilled their jobs in the best way, wanting to know what else is to be done. (3) The subordinates in the company - heads of departments - wondering if their segment is as good as it should be and wanting to find out in what way it could be improved.

We have presented here what we believe to be the best approach to finding the answers of these questions. Our approach is primarily for those in the second group, for they have the broadest view, the most facts available to them and are the ones to plan further action. But we believe that the use of this method will also lead others closer to a true evaluation of a company's merits and weaknesses.

Business Administration is not a science. We foresee no way of putting numbers into an automaton and discovering whether or not a company is good. We do not feel that a calculator can tell how to budget a marketing program or what the product mix should be. The running of a company and the evaluation of one depends primarily on the judgment of those who are doing it. A pear cannot

be criticized because it is not as round as an apple. What we have tried to do is collect in a logical order the questions that should be asked in studying a company. The vital function of placing various degrees of importance on different areas must be left to the analyst. He would not give as much emphasis to the advertising of Westinghouse Air Brake as he would to that of Colgate-Palmolive-Peet. This paper will try to show the fields that should be covered and methods of covering them. With this as a background the analyst should have less fear of the tremendous size of the job before him.

One word of caution...For some people, an analysis may be an action. The president, by asking questions of one man about another, can lead to discord and in trying to find out what is wrong may cause something to be wrong. At the same time the asking of these questions may also lead to constructive thinking on the part of others. Again the use of the following method must be left to the judgment of the user. We wish to thank

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in the preparation of this paper. They have led us beyond the textbooks and shown us how this has been done in practice. The diversity of their approaches, all meeting with varying degrees of success, has shown that the job can be done in a variety of ways. But at the same time, their feeling that the best method has not been found and their interest in new findings have been encouraging to us in our attempt to find a better method.

OVER-ALL YARDSTICKS TO DETERMINE QUICKLY HOW THE COMPANY IS DOING

The first step in analysis is to get a general idea of how the Company is doing. This can be achieved by looking at three things: Sales, Profits, and Financial Position. There are various ways of examining these figures, none giving the entire picture of a company, but all important as background for further analysis.

I. Sales

To get more than an indication of the present size of the company, the annual sales figure should be related to the trend and the industry.

For example: Colgate-Palmolive-Peet is a large company, by virtue of \$211,000,000 sales in 1950. Its expansion has been rapid, tripling in size since 1939 when sales were \$77,000,000. But looking at the industry shows that Procter and Gamble sales are \$633,000,000, having grown in the same time from \$190,000,000.

But dollar sales volume does not account for other factors that may have influenced the company over a period of years. To compensate for price changes, American Smelting and Refining Company gives the prices of its products an important place in the annual report, enabling the analyst to study changes in volume. General Electric includes a product price index in its annual report. General Motors gives the number of cars and trucks it produces, along with those turned out by the industry, enabling the analyst to see both changes in volume and changes in industry percentage. U. S. Steel reports production in tons; Kennecott Copper reports the tons or pound production of each item produced and sold.

Allis Chalmers gets closer to actual sales volume, by not only recording shipments, but showing orders received over the same period and orders on hand.

This gives a closer picture of what is actually happening in the market.

Standard Oil of New Jersey calculates sales per dollar of plant investment; U. S. Steel shows sales per dollar of capital. This tries to point out whether additional money invested in the company has brought out as great a volume. This figure, affected greatly by price changes, would be more accurate if it could be calculated in production units, but this would be quite difficult to get. Most companies draw up budgets of expected sales volume. A comparison with this budget can show variance attributable to sales factors or to the budget department's failures. A look at this, generally limited to insiders, may raise questions to be answered later.

In analyzing sales quickly, the questions are:

- How much is the company selling? In dollars? In units?
- How does this compare to the past?
- How does this compare to the industry?
- What other factors should have made the sales figures different than they were in the past?
- How does this compare to expectation?

These questions begin to show how well the company has done up to the present, in relation to other companies doing about the same thing.

II Profits

Profits should be analyzed in the same way, against the trend, against the industry and against expectations. Here a major factor to account for is taxes, and profits should be looked at both before and after them. Profits are a reflection of costs, and looking at their percentage to sales show (1) changes in efficiency and (2) efficiency in comparison to others. They also give indications of how much money may be available to plow back into the business, or with high taxes how much more may be consumed by useful business expenses, i. e. research or increased advertising, etc.

The investor looks at dividends and earnings per share to find out how much he will earn, but the management measurer will look at them to find out how

much money is retained in the business and what the demands of the stock holders on management have been.

Again these figures can be adjusted. DuPont watches return on the Average Operating Investment, U. S. Steel watches return as a per-cent of invested capital, Goodyear and Reynolds Tobacco watch income per dollar of sales, Kennecott and Colgate watch per-cent of domestic and foreign earnings, and First National Stores watches income per store. These are all merely ways of looking at earnings to account for changing factors, each one fitted to account for the most important change in the organization. The analyst can find one of these or can use a new one that would be important in the specific company he is studying.

The questions are again:

- How much money is the company making?
- How does this compare to the past? to the industry?
- What other factors should make a change on the company earnings and what changes have they made?
- How much money has been left in the company out of earnings over the last period of years?
- How does this compare to expectations?

III The Financial Position

In this stage of analysis, a look at the financial position is only useful for getting a general idea of the strength of the company. The questions asked may be:

- How much cash is there on hand?
- How much working capital?
- How large, what are the trends in inventory?
- What is the working capital ratio?
- How large are current liabilities?
- Is there any impending large debt outstanding?
- What is the relationship between debt and capital?

A quick look at these, without detailed analysis, can give a general idea of the financial strength of the company.

These questions may help point out places to look in further analysis, and they may give reasons for actions discovered later, but they are not answers to the question "How good is a company?" For instance, Kaiser Steel has a much

higher debt to capital ratio than any other steel producer. But other considerations, such as their favorable geographical position make this possible. Again; two competing companies may have varying rates of inventory to sales, but either different product mixes or different inventory taking dates may be important factors.

Thus the two questions answered by this quick look are really "Will the Company be in business tomorrow?" and "Are there any outstanding factors in the financial position that influence the rest of the company's operations?"

IV Other Quick Looks

Some companies have other quick ways of measuring their position and change. Some think it is important to see how many people hold their stock (National Cash Register, National Dairy, American Radiator and Standard Sanitary, Diamond Match). Others list the number of employees, alone or in addition. (International Paper, International Harvester, Celanese Corporation of America, American Smelting and Refining). General Motors watches the average hourly rate and number of hours worked per employee. Many companies show the total dollars paid to the employees (Aluminum Company of America, American Can Company, Pittsburg Plate Glass).

These are methods of measuring growth and relations with the public, useful as a general background to company analysis.

As a start then, for anyone analyzing the company, it is worthwhile to watch sales, profits, and financial position. The various company examples above were given as representative of some of the different methods presently used to measure these factors. They can be applied by any analyst on any company but their importance may vary considerably.

As an aid in industry wide comparisons, a partial list of places to get information is included in the appendix.

EVALUATION OF OBJECTIVES AND POLICIES

In this Section will be outlined a way of evaluating company objectives and policies, determining how closely they are being followed and deciding what changes to make. The steps in the process will be as follows: (1) the definition of objectives and major policies; (2) an examination of them for possible inconsistencies; (3) a study of conditions outside your company against which to compare objectives; (4) a study of your company's assets and capabilities as related to the objectives; and (5) a reconsideration of past objectives in the light of your company and the world around it in an attempt to improve its competitive ability.

Since no two companies are exactly alike (nor should they be) we feel that no universal standards can be set up the problem is one of individual adaptation by each company to its environment. As a result this chapter contains mostly questions to stimulate or challenge thinking in these areas.

I Definition of Objectives and Policies

A. What are Objectives and Policies?

Objectives are the purposes for which your company exists and the goals for which it strives. Policies are the means to those ends, the "rules of the game" for the attainment of objectives. A semantic argument over the difference between the two would be useless, but an example may help. In the early years of its existence the General Electric Company had as objectives the sale of generating equipment and the development of the electric power industry. As a policy it adopted the practice of accepting securities from utility companies in payment for generating equipment.

B. The Need for Objectives and Policies

Objectives and policies are needed to guide activities in, and emphasis on,

the various company functions (e. g. sales, production, product development, etc.); to make for consistency of action against competitive elements, outside forces and trends; and to aid proper coordination between functions.

Evaluation of your company's performance must be made in terms of these objectives. The question is how well they are being fulfilled?

C. Crystallizing Your Objectives

Probably one important objective of your company is to be profitable, but in order to aid the definition of other goals it may be helpful to consider your company in relation to several groups including customers, competitors, employees, stockholders, the community and the government. Below are some questions which we believe will be helpful in clarifying objectives.

- (1) At what market are you aiming with your product? What place in the market is desired? In what price range? What quality? What service offered? What general marketing program?
- (2) What rate of change in your company is desired? Do you wish to lead the field with innovations or rely on tested products? Do you want to develop wholly new markets?
- (3) What size company do you want? What rate of expansion?
- (4) What type of ownership is desired? closely or widely held? Family control?
- (5) Are you most interested in profits or is security of income equally important? Do you want dividends or expansion through reinvested earnings?
- (6) What geographical location do you prefer for plants and markets?
- (7) What are your goals in employee relations? What is your attitude toward labor unions? Do you care about building a loyal work force with many years of service?
- (8) What are your goals in relations with the public? What part do you wish your company to play in the community in which it operates? What reputation do you want your company to have? What sort of relations do you wish with your local, state and federal governments?

It is recognized that your company may not have objectives in all areas

mentioned above, and it may have others not suggested. The important thing is to define objectives as clearly as possible and to recognize which ones are the most important to you.

II Conflicts Among Objectives.

Once objectives and major policies have been defined the next step is to examine them for possible conflicts among themselves. For example: If you want to expand your company, and retain close ownership, can you afford to go without dividends for many years? Or are you in several different businesses, such as having one consumer line and one industrial line.

Wherever conflicts arise, either some decision must be made as to which objectives are more important, or else, as in the case where different lines of products are to be made, this division and its consequences must be recognized.

With the objectives now clearly stated and reconciled with each other, it is necessary to look at the outside world more closely.

III Examination of Outside Forces

Since no company can operate in a vacuum, its objectives and policies must be evaluated in the light of outside conditions to see if they are sound competitively.

In order to study the effect of past changes and possible future trends in the world outside the company, we have divided this section into the following areas:

A. World Conditions:

- (1) International tensions and wars
- (2) Nationalist legislation abroad

B. National Frame

- (1) Federal, state and local governments.

- (a) Protection by patents and tariffs
- (b) Regulation
- (c) Direct competition
- (d) Taxation
- (e) Purchasing for military and civilian use.
- (f) Lobbying

(2) Business Conditions

- (a) Cycles
- (b) Purchasing Power of the Dollar

C. Industry and Inter-industry Competition

(1) Technological change

- (a) Rate of change
- (b) Nature of changes

(2) Market shifts

- (a) Location
- (b) Habits
- (c) Tastes

(3) Growth of industry

(4) Labor organizations and activities

(5) Competition

- (a) Location
- (b) Size
- (c) Competitive appeals and advantages.

In reading the questions below, the main question to be answered in the end is: What are the consequences of past changes and expected future changes on the objectives and policies of your company?

A. World Conditions

What effect have previous wars had on your operations? On your raw material supplies? On your foreign market? In what areas of the world are future wars most likely to break out? What might be the consequences of a decrease in international tension? What seems to be the prospect for peace or war?

How have your markets or raw material supplies been affected by the increase

or decrease of national trade barriers abroad? What are the prospects for freer (or less free) trade? What effect might developments like a European union have? How have changes in the conversion rate of foreign currencies affected your company? How will they?

B. The National Frame

What protection have you had from patents or tariffs? Will these expire soon or be repealed? How does the government regulate your business? Price ceilings? Controlled materials? Anti-Trust laws, etc.? What effects have these had? Will they have? Has the government entered into direct competition with your company? Will it? What did it, or will it do to your industry? What is the trend of income, excise and property taxes and what are the effects? Has the government purchased goods from you in the past? What trends in government spending are evident? What influence has your company exerted by lobbying or testifying before government groups? Through public advertising? What can be done in the future? What about competing lobbyists such as labor unions or other industries? What will a change in Administration mean to you?

What effect have past business cycles had on the industry and your company? How did other similar companies survive depressions? What effect has the last ten years of inflation had on your business? What are the prospects for future business conditions and the purchasing power of the dollar? What will this mean to your company? How can you be prepared?

C. Industry and Inter-Industry Competition

What have been the important technological changes in the industry? Of what type were they? New Processes? New raw materials? What does the future probably hold? Are other industries developing products that may compete with yours? How rapid is development in your business? What efforts do you make to keep in close contact with technical changes?

How have markets changed in general? What trends are there? Shifts in location, such as the westward movement of population? Changes in habits caused by changes in living habits? Changes in tastes? What does this mean for your company? How do you know?

How much has the industry grown? Will it grow faster or not? How has it grown? Through earnings? Public security issues? Have companies in related fields entered the industry?

What is the history of the labor movement in your company and industry? Have you been among the leaders in opposing the union? In accepting it? What is the trend in labor relations in the industry? Will the union increase its membership?

Who are and have been your competitors? Where are they located? Have they moved? Why? Have they grown faster? Is there a dominant firm in the industry? How did it get that way? How does it dominate? What advantages do competitors enjoy? Nearer markets or raw materials? Mass production? What sales appeals do they use? Price? Quality? Service? Will it be better to "follow the leader" or try a new approach?

All these questions, of course, will be of different significance to different companies so that it is impossible to state any universal principle. It is hoped, however, that these questions will help you to test your company's objectives and policies against changes in the world around it and to prepare for what seems to lie ahead.

IV Internal Limitations and Assets

In addition to relating objectives and policies to the outside world it is also necessary to study the organization and resources of your company to see how it is suited to the attainment of your goals. We have divided the problem into the following areas:

A. Organizational Structure

- (1) Suitability to product lines.
- (2) Relative importance of functions.
 - (a) On organization chart
 - (b) In money expenditures
- (3) Inter-departmental relations
- (4) Flexibility

B. Executive Personnel

- (1) Executive abilities and talents
- (2) Succession problems
- (3) Executive burden

C. Board of Directors

D. Labor Force

E. Physical Plant

- (1) Replacement
- (2) Expansion

F. Credit and Financial Resources.

- (1) Banking connections
- (2) Stockholder relations

A. Organizational Structure

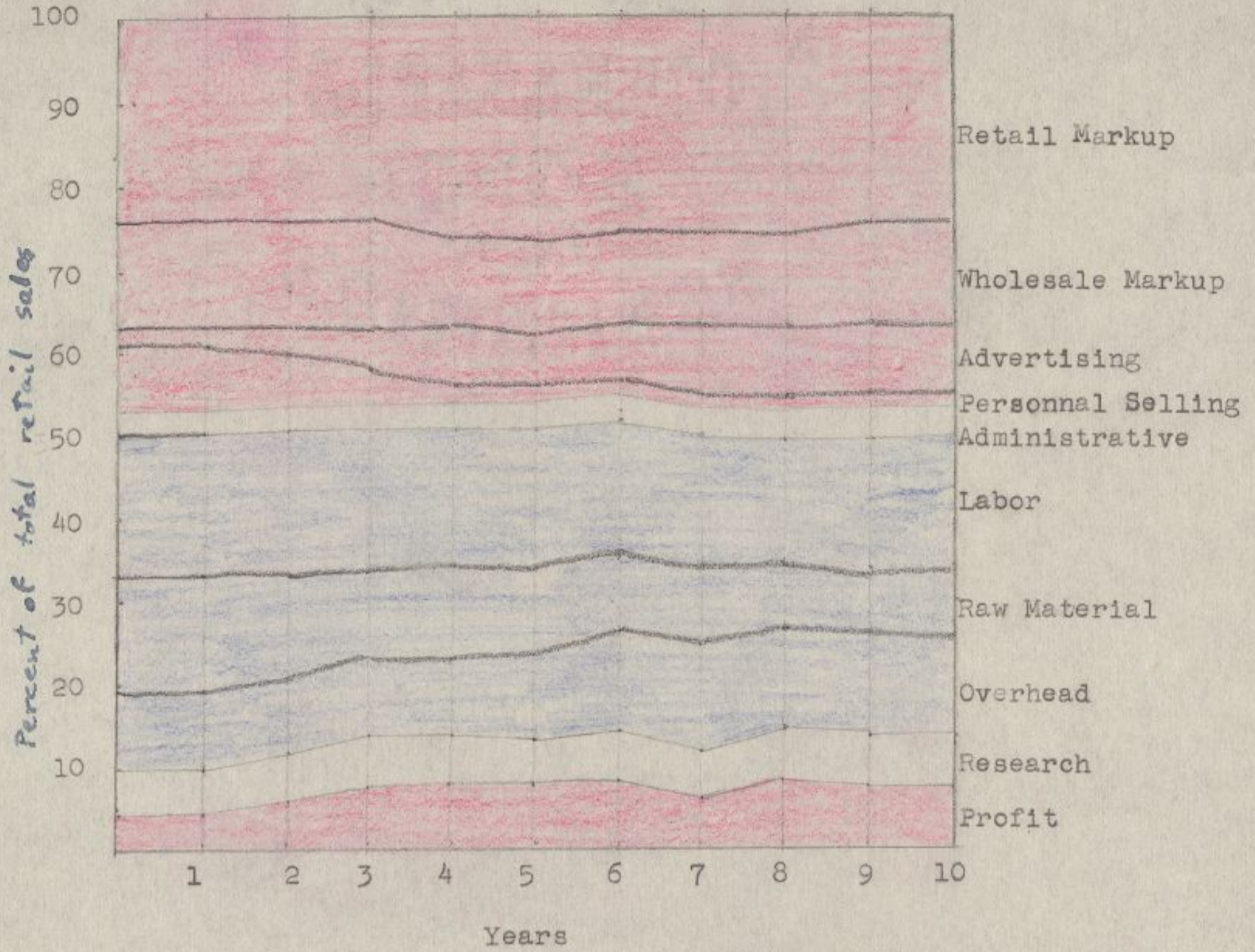
Is the company organized in such a way that widely differing product lines may be treated separately? How has the organization changed with the product line?

Which departments or functions are most important to the attainment of objectives? How important are these departments in the actual organizational structure? How has the amount of money spent in these departments changed as a proportion of total expenses. (see Exhibit 1). Have trends in expenses coincided with the distribution of effort thought necessary to maintain your company's competitive position.

What relationships between departments or functions are important for competition? Is your company organized to facilitate such cooperation? Do you have useful committees?

EXHIBIT 1 XYZ Corporation

Percent



The changing width of each band shows the trend of costs as a percentage of retail selling price. From this chart it is clear that personal selling has been reduced in favor of an increase in advertising. Labor has grown as a proportion of manufacturing costs, while raw material costs have decreased.

Is the organization sufficiently flexible relative to the rate of change in the industry and to your objectives?

B. Executive Personnel

What talents and abilities are necessary in the higher executive positions? How do the present executives compare with what is desired? How many executives are "figureheads". Are any important departments headed by incompetents?

How well prepared are you to replace executives who may be lost suddenly? Have men been brought in from the outside before? What attention is paid to executive development in relation to the needs of your company.

How heavy is the work load of top executives? Are they sufficiently free to give attention to the future and the formation of policies? Do all executives have enough work to do?

C. Board of Directors

What do you expect from your Board of Directors? How were they chosen? Do their occupations bear any relation to your business, objectives or problems? Is there sufficient outside representation to give you the advice and broad outlook you need? What particular sources of information, professional skills, business abilities and judgment would be of use to your company? Could you assemble these in a board of directors?

How often does the board meet compared to company needs and problems?

D. Labor Force

Is the company unionized? Is the industry? What is the trend? How does this compare with your objectives? Is your company the principal employer in the community? What limitations result from this?

What changes in plant and machinery can be made with the consent of labor? What has been the company's ability to decrease wages in bad times? How has the labor force been able to have wages raised in good times?

How do restrictions on company activities by the labor force affect objectives and policies. Can you build the labor relations you want?

E. Physical Plant

Has plant capacity always been adequate? Has it been excessive at times? Can production processes be changed? Can you change the proportion of products produced or do you need new facilities for that? Is equipment obsolete? Can you expand or contract?

How well-suited is the plant to your business and competitive ability? To the attainment of your objectives?

F. Credit and Financial Resources

What limitations have cash shortages placed on you in the past? Are there any immediate problems of finance? How does your financial structure compare with your objectives? With your needs for flexibility or for profits?

How are relations with bankers compared with the need for borrowing? Do your bankers have confidence in your company? What limitations have bankers put on you?

What has been the attitude of stockholders to an increase of debt? To an issue of common stock? How do stockholder pressures for dividends compare with your objectives?

How have financial limitations of all sorts affected operations and the attainment of objectives? How may they in the future?

V Reconsideration of Objectives and Policies

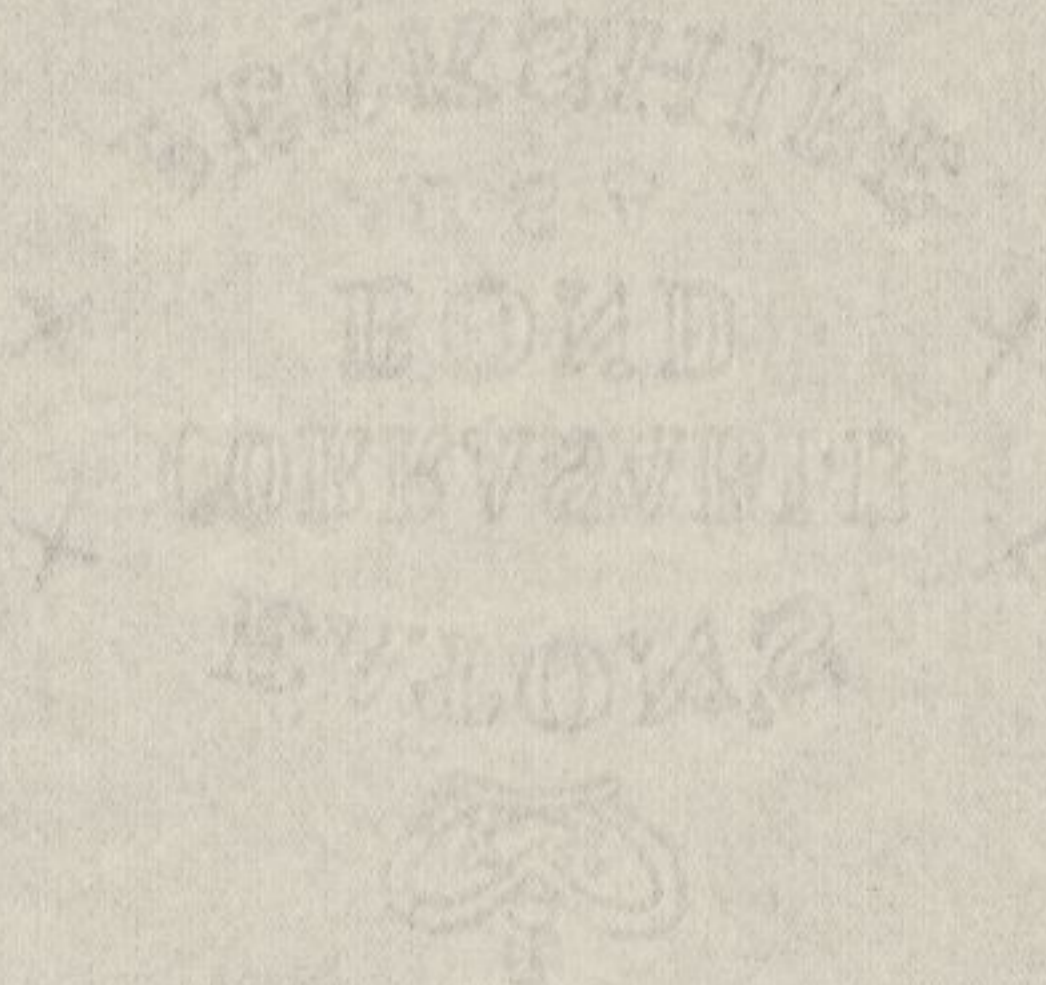
After examining objectives and policies in relation to outside forces and trends and the characteristics of your company, you may be better prepared to judge how good these objectives and policies are, to what degree they are being followed and what is the best plan for the future. For example, perhaps a line of products has been taken on to use idle capacity but which actually requires quite a different selling method. If a corresponding change in the organization has not taken place, it may be necessary to resolve this conflict

between product objectives and the ability of the company. Or else perhaps you have decided that selling emphasis is important, particularly advertising, but actually total selling expenses may have been decreasing as a percentage of total sales or larger distributors markups may have been granted. Here some choice would be necessary as to whether to enforce the old policy or change it to meet reality.

In any case, after the usefulness of your objectives and policies in competition and their practicability for your company have been examined, and some conclusions drawn as to where weaknesses lie, the next step is to formulate a tentative list of new goals and competitive methods and to compare them to what you expect in the future. Much the same procedure as has been outlined above for evaluating your present objectives would apply to your tentative future ones. Essentially the questions would be: How well will your objectives fit into the world outside, and what consequences will they have on your company's structure, personnel and physical assets? Past overall operating results, discussed in the previous chapter may help in deciding what past policies have proved best and should be retained at the expense of others.

The following chapters concern themselves with a closer analysis of the functions of the business which carry out policies and objectives determined at a higher level. Two approaches are presented to determine how well specific functions (e. g. sales, research, manufacturing etc.) are performed. The first is the product approach which attempts to pinpoint weaknesses through a careful study of the product in relation to its competitive environment. The second is a method of analysis of how well these functions are organized and how much they have contributed to company success. Those functions which are particularly important to your company's efforts should be given special attention.

tention. In addition, the policies and activities of the various departments should be compared to your broad company objectives and policies for possible inconsistencies.



LOOK AT YOUR PRODUCT

A manufacturer is in business to make a product; therefore, one extremely important way to evaluate how he is doing is to look at his finished product and see how it compares with competition and whether or not it is in line with the objectives of the company that have been previously determined.

In this context product means more than merely the product itself. It includes price, service, and reputation. It would be artificial to consider these elements apart from the product. Therefore, when we say look at your product in comparison with competition and the company's objectives, we want you to look at price, service and reputation in addition to the product.

This concept of looking at the product has the advantage of evaluating the results of a company. By looking at the product you can get an idea how well the company is performing its principal job of fabricating a product. In addition, if you find that your product does not compare favorably with competition or with the objectives of the company, you will have a good idea where to start looking for the trouble. For example, if your product doesn't look as well as your competitors', the most logical spot to start looking for the cause of this trouble would be to talk to the person who is responsible for the design or engineering function of your business.

As we have already suggested, it is important to look at your product at the present time. It is also important to look at your product over a number of years to see the trend in its development...How it has reacted to changes in the market and in competition. Looking at the product in this light will reflect the momentum of the company, and perhaps indicate trouble spots where the required momentum has been lacking over a number of years. In addition,

it can promote some productive thinking about how your present plans about your product fit into the future trend of the market and the future trend in the competitive situation. A specific example of what we have in mind can be found in the Lever Brother's Company's failure to appreciate the market potential for detergents in the post war era. They miscalculated the trend of the market in the acceptance of this new type of soap product, and consequently their competitive position suffered greatly.

Many manufacturers are engaged in producing hundreds of products, and may feel this idea of looking at the product would be too time consuming to be useful. This will not be the case if the hundreds of products are broken down into classes of products and then analyzed as classes rather than as individual products.

We are including below a list of questions which spell out our concept of looking at the product. Answers to these questions will lead to specific areas in either operational levels or policy levels or both.

A. How does the quality of your product compare with your competition?

1. How does the looks of your product compare with your competition?
2. How long does your product last compared with your competition?
3. How does the cost of operation of your product compare with your competition?
4. Is your product as easily used as your competitors'?

B. How does the price of your product compare with your competition?

1. How does the price compare at all levels of distribution?
If unfavorably, is their adequate reason?

C.

1. Do the right people know the right facts about your product?
2. Can the right people get your product when they want it and where they want it.

3. Is the service we give in the areas of delivery, repair and advice in line with trade practices? If not, why?
- D. Has the reputation of the product or the company affected your sales? In what way?
1. Have your relations with different groups affected your product or your operations? For example, employees? stockholders, the community?

These questions will lead you into a consideration of the following areas:

research and development
engineering
production
personnel
purchasing
marketing

We will attempt to evaluate these areas in the light of how they affect the product and further the objectives and policies of the company.

RESEARCH AND DEVELOPMENT

Research and development is placed at this point in the report because its results will most likely be shown in the product in its relation to competing products. The degree of emphasis which should be placed in the research activity depends upon the analysis which leads to the desirable distribution of effort. This subject of how much effort to place in research is discussed further in the third part of this section.

An analysis of how well you are doing in research and development falls into two parts: (1) how well you have done in the past, and (2) the best estimate of how well you are doing now, and what results can be expected in the future. Thus, criteria are presented to evaluate the past in the first section, and the present and the future are considered in the following five sections - the Research Director, How much to spend, Direction of the Research effort, Control of Research and Development activities, and Future of Research in the Company. Because the future effect of current research activities is difficult to measure, the yardsticks in the last five sections are more guides to action than positive indicators.

I Past Results

Changes (as a result of research activities) in the product line and in the manufacturing process relative to competition are the best evaluation of past performance. Several yardsticks are developed below which will help in this analysis.

- A. What additions have been made to the product line due to research activities? What additions have been made to accessories or auxiliaries due to research activities.

Few additions could indicate an inadequate research organization or inadequate funds devoted to research.

- B. What has been the trend of new developments in your product line relative to competitive changes? Have you been getting more or less in the last few years.

This trend is significant in that it indicates whether research is filling its role of keeping your product line competitive and points the way to action.

- C. Does your product have weaknesses in certain areas? (For example, does the quality of metal in your product have adverse effects on sales results or manufacturing costs?)

If the answer is yes, this may be an indication there is inadequate liason between research and other activities, or that the research department is not adequate for the job.

- D. Where would you be without research?

Though results may be disappointing in terms of dollars spent, the fact you retained your competitive position may be more significant in terms of profits, now and in the future.

- E. What changes have been made in the production processes as a result of research activities?

This could indicate a lack of liason between manufacturing and research, or that your research organization is not adequate.

- F. How much money has been spent on research in the past? Where has the money gone - for example, the relation between fundamental and applied research?

All of the preceding five yardsticks have more meaning in relation to the amount of money spent. If the new products and other developments have resulted in increased sales or profits, a comparison of increased profits to research dollars is possible. However, retaining your competitive position is less easy to evaluate. Though a comparison of research results with dollars spent on research is difficult, at best, a knowledge of where research money was spent may give a guide to better operation in the future. Better results may accrue from spending the money in different methods - for example, more or less fundamental research.

II The Research Director

The following five sections are concerned with what you are doing now as a guide to future results. As such, they are less quantitative and tangible than an evaluation of past performance. In many cases, the yardsticks are items which should be considered if research is to be effective. Thus, the yardsticks are - Are these things being done?

The Research Director occupies a very important position in the corporation as far as effective research is concerned. Through his understanding of natural science and the men under him, he can relate technical discoveries to the product line and the manufacturing process.

- A. Does he combine a sound understanding and background of natural science with a commercial bent (an ability to relate science to the commercial success of the corporation)?

This is very important because he is the liason between the creative scientific men in the department and management who want profitable results. Further, with these qualities, he can bring commercially sound projects to the company which management, not as familiar with technical developments, would be unable to see.

B. Is he satisfied with the results of the department?

If he has kept in touch with the numerous activities in the technical world and has seen the results of the department in this context, he will be anxious for results. Further, if he has that commercial bent which wants to translate science to competitive business, he will always be pressing for better developments. Thus, a sense of urgency and a dissatisfaction with results are things to look for in your evaluation of the research director.

C. What are the past results of the department under the research director?

As time progresses, it is possible to evaluate the director on a more tangible basis. The results of the department furnish an evaluation of the research director.

III How Much to Spend

As mentioned in the introduction, the question of how much to spend depends upon the analysis of the importance of research and development. However, there are some other considerations which will be discussed at this point.

A. Is the advice of the research director followed?

Much money can be wasted if the research director's opinion is not considered. His knowledge of the equipment available, the quality and number of personnel in the department,

and the number of possible projects available might suggest a different expenditure than management might want to spend.

B. Does "every cent have a meaning"?

First, have alternative methods of doing research projects been evaluated? It might be more profitable to have the work done outside the company, by a university, an institute or foundation, or an industry-sponsored project. Or perhaps, a project may have been done by someone else at an earlier date, though no one in the company is familiar with it. Second, are proposed projects relevant to company success? Perhaps some could be omitted without detriment to the corporation. In this connection, the research director should be able to describe the possible results or value of a project to the company.

C. What are the past results of company research?

Additional funds are better advised if the research department has a record of "successful" developments - those which have led to increased or continued profits through new products, better products, or improved manufacturing processes.

IV Direction of the Research Report

Direction is defined as the perspective and information needed to plan research activities. Adequate direction includes a consideration of three sets of factors. These factors are yardsticks in the sense that direction should be based on a consideration of all three factors. The extent they are being followed is an evaluation of the "direction" given to research.

A. Does research have contact with sales and engineering?

Profitable research projects can come from suggestions of sales and manufacturing personnel. It is important the Research Department have some contact, formal or informal, with these departments.

B. Does research have contact with trends, forces, and developments in the world outside the corporation; specifically,

1. Outside scientific organization such as the National Research Council, Arthur D. Little, Patents Gazette, National Academy of Science, Universities, Institutes and Foundations, Suppliers and Vendors. You should keep in touch with organization engaged in research activities related to your business. This will permit you to know what is going on in the scientific world relative to your operation and where to go for certain types of information or to have research studies conducted.
2. Other corporations, particularly those with large research activities and a good record of new developments through research and development.

This will give you an idea of what to expect in new developments which might affect your operation. Further, you may be able to develop some sort of cooperative relationship with these companies; on a royalty or lease basis, for example.

3. Industry sponsored projects and facilities.

These projects will have a close relation to your operation, being in the same industry. Use of these facilities may be more economical than conducting experiments in your own laboratories.

C. 4. Activities outside the United States

The scientific endeavors of corporations or institutions in other countries may be of great value to you. An effort should be made to locate those places doing work related to your operation.

C. Does research have contact with management?

Management (meaning the top ranking officers of the company) may be more conversant with competitive needs and can be instrumental in directing research. Further, management will approve research appropriations and may be the determining factor in what work will be done in the research facilities. To this extent, they are not only providing research direction, but they are controlling the research operation.

V Control of Research and Development Activities

Control is closely related to direction, since it is seeing that research activities are in tune with your "direction information". Control is considered at two levels - management level, i. e., how does management control the research activity; and the Research Director level.

A. Management level

1. Does management receive reports on projects and activities?

These reports should explain what the research department is doing and why. They permit management to keep track of research activities and to periodically evaluate them. Further, they keep the research director thinking in terms of company needs.

2. Is there adequate management contact with the research director?

This is probably the most useful type of control over research.

By questioning the director on new projects, management can determine their relevance to company success. Management can see whether the director has thoroughly considered the project. Further, the yardsticks of the research director can be used in these contacts. That is what does he know about the company needs, how is he relating scientific developments to the product line, how does he go about solving technical problems of the company, etc.

3. What is the relation of money spent on fundamental research as contrasted to applied research or development?

Management (although this could be at the research director level) should control the amount of money spent in fundamental and in the applied research field. Size of the company, needs of the industry, and past experience are several determining factors. The yardstick is have you thought about it.

4. What does management do with research discoveries - are they patented, kept secret, issued on a royalty basis, are they publicized etc.

Past experience, industry patterns, government attitudes, possibility of cooperative relationships are factors which will aid a decision. Here again, the yardstick is have you thought about the possibilities.

B. Research Director Level

1. Are the personnel trained and equipped for research in this company?

By selection and observation of personnel, the director can control the effectiveness of research. In selection, factors such as their training, their background, their interests, etc. should be evaluated carefully. After hiring, close observation of interests and contributions is necessary.

2. Is the equipment satisfactory for the job to be done?

Perhaps better equipment is needed. If equipment price is prohibitive, universities, institutes, or industry sponsored projects are alternatives.

3. Is the atmosphere conducive to creative work?

An atmosphere of individual initiative is very important.

The research director's method of presenting projects to his men and his encouragement to them along lines beneficial to the company can increase the chances of success.

4. Does the research director receive reports from his department?

Individual reports can help the research director keep track of what each of his men are doing. In most organizations, personal contact is possible, and is usually desirable. The reports have a more useful function in that they make the men write down what he is doing and how it will help the company.

ENGINEERING

This section will be devoted to continued product development and to the "usual" engineering functions of tool planning and design, inspection, and maintenance as they contribute to the product.

I. Quality Improvements

It may be possible to measure the contribution of the engineering function to the quality of the product in several ways. The important things to measure are, (1) how well the consumers' wants are being filled, (2) how well they are being anticipated, and, (3) how well numbers one and two are being done compared to competition. While the sales figures and their changes reflect product quality to a large extent, so many other variables are reflected in sales that some measure is needed which points more directly to the designing and inspection activities of the engineers.

One yardstick is the rate of complaints and returns classified by cause. This rate compared to previous years' rates would indicate how well the inspectors were doing their jobs, or how good the inspection system is, or both. Evaluating complaints and returns in terms of secondary uses of the product is also important.

An important part of keeping such a record would be its effect on keeping the design and inspection men on their toes about complaints and keeping a steady flow of information from the sales department to the engineers. This flow of information is very important and it is necessary to determine whether or not it is being accomplished.

The existence of such a flow is a good sign of "consumer-mindedness" on the part of the engineers, and indicates an ability to react quickly to new consumer needs. This, in turn, leads to another measurement of this part of engineering performance:

What significant improvement in the product quality have been made in the past year (or other period) as a result of, (1) engineers' ideas, (2) customer

suggestions, or (3) other influences (eg. competitor's ideas)? The number of improvements as a result of engineers' ideas would measure to some extent the engineers ability in anticipating worthwhile changes. Changes resulting from consumer suggestions would indicate the ability to respond to fill a need. In many companies it would be extremely difficult to draw a line between original thoughts and consumer suggestions so the figure would have to be combined to be meaningful. It is more useful to look at the importance of the suggestions than at the number received, because your company is interested primarily in how much advancement has been made in improving the quality of your product.

One of the principal aims of product improvements, of course, is to improve your competitive position. Some measurements, therefore, of quality improvement compared to what your competitor is doing are important. Two useful yardsticks here would be:

- A. How many significant product improvements in the past year (or other period) did a competitor introduce ahead of us?
- B. How many significant advantages exist in competitors' products which we have not yet adopted?

The first of these two questions gives some measure of how your company's engineering department compares to your competitors'. The second question would be of some use in leading to an investigation of why the competitors still had such advantages and why they are not incorporated into the company's products.

II. Production Cost Reductions

A second major function of the engineers is to lower the cost of producing the product by changes in design that make it easier to assemble or machine or less costly to buy materials. Some of the measurements which apply in this area are similar to those discussed above. Other questions that may lead to an appraisal of the cost reduction efficiency of the engineering department are listed below.

- A. What significant changes have been made in your product in the past

year (or other period) to lower production costs?

Then, if applicable, more specific questions could be asked in the areas of material and design changes.

- B. What changes in material or design resulting in lower production costs have been made ahead of us by competition? On how many were we first?
- C. Does the engineering department keep the purchasing department informed as to potential changes in raw materials that might be made?
- D. What changes have been made in design or tools as a result of advice from the production department?

Production men's suggestions about design changes for ease of manufacture and for tool innovations are extremely important, and it is useful to see how will these suggestions are flowing from the production men to the engineers. Similarly, the purchasing men's suggestions about sources and prices are important, and here too, it is useful to see how well information flows between the engineers and the purchasers.

What changes in production cost have been made possible through the efforts of the engineering department?

This is a yardstick which would tie all of the above cost reduction measurements into one. This figure might be compared with a previous year's figure or with a good guess at what the competition has been able to do from a look at their products.

III. Department Cost

Measurement of the cost of operating the department and its various parts would seem most logically done with the accomplishments of those parts in mind. In most companies there should be no reason to expect that results should be in direct proportion to money spent so that such exact ratios as number or improvements in quality of product per dollar are not meaningful. However, there should be some relation between the expense of the various parts and their accomplish-

ments. Thus the yardsticks that would be most useful here would be:

- A. An informal comparison of the costs of maintaining the divisible parts of the engineering function in relation to the importance of their contributions to the product.

Inspection costs could be compared to the complaint rate for this year and previous years. If you eliminate other affecting factors, such as changed standards, you can get a feel for whether inspection costs are improving in relation to the job being done.

Since engineering costs can be planned somewhat ahead, a comparison of actual costs with planned costs provides a measure of the skill employed in planning engineering operations.

- B. Lost production time as a result of breakdown compared to other years. Maintenance costs as compared to other years.

These indicators may be useful in judging the maintenance end of the engineering department. Since lost time can mount up very rapidly as a result of maintenance lackings in continuous line industries, the inclusion of both lost time and the cost of the operation seems advisable.

IV. New Ideas, General

What contributions have our company's engineers made to trade journals, and to engineering societies, and what literature is read regularly by these men?

In maintenance, inspection, tool design, and product design new ideas are very important and these new ideas depend on the men in the department. An evaluation of the men in the department will give a good yardstick as to how well the engineering function is geared for the future.

MANUFACTURING

Introduction

Logically following a development of yardsticks to measure the product is a section such as this devoted to methods of determining how well this product is being made and how much it is costing to make it. To answer these questions fully it is necessary to break down the area of manufacturing into three sections. The first of these is purchasing. This might be construed to be that part of the manufacturing process that is done outside the company's own plant. Next will be a discussion of the production process itself. Concluding this area will be a section dealing with personnel, the people who use the machines and equipment to produce the product.

There are a few yardsticks that can give a quick measure of the adequacy of a company's manufacturing organization as outlined above.

1. What is the trend of costs of goods sold over the years? This is one of the best overall measures for it sums up the total manufacturing effort both with respect to purchases, machines, and men.

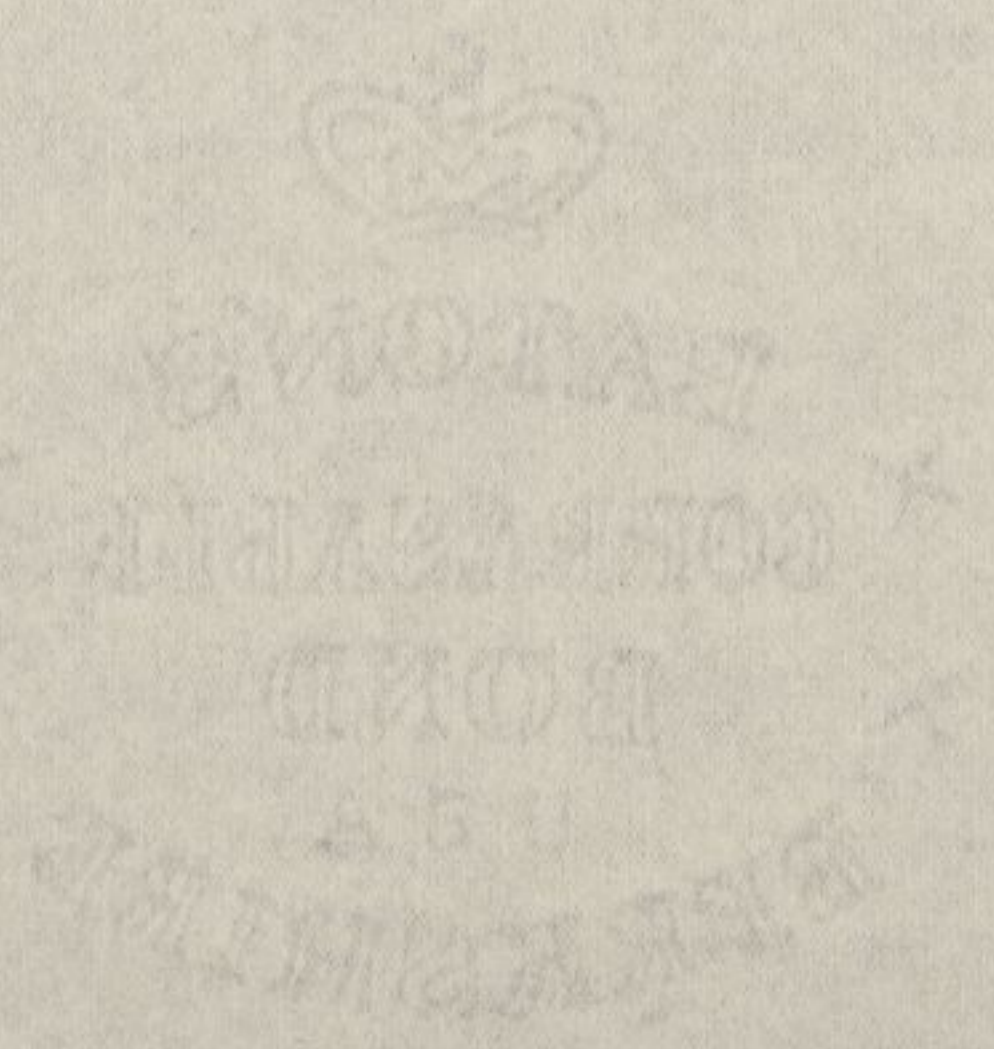
2. Has the quality of the product been maintained at the level that is desired by management? An honest answer to this yardstick can frequently show whether a sacrifice has been made that has not been intended or that has gone unnoticed.

3. Has the manufacturing department delivered its production on schedule? This can serve as an indication of how well organized the department is as well as giving an idea of the competence of the managerial people in this section of the company.

4. Does the manufacturing division have plans to cope with increased costs of labor, materials, or a greater or lesser amount of production? Frequently,

the division is so concerned with its day-to-day problems that it does not plan what action it would take under changing conditions of the type described above.

These very general yardsticks will serve as an introduction to this section on manufacturing. The following more specific ideas in each of the three areas, purchasing, production and personnel will serve better to pinpoint the measurement of the job being done by the manufacturing group.



PURCHASING

I Quality

If the quality of a plant's output is not up to that of competitors, or to what the management of the plant would desire, one cause may be the materials used. To the extent that specifications of material come from elsewhere, the buyer is relieved of responsibility beyond meeting these specifications. That this latter is important, however, goes without saying. Meeting specifications is the single most significant task of the industrial buyer,; after, and only after, its accomplishment can price, service, etc. be considered.

The yardstick by which performance in this area is best measured is the product. Is the product up to competition in appearance? In length of life? In serviceability? The answers to these questions constitute an important yardstick of purchasing performance. These can be found in numerous ways: tests, simple observation, customer appraisal, all can answer, at least partially, the question of whether the purchasing department is doing its primary job satisfactorially.

The other side of this area is the question of "overquality". High quality is usually available if the purchaser is willing to pay enough for it. Such a method of attaining it, however, does not fulfill a buyer's responsibility. Thus the questions:

Is the quality more than what is needed? Could a cheaper material do the job equally well? For example, can grey iron be used instead of the present steel?

Yardsticks for determining the answers to these questions are difficult to put down specifically.

They lie rather in the observations and impressions of those who are in

a position to observe buyer relations with engineers, with suppliers, buyer alertness etc. While attempts can be made to measure these things numerically with yardsticks such as number of suggestions, length of time suppliers are retained, etc., these are often unsatisfactory. Unless looked at against a background containing considerable "know-how", they will be meaningless.

The considered opinion of a competent man is the worthwhile yardstick with which to judge matters of overquality. And having this man is, at least in companies where this area is important, in itself a yardstick of how well management is performing.

II Quantity

Getting the products out is the prime reason for a factory's existence. Failure to do so to the optimum may or may not show up in costs, but it will be detrimental to the company nevertheless. Such failure may sometimes be traced to the lack of the proper material when needed, and in turn to those responsible for stocking such material. Although the reasons for such happenings may be vague and difficult to trace, preventing re-occurrence is often important enough to justify the attempt to do so.

Is time lost in production due to failure in purchasing?

The yardstick for determining the answer to this question is complicated by its application to other areas of the operation such as actual production. These yardsticks take their form in keeping track of work stoppages, slowings, reschedulings etc. Their application to purchasing comes from tracking down the reasons for such occurrences and knowing their cause. When this cause is the buyers' negligence, poor planning, or lack of aggressiveness, forceful action is indicated.

In times of national peril the amount of materials to a plant are often regulated and output must suffer. The question then becomes: Is the buyer

aggressive and alert in suggesting substitute materials, locating scarce goods, expediting delivery, etc.?

Whether such is being done to the utmost is very difficult to judge. It's not so hard to tell when it's being well-handled, but very difficult to judge when only a fair job is being done. In these difficult to measure areas the feelings and attitudes of operating departments concerning the availability of material and the job being done on making it available probably comprise the best yardstick of buying performance when more exact statistical measures are not available (and they seldom are).

III Cost

All Material Cost

Any buyer of material who fails to give a great deal of attention to getting as reasonable a price as possible is falling down on the job. Other considerations may override, but the consciousness of price has to be there. It can cost a company too much in excess material costs if it isn't.

Is the purchaser taking advantage of the price fluctuations and the swings in market price constantly taking place in the commodities important to the company?

While this question is often meaningless due to company policies requiring a fixed amount of inventory on hand at all times, it is nevertheless of great importance to many companies, a matter of life or death to some.

Checking up on costs of materials which have a given market price can often be accomplished by comparing the price paid with the price at the time the material goes into production. This is usually done with some kind of variance account and shows up bad and good guesses in the raw materials market. Included, of course, must be such things as storage costs, freight savings from large quantities, etc. Such a yardstick can prove very valuable when used

with discretion, that is, when used so it does not cost more than its worth and does not encourage speculation through too high premium put on a plus performance.

Where such a system is too much trouble a simple spot check of price being paid vs. market price is a worthwhile device for seeing that the buyer is not needlessly being taken on goods which have a pretty definite market price.

Is the purchaser taking advantage of swings in the price of goods which do not have a specified market price?

Many of the systems used in answering this question revolve around a comparison of prices being paid with those formerly paid (some kind of an equalizing index often being used to compensate for changing price levels). Spot checks are also applicable in many cases, either comparing price paid with price available, or merely checking on the number of prices considered in choosing the final one. Applying such yardsticks is comparatively simple; it is the choosing of them that requires skill and discretion. There must usually be genuine feeling for what is going on, then a yardstick can be applied to find if the feeling is correct. When this is done, the results are often revealing. For example, a check by a large buyer of results obtained by employees who negotiated prices vs. results obtained by those who accepted the first bid revealed considerably better performance by the latter. Conclusion: Negotiators not good. Results also are not often of the type that is caught by a general yardstick. To give such a yardstick for general application in this area would not be a wise thing to attempt. What is important is to have someone who can and does define areas where a yardstick might be profitably employed.

B. Costs of Waste Disposal

Is waste and scrap being disposed of efficiently?

The answer to this question is very important to smaller companies. For some it has meant the difference between profit and loss. The yardstick often

used, dollar amount or tonnage of scrap sales, is not generally too good. This is because the figure varies as much with efficiency and amount of production as with efficiency of disposal.

Better yardsticks are found by the answering of the questions, "Was a good price obtained?", "Was all the scrap disposed of?", and "Are we missing an opportunity for greater returns by not modifying the form of the scrap slightly?". Spot checking is a valuable check. A more valuable one would be a yardstick for judging the ability and alertness of the man or men who are doing this job. The area is not so complicated as to make this difficult for most manufacturers.

C. Cost of Performing the Buying Function

Is the expense to the company too much for the accomplishments of the buying function? Whether or not the purchasing department is worth the money it's getting is difficult to determine as it is for most other functions of a business. Keeping it within reasonable bounds usually can be fairly satisfactorily accomplished by the use of budgets, by comparing present costs with past costs. Someone will have to do the buying of materials, no matter how badly this is performed, and this will cost money. Whether doing the job badly this year costs more than doing the job badly last year does not constitute the crucial problem, which is improving the job being done. It is, however, of interest to keep the costs under control and such gadgets as orders processed per dollar of expense and the budgets, etc. mentioned above are often useful as a mark to shoot at. That these yardsticks measure only a small portion of buying performance is not widely enough recognized, and often the pennies pinched here cost companies money in the long run.

IV Amount of Inventory

Is too much inventory being carried?

Although it would be easy to insure adequate supplies of materials, and so avoid the problems discussed under "quantity", such practice is always costly.

The Department of Commerce estimates the cost of carrying stocks comes to around twenty-five per cent of the value of the material in inventory. Storage cost, handling costs, investment cost etc. thus make it important to keep inventories at a reasonable level.

Yardsticks of performance in this area are divided into two parts. The first and most difficult of these is the evaluating of the decision on what inventory levels should be. It will involve a value judgment by someone as to whether specified inventory levels are sufficiently taking into consideration the above mentioned cost factors as well as cost of buying in various quantities, delivery time, obsolescence and the rest. As in many other areas it will come down to a decision as to whether there is a good man in charge of it, a man who gives the considerations mentioned above and others there due weight.

Once the validity of the amounts specified has been assumed, the task involves more definite and easily applied yardsticks. "Bogies" not to be exceeded can be set up and checked for conformity periodically through glancing at the figures, counting the inventory or by whatever means fits the situation.

V The Future

In buying, as in other functions of a business, there are many intangibles which, though not measurable in figure or other specific yardsticks are of vital import to continued success. They have to do with looking at the future, evaluating its likely course, the company's preparedness for this course or others. Although the most difficult to obtain, and the hardest to judge these yardsticks are the most important. As in other areas in the company their recognition and evaluation is probably the single most important job of the top executive.

Considerations which attempt to evaluate how well the purchasing department is set for the future are given below.

A. Relationships with other Departments in the Company

"Is purchasing "Creative"?"

"Creative Purchasing", the situation existing when material buyers are working with and working well with salesmen, engineers, manufacturers etc. is a fine thing to have. It is difficult to tell when you have it or if you have enough of it. An obvious lack to an outsider observing the plant may be the normal situation to the on-the-spot executive. The man who is used to this effective looseness in his organization may not understand the visitor's wonderment. That this tends to be true makes the evaluation on one's own situation the more difficult.

Much may be learned from the attitude of one department to another. If the producers are heartfelt in their belief that buying is being well-informed, it is probable that such is the case. If the men who do the purchasing are aware of the major problems of the producers and engineers, the chances are that a pretty good job is being done in helping solve these problems.

B. Inventory Levels

Have purchases been just lucky in having enough materials on hand in the past?

Although it may not have shown up in work stoppages or higher costs, it is always possible that the purchasers were just lucky in having it work out that way. Close shaves in getting materials in on time, while not detrimental in the past, may not bode well for the future. A few good breaks last year may have hidden negligence and chance taking which the proper yardstick can reveal.

There are many simple methods. Assuming that some minimum inventory levels have been set, the simplest may be a simple examination of how well these minimums have been observed. How much did key materials fall under these minimums? For how long a time were they under? How many small orders were necessary? How many rush orders? Questions like these may be a great help in determining whether the buyers have been scraping by on a "wing and a prayer" and so jeopard-

dizing the company's future operations.

C. Supplier Relationships

Do we have good suppliers? Are they friendly to us? Do they want us to succeed? Do they give us advice?

Choosing and maintaining relationships with suppliers is one of the cases where a buyer can most easily hurt or help his company. To insure getting goods of the proper quality in proper quantity at a reasonable price at the right time and place both now and later on requires very great attention to this area.

Are such qualities as competent management, financial strength, integrity, productive capacity, technical competence, good labor conditions, reasonable proximity etc., sought and, so far as possible, attained?

The answer to such questions can be best found in examining the past records of companies from which the purchasing department has chosen to buy. By this is meant their past records in dealing with us and their records as an indication of their possible future behavior.

Questions to be answered in deciding whether our suppliers are doing a good job must include the following:

- 1) Do we get suggestions from suppliers? A good supplier is a fine potential source of valuable information. The amount of help they are giving us is a measure of both the advantage being taken of this source and of relations with suppliers in general.
- 2) Are promises kept? The answer to this question will provide a good indication of what to expect in the future. If a supplier has trouble doing what he says he will do when times are good, he is very likely a bad risk for the tough situations that may lie ahead. Quantity specifications, time of delivery; performance in all these

areas, while possibly not making any difference to present operations, may indicate that we have a bad supplier or a supplier that doesn't care ~~a damn~~ about us.

- 3) Do suppliers help us out in rough situations? The potential importance of the answer to this question needs no elaboration. If the answer is "yes", relationships with suppliers have assumed the status of an invaluable property. If it is not, something remains to be attained. This may be the most difficult area of all in which to achieve results.

It is often found that out of sheer inertia, purchasers will stick with a supplier long after better deals from almost any point of view have become available. A periodic questioning of each major supplier's spot on the buyer's list often provides the best check on this sort of thing.

D Are Future Material Shortages etc. foreseen?

If the buyer of materials can foresee material situations ahead which are likely to prove important, he is a valuable man. Yardsticks with which to judge this man must primarily rest in the judgment of his awareness and the record of his past performance. As in so many other areas the individual man will determine the measure of success, and thus the yardstick of potential success is the personal evaluation of this man.

MANUFACTURING

I Cost of the Manufacturing Function

"Are our manufacturing costs high, low, about average?"

There is probably no numerical answer to this question. Material costs, overhead costs, labor costs, measured in totals and then held against the amount of production will provide valuable clues as to the quality of the job being done in manufacturing. Return on investment, output per worker are also widely used. To be of value such overall measurements as these must be compared with past performance and with competition. Such yardsticks are excellent for showing, in a general way; a) How a plant is doing.

b) The urgency of the situation.

Thus they can give cause for gladness or sorrow, but further examination will always be necessary to determine if a good job is being done.

Two elements that will have to be considered in pinpointing trouble spots in the cost considerations of the actual manufacturing area are:

- (1) Over-all yardsticks (see beginning of this section)
- (2) Detailed look at Equipment, Material, Labor and Overhead

Equipment

Managing equipment will be always influential on a company's cost picture. What has been suitable in the past may shortly become out of date as regards location, capacity or flexibility. Thus a continuing attitude of curiosity is vital for the manager of a factory. Some of the questions of which a manager must be continually aware are outlined below. This is not meant to be a universally applicable list, but is rather an indication of the kind of things with which the man who runs a factory must be always concerned.

A. Should equipment be relocated to consolidate it for better:

- (1) Work Centers?

- (2) Materials Handling?
- (3) Work flow from previous operations to subsequent operations?
- (4) Grouping of equipment by products?
- (5) Utilization of buildings so as to release buildings for other uses?
- (6) Utilization of operators' waiting time?

B. Are more units of equipment needed:

- (1) To handle orders?
- (2) To handle production from previous operation in order to reduce over-all time of work-in-process and eliminate bottlenecks in production?

C. Is the capacity of the equipment adversely affected:

- (1) By small orders: Should such orders be handled on special equipment and segregated from regular production?
- (2) By too many set ups?
- (3) By performing experimental work which better could be done elsewhere?
- (4) By engineering specifications or restrictions which do not take into sufficient account the characteristics of the machines involved?

D. Does the scheduling of capacity of the equipment reduce the over-all turn-over of work-in process of products made on it?

E. Is equipment idle, and if so, is it because of:

- (1) Obsolete equipment; cost too high?
- (2) Waiting for materials?
- (3) Mechanical breakdowns?
- (4) Maintenance delays?
- (5) Poor material handling?
- (6) Other reasons?

F. Is present equipment effective when operating?

- (1) Is it in good condition? Can it be speeded up? Should it be rebuilt?

(2) Should it be replaced?

- (a) Are better machines available?
- (b) What savings would result?
- (c) Could it be used elsewhere in the company?
- (d) Could products made elsewhere in the company be made on these machines?

G. Are handling practices as good as they could be:

- (1) As regards bringing materials to the equipment, handling it there, and moving it on to the next operation?
- (2) Are distance over which materials are delivered more than seems commensurate with efficient operations?
- (3) Are other possible methods of handling materials to, at, or from the equipment possible?
- (4) Could the size of the runs be changed to simplify handling methods, reduce the number of set-ups, result in larger runs, and so reduce cost? If so, what saving would result?

H. What safety hazards are involved in operating this equipment?

- (1) How can they be corrected?
- (2) Are there possible fire hazards connected with operating the equipment?

I. Is production adversely affected by improper lighting, heat, working conditions, etc.?

Materials

The proper handling and processing of the raw and semi-finished materials is vital to successful operation of your manufacturing company. The man or men in charge of this area must be constantly on the alert for improvements. The best way they can do this is through the constant asking of questions of themselves or others which will reveal deficiencies or lead to improvements. Some of these questions are given here. Each plant will have a list of its own that will bear investigation, and it is hoped that this list will suggest the ones which are not specifically enumerated.

A. Are specifications being well-employed in that:

- (1) Standards are commensurate with getting the maximum output from a given amount of materials?

- (2) Specifications have been laid down by the time the material comes into the shop.
- (3) Materials have been inspected to see that they have the required specifications before valuable work has been wasted on them?
- (4) In general, specifications do not necessarily result in lower production, larger inventories, higher scrap, etc. than should be the case?

B. Is material procured for production so that:

- (1) It is not drawn unnecessarily often in small quantities, thus increasing handling?
- (2) It is readily available for processing as it is needed?

C. Is the possibility of material substitutions kept in mind and done when savings will result? Are materials stored and handled with due regard to:

- (1) Size, location, and adequacy of storage areas as regards the amount and type of materials stored in them?
- (2) Employing best possible methods of moving materials out of raw material storage areas into production and out of production into work-in-process storage areas (including the possibilities of more extensive use of power trucks, pallets, stock bins, special vehicles of various types, belt, overhead, and floor conveyors, tote boxes, etc.?)

D. Is scrap used as a clue to possible areas for improvement?

- (1) Are scrap records supplying information as to scrap source; i. e. whether material or worker seems to be responsible for a scrap rate which is out of the ordinary?
- (2) Is scrap reported regularly and promptly and the responsibility for it assigned to the department responsible?
- (3) Is enough inspection employed to catch scrap before a great amount of costly work is done on it to no purpose?
- (4) Would the installation of incentives reduce scrap enough to make these worthwhile?

E. Is scrap disposed of at a good price?

- (1) Are modifications in its form which might increase its sale price kept in mind?

- (2) Is as much as is practicable salvaged for use in the plant?
- (3) Is scrap which is not useable disposed or promptly?

Labor

Although most of the questions in this paper concerning labor are discussed under the heading of personnel, the maximum utilization of this labor is of great importance and is the responsibility of the man who runs the plant. Continuing attention to such questions as these are necessary if he is to achieve this goal.

A. Are incentives possible of application which would boost the output per worker?

- (1) Would such incentives be worth the cost of installation?
- (2) Are such incentives acceptable to the workers? The union?
If not, why not?

B. Are there possibilities of combining or changing operations so as to

- (1) Eliminate operations?
- (2) Have done outside the plant operations which might better be performed elsewhere?
- (3) Have a set-up man do this kind of work when such would effect savings?
- (4) Have unnecessary operations such as unpacking, cleaning, etc. done before the material gets to the operator?
- (5) Eliminate the operator's having to wait for material?

C. Is there provision made for not having production suffer through absences or transferees? Has the cost of this been in line with past benefits received?

Overhead

A. Could overhead cost be reduced or service improved through:

- (1) A greater degree of mechanization?
- (2) Other possible better methods or better equipment?

- B. Are the materials and supplied used:
- (1) Of the proper size and kind?
 - (2) Have the amounts used varied significantly and, if so, is the reason known?
- C. Can any present services to the various departments be eliminated without affecting the quantity or quality of production?
- D. Can waste of present services (such as light, heat, water, power, etc.) be cut down or eliminated?
- E. What other suggestions seem feasible as a way of cutting overhead costs?

The quality of the job being done in keeping manufacturing costs down will be in direct proportion to the quality of attention given questions like these. How well are such questions being asked, answered, acted upon? The measurement of this does not admit quantitative yardsticks for making final judgments. For the most competent man may not be able to make a good showing, either trend-wise or compared to competition, if the company set-up limits him.

Thus the over-all yardstick must consist of a combination of numerical indicators along with judgments of the man doing the job. This leads us to non-cost considerations of the manufacturing area.

II Non-Cost Factors in Production

The considerations in this area of production are of a somewhat different nature than the preceding ones. They are intended to stimulate thinking about how well the production area of your company is set for the future.

- A. Is the production organization of a flexible nature in terms of such things as defense production, varying production rates and product mixes? A good organization should be able to adapt itself to changes that are not outside the realm of possibility.

- B. Do the management members of production keep informed of new ideas and changes through trade publications, conventions, vendor salesmen, etc.? It is felt that a good production department will at least be aware of the possibilities in new machines and systems that can be used in the company's manufacturing plant.
- C. Is there a general plant atmosphere of cooperation between workers, foremen, and different sections of the production department?
- D. Does the department have good relations with the sales, purchasing, personnel, accounting, etc. departments?
- E. How do the company's methods compare with its competitors? This can be an excellent measure of how well you are doing with respect to the rest of the industry.
- F. Has the operating level of your plant been satisfactory over the years? This can serve as an excellent guide as to the accuracy of the forward planning done by the company and particularly the production department.
- G. Is the plant and equipment in a well-maintained state?
- H. Has the company been able to introduce technological changes with accompanying worker acceptance? This yardstick measures a very important area of production. If the correct climate can be developed, frequently it is possible to hasten this type of change thus increasing production efficiency.

In many of the above cases it is possible to reduce the question to cost calculations. However, it is thought that by pointing out these areas before they become hidden in costs a more useful purpose would be served.

PERSONNEL

The establishment of yardsticks for the measurement of the personnel department of a company is a difficult job. Once again, it is not easy to isolate important areas that might be adjudged to be wholly within the realm of a particular subject, personnel in this case. Nevertheless, an attempt will be made to sufficiently delineate sections of this area so as to make the proposed yardsticks useful. Personnel will concern itself with the selection and training of workers, safety, wage and salary administration, promotion and transfer, collective bargaining and labor relations, morale, and several other factors of a miscellaneous nature.

In the personnel area certain overall basic yardsticks will be proposed which are intended to convey a general picture of the effectiveness of operations in this area. Their very broadness induces them to overlap into other areas. However, much of this will be eliminated when a more thorough breakdown of the subject is made. Five general yardsticks will be proposed followed by a more thorough breakdown.

- 1) Production records with respect to costs and quality. This can be a very general indication of how good the workers are. These workers will have been secured supposedly by the personnel department.
- 2) Turnover rate. Both the absolute rate and a comparison with previous performance should give some indication of whether the workers in the plant are satisfied with their jobs.
- 3) Has the department been asking how it can help out? Viewing the personnel areas as a service function, has it actively been trying to aid the other sections of the company?
- 4) Is there a general feeling of what might be termed "good morale" in the company? Frequently the personnel department has the means to make effective suggestions that can improve relationships within a company which will result in improved morale.

As can be seen these yardsticks are general in nature and leave many questions unanswered. The more specific yardsticks in each of the sections of

personnel should answer many of these questions.

I Selection

The first section of the personnel area will deal with the function of selecting the proper people for the job. The major and probably easiest yardstick to find is:

- 1) How did the workers selected turn out? It is felt that the ultimate end of the selection process is the result produced in the form of steady worker on the job.
- 2) Quit rate during the first month of employment. This can give an indication of how well the personnel department is choosing the people that it hires.
- 3) Foreman and supervisory evaluation of new people supplied. Considering the personnel department as a service function, one measure is how the people it is supposed to serve feel about these new employees. Are they satisfied with them?
- 4) Is the department able to get the right type of people at the right time and at a reasonable price. This would indicate to some extent if the department had kept in touch with the local labor market as well as how effective it was in its job of procuring people for the company.
- 5) Length of service of employees. This could be a final measure of whether the personnel department is picking people who will stay with the company.
- 6) There are a few other items that might possibly be used, that might not be considered strictly yardsticks. Under this heading would come such things as, is the department using employee tests to determine the aptitudes of new workers?

II Training

The next area to be discussed is that of training the employees after they have been selected.

- 1) How are the trained employees doing on the job? This yardstick is essentially the same as the first one used in measuring the effectiveness of the selection process.
- 2) The judgement of the line supervisors, trainees, and personnel department on the training being given. It is thought that each of these groups is in a position to make significant comments upon the training program.
- 3) Are new training methods sought by the department? It is felt that for a department to perform well in this area it must continually be on the lookout for new methods of training people.

- 4) Do the suggestions turned in by the workers indicate a lack of training? Poor training might appear in the form of suggestions that do not reflect as complete an understanding of the job as should have been provided by training.
- 5) Costs of training:
 - a) Extra pay to those who do the training.
 - b) The scrap rate among recently trained people.
 - c) Length of time spent by trainees in achieving a normal level of output.

These yardsticks should indicate on a trend basis whether the personnel department is improving in the performance of its function.

III Safety

It is assumed that this area is under the jurisdiction of the personnel department and this department has authority to enforce safety regulations.

- 1) Lost time accidents both with respect to frequency and severity. Frequently these will result from faulty training or a lack of enforcement of safety regulations which are within the province of the personnel department.
- 2) Safety check-ups. Does the department periodically inspect to see that regulations are being enforced?
- 3) Insurance rates - These provide the best clue to how safety conscious a plant is. What has been the trend of these rates for the plant?
- 4) Does the plant have a reputation as a safe place to work among the working force and the community as a whole. Although this is not a scientific yardstick it is important that the company not be considered a dangerous place to work.
- 5) Safety criteria used by insurance companies. These can serve as an indication of how safe the company's installations are in each part of its plant.

IV Wage and Salary Administration.

Much of the material in this area will be affected by the collective bargaining agreement if one exists in the company.

- 1) Is there an organized planned program in this area? Without such a program it is possible for pay scales to bear little relation to one another. Oftentimes merit rating and/or job evaluation can be a help in this area.

- 2) Comparison with community and industry rates. Is the company's scale out of line with these other measures compared to where the company would like to be i. e., if it adopts a policy of paying going rates for the community, is it actually paying this rate?
- 3) Do incentive systems accomplish the job they were set up to do? Frequently these systems are set up and run along with very little thought being given to whether or not they are performing their supposed function.
- 4) Grievances in this area? A trend in the number and/or type of grievances in a certain direction can indicate a poorly planned wage program.
- 5) Do the white collar salary scales bear some relation to the factory wages? There has been an alarming trend to forget about this member of the company.

V Promotion and Transfer

Once again the existence of a collective bargaining agreement may be a major limiting factor upon company policies.

- 1) Are vacancies filled according to what the company wants? This would include the necessity or desirability of going outside the company. It might also touch upon the fact of whether the company had tied itself up in an unworkable fashion in its union contract.
- 2) Analysis of grievances. Once again this can provide a ready yardstick upon the effectiveness of the promotion and transfer scheme of the company.
- 3) Are the promotions and transfers planned? Lack of planning and coordination, policy-wise, can jeopardize a smoothly running organization.

VI Collective Bargaining and Labor Relations

Probably the most important area of personnel today in a large share of American industry is that of labor relations. The effects of union-company relationships can spell the difference between success or failure in many cases. As such, it is important that yardsticks be established to measure the type of job being done by the company in this important field. As has been previously the case many of these measurements will overlap with material already covered. Nevertheless, they will also be set down here in order to make this section complete in itself.

- 1) The number and type of grievances. This is probably the best single yardstick for determining the health of a company-union relationship.
- 2) Level of settlement of grievances. It is thought that the lower the level of settlement the better the operation of the grievance procedure. In some instances, this would not be the case such as where a specific company policy dictated a higher level settlement of all grievances.
- 3) In its negotiations does the union understand the company's position. Frequently, troubles arise or are prolonged because the union is not fully aware of the position of the company. The reverse of this might also be true in some instances.
- 4) Are the leaders of the union representative and good? The company through encouraging its employees to attend union meetings can sometimes indirectly aid in the selection of responsible union leadership. In many cases only 5-10-15% of the union membership will attend union meetings. This group tends to be more militant than those that stay at home, and hence can adversely influence company-union relations in a manner that is not truly representative of the thinking of the entire union. It is thought that if the company encourages participation in union affairs on the part of its unionized employees, better and more responsible union leadership might result.
- 5) In connection with its union activities especially, and personnel function in general, does the department continually and automatically get relevant information concerning other firms in the area, other companies in the industry, and other plants organized by the same union? In order to deal intelligently with an international union the company must be aware of the union's activities in other areas in addition to being familiar with the nature of other union operations in its own geographical section.
- 6) The number of man-days lost through strikes or walkouts.
- 7) Outside appraisals: What does the:
 - a. local union
 - b. international union
 - c. community
 - d. management team outside the personnel department
 - e. industry

thin

think of the company-union relationship? It is important that each of these groups have a good opinion for the successful functioning of company-union relationships depends in large measure upon their attitude.

- 8) Does the personnel department head call in outside people and ask them to appraise the job being done by the company? Outside, completely independent, viewpoints can show the company a great deal, especially since they will not be confined or biased in their thinking as the other groups might be.

- 9) Is all relevant information furnished to line people? It is important that the line supervision know what is coming next in this area.
- 10) Is the company able to get its foreman by promotion from within at the worker level? There can be great pressure from union members that keeps union men from getting to management levels.

While these yardsticks may not include all phases of labor relations, they should provide the answer to the general question of how well the company is doing in this area.

VII Morale.

This term can take on a number of meanings, most of them highly subjective. However, it is possible to measure the attitudes of the workers towards management.

- 1) Actual surveys. If the company can afford it, surveys of the workers can reveal what they are thinking.
- 2) Terminating interviews. A good indication of morale can be found here where people are under much less pressure to color their answers.
- 3) Absenteeism, tardiness, and turnover. These can serve as good indications of the general seriousness of purpose of the working force.
- 4) Do the employees contribute to the suggestion plan?

VIII Miscellaneous

There are several other factors of a general nature that might also be considered when measuring the job being done by the personnel department.

- 1) Does the company have a recreation program?
- 2) Does the company have a house organ?
- 3) Does the company have a medical program?
- 4) Does the company have an insurance program?
- 5) Is the company able to successfully get information to the rank and file and does the company know the feelings of these workers?
- 6) Are annual reports given to employees?
- 7) To whom does the personnel manager report?

MARKETING

In this section the report deals with many of the marketing considerations of the product. The product is assumed to be in line on a quality and utility basis with the objectives of the company and also either equal or superior to competition on a quality and utility basis. The product approach is followed through by asking these two questions about the product.

1. Do the right people know the right facts about our product?
2. Can the right people get our product when they want it, where they want it, and at the price they are willing to pay?

These two questions will bring out the adequacy or better yet, lack of adequacy in the company's promotional program, channels of distribution, pricing policy, and balance of all these factors. These questions once again suggest paths of thought to the president; they do not immediately give him a plan of action.

The first question "Do the right people know the right facts about our product?" includes the advertising and promotional considerations. Advertising and promotion are to a large extent intangible and extremely difficult to measure, but this does not mean that basic principles do not operate in the planning of an advertising campaign. An increase in sales is the usual objective of the advertising campaign, but due to the many variables which are in the sales program an increase in sales does not necessarily mean that advertising has been effective. It is for this reason that the components that go toward making up the immediate objective must be judged -- the immediate objective being to deliver a message to the consumer. Therefore this section will be divided into 5 parts.

- 1) Logic of our advertising program in relation to our sales program.
- 2) Ability of our advertising agency to handle our account.
- 3) Consideration of competitive efforts.
- 4) New product promotion.
- 5) Cost in relation to results.

First -- Logic of our advertising program in relation to our sales program.

Is our advertising program sound in relation to our product and the rest of our marketing program which includes channels of distribution, pricing, the use of selling force, etc. For example, if we have distribution only in large cities, do we use national media which would be wasted on people who couldn't possibly buy our product?; or do we use local media?

Second -- Ability of our advertising agency to handle our account.

- 1) Does the agency come up with new clever ideas for promotional schemes and sales campaign?
- 2) Does the agency seem interested just in large space and time charges or do they really help out in the entire sales program. For example, do they make up point of sale display items, handbills, etc.?
- 3) Does the agency cooperate well with our Advertising Manager? Are they extremely hard to talk to: or are they merely a rubber stamp on all company ideas?
- 4) Does the agency have the facilities and personnel to handle our account. For example, do they have an adequate copy, research, art, media, and new idea department. Has their personnel had experience in our Field?
- 5) Are they growing and aggressive or stagnant and losing accounts?
- 6) Are the advertisements effective? Are they being read, heard or seen by the right audience? Places to check on your audience are

listed below.

	Broadcast Measurement Bureau, Inc. 270 Park Avenue , New York City
	C. E. Hooper, Inc. 10 East 40th Street, New York City
RADIO	Nielsen Radio Index 500 Fifth Avenue, New York City
	The Pulse, Inc. 110 Fulton Street, New York City
TV	N. C. Rorabaugh Company 347 Madison Avenue, New York City
	Starch Magazine Readership Service 420 Lexington Ave., New York City
MAGAZINES	Advertising Research Foundation (Magazines 11 West 42nd St., New York City (Newspapers (Trans. adv. (Form publica- (tions (Business papers (Weekly papers
OUTDOOR ADVERTISING	Traffic Audit Bureau, Inc. 60 East 42nd St., New York City

Third -- Consideration of competitive efforts.

What are our competitors doing that we aren't which might be used effectively. Are sources of their plans, advertisements, and promotions coming to the Advertising Department and Advertising Agency constantly?

Fourth -- New product promotion.

In promotion of a new product, do promotion plans get distributors, get the product into the stores, and get the consumers to try our product.

- 1) Are we pretesting new products in special areas to test product acceptance, and to test various promotional plans so as to know which way is the most suitable to our product?
- 2) Is our timing well planned?
- 3) Are premiums, deals to wholesalers, contests, clever display aids, publicity stunts, etc. used effectively?

- 4) Is adequate distribution secured before the promotion begins?
- 5) How close are our actual promotion results to our planning?

Fifth -- Advertising costs in relation to results.

The advertising costs which include space charges for newspapers, magazines, and signs; time charges which include TV and radio, agency services, art work, displays etc. must be measured in relation to results.

- 1) If we have increased our advertising budget to hit an immediate objective, such as more readership per advertisement, did the results merit the increase? Have advertising increases paid for themselves with increased sales.
- 2) Do we seem to be getting our money's worth in our advertising budget. Are our advertisements effective. (See Section II, 5.)
- 3) Is there any place in our advertising budget where we are weak, where an increase in funds seems necessary?
- 4) As near as we can judge, are we doing a good advertising job in relation to our best managed competitors for as low a percentage of the sales dollar?
- 5) Has the amount spent on advertising varied widely over last year as a percent of variable costs. Why? Is there any other place where the money might be spent more wisely?

The second major consideration "Can the right people get our product when they want it, where they want it and at a price they are willing to pay?" Includes three areas of marketing. These are personal selling, channels of distribution, and pricing.

Personal selling involves the responsibility of providing adequate management and manpower properly trained and motivated. These ingredients are necessary for the success of any sales program. Therefore, due to these necessities the function of personal selling has been divided into: (1) Sales effectiveness of the sales force, (2) Quality of the sales force. (3) Morale of the sales force. (4) Cost of sales force in relation to results.

First -- Sales effectiveness of the sales force.

- 1) Is our sales force large enough? Could we increase profits by increasing our force? Are any of the territories too large for present force?

- 2) Is our sales force selling to the profitable share of the market?
Are any of our branches uneconomic?
- 3) Do we need a missionary sales force? engineering service men?
- 4) Is our sales force producing results? Are they meeting and exceeding their quotas?
- 5) Are there any potential markets for our product which we have overlooked?
- 6) Are the salesmen making the calls which have been planned for them?

Second -- Quality of the sales force.

Selection and Training

- 1) What methods do we use to select the salesmen?
How well do these methods seem to work?
- 2) What training do the salesmen get?
Training in manufacturing of product?
Training in selling of product?
- 3) Do salesmen know the product? Do they know its main appeals?
Its technical advantages?

Third -- Morale of the Sales Force

Quotas

- 1) Are we using budget, buffer, or incentive quota systems? Why?
- 2) Are men dissatisfied with system because they can never meet quota or are quotas too easy so that salesmen don't push the product?
- 3) How are quotas revised? How often are they revised? What is considered in revision?
- 4) Are quotas made on all product lines?
- 5) Does sales force receive information on sales promotion schemes, etc.

Compensation

- 1) Are we using salary, commission or a combination of both. Why this method? Does it appear to stimulate men into meeting quotas?
- 2) Are salesmen satisfied with this method?
- 3) Is compensation adapted to entire sales job?
- 4) Is length of service by men considered in compensation?

5) Is promotion stressed as an incentive?

6) Is it our policy to give better than average compensation? Why?

Fourth -- Cost of sales force in relation to results.

Cost of maintaining a sales force include salaries of the salesmen, commissions of the salesmen, commissions of the brokers, traveling expense of the salesmen, entertainment by the salesmen, etc.

1) Has sales expense as a per cent of sales increased over last years? Why?

2) Do our best managed competitors appear to be getting comparable sales results with less sales expense. (percentage-wise).

In order that a product be in a position to be bought by the consumer within the normal course of the consumer's buying habits, the correct channels of distribution should be used. The product must more smoothly and profitably from the manufacturer's hands to those of the consumer. There may well be many channels of distribution but the one to be sought is the one which gives the greatest profit potential. Ease in the consumer's getting the product, cost of getting the product from the end of our production line to the consumer, service in aiding the consumer, comparison of channels with those of competitors, and relationship with distributor are the areas to be discussed.

First -- Ease in the consumer's getting the product.

1) Through what channel or channels are the consumers used to buying products of this kind? Are our channels similar? Why not?

2) Is there any place our product could be sold that it isn't? Why? Any new uses for our product?

3) Does the distributor carry allied products to fill out the line?

4) Can our distributors extend sufficient credit?

5) Can the middleman carry sufficient inventory of any product?

Second -- Cost of getting the product from the end of our production line to the consumer.

1) Where is the product offered for sale where sales, service, or promotional efforts are uneconomic.

- 2) What is the difference between our selling price and the price to the consumer? Is this cost changing as a per cent of sales? Why?
- 3) Have sales cost per outlet changed? Why?

Third -- Service in aiding the consumer.

- 1) How many steps have been taken in the past year to cut down on delivery time?
- 2) How have we improved the advisory capacity of the sales department. (i. e. engineering service) in the past year?
- 3) How fast are our complaints adjusted compared to last year? Are complaints on the downtrend?
- 4) Does the middleman have adequate service facilities for my product?

Fourth -- Comparison of channels with those of competitors.

- 1) Why is our distribution system different from our competitors? Does he offer the product anywhere that we don't?
- 2) Do present outlets provide advice to product users as well or better than competitors?
- 3) How many outlets do we have compared to competitors?
- 4) Is the quality of our outlets equal to that of our competitors?

Fifth -- Relationship with distributor.

- 1) Does he actively promote my line?
- 2) Will he price according to my wishes?
- 3) How important is my product to the middleman?
- 4) Does the middleman cooperate (i. e. promotional stunts and displays)?
- 5) Are we keeping him informed of inventory changes, pricing, etc.?
- 6) How often do we see him to get his ideas on the sales picture?
(Very important to a fashion manufacturer.)

The pricing of a product depends primarily on two elements--competition and cost. Prices must be in line with your competitors; therefore a thorough knowledge of competitive pricing structures is essential. Prices should also be established so that they will cover all costs and allow the manufacturer a fair profit margin. The most important questions on pricing are:

- 1) Is your product priced competitively?
- 2) Are your fixed and variable costs being covered?
- 3) Do your prices and discounts allow a fair profit to distributors?
Are any of your distributors at a competitive disadvantage among themselves due to your policies? Why?

Coordination of the elements of the marketing program.

We have suggested various ways to attempt to appraise the different elements of the marketing phase of a manufacturing company. But more important than looking at the individual elements as entities within themselves, is looking at the marketing program as a whole. Only in this way can we judge the adequacy of the emphasis and the consistency among the various parts.

Our task is to answer the question:

What is the best way to apportion emphasis in the different areas of marketing in order to maximize dollar sales?

The first step in answering this question is to consider the amount of funds that are available for this purpose. The available funds will be a function of both the financial position of the company, and the dollar amount of gross margin that will be available from future sales. No realistic approach to the marketing problem can be taken unless the money that is available to play around with is always kept in mind.

The second step is to try to develop a "feel" of the marketing problems that face a particular product. This can best be done by considering the buying habits and the buying motives of the consumers and then attempting to fit our product into them.

A list of suggestive questions which will aid in the determination of consumers buying habits and motives is given below.

- 1) Who buys my product? Does anyone influence the purchaser?
- 2) Where is my product bought?

- 3) In what sizes is my product bought?
Would the buyer prefer other sizes?
- 4) Is credit necessary? If so, is it supplied?
- 5) Is a guarantee necessary? If so, is it supplied?
- 6) How important is the first purchase of my product?
- 7) How much deliberation is exercised before my product is bought?
- 8) Are there any biases against my product?
- 9) How does my product stand in relation to my competitors'?
- 10) What need does my product fill?
- 11) How important is this need?
- 12) What does the consumer want to know about my product?
- 13) What price range will the consumer be willing to purchase my product?
Is the pricing of my product competitive?
- 14) Is a brand name important in my product? Can a value be built into it?

This list is not intended to be a panacea for marketing decisions, but it is designed to stimulate productive thinking about what are the crucial problems of marketing our product. The true art of marketing comes in assigning relative importance to the answers of the questions, and then designing a marketing program accordingly. The only yardstick to evaluate the marketing program (other than looking at sales results as we already have) is to appraise the logic behind it in terms of the relationship between the product and the consumer.

ACCOUNTING

The Accounting Department has two functions:

- A. Bookkeeping - the control of the flow of funds .
- B. Report writing - the collection and preparation of statistical information to assist others in carrying out their jobs more effectively.

The following questions, while not entirely applicable to all companies, will give assistance in deciding how well those functions are being performed.

I Bookkeeping

- 1) What do the external auditors think about our system?
Do they think the system is adequate? How many mistakes do they uncover?
Do they make constructive criticisms? If not, why not?
- 2) How many complaints have we been getting?
From our suppliers? From our workers? From our customers?
How does this compare with the past? With the overall volume?
- 3) How many invoices are we turning out per worker?
How many bills are we paying per worker?
How much inventory do we have per inventory clerk?
- 4) What does the government think of our tax statements?
Do they make many corrections? Does their silence indicate we may be paying too much?
- 5) How promptly are our statements prepared? How often are they prepared?
How up-to-date is our knowledge of our cash position?
- 6) What has been the trend in the above considerations?

II Record Keeping

- 1) How satisfied are others with the reports they get?

Are the reports prompt? easy to use? relevant?

Are comparisons easily available? Are trends apparent?

Is there duplication of reports? Can reports be combined?

- 2) Are all reports being used?

Does the accounting department know for what they are being used?

- 3) Does the department offer suggestions? on new reports? on better organization of present ones?

Does the department accept suggestions?

- 4) How good has forecasting been in the past? If not good, why not?

How accurate are the budgets?

- 5) Does the company know its costs? By department? By product?

Does it know where variations are? If not, why not?

In addition to knowing how well the functions are performed, it is also important to know how much it costs to perform them and how well they will be performed in the future.

III Costs

- 1) How does total cost compare to the past?

Has increased volume meant proportional accounting cost increases?
Refer to questions under A-3.

- 2) What cost or labor saving equipment has been installed?

What does the chief accountant know about this equipment?

Why hasn't he installed it?

IV The Future

- 1) How much does the chief accountant know about the operations of the company?

2) How well does he understand the present accounting system?

Does he know the best way to go about getting additional information?

3) Does he get cooperation from other department heads? Do they go to him for information?

Does he ask them what he can do to help?

4) How much does he know about other accounting systems? about other companies' reports? about newer methods? about new machines? Is he trying to improve the system?

5) Is there anyone in his department who can take his place?

6) Are there indispensable people in the department? Is important information carried in someone's head?

SUMMARY

Our system for analyzing a company can be summed up as follows:

1. Take a quick look to see how well the company is doing.
2. Examine your objectives in relation to each other and to the external forces and internal forces which may affect them. At the same time consider major policies in this light.
3. Look at what your company is producing. How does it compare with your competition? How does it compare to what you want?
4. Having highlighted weaknesses by step 3, then examine the areas responsible for them by the use of the various questions given for the different areas. Through this kind of analysis, you will be able to discover where the weak points and strong points are and how these affect your overall operations.

This paper has been designed to point up trouble spots for the top executive. The ultimate decisions for action must be left up to him. At the present time there is no formula for correct action, the attempt to determine such a formula would be a worthwhile topic to explore, but is beyond the scope of this paper. If we have succeeded in highlighting sources of trouble in your company, we have achieved our goal.

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