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LONG RANGE CORPORATE PLANNING

by

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## ABSTRACT

Long Range Corporate Planning by Pravin Moudgill;  
a thesis submitted in partial fulfillment of the requirements  
of the degree of Master of Business Administration, Faculty  
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vision of Professor James W.C. Tomlinson; October 1972.

The thesis is in two distinct parts. The first part  
deals with the theoretical aspect of long-range corporate  
planning. Specifically it:

1. Traces the history of development of long-range planning; giving evidence of maturing of the discipline, its efficacy, and its acceptance in the business world.
2. Introduces the concepts of long-range corporate planning and develops them into a comprehensive theory.
3. Outlines and analyses the advantages of long-range planning, distinguishing between 'defensive' and 'creative' advantages.
4. Suggests broad outlines on 'how to plan'. Includes some interesting (to the author) models developed by others as an aid to the planning exercise.

The second part contains details of a real-life application of long-range planning. A heuristic approach is utilized to develop a 4-year plan for two associated firms, a metal-stamping organization and a distributing-cum-sales organization. The exercise involves:

1. Setting up objectives.
2. Examination of the existing resources of the two

firms. Locating sources of present and potential strengths and weaknesses.

3. A study of the market.
4. Establishing a time horizon.
5. Developing a product-market policy.
6. Integrating all the above into a comprehensive long-range plan.

The principles developed in the first part find normative application in the above plan. The plan therefore serves a dual purpose: a vehicle for integration of various planning principles, as also for guiding the corporate destiny of the two firms.

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## PREFACE

ADKA INDUSTRIES LTD. (established in 1950) and MONARCH STEELCRAFT LTD. (acquired in 1958) are two associated organizations owned by Mr. E.D. Boyd, who on the death or retirement of his partners became sole proprietor in 1969.

MONARCH STEELCRAFT LTD. manufactures and assembles doors, door frames, concrete accessories, etc. ADKA INDUSTRIES LTD. is primarily a sales organization which markets the produce of MONARCH STEELCRAFT LTD. and is also a direct distributor for various lines of hardware. While the two are separate<sup>1</sup> entities on paper they are for all operational purposes one organization.<sup>2</sup>

In early 1972 Boyd contacted Professor J.W.C. Tomlinson of the Faculty of Commerce and Business Administration, U.B.C., requesting a study of his organizations and their problems.

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<sup>1</sup> Under the existing arrangement Monarch "sells" its produce to Adka and then Adka distributes it. Monarch sells to Adka at a price lower than that which Adka sells in the market. Monarch pays 11% federal sales tax on its selling price. Adka does not have to pay any federal tax on these goods. If the two were amalgamated then Adka would have to pay federal sales tax on its selling price, or the company would have to pay a larger amount as federal tax.

Again, if the two companies amalgamated then Adka would have to pay 5% provincial sales tax at the time of acquisition of Monarch. Thus it is advantageous to keep the two organizations separate.

<sup>2</sup> Hereafter I will use the term Adka to refer to both Monarch and Adka unless there is reason to distinguish between the two.

The undersigned and Carl Heino, a fellow student, were assigned to study the organizations as part of the course requirements of Commerce 591/592, May-June 1972. Later on I undertook to develop a long-range plan for the company as a Thesis towards partial fulfilment of the degree of Master of Business Administration.

Needless to say the Thesis was made possible only because of the interest, time and effort generously contributed by the top management of Adka who had to suffer through, among other things, several questionnaires and other harassment at my hands. The debt is gratefully acknowledged.

Thanks are due to Professors J.W.C. Tomlinson, the Thesis supervisor, and V.F. Mitchell, my advisor, for their encouragement, assistance and support; both in the writing of the Thesis and in other academic and personal areas of my life. I am grateful.

I would also like to thank Miss Karen Calderbank, the librarian at the Dominion Bureau of Statistics, Vancouver for assistance in collection of statistics, and Mrs. Anne Teacy for typing the manuscript.

## PART I

## INTRODUCTION I

Literature on long-range planning can be roughly classified into two broad categories:

1. Theories of long-range planning.
2. Applications; case histories, etc.

Long-range planning has evolved and matured as a discipline during the 1960's. Drawing upon the theory of the administrative and psychological aspects of organizational behavior and "scientific" disciplines like statistical analysis and mathematical programming, etc., it has developed a comprehensive theory of its own. Part of the literature concerns itself with this development.

The remaining describes or suggests means of application of the body of theory to actual or hypothetical situations. Because of the diverse nature of corporations, there can be no one universally applicable model. Because of continuous evolution no one model can be applicable to the same corporation over its corporate life. The problem therefore requires heuristic resolution.

I propose to follow the above taxonomy in this thesis on long-range planning. The paper shall be in two parts: The first part introduces, develops and criticises the theory. Specifically it:

1. traces the history of development of long-range planning.
2. introduces and criticises concepts.
3. outlines and analyses its advantages.
4. suggests broad outlines of 'how to plan'.

In the second part the theory is applied to developing a long-range plan for two associated firms, Adka Industries Limited and Monarch Steelcraft Ltd. The planning exercise is introduced and described in the second part.

## CHAPTER I

### HISTORY OF LONG-RANGE PLANNING

"Formal long-range planning - perhaps the most significant new management development to emerge in the 1960's" (Vancil 1970, p. 98), defined variously as comprehensive planning, comprehensive corporate planning, integrated planning, over-all planning, total planning, and corporate planning (Steiner 1969, p. 6; 1970, p. 133) is now an integral part of management activity. In other words, long-range planning has 'arrived'.

Comments and observations from the worlds of business and scholarly activity are reproduced below as evidence for the above statement.

#### The Business World

##### Europe

My own empirical observations, together with discussions with corporate planners and top executives of major companies at a research seminar held at Fontainebleau in 1964, lead me to the conclusion that the very rapid increase during the past two years of seminar discussions, management consulting engagements to introduce formal planning, and articles in European business publications about comprehensive planning, will undoubtedly result in an important growth of comprehensive planning in European companies.

(Steiner, 1969, p. 15)

There can be few developments in the science of management which have excited the business world more than corporate long-range planning. Virtually unknown in the U.K. five years ago, it has burst like a rocket over the management scene, infecting many with enthusiasm and creating a new type of manager - the professional corporate planner.

(Hussey, 1971, p. 1)

### Japan

A comprehensive and detailed examination of 372 companies in Japan in 1965 (Japan Management Association 1966) showed that 78 percent claimed to have formal, written corporate plans.

(Steiner, 1969, p. 15)

### U.S.A.

Data on formal planning are poor, but there is no doubt about the fact that during the past ten years the growth of planning staffs to help top managers conduct formal planning programs has been nothing short of phenomenal. In 1956 the National Industrial Conference Board reported that only 8 percent of the companies surveyed had one or more persons engaged full time in long-range planning duties. At that time long-range planning was roughly synonymous with the concept of comprehensive planning used here. A few years later Management Methods reported 18 percent of the firms it studied had formulated advanced plans on a formal basis. Another study made in 1962 (Mason, p. 4.) reported that less than 20 percent of all U.S. manufacturing companies with annual sales over \$10 million had organized planning on a corporate-wide basis. A study made in 1963 (Stanford Research Institute, p. 4) reported that among the 500 largest industrial companies in the U.S., 60 percent had organized, formalized corporate planning programs and another 24 percent intended to develop them. If most of those who said they were going to introduce formal planning actually did so, and I would expect that they did, at least 75 percent of the largest industrial companies in the U.S. today have formally organized comprehensive planning programs. In mid-1966 a survey of 1965 companies revealed that 9 out

of 10 said they did long-range planning, as distinguished from annual budgeting (Brown, Sands, and Thompson). A National Planning Association study in 1966 of 420 companies showed that nearly 85 percent said they prepared long-term plans. Half of them prepared plans for only a five-year period, well over half had inaugurated long-term planning since 1960, and about half had planning staffs at top management levels.

(Steiner, 1969, pp. 14-15)

In a study reported by Steiglitz (1969, p. 21) 65% of 280 chief executives identified their most important activity as long-range planning and said they spend 44% of their time on it.

In addition to managers themselves, even the relatively more conservative professionals have accepted long-range planning. "... the majority of security analysts and institutional investors passing through companies insist on spending time with the planner and often emphasize his capabilities in their evaluation reports." (Steiner, 1970, p. 134).

### Scholarly Activity

#### Seminars

"Seminars on corporate planning are the order of the day." (Hussey, 1971, p. 1).

The American Management Association conducts annual week-long seminars on long-range planning. Similarly the Institution of Management Sciences conducts seminars on long-range business planning. (Mockler, 1970, p.154).

### Schools

The Harvard Business School has begun a program of research and instruction designed to develop new knowledge about formal planning systems and to show business executives how to put this knowledge to work promptly and efficiently. (Mockler, 1970, p. 154). In 1969 some 60 participating companies joined in establishing a vast "data bank" with the school (Vancil, 1970, p. 98); quantitative evaluations are awaited.

The effects of long-range planning are being quantitatively evaluated at other centres also. Ansoff (1970, p.2) reports the first quantitative and statistically significant study that planned acquisition is more profitable than unplanned acquisition. He also reports a yet-to-be-published study by Robert J. House and Stanley Thune of the Bernard M. Baruch College, "Where Long-Range Planning Pays Off." The study offers "quantitative proof that firms which do long-range planning outperform firms which do not do long-range planning." (Ansoff, 1970, p.7).

### Learned Societies

The rapid development of interest in corporate planning is reflected in the growth of the Society for Long Range Planning, which in its first two years of existence reached a membership of nearly 1000 people. The Society has a number of members outside the U.K., and its official journal Long Range Planning is international both in its editorial concepts and its actual circulation.

(Hussey, 1971, p.1)

## Books

The first book on long-range planning, "Long-Range Planning for Management," edited by Ewing was published in 1958. It contained a collection of major articles on the nature and principles of planning, planning strategy, and the steps to be followed in making an overall corporate plan.

There has been a phenomenal increase in publishing activity since then. Over 25 book length studies on the subject were published in the 1960's. (Mockler, 1970, p. 154).

## Maturing of the Concept

Perusal of these books reveals a definite maturing of the concept of long-range planning.<sup>1</sup>

The earlier literature could be classified into two broad categories: some authors attempted to develop (for the first time) a systematic body of planning concepts and principles; others focused on planning practices, testing validity of planning theories in working situations and exploring what could be learnt from studying how successful executives actually planned.

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<sup>1</sup>Please see appendix 2 for a brief review of some of these books.

The earlier books were generally developmental and exploratory. Later books, written when the discipline had matured, summarized the experience of the past, integrated and synthesized previous work and added new dimensions to both the strategic and implementational aspects of planning.

### Summary

Herold (1972) reports evidence of the efficiency of long-range planning in his study which concludes that formal planners outperform informal planners on sales and profits; and also outperform themselves when compared to their informal planning stage.

While the samples reported by Steiner (1969) have not been taken from the same population, the following results indicate definite trends in acceptance of long-range planning:

<u>Year</u>	<u>Percentage of corporations surveyed which report development of long-range plans</u>
1956	8
1962	20
1963	60
1966	85-90

Tracing the development of the concept through books on the subject, indicates that long-range planning has evolved from a normative activity supported by rudimentary theory into a sophisticated discipline with a sound theoretical base and empirical confirmation.

Thus we see that long-range planning has proved itself, has matured as a concept and has been accepted, and is now an integral part of management activity.

## CHAPTER II

### LONG-RANGE PLANNING : THE CONCEPT

In this chapter I will develop an overview of the corporation and show how long-range planning fits into the corporate 'scheme of things'; the part it plays in furthering the corporate mission. During the above process I will also develop and define the concept of long-range planning.

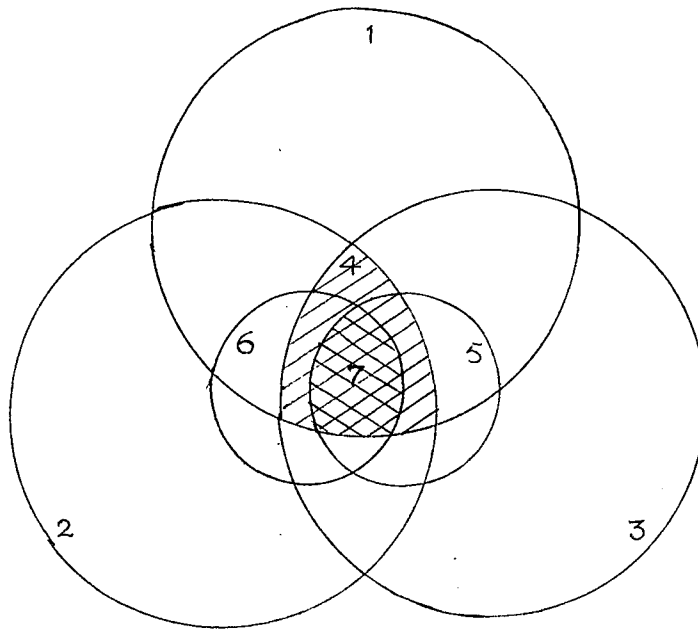
#### Introduction

There is an environment within which the corporation functions. The environment contains sets of needs, values and resources. The nascent corporation has available to it a subset of resources and has its own subset of values. It addresses itself to fulfilling a subset of environmental needs. This is the mission of the corporation. The concept of the mission is depicted in figure 1.

The above concept has inherent in it the necessity for long-range survival. An organisation must survive in order to be able to fulfil its mission. Thus the mission has a time dimension - the future. Long-range planning is an attempt at realisation of this future.

#### Long-Range Planning

An on-going organization has at any given time a certain momentum (i.e., a mass, speed and direction of



The Mission of the Corporation

1. Environmental needs - Needs to be met
2. Environmental values
  - $(1) \cap (2) =$  Subset of needs which should be met
3. Environmental resources
  - $(1) \cap (3) =$  Subset of needs which can be met
4. Set of missions =  $(1) \cap (2) \cap (3)$
5. Corporate resources - what the corporation can do
6. Corporate values - what the corporation would like to do
7. Corporate mission =  $(4) \cap (5) \cap (6)$

Note:  $\cap$  indicates set of intersection

Figure 1

of movement), and a certain rate of change of momentum. It has in effect a certain 'naturally occurring' future, a state or condition it will arrive at or be in, at a given point in time in the future, if allowed to continue under the presently foreseen circumstances. This may however be different from the state or condition desired at that point in time.

If we call the point in time in the future the time horizon or planning horizon (and the intervening period the proximate period), the expected state or condition of the corporation at the time horizon becomes its reference projection. Similarly the desired state or condition at the time horizon becomes its wishful projection.

In the case that the expected future is not also the desired future there will be an expected projection gap. The corporation has to intervene in order to ensure attainment of the desired future, to close the expected gap. This intervention has to be planned.

Long-range planning is defined as the interventional activity which aims at "imposing before-the-fact control over the result of events that may take place . . . in the future" (Heyel, 1963, p. 453); which deals with the futurity of present events; which seeks answers to the question 'what should we do today to deal with tomorrow,' in order to close the expected gap.

### The Expected Gap

As seen above the gap is the difference between the state the corporation would like to be in and the state it expects to be in, at a given time in the future. Before we can estimate the difference between the two states however, we have to reduce them to a common scale of measurement, i.e., relate them to a common frame of reference. Let us determine this frame of reference.

Let the state of the corporation be expressed in terms of a level of achievement scaled (both qualitatively and quantitatively) against mission requirements. The mission projected at the time horizon determines a required level of achievement - what the corporation would like to attain, or to be at that time. The present momentum and rate of change of momentum are also related to the mission. Extrapolation of this current momentum and rate of change of momentum determines the expected level of achievement at the time horizon. The difference between the two levels of achievement, required and expected, determines the anticipated gap.

Thus the mission of the corporation becomes the frame of reference for gap evaluation. This mission however is itself subject to change.

It may be noted that the corporate mission was originally defined under the constraints of:

1. The set of environmental missions ((4), fig.1).
2. Corporate achievability - associated with resources available to the corporation ((5), fig. 1).
3. Corporate desirability - associated with the values of the corporation ((6), fig. 1).

It is quite possible that one or more of the above may change or may be expected to change with time.

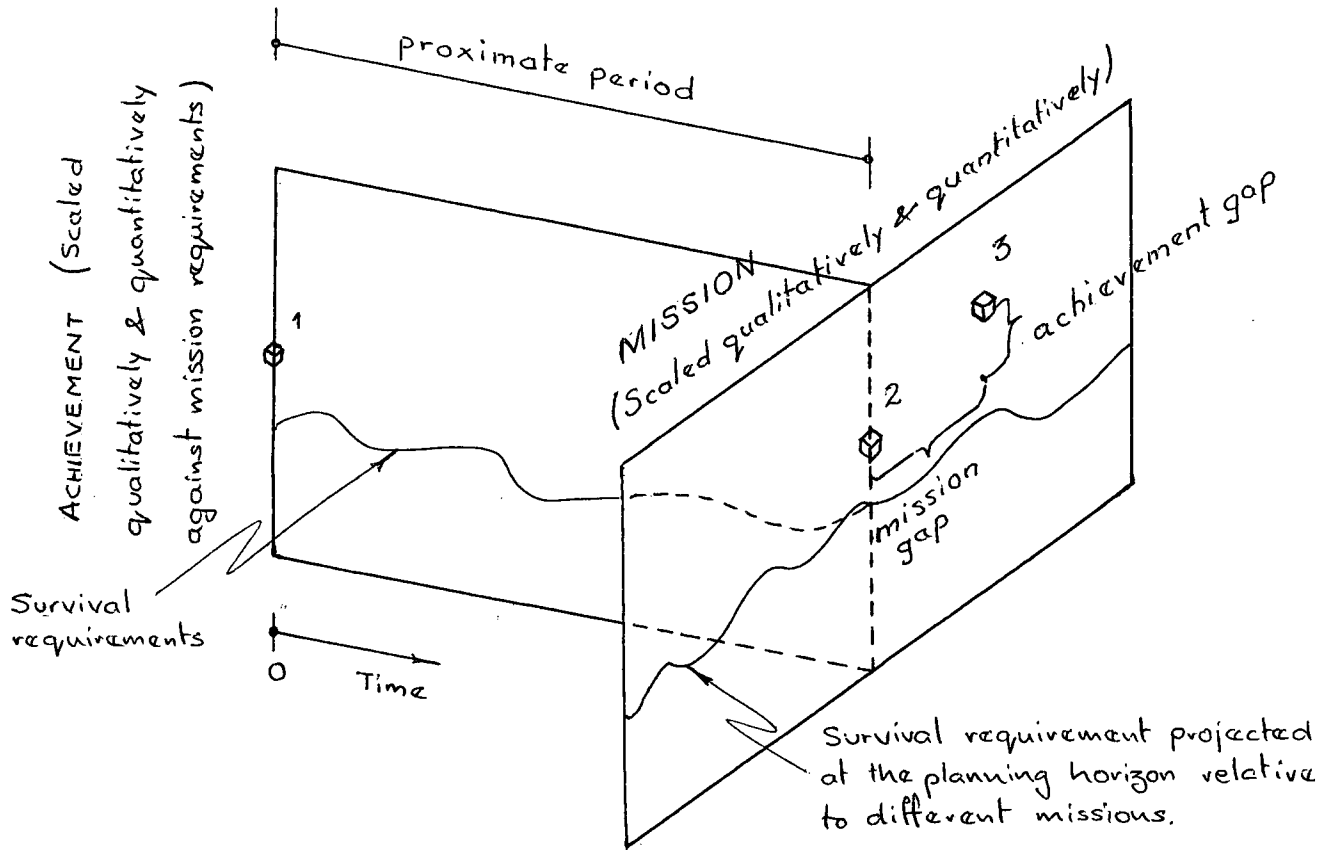
This may lead to a situation where the corporation expects to be unable to achieve its mission in the future. It is also possible that even though it expects to achieve the current mission, changed circumstances open up other alternatives which are more meaningful than the current mission.

Thus the current mission when projected on the planning horizon may turn out to be:

1. Neither achievable nor desirable.
2. Achievable but not desirable.
3. Desirable but not achievable.
4. Both desirable and achievable.

If conditions (1), (2) or (3) prevail, the corporation has to revise its mission, in such a way that its new expected mission at the planning horizon is both desirable and achievable. The difference between the new mission and the current mission, both projected at the planning horizon, scaled both qualitatively and quantitatively is, what we will call, the 'mission gap.'

### What is the Expected Gap?



1. The corporation at time 0.
2. Expected achievement scaled against current mission projected at planning horizon : reference projection.
3. Desired achievement scaled against desired mission projected at planning horizon : wishful projection.

Figure 2

If condition (4) prevails then the gap (if any) between the expected achievement and desired achievement is, what we will call, the 'achievement gap.'

The concepts of reference projection, wishful projection, the mission gap, and the achievement gap are depicted in figure 2.

### Closing the Gap

It may be noted that there are basically three dimensions the gap and its associated gap-closing planning activity:

1. Time.
2. Mission definition related to time.
3. Achievement related to mission definition (and therefore related to time).

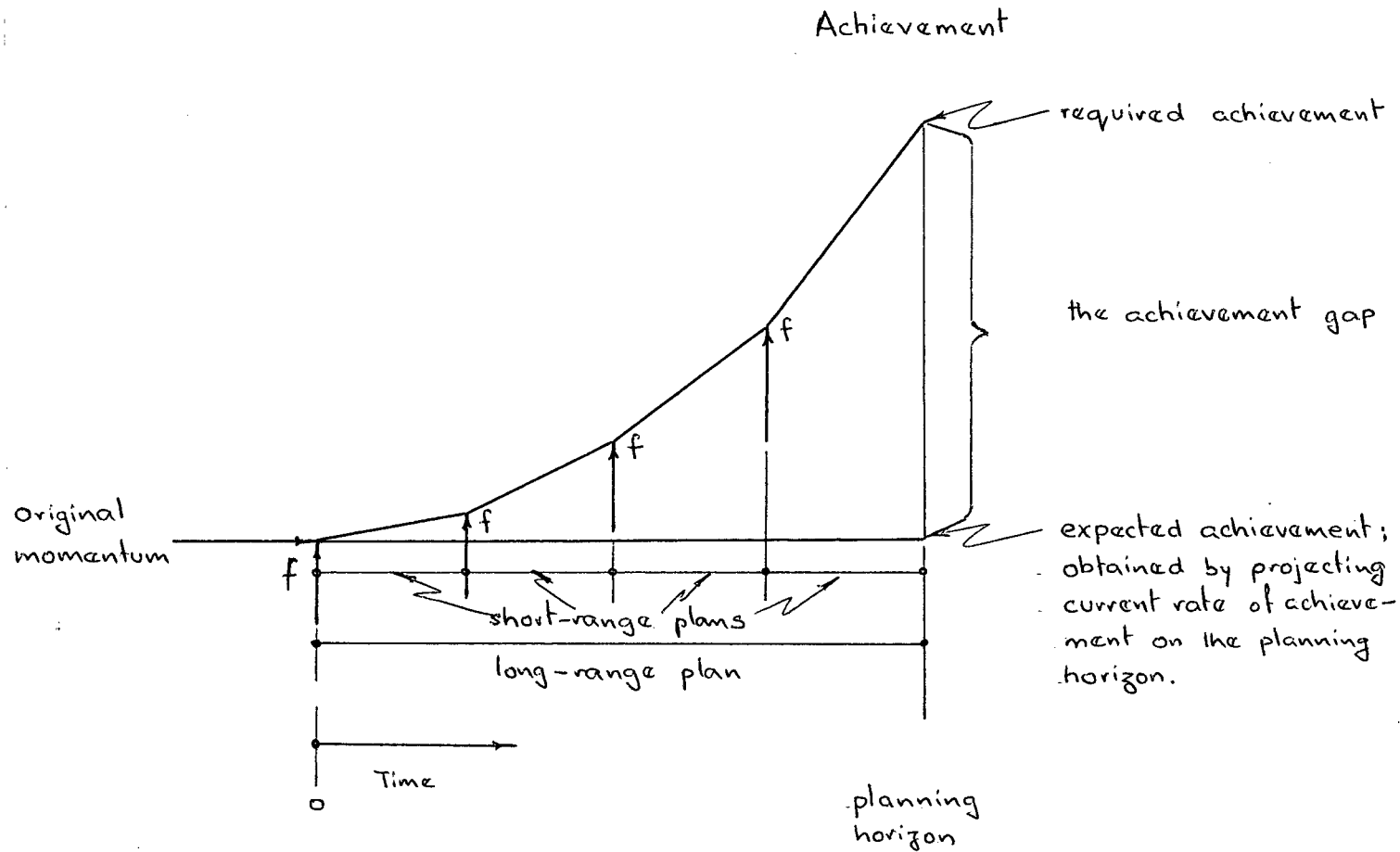
Once the planning horizon is defined however we are left with only two dimensions to the gap:

1. The mission gap.
2. The achievement gap.

In case the current mission is not achievable or desirable at the planning horizon, it has to be dropped, modified or revised; leading to a new mission definition. This definition automatically results in:

1. Closing the original mission gap.
2. Determining the required achievement level associated with the new mission.

# Closing the Achievement Gap



f: forces resulting from implementing short-range programs (assumed to act at the beginning of the plans for ease of depiction).

Figure 3

After the new mission has been defined, the current rate of achievement can then be projected on the planning horizon and compared with the required achievement related to the new mission to obtain the achievement gap.

Once the gap is established corrective forces can be brought to play on the corporation at or along different points in time in order to give it the new desired momentum so that the gap can be closed. This concept is depicted in figure 3.

The above figure also suggests one of the several differences between long-range and short-range plans, the time dimension.

#### Long-Range vs. Short-Range

Long-range planning is at times called over-all or total planning (Steiner, 1969, p. 6). This sometimes leads to a confusion of concepts. There is more to the total corporate planning activity than just long-range planning.

The total corporate planning activity has two dimensions:

1. Planning to plan the plan, and planning the plan - strategic planning.
2. Planning to operationalize the plan - implementational planning or tactical planning.

Under the above dichotomy, long-range planning is synonymous with strategic planning. It differs from short-

range planning along several dimensions, some of which are detailed in Appendix 1. Generally speaking long-range or strategic planning is more comprehensive and, according to Steiner (1964) is "...the process in which the basic mission, objectives, and strategies for the company are hammered out to guide the acquisition, use and allocation of resources to achieve objectives." (Steiner, 1970, p. 135).

Thus long-range planning deals with:

1. The mission gap closing activity; and
2. Planning the achievement gap closing activity.

Short-range planning on the other hand deals with implementing the achievement gap closing activity.

### Behavioural Analysis

Long-range planning behaviour in an on-going organization can be broadly categorised into:

1. Search behaviour (for resources and information)
  - seeking answers to the questions 'where is the corporation headed' and 'what are the constraints.'
2. Bargaining behaviour (the goal formation process)
  - seeking answers to the question 'where would it like to go.'
3. Decision making behaviour (relating means, i.e., resources and information, to ends, i.e., goals)
  - seeking answers to the question 'how can it get there.'

The long-range planning activity triggers search (leading to problem formulation, modification, alternative generation and selection) and enforces appraisal of the

organization and its environment and identifies resources and constraints. It also enforces managerial communication and interaction, both in the search process and goal formation and modification process. It provides a structure for decision making, both in terms of modifying goals and acquiring and reallocating resources.

#### Post Long-Range Planning Activity

After closure of the achievement gap has been planned, it is implemented. This is done by developing and implementing short-range plans which detail and schedule resource acquisition and allocation. Operational elements critical to gap closure would have been considered in the long-range plan. The short-range planning activity would generally be limited to development and application of non-critical resources.

Implementation of short-range plans is controlled to ensure that it proceeds according to plan. Deviance is analysed for errors in implementation or changes in exogenous variables or other planning parameters. Plans are reviewed from time to time in the light of changed circumstances, or expectations, or both.

### CHAPTER III

#### ADVANTAGES OF LONG-RANGE PLANNING : AN ANALYSIS

In this chapter we will use our conceptual development of the long-range planning activity to analyse the various advantages ascribed to long-range planning.

##### Elements of Long-Range Planning

We note from the previous chapter that long-range planning in an on-going organization involves the periodic or continuous determination of the following:

1. Where is the corporation headed : reference projection?
2. Where would it like to go : wishful projection?
3. Where can it go : the constraints?
4. How can it get there?

Elements 1 and 2 above can be collapsed into one element : 'determining the gap!'. Similarly elements 3 and 4 above can also be collapsed into one element 'determining how to close the gap'.

Let us use the 4-element and 2-element frame-work to analyse the advantages of long-range planning.

##### Advantages of Long-Range Planning

Proponents of long-range planning ascribe several advantages or benefits to the activity. Lists of claims vary, but the following is, we feel, fairly representative:

Many companies felt they were tending to get better value for their capital investment, and were making fewer mistakes.

A number of respondents felt that planning indicated problems before they occurred.

Many felt that planning had resulted in a dramatic change of interest, and attitude, throughout their organizations. One claimed that it had re-vitalized the interest of senior managers in the future of the company.

Some saw planning as a discipline which continually points out that there is change and the need to plan ahead to meet it. One executive referred to "an awareness forward that enables us to anticipate changing market conditions."

Many companies have been forced to rethink the nature of their business and set more specific long term objectives. In some organizations for the first time there has been a co-ordinated unified effort to achieve predetermined objectives. The result has been improved morale and more efficient use of resources.

Perhaps the most significant benefit claimed was that planning enables departmental managers to have a much clearer understanding of the whole operation. It was said to have resulted in broader horizons and a change in attitude from parochialism to business orientation.

(Taylor and Irving, 1971, p. 26)

### Analysis

The various advantages claimed above can be broadly categorised into advantages arising out of:

1. Improved information : greater familiarity with the organization and its environment.
2. Improved communication : greater familiarity with the thought processes and aspirations of management.
3. Creative thinking involved in modifying goals

in the face of constraints.

4. Creative thinking involved in devising means to achieve ends.

The first two sets of advantages, those associated with gap determination, are, according to us 'defensive' advantages.

These advantages can be ascribed to any activity (as also to long-range planning) which enforces discipline and order; which forces management to familiarize themselves with their organization, their colleagues' thought processes and their environment. Any activity which provides a structure which requires and allows management to 'learn the facts', to acquire more complete pertinent information will result in similar advantages.

These advantages are however only due to improved efficiency arising out of a better understanding of the organization and a sense of corporate cohesion and direction; advantages associated with problem formulation; with an understanding of the 'gap'.

The last two sets of advantages, those associated with gap closure, are, according to us, 'creative' advantages.

This is where the exercise leads to synergy, arising out of creative thinking involved in modifying the problem in the face of constraints and devising solutions to the problem.

Learning the strengths and weaknesses of the organization and the potential of the environment leads to better information and understanding, which is undoubtedly advantageous. However, different managements may handle the same information differently, a more creative management distinguishing itself by devising a superior solution.

### Conclusions and Comments

We have seen that the advantages ascribed to long-range planning can be broadly classified as defensive (those arising out of acquisition of information and improved communication, or sensitising the organization to itself, its environment, and the organization-environment interface) and creative (those arising out of utilization of information resulting in problem refinement and improved resource allocation).

Use of the words 'defensive' and 'creative' is not however to imply that the latter are in any way superior to the former. The classification is based on the nature of the advantages; it does not reflect their quality.

It may be noted that while improved information and communication can lead to greater efficiency in decision making without necessarily resulting in any creative thinking; and that while there is generally scope for creative thinking

even with limited information, probability of synergy increases when both activities are pursued in unison.

## CHAPTER IV

### HOW TO PLAN

We have seen that long-range planning aims to establish a frame of reference for current and future decisions. In this chapter we will examine how a company can go about establishing this frame of reference.

Planning literature is full of suggestions, schemes and models for long-range planning. They range in diversity from a conceptual treatment of the subject - which merely suggests the nature of questions to be asked, to provision of exhaustive check lists - which detail specific questions.

While these may contain suggestions which are not relevant to the specific problem at hand, most of these are generally applicable to most situations. The planner can draw upon specific models, examine them, and either use them per se (with necessary modifications) or use them as guides to build his own heuristic model.

In this chapter we intend to present a general scheme as an aid to model building. We have already introduced the concepts underlying long-range planning so our treatment below will tend to be normative.

#### Planning to Plan

The first step in any planning activity is planning

to plan. This requires establishing a suitable climate, and making the organization planning conscious. It involves making the following basic decisions and assumptions:

1. Who will do what in planning : establishing a communication, and authority and responsibility structure.
2. What is being taken for granted : overall assumptions which provide the framework for planning, e.g., population movement, steady increase in GNP etc.
3. What is the time horizon?

The above gives the planners and the support organization a set of premises which determine the constraints of the planning activity, provides a general direction and suggests the personnel mechanics of the activity. This leads to establishing the status of the planners and planning priorities, resulting in improved co-ordination, and general efficiency of the long-range planning process.

### The Planning Horizon

The length of the planning period varies from company to company. There are no rigid requirements. The only guide lines for an on-going organization<sup>1</sup> are:

1. It should not extend too far into the future, where the extreme uncertainty

---

<sup>1</sup>Planning to wind-up the organization, say, in one year is a perfectly feasible requirement.

does not permit meaningful planning.

2. It should not cover too short a duration which might result in the corporation losing its overview or perspective of the situation.

A general requirement of the length of a plan is that it should cover the period of time encompassing important financial commitments and their pay-offs.

For example, depending upon subject matter, coverage should embrace product development time and period of major financial impact following development; resource development time (e.g., sources of supply, management talent, or labor skills); and time required to develop physical facilities plus pay-off period for major capital investments.

(Steiner, 1964, p. 141)

### Defining Objectives

Two sets of objectives need to be defined:

1. The objectives of the organization.
2. The objectives of the long-range planning exercise and the relationship of planning goals to other goals.

Let us elaborate upon the former. Corporate objectives are reflections of the values and aspirations of the individual members of the organization and are reflected in proportion to the power the individual exercises vis-a-vis the organization (his bargaining power). These aspirations are expressed as economic and ethical or moral considerations.

The economic objectives find expression in requirements of growth, expressed in terms of sales, assets, employees, profits, or product line; stability, usually expressed in terms of sales, manpower, and profits; flexibility, expressed in numerous ways, such as, ability to innovate, speed of response to new environment, especially competition; diversity in preparedness to compete; sensitivity to technological and market changes; and acquisition of a given status of technical skill.

(Steiner, 1964, p. 142)

The moral and ethical considerations are generally described in terms such as leadership of the firm in the industry, integrity and honesty in dealing with others, maintenance of amicable community relations, and assumption of social responsibilities with respect to community problems.

(Steiner, 1964, p. 42)

Since corporate objectives are reflections of individual personalities who are themselves at times unable to establish a hierarchy among their personal objectives, and since each individual has a unique changeable set of needs, aspirations and values, the resultant set of corporate objectives represents a dynamic continuously changing hierarchy containing elements which conflict with each other.

One of the primary objectives of the long-range planning activity therefore is to establish a set of corporate objectives, which has both an intrinsic worth and is consistent over the expected life of the company and over the planning horizon.

Individual components of the set of corporate objectives can be examined for 'meaningfulness' along the following criteria:

1. Is it, generally speaking, a guide to action? Does it facilitate decision making by helping management select the most desirable alternative courses of action?
2. Is it explicit enough to suggest certain types of action? In this sense, "to make profits" does not represent a particularly meaningful guide to action, but "to carry on a profitable business in electrical goods" does.
3. Is it suggestive of tools to measure and control effectiveness? "To be a leader in the insurance business" and "to be an innovator in child-care services" are suggestive of measuring tools in a helpful way; but statements of desires merely to participate in the insurance field or child-care field are not.
4. Is it ambitious enough to be challenging? The action called for should in most cases be something in addition to resting on one's oars.
5. Does it suggest cognizance of external and internal constraints?
6. Can it be related to both the broader and the more specific objectives at higher and lower levels in the organization?

(Granger, 1964, p. 65)

7. Is it too detailed or inflexible?

Some of the objectives will define the characteristics of the company, will distinguish it from other similar organizations - will constitute the philosophy of the company. These will find expression in qualitative terms and will guide search for information and become criteria in choosing

between two otherwise equally attractive alternatives. For example a company may choose to go into the wholesale business, deal with manufactured products only and service industrial consumers; even though there may be equally lucrative opportunities in the retail distribution of goods for domestic consumption.

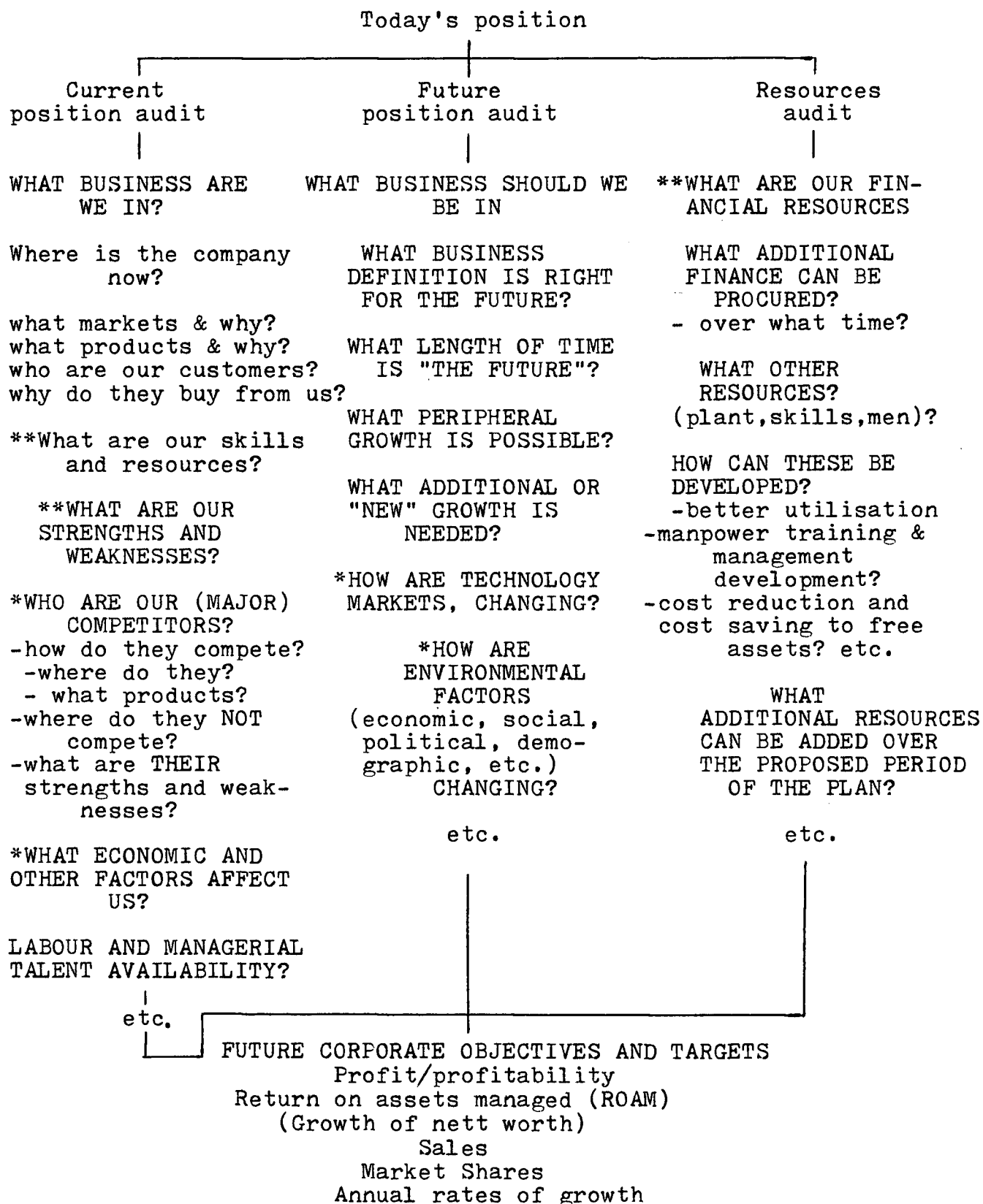
Once the philosophy has been determined the remaining objectives will address themselves to consideration of products, services, facilities, research and development of the above, manpower, organization, marketing, financial matters and management.

### Appraisal

In order for the objectives to be realistic they have to be consistent with the resources available to the company and the potential of and constraints posed by the environment. Thus while objective formulation guides the direction, nature and depth of appraisal, the appraisal in turn guides formulation of objectives. There is therefore a circularity.

This circularity or interdependence is depicted in figure 4 (Foster, 1971, p. 72) where future corporate objectives take into cognizance both environmental (marked with an asterisk,\*) and internal (marked with a double asterisk, viz., \*\*) factors, and where current objectives determine direction of appraisal.

Influence of company resources and  
environmental possibilities and  
constraints on company objectives.



To begin with, the planners should generally outline objectives consistent with the company capabilities and environmental constraints and possibilities - as revealed by a relatively cursory appraisal. This helps formulate the basic planning problem, which is later modified in the face of new information. Identification of a problem before all information is in helps reduce cost of search by guiding the direction and depth of the search activity. (Cost of information is proportional to the amount of information, while value of information is proportioned to the amount of relevant information.)

Appraisal of company capabilities involves an inventory of its existing strengths and weaknesses. These in conjunction with environmental possibilities determine the direction the company will take - exploiting its strengths and manouvering round its weaknesses, or trying to overcome some or all of its weaknesses. Once a general direction is established internal appraisal will be aimed at uncovering potential strengths and weaknesses. This will help in the planning of resource acquisition and allocation.

External appraisal similarly involves a study of existing and future needs, values and resources. The exercise will highlight variables which affect the firm. It will also help distinguish between constraints or uncontrollable

variables, eg. population growth, political environment general price levels, tax rates and policies, etc., and semi-controllable variables, eg. share of market, labour situation, industry legislative policy, etc. The company will develop a fair idea of the degree of manouverability and potential in the direction it wants to travel even before it begins to formulate strategy.

Checklists for internal appraisal vary in detail from one company to another. They are however structured round the main functional units, viz., finance, marketing, engineering, personnel, general management, etc. Checklists for one company are not generally applicable to another.

Checklists for external appraisal vary similarly from one company to another. Since they focus on the same environment however, companies in one industry can use a common checklist for the industry (with minor modifications). The following is a generally applicable outline for industry analysis:

1. Product-Market Structure
  - a. Products and their characteristics
  - b. Product missions
  - c. Customers
2. Growth and Profitability
  - a. History
  - b. Forecasts
  - c. Relation to life-cycle
  - d. Basic determinants of demand
  - e. Averages and norms typical of the industry
3. Technology
  - a. Basic technologies

- b. History of innovation
  - c. Technological trends - threats and opportunities
  - d. Role of technology in success
4. Investment
- a. Cost of entry and exit-critical mass
  - b. Typical asset patterns in firms
  - c. Rate and type of obsolescence of assets
  - d. Role of capital investment in success
5. Marketing
- a. Means and methods of selling
  - b. Role of service and field support
  - c. Role and means of advertising and sales promotion
  - d. What makes a product competitive
  - e. Role of marketing in success
6. Competition
- a. Market shares, concentration, dominance
  - b. Characteristics of outstanding firms, of poor firms
  - c. Trends in competitive patterns
7. Strategic Perspective
- a. Trends in demand
  - b. Trends in product-market structure
  - c. Trends in technology
  - d. Key ingredients in success

(Ansoff, 1965, p. 126)

### Develop Strategy

Once the objectives have been outlined and company and environmental potential and constraints have been established, the problem or the gap has been defined. The next step is to determine ways and means of closing the gap - or developing a strategy.

It may be emphasized here that it is not necessary to plan for a single future or a specific gap.

Generally speaking, it is possible to conceive of more than one future, and plan accordingly for anticipated contingencies. Various possibilities may be envisaged and different plans worked out for different situations. An overall strategy may be developed. Then, depending upon the shape the future takes, a specific plan may be implemented. The plan should, of course, be flexible enough to adapt to changing circumstances, or, if conditions change drastically it may be necessary to drop the particular plan and implement another one instead; (a plan which has already been thought out in detail). Some aspects of the future will be more uncertain than the others. It may not be possible to develop any "plans" for them due to their extreme uncertainty. It is possible however to develop detailed plans for the more certain portions. Thus as soon as the uncertain portions are known it will be possible to plan for them and act accordingly. This makes the timing relatively uncertain but the firm can at least "take off" with less loss of time.

It may be mentioned that objective formulation, appraisal and development of a strategy do not necessarily take place in a chronological sequence. All three activities take place more or less simultaneously and serve as information feed-back loops for each other. Objectives and strategy are reviewed against constraints posed by the environment and revised through a series of iterations till

the exercise results in a plan. (This plan itself is however never final and may require modification in the face of altered circumstances.)

The various major steps leading to a long-range plan have been detailed differently by different authors. Figures 5, 6 and 7 depict three such schemes which I find eloquent and worthwhile. All three are self-explanatory and if pursued should result in an over-all plan complete in strategic detail.

#### Tactical Planning

We have already distinguished between strategic and tactical plans. (See appendix 1) However the same plan (or a part of it may be both strategic and tactical, depending on the context. E.g., the overall plans for each function of the company would be considered tactical plans in relation to the overall master plan for the entire company. They would however become strategic plans in relation to implementational plans devised by the functions.

Thus we see that the long-range plan itself is a complex of plans which provides a framework for tying in and interlinking more detailed functional plans of varying time-spans. "It is a vast cobweb of short-term and long-term interrelationships between marketing, production, finance, industrial relations, executive development, and all the rest. All of these plans are built on certain assumptions, and

# A Generalised Model for Long-Range Planning

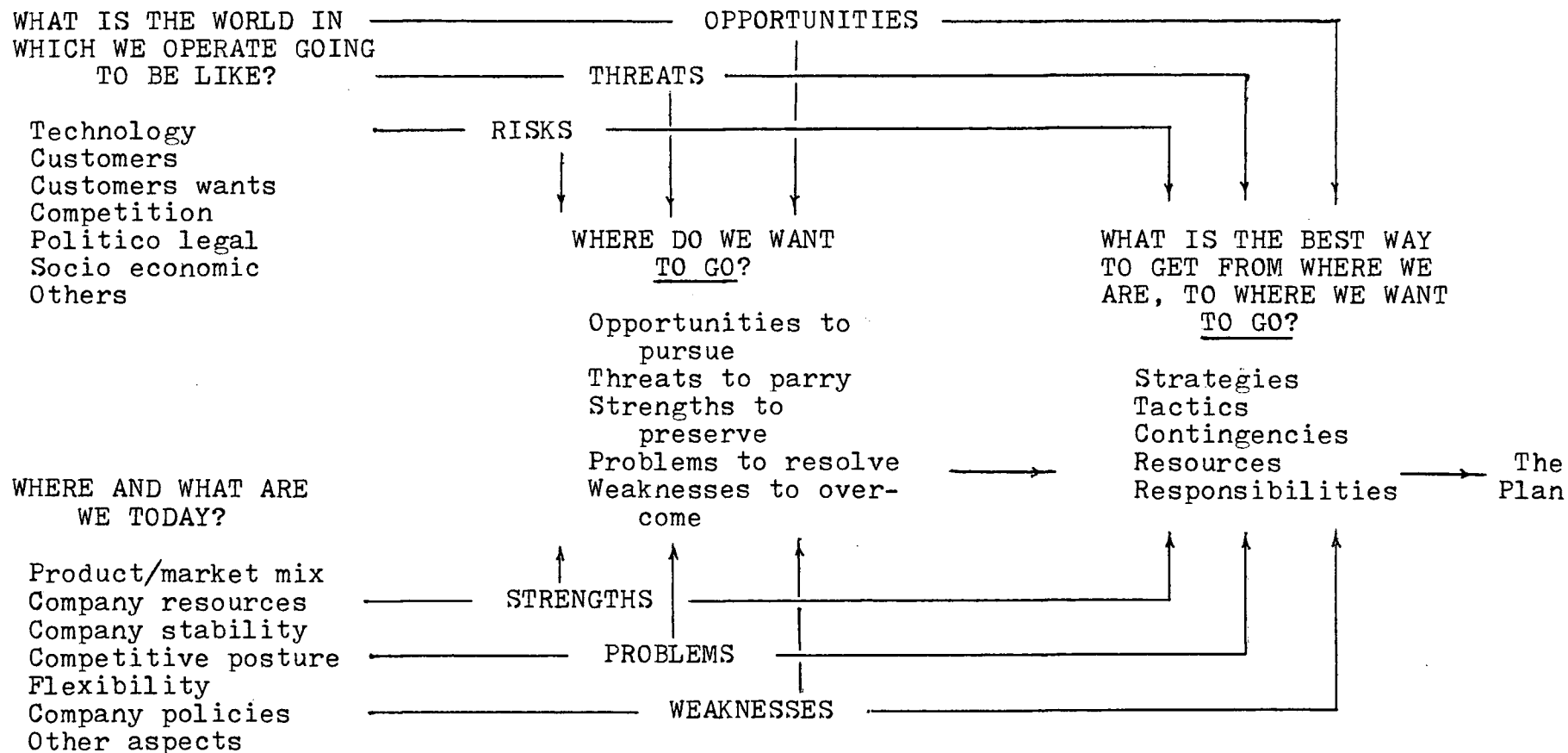


Figure 5

(Champion, 1970, 11)

## Questions to be Answered in Long-Range Planning

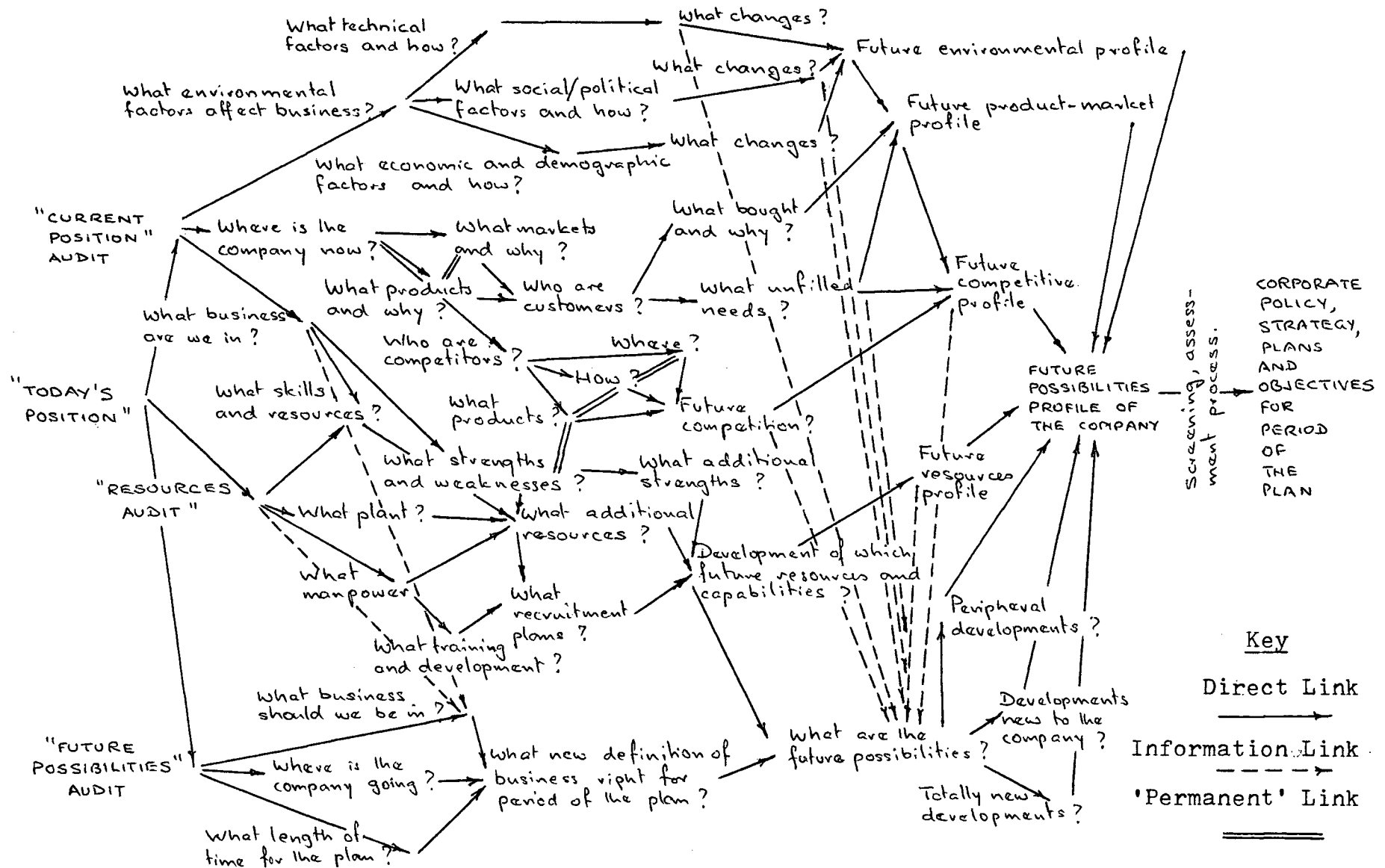


Figure 6

(Foster, 1971, p. 73)

## Internal and External Appraisal

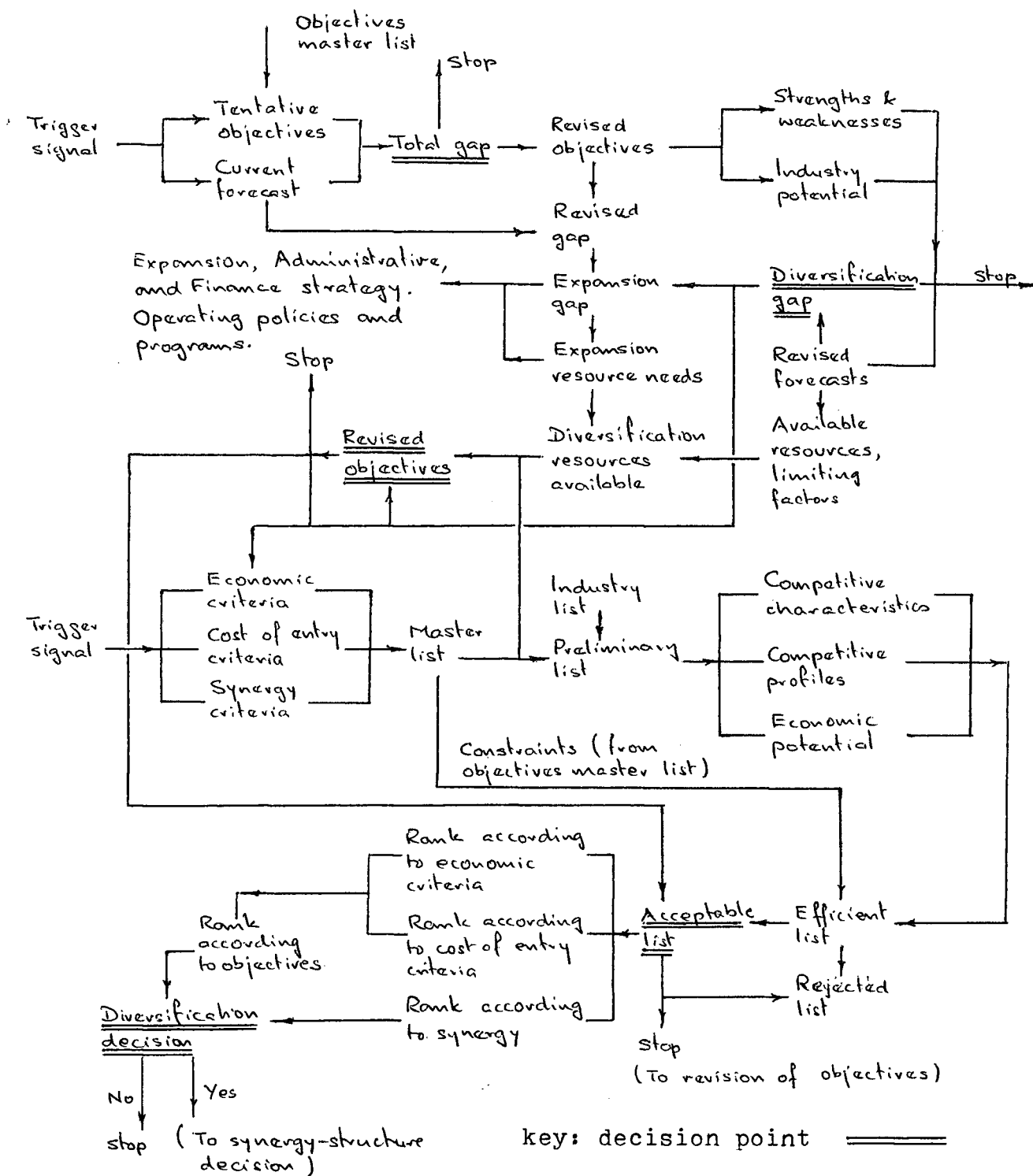


Figure 7

(Ansoff, 1965, pp.123 & 134)

## Developing Tactical Plans from the Corporate Plan

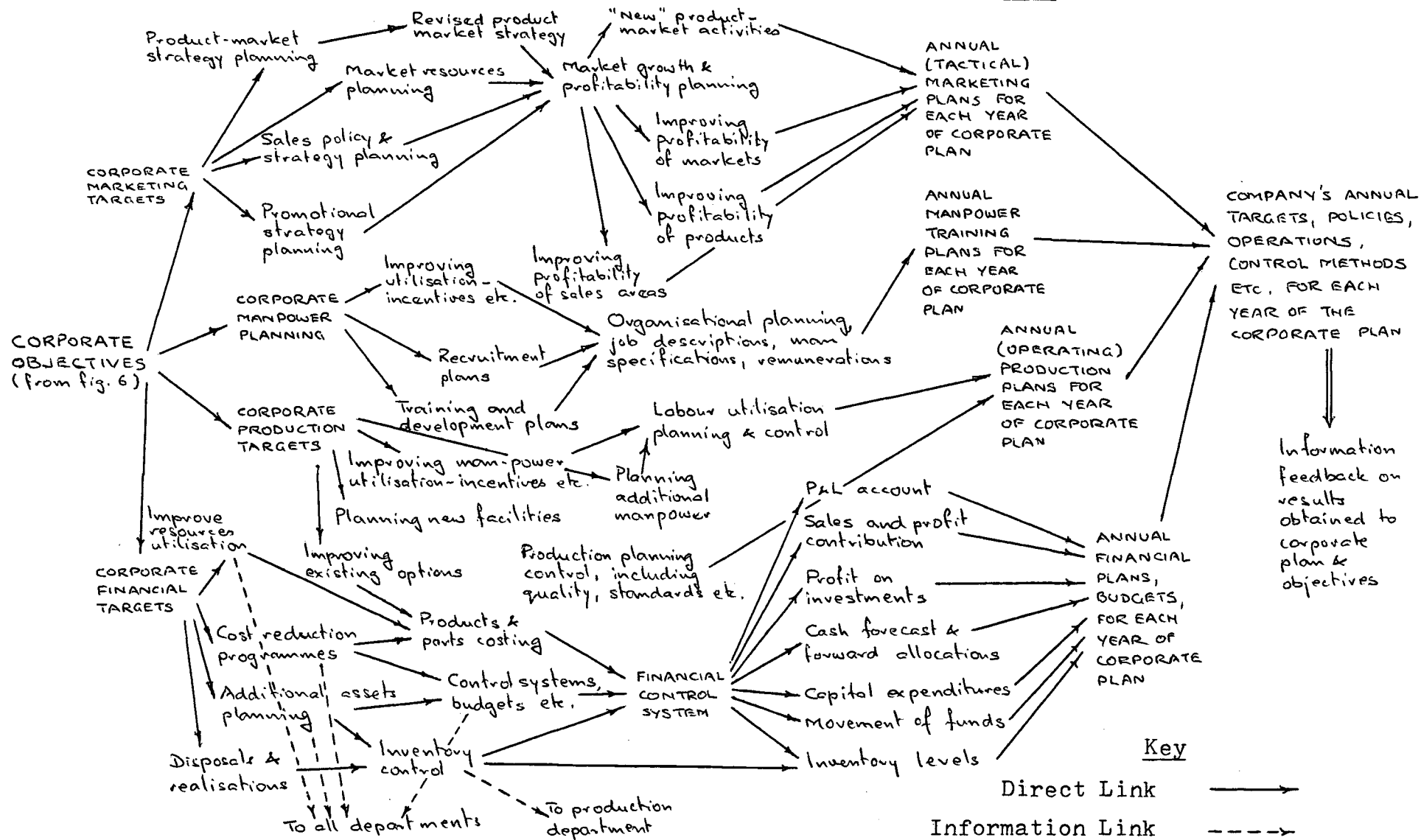


Figure 8

(Foster, 1971, p. 77)

the individual plans in turn become premises and assumptions for each other." (Kirby, 1962, pp. 11-12).

The tactical plan is the bridge between the master plans and the operational plan. It differs from the strategic plan in, among other things, the degree of detail and the width of coverage. A comparison of the questions asked in figure 8 with those in figure 6 will highlight the differences.

The master-plan for a particular function can itself be broken down into more detailed plans for the sub-functions, and so on. Reproduced below as an example are possible areas of coverage for more detailed planning under the marketing function plan:

The product mix plan, which outlines contemplated product deletions, modifications, and additions, and their timing, in the effort to meet the firm's customer-target and volume-profit objectives.

The product research and development plan, which outlines the general objectives which will guide new research investments, the areas of concentration, and ways to achieve more efficiency in the management of product research and development.

The sales force plan, which outlines measures to enhance the effectiveness of the personal selling effort. Among the matters treated are territorial reorganization, planned increases in the size of the sales force, the scale of future compensation, and future incentive programs for stimulating effort.

The advertising and sales promotion plan, which outlines future advertising strategy and tactics in the areas of message, copy, and media, along with the planned allocations of funds to products, territories, and customers. It also outlines a strategy for sales promotion to prevent a hodge-podge of unrelated promotions conceived in haste.

The distribution channels plan, which outlines future company policies with respect to types and number of channels and channel management.

The pricing plan, which outlines principles and objectives to guide pricing during the planning period. Included are future price changes contemplated for major company products.

The marketing research plan, which outlines major future projects to study markets and the effectiveness of the company's marketing efforts.

The physical distribution plan, which outlines programs for improving the efficiency of stocking and moving the company's goods to its customers. Included are measures for improved inventory control, for relocating distribution points, and for choosing modes of transportation.

The marketing organization plan, which outlines desirable changes in the organization of the marketing department, its information and communication system, and its relations with other company departments.

(Kotler, 1967, pp. 153-4)

### Implementation, Control and Review

Short-range or operational plans use middle-range tactical plans as their planning premises. They serve to operationalize the requirements of the long-range plans. In addition to the implementational aspects they also provide for necessary controls; which highlight changes in operational efficiency or other internal or external changes. Different functions require different control instruments to identify and measure the flow of men, money, materials and ideas through their functional subunits.

Reproduced below is a checklist of basic marketing controls required by a typical corporation:

Marketing departments will need the following basic information for control purposes:

Sales performance vs. budget - by area, by product group (if needed by salesman, customer and industry).

Profitability vs. budget - by area (and salesman if different), by product group, by customer category if this is useful.

Salesman's call records and call reports.

Logging of enquiries received, quotations issued, orders received- by product group or product, by area, by customer.

Profit analyses of orders received. Customer record cards showing - name address and various buying locations, executives making buying decision at the various locations, quotations issued and orders received, delivery of orders, date of salesman's call and reference of further correspondence with results.

(Foster, 1971, p. 76)

The plan should also provide for periodic review of the objectives, the organization, the environment and the strategy. Most organizations with a long-range plan tend to update it every year by a year. This ensures that the plan remains both relevant and viable.

Unforeseen changes within or without the company also cause the plan to be reviewed, as and when they occur.

### Summary

In this chapter we have detailed the 'how to' of long-range planning. We have shown how the plan involves

simultaneous consideration of company objectives, company resources and environmental potential and constraints. Harmonizing the requirements of these elements leads to a strategic plan. This is both broken down into and built up from tactical plans, which in turn serve as frames of reference for operational plans. The latter serve to implement the long-range or master plan and have control requirements built into them. The long-range plan is reviewed periodically or whenever there is an unforeseen pertinent change in circumstances.

## PART II

## INTRODUCTION II

As mentioned in the introduction to Part I of the thesis, Part II contains details of a real life application of the theory of long-range planning; developing a long-range plan for Adka.

I was associated with Adka from May 1972 to August 1972. My familiarity with the organization and its environment grew over these four months. During this period I learned to look at the firm in terms of its objectives and its objectives in terms of achievement possibilities.

Attention alternated iteratively between objectives and possibilities, both as I perceived them and my perception of how other company managers perceived them. It is difficult to pin down either the thought process or its sequence. The exercise however resulted in improved communication with and among management, and crystallization of thoughts and desires. We examined the organization and its environment for achievement potential, both in absolute terms and in terms of company objectives. This resulted in modification of objectives.

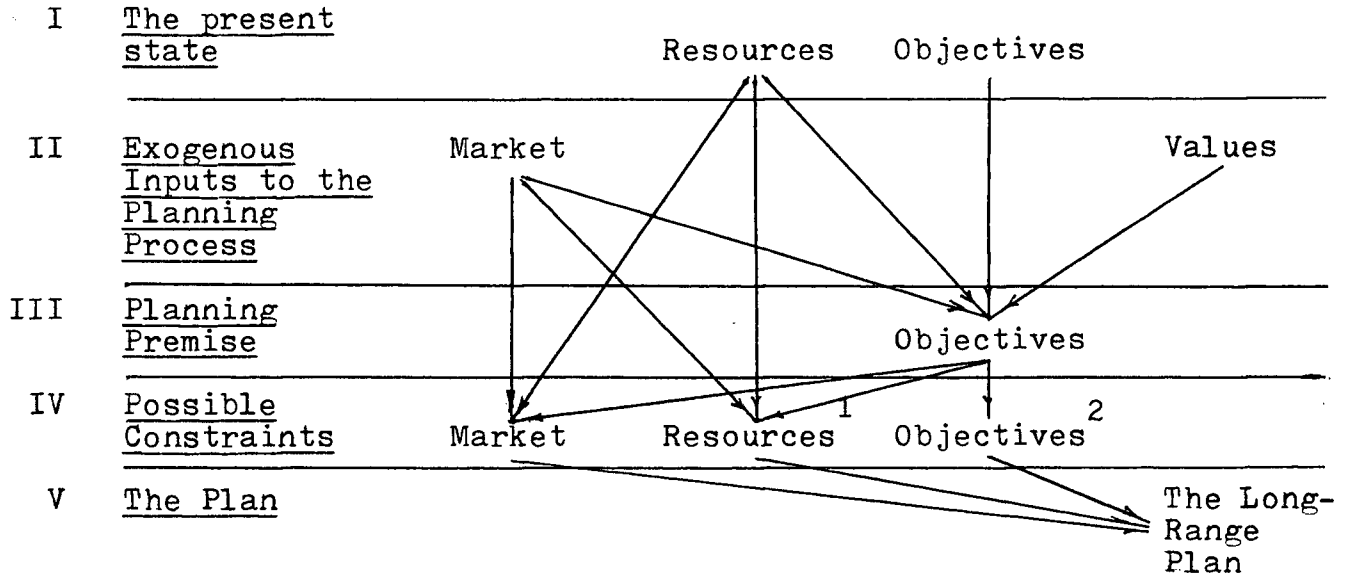
Having attained a consensus on the desired and the achievable we proceeded to bridge the gap. The following is the result: a long-range plan.

The planning exercise is documented in the following order:

1. Objectives of the firm.
2. Strengths, weaknesses and general comments on the organization.
3. A study of the market in B.C.
4. Establishment of the planning horizon.
5. The long-range plan.
6. Product-market policy.

I would like to emphasize however that all the above were considered simultaneously, and that each is interlinked with the other. A relationship between the various planning elements is depicted in figure 9.

## The Long-Range Plan



<sup>1</sup>In this particular exercise the firm was constrained by resources, specifically, money.

<sup>2</sup>It is conceivable however that objectives may be the operating constraint, i.e., a firm with adequate resources operating in a market which permits expansion, may arbitrarily choose to limit its operations.

Figure 9

## CHAPTER V

### OBJECTIVES

The company's philosophy can be summed up as follows:

"To produce and distribute products or services in keeping with our present skills which lead to increased productivity for the consumer and yield adequate return to our shareholders."<sup>1</sup>

Arising out of the above, i.e., "in keeping with our present skills," the company has two major objectives which it would like to pursue simultaneously:

1. To design and supply door systems<sup>2</sup> to high volume markets, stressing the continuing development of standard door system products.
2. To fabricate metal products for the industrial/commercial market.

Arising out of the requirement of yielding "adequate" return to our shareholders" are the following objectives:

1. Long-range survival.
2. Ensuring minimum 3% net after tax profit on sales.

The long-range plan consists of an attempt to utilise present and potentially available resources to achieve the above objectives in the context of environmental needs and constraints.

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<sup>1</sup>Extracted from the draft of minutes of a meeting held to decide company objectives.

<sup>2</sup>See appendix 3 for details of door systems.

## CHAPTER VI

### STRENGTHS, WEAKNESSES AND GENERAL COMMENTS

In this chapter I record results of internal appraisal and comment on strengths and weaknesses of the organization. Various organizational sub-units and facets are examined in light of the objectives and the environment. Potential constraints, if any, are highlighted.

I also comment briefly on areas which are relevant to the long-range plan but are not important enough to merit detailed discussion in the subsequent chapters.

#### The Marketing Organization

##### Strengths

The salesmen are technically qualified, experienced and constitute an able team of more than average total ability.

##### Weaknesses

1. The sales team is liable to 'raids' by competitors. Adka cannot launch return raids as existing competitors do not have salesteams trained to sell the door systems concept.

2. The marketing organization is currently relatively inefficient. See indicators over:

## Sales:

	1968	1969	1970	1971	1972
<u>cost of goods sold</u>	9.5	10.2	6.9	7.8	8.3
<u>selling expenses</u>					
<u>costs of goods sold</u>	14.0	16.5	10.7	12.1	12.3
<u>salaries and</u>					
<u>commissions</u>					

## Coordination:

	1966	1967	1968	1969	1970	1971	1972
CGS/Delivery Expense	109	94	100	60	35	39.4	36.7

Suggestions: Develop a team incentive scheme for salesmen and co-ordinators (action currently contemplated) and link incentive earnings with performance on the above indicators in addition to sales volume and gross profit.

3. Inadequate trained replacement potential for sales and co-ordination staff. (Remedial action is currently being contemplated.)

4. Lack of efficient sales aids, viz., complete catalogue, door system schedules and a presentation package. (Remedial action is in hand).

5. The customer-education program is not forceful enough.

Suggestion: 1. The Sales Manager and the Operations Manager can increase their range of personal contacts.

2. A list of people/associations who need to be sold on the door-systems concept is shown in Appendix 4. The three members of top management, and some other members of the Board of Directors can chart out a program whereby, by the end of 1973, all the 'customers' have been 'lunched-with' or 'spoken-to' by at least one senior representative of Adka.

#### Potential Constraints

The present number of salesmen and co-ordinators can, after replacement of particular individuals and suitable training, with improved supervision and financial motivation, handle doors-related sales up to a maximum of \$3 million per year. They do not therefore pose a constraint over the planning horizon. (Action for training/replacement is contemplated, for improved supervision is in hand).

#### Other Suggestions

The Sales Manager can operate a small fund from which he can reward an individual for any outstanding

performance; this reward being in addition to any other financial incentive.

### Management<sup>1</sup>

#### E.D. Boyd

Strengths: A man with a vision. An 'ideas' man. Capable of thinking about the distant future. Can envision concepts and their applications. Invaluable for an enterprise with adequate executive ability.

Has a broad range of useful personal contacts, both within and outside the industry. Is looked upon as an expert in door systems and a progressive thinker. Is vocal in the press. Enjoys a large measure of personal goodwill in the industry.

Weaknesses: Dislike for and inability to handle administrative detail.

Potential Constraints: None.

#### J.L. Denholme

Strengths: Ability to go into detail. Good understanding of and ability to relate variables relevant to implementational planning.

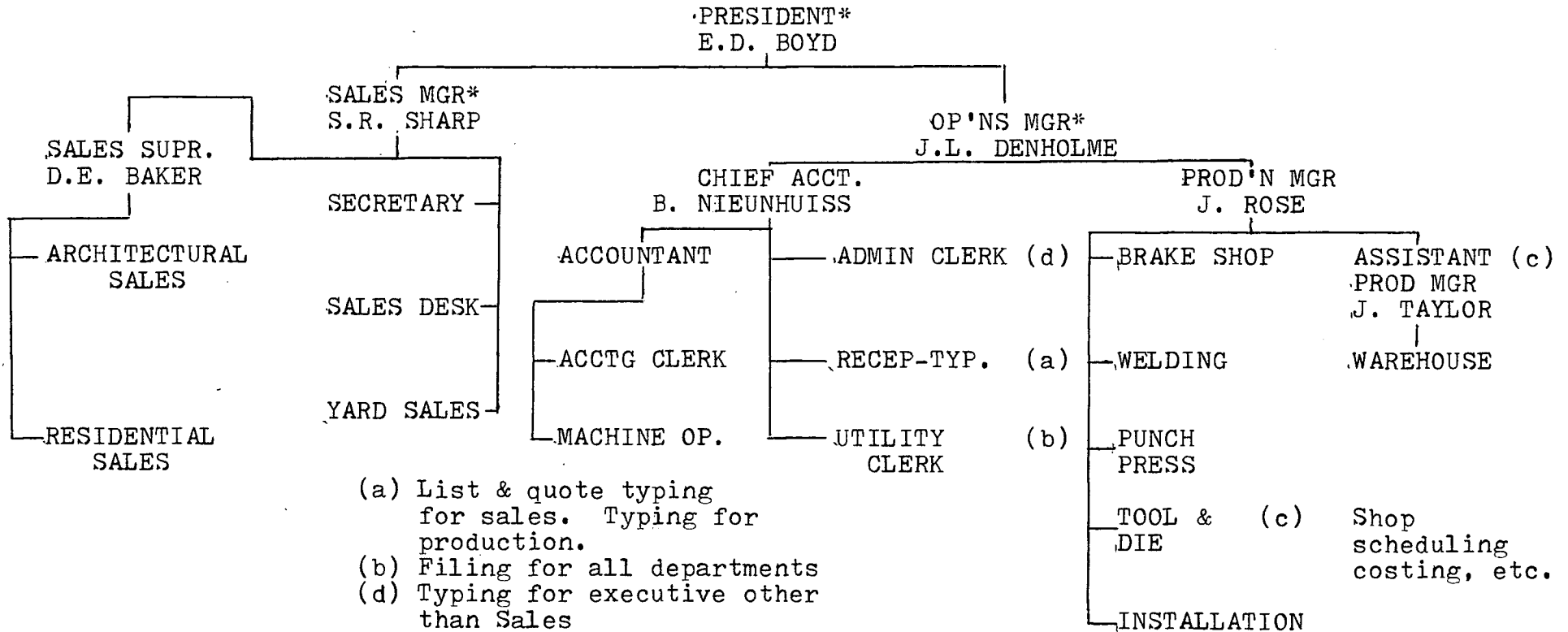
Weaknesses: Tendency to become involved in routine. Inadequate delegation.

Potential Constraints: None.

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<sup>1</sup>Please see figure 10 for positions held by various members of the management team.

ADKA INDUSTRIES LTD.  
MONARCH STEELCRAFT LTD.  
ORGANIZATION CHART



\* INDICATES EXECUTIVE COMMITTEE AND  
CORPORATE DIRECTORS

Figure 10

S.R. Sharp

Strengths: Experience in a large dynamic sales oriented corporation. Pragmatic.

Weaknesses: Lack of familiarity with the market.

Potential Constraints: None.

General: The above form a reasonably balanced top management team of total ability that is more than adequate for requirements over the planning horizon.

Middle Management

Bob Nieunhuiss (Chief Accountant): Diligent, conscientious and hard working. A positive asset. Would make a good top manager if he became more 'pushing' and dynamic.

Dennis Baker (Sales Supervisor): Experienced and knowledgable. No top management potential. I am not sure that he can carry his load as Adka expands. A potential constraint.

Jim Taylor (Cost Control Engineer): Careful and painstaking. Loyal to his immediate superior. Tends to 'play it safe.' Top management potential doubtful. However invaluable in his present position.

Jeff Rose (Production Manager): Joined recently. Not well enough known to comment upon. Apparently satisfactory. Appears to have top management potential.

General: With the exception of the Sales Supervisor the company has a good middle management team.

Based on the total top and middle management talent now available with the company I feel that the company has a bright future.

### The Package Concept

"Businesses are organized around ideas, not people" (Ewing, 1958, p. 87). Boyd has come up with a good idea: selling a door assembly, complete and ready for erection.

In a study of 51 companies reported in Management of New Products (1965, p. 9), it was found that only 1 in 58 good ideas was technically feasible or did not cost too much to develop. In another study (Schorr, 1961), it was reported that 89% of new products fail after introduction into the market. Yet total door-system sales of Adka doubled from 1968 to 1971. So Boyd has a good idea.

The frames, doors and hardware offered by Adka are relatively indistinguishable from those offered by their competitors, both in terms of quality and price. Their distinguishing feature however is that Adka sells the frame, door and hardware in one package, prefinished, ready for assembly and erection on site.

This package subsumes all advantages arising out of standardisation of parts, sub-assemblies and assemblies, which include advantages/economies/ease of:

- i) purchase, both by the manufacturer and the erector (bulk, fewer lines, inventory, controlling, coordination, etc.)
- ii) manufacture (tooling, inventory, training, scheduling, accounting, controlling, etc.)
- iii) designing (flexibility, communication gap (between designer, fabricator and erector), drawing up and reading specifications, etc.)
- iv) erection (interchangability, ease of installation, fore-knowledge, etc.)

Presently there are virtually no sizeable organizations specializing in the design, manufacture, distribution and installation of door assemblies, as such. The building designer has been compelled to design his own door assemblies rather than relying on a door assembly specialist. Similarly, the building contractor has had to act as the 'door assembly manufacturer' because no complete line of door assemblies was available. Offering an almost complete line of standard door assemblies is therefore Adka's greatest strength.

The package has a lot of market potential. It has been estimated by Adka, who are acknowledged experts in door systems, that 80% of the door assembly requirements in the residential market could be filled by standard door systems today if the systems (assemblies) were currently available. Similarly approximately 50% of the non-residential door

system requirements could be filled by a relatively small number of standard assemblies.

While the above suggests potential in the whole-sale market it is possible, I feel, that by 1975 or '76, the package will be developed to such an extent that various standard assemblies will be offered across a retail counter, or through catalogue sales to single unit home-owners who may be looking for small numbers of different types of doors.

Weaknesses: The package requires technical ability and training to sell and service, and in the pre-standardisation stages, does not lend itself to long geographical leads. Like all standardised assemblies, the cost of deviations is high. The salesmen and specification writers do not fully appreciate this and have thus far not fully internalised the package concept. Management is however taking steps to train them and make them more package-oriented. I do not see this as a potential constraint.

### Organization

The organization chart is shown on figure 10. It represents one weakness which cannot be overcome under the present circumstances.

Material is purchased both for shop consumption and direct sales. Purchase orders are initiated by co-ordinators

on the sales teams, the sales desk and the shop staff. There is thus a possibility of conflicting priorities, and the purchasing subunit cannot always hold back orders and plan for volume discounts. Purchasing tends to become inefficient.

Efficient and speedy purchasing leads to reduced costs. Poor purchasing reflects on the performance of the co-ordinators who are judged by their ability to reduce the cost of selling. When the co-ordinators go on incentive, there will be a possibility of conflict on this account.

The co-ordinators are responsible to the Sales Manager, while the purchasing organization is responsible to the Operations Manager. There is therefore also a possibility of administrative conflict.

The cost of purchase inefficiency and the potential for conflict are however not important enough for remedial action at this stage.

### Competition

Existing competition in the door market in B.C. is shown below: (The various firms are ranked in order of the competitive threat they pose to Adka, the firm which poses greatest threat being ranked 1.)

	<u>Architectural Hardware</u>	<u>Wood Doors</u>	<u>Metal Doors</u>	<u>Package</u>
Acklands	1	1	2	1
Marshall Wells	2			
Nor-Wes	3			
Millwork		2.5		
Bel-Air		2.5		
Shanahans		4	2	
Macotta			2	
Industrial Sheet Metal			4	

As can be seen from the above, competition is fragmented, different firms carrying different lines. Even within one line, e.g., metal doors, different firms carry different products, e.g., industrial doors, overhead doors, fireproof doors, etc.

As long as architects do not specify door assemblies, or contractors do not ask for packages, the various firms will pose problems. Once the door package concept is accepted however, only those firms which carry a complete line remain potential competitors.

It may be noted that of the above, Acklands is the only firm which carries a complete line. It has already offered its first package. While this is a start, the firm has a long way to go before it can become a serious competitor in the door systems concept.

There is of course always the possibility of a determined firm with adequate financial and management resources

to set-up operations in the door market and 'cash in' on the concept developed and promoted by Adka over the years at considerable cost. Barring this however the present competition does not pose a serious threat.

### Financial Ratios

Various financial ratios of the company have been compared with industry figures<sup>2</sup> in Table 1. The meanings of these ratios are detailed in Appendix 5. In this section I analyse these ratios and use them to highlight strengths and weaknesses of the company.

### Gross Margin/Sales

The firm obtains a higher mark-up than that enjoyed by comparable companies in the industry. In spite of this however, the after tax profits to sales ratio is much lower than that of the industry. This indicates excessive operating costs and financial charges.

### Current assets/Current debt

A ratio lower than that of industry indicates relatively poor solvency.

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<sup>2</sup> The firm has the characteristics of both a metal stamping organization as well as those of a special trade contractor in the construction industry. It is simultaneously a manufacturing (Monarch Steelcraft Ltd.) and a whole-selling (Adka Industries Ltd.) organization.

Corporate Financial Ratios

Ratios <sup>3</sup>	Manufacturing Industry: <sup>1</sup> Metal Stamping		Construction Industry: <sup>2</sup> Special Trade Contractor		Adka Indus.Ltd. & Monarch Steelcraft	
	1970	1971	1970	1971	1970	1971
<u>Cost of goods sold</u> %						
sales		79.9		78.3	76	74.3
<u>Gross margin</u>						
sales %		20.1		21.7	24	25.7
<u>Current Assets</u> %						
<u>Current Debt</u>	2.05	1.88	1.35	1.40	1.28	1.30
<u>After Tax Profits</u> %						
sales	4.05	4.35	2.22	2.81	loss	0.49
<u>After Tax Profits</u> %						
<u>Tangible net worth</u> %	11.66	14.18	14.57	15.84	loss	6.3
<u>Sales</u>						
<u>Tangible net worth</u>	2.88	3.25	6.55	5.63	9.2	12.9
<u>Collection period (days)</u>	66	63	69	70	118	108
<u>Sales</u>						
<u>Inventory</u> %	5.3	5.8	13.3	11.7	7.4	7.4
<u>Fixed assets</u>						
<u>Tangible net worth</u> %	81.8	78.5	48.5	45.2	72.0	75.7
<u>Current debt</u>						
<u>Tangible net worth</u> %	59.6	67.2	153.7	136.7	342	425
<u>Total debt</u>						
<u>Tangible worth</u> %	70.3	81.9	166.4	155.1	409	517

<sup>1,2</sup> "Key Business Ratios in Canada", Dun and Bradstreet, Ontario, 1970 and 1971.

<sup>3</sup> See Appendix 5 for the meaning of these ratios.

TABLE 1

After tax profits/Sales

See comments above. Indicates poor operating efficiency and/or high overheads.

After tax profits/Tangible net worth

These are lower than that of industry. They are even less than the 10% desirable for paying dividends and funding future growth.<sup>3</sup> Examination of the Sales/Tangible net worth ratio indicates a low level of equity. If the present level of equity is increased the profit/tangible net worth ratio will drop even more.

Sales/Tangible net worth

See above. If the company were to raise, say, an additional \$50,000 equity then the total equity would become \$177,000 approximately and the above ratio would be reduced to 9.3 for 1971. This figure, though still considerably higher than the industry, indicates a low level of capitalization in view of the ratios analysed earlier.

Collection Period

Approximately 50% more than that for comparable industry.

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<sup>3</sup> See current year profits (after tax) on tangible net worth, Appendix 5.

Sales/Inventory

No comment in view of the dual characteristics of the firm.

Fixed Assets/Tangible net worth

Increased equity will reduce this to a figure nearer that of Special Trade Contractors. However if the firm wants to grow as a manufacturing organization, acquisition of additional machinery and plant will bring the ratio closer to that for Metal Stampings.

Current Debt/Tangible net worth

Precariously high.<sup>4</sup> Reducing debt by issuing equity will lower this figure.

Total debt/Tangible net worth

Precariously high. The equity of creditors is 4-5 times the equity of the owner of the firm.

One can draw the following conclusions about the firm from the above analysis:

1. Low operating efficiency and/or high overheads.
2. Excessive debt and low level of owner's equity.
3. Long collection period.

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<sup>4</sup>"Ordinarily, a business begins to pile up trouble when this relationship exceeds 80%." (Dun and Bradstreet, p.1.)

In addition to the above the operation is not generating sufficient cash to meet its working capital requirements.

Lack of funds and operational inefficiency pose serious constraints. Remedial action is in hand.

## CHAPTER VII

### MARKET SIZE AND POTENTIAL

In this chapter I would like to study the markets currently serviced by Adka in B.C. The purpose of the study will be:

1. To identify various relevant sectors.
2. Develop estimates of total sales in these sectors.
3. Develop estimates of the rates of growth of the sectors.
4. Lay down guide line for developing annual projections for operational planning.

Let us begin with identification of market sectors, based on type of product.

The firm operates in two different markets:

1. The shelter-market. Most of its products and services are designed for use in building construction and repairs. These products and services can be further subdivided into door-related and other products.

2. Other markets. The remaining products find miscellaneous application.

Details of Adka's product line are given in appendix 6. Products and services classified under A, B, C and J are door-related products. Categories D, E, F, H and I are other products related to the shelter construction industry. Classification G, custom work, finds application outside the

shelter market.

Figures in Table 2 indicate the relative sales volume in the two major market sectors. It may be noted that almost 99% of its sales dollars are generated in the shelter market.

The firm expects to purposefully promote the products in the shelter market. It does not expect to have any surplus manufacturing capacity which can be diverted to manufacture of products which find application outside the shelter market. The firm does not plan to actively look for customers for these products, even though it is prepared to entertain attractive requests. In view of this and the anticipated preoccupation with the shelter market, and in view of their relatively insignificant contribution to sales revenue, I will ignore these products in the study.

Thus we are left with the shelter market only. Let us study this.

### The Shelter Market

The shelter market can be divided into two relatively independent major segments, which in turn can be divided into smaller segments. These are detailed below:

1. Residential or housing market<sup>1</sup>
  - i) Single-detached housing.
  - ii) Semi-detached or duplex.
  - iii) Row housing.
  - iv) Apartments.

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<sup>1</sup> See appendix 7 for definition of these terms.

Adka:  
Breakup of Sales Between the Shelter  
 and Non-Shelter Markets

	Total Sales In 1971	Percentage of Total Sales
Shelter Market	\$1,633,076	98.8
Door-related products: steel doors and frames, wood doors, architect- ural hardware, installa- tion.	1,380,364	83.5
Other products: concrete hardware accessories, framing products, drainage products, miscellaneous electrical products.	252,712	15.3
Non-shelter market: custom work.	19,679	1.2
TOTAL	\$1,652,755	100.0

TABLE 2

## 2. Non-residential market

- i) Commercial construction.
- ii) Industrial construction.
- iii) Institutional and Government construction.

Adka sells its door-related products in the apartment market (in the residential market) and in the entire non-residential market. It sells its other products, those not related to doors, to be called non-door products henceforth, in the entire building construction market.

Thus we have two sections to study:

- 1. The apartment market as a part of the residential market.
- 2. The non-residential market.

Let us begin with the apartment market. To do this however we have to first study the total residential market.

### Residential Market

The demand for housing is effected by:

- 1. Population and family formation.
- 2. Per capita income.
- 3. Land and building costs.
- 4. Money supply; reflected primarily by availability of mortgage funds at low rates from major institutional and private lenders.

The first three items have shown a relatively steady increase in the past, and it is reasonable to assume that under normal circumstances they will continue to do so in the near future. An increase in the first two items generates

an upward pressure on the demand for housing while the third tends to reduce it. The net effect however results in an increased demand.

Based on demographic projections and anticipated increase in GNP and prices (and also the average availability of money) the Financial Post has developed figures for future expected demand for households in the provinces. See Table 3 for details.

These figures indicate a potential increase of 65,000 households in B.C. from 1972 to 1975; or an approximate annual increase of 21,700 households. Similarly the figures indicate an increase of 115,000 households in B.C. from 1966 to 1972; or an approximate annual increase of 19,160 households. There is therefore a slight expected increase in the rate of increase of demand for households.

Detailed comparisons have been made between the rate of increase of households in B.C. and Alberta before 1972 and the expected rate from 1972-1975. Please see Table 4. It may be noted that there is an expected increase in the rate of increase of households in Vancouver, Edmonton and Calgary.

Let us convert this expected demand for households to expected residential construction dollars. It may be noted from Table 5 that the annual expenditure on construction has gone up by an average of approximately 13.5% per year

Population and Household Projections for  
B.C. and Alberta.<sup>1</sup>

	Population <sup>2</sup>					Households <sup>2</sup>				
	Actual	Projected		%age increase from '72 to '75	Approx. annual inc. bey- ond '72	Actual	Projected		%age increase from '72 to '75	Approx. annual inc. be- yond '72
	1966	1972	1975			1966	1972	1975		
B.C.	1874	2266	2459	8.5	2.8%	543	658	723	9.9	3.3%
Alberta	1463	1666	1758	5.5	1.8	394	456	487	6.8	2.3
Vancouver <sup>3</sup>	892	1072	1163	8.5	2.8	272	331	367	10.9	3.6
Victoria	173	197	207	5.1	1.7	55	63	67	6.3	2.1
Edmonton	401	471	508	7.9	2.6	110	133	146	9.8	3.3
Calgary	331	413	459	11.1	3.7	95	122	137	12.3	4.1

<sup>1</sup>"Survey of Markets", Toronto: Financial Post, 1971, p.36.

<sup>2</sup>In thousands.

<sup>3</sup>Please see Appendix 8 for Census Divisions defining Vancouver, Victoria, Edmonton and Calgary.

Comparison of Rate of Increase  
in Number of Households in B.C.  
and Alberta, pre-1972 and post-  
1972 (expected)

	1966	1972	Increase over 6 years	Approx. annual increase	Approx. percent annual increase against 1966 base	Approx. percent annual increase over 1972-75 calculated against 1966 base	Approx. percent annual increase over 1966-75 calculated against 1966 base
B.C.	543 <sup>1</sup>	658 <sup>1</sup>	115 <sup>1</sup>	19,160	3.5	4.0	3.7
Alberta	394	456	62	10,330	2.6	2.6	2.6
Vancouver	272	331	59	9,830	3.6	4.4	3.9
Victoria	55	63	8	1,330	2.4	2.4	2.4
Edmonton	110	133	23	3,830	3.5	3.9	3.6
Calgary	95	122	27	4,500	4.7	5.2	4.9

Based on figures in Table 3.

1 in thousands

TABLE 4

Total Expenditure on New Residential  
Construction in B.C.

Year	Expenditure <sup>4</sup>	%age change over previous year	
1966 <sup>1</sup>	294,900		
67 <sup>1</sup>	352,700	+ 19.5	} annual %age increase over 1966 = 13.5 approx.
68 <sup>1</sup>	386,500	+ 9.6	
69 <sup>2</sup>	476,187	+ 23.2	
70 <sup>2</sup>	483,131	- 2.7	
71 <sup>2</sup>	566,000	+ 22.2	
72 <sup>3</sup>	635,300	+ 10.9	

1. Table 27, "Construction in Canada, 1966-68",  
Catalogue No. 64-201.
2. Table 27, "Construction in Canada, 1968-71",  
Catalogue No. 64-201.
3. Table 22, "Outlook 1972", Catalogue No.  
61-205.
4. Thousands of dollars

TABLE 5

over the last six years. This is greater than the 3.5% increase in demand for households because of the combined effect of increase in construction costs<sup>2</sup> and building replacement activity.

Based on the expected increase in the rate of increase of demand for households, increasing prices and a sustained level of renewal and replacement activity, I expect the construction expenditure on new housing construction to go up by an average of 14-15% per year over the next 3-4 years.

It may be noted however that the actual percentage change in expenditure in the past has varied widely (see Table 6). I therefore expect actual annual expenditure in the future to vary considerably from the levels based on the suggested annual increase.

While the above gives us a general idea of the level and growth over the long-range, for a relatively

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<sup>2</sup>Construction costs have increased as below over the period 1963-71:

	<u>Building materials price indexes</u>		<u>Index of Wage Rates</u>
	<u>residential</u>	<u>non-residential</u>	
Approx. average annual increase*	4%	3.5%	8.5%

\* From Table 20, "Price Indexes", Catalogue No. 62-002. (Statistics Canada)

Total Value of New Building Construction - B.C.<sup>1</sup>

	1966		1967		1968		1969		1970		1971	
	dollar <sup>2</sup>	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent	dollar	percent
Residential	294,900	47.0	352,700	49.5	386,580	51.5	476,187	53.0	463,131	55.0	566,000	55.0
%age change over previous year			+19.5		+9.6		+23.2		-2.7		+22.2	
Industrial	97,226		78,562		49,859		139,209	15.5	131,926	16.0	163,373	16.0
Commercial	94,635		111,490		133,610		123,437	13.5	108,418	13.0	143,164	14.0
Institutional	109,082		130,199		128,710		104,902	11.5	101,811	12.0	108,002	10.0
Other Building Construction	35,223		36,858		50,641		58,856	6.5	33,651	4.0	44,104	5.0
Total Building Construction other than Residential	336,166	53.0	357,109	50.5	362,822	48.5	426,404	47.0	375,806	45.0	458,643	45.0
%age change over the previous year			+16.0		+1.4		+17.7		-12.0		+22.2	
Total Building Construction	631,066	100.0	709,809	100.0	749,322	100.0	902,591	100.0	838,937	100.0	1,024,643	100.0
%age change over the previous year			+ 8.0		+5.6		+17.0		-7.1		+22.2	

1. Source: Table 27, "Construction in Canada, 1966-68" and "1969-71", Cat. No. 64-201.

2. Thousands of dollars.

TABLE 6

accurate estimate of the immediate future we can turn to the annual forecasts developed by the Dominion Bureau of Statistics published under the title "Outlook 19xx", Catalogue No. 61-205. This is published in March-April of the forecast year and as can be seen from Table 7 tends to be accurate to within 2% of the actual expenditure.

### The Apartment Market

We have now to find out the expected expenditure on new apartment construction. No forecasts of the future or actual expenditures in the past are however available. I have therefore developed estimates.

Tables 8, 9 and 10 show details of dwelling units<sup>3</sup> started in a given year in B.C. From these it will be noted that not only do dwelling unit starts fluctuate widely from one year to the other (Table 8) but that the ratio of the number of apartment dwelling unit starts to the number of other dwelling unit starts also fluctuates considerably (Table 9). This results in an almost unpredictably wide variation in the number of apartment dwelling unit starts each year (Table 10). It may however be noted that the ratio of number of apartment dwelling starts to the

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<sup>3</sup>"A dwelling unit is defined as a structurally separate set of living quarters having its own entrance from outside of the building, or from a common passage inside."  
(New Residential Construction, Catalogue No. 64-002).

Accuracy of Forecast: Investment  
in Housing - B.C.

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Capital expenditure <sup>5</sup>		
1969	Intent <sub>2</sub> as forecast <sup>1</sup>	455.7
	Actual <sup>2</sup>	464.8
	Deviance        %	+ 2.0
1970	Intent <sub>3</sub> as forecast <sup>2</sup>	471.5
	Actual <sup>3</sup>	463.1
	Deviance        %	- 1.8
1971	Intent <sub>4</sub> as forecast <sup>3</sup>	566.0
	Actual <sup>4</sup>	571.1
	Deviance        %	+ 1.1

1 Table 22, "Outlook 1969", Catalogue No. 61-205

2 Table 22, "Outlook 1970", Catalogue No. 61-205

3 Table 22, "Outlook 1971", Catalogue No. 61-205

4 Table 22, "Outlook 1972," Catalogue No. 61-205

5 In millions of dollars.

TABLE 7

# Dwelling Starts, B.C. and Alberta (Dwelling Units)

Note: Dwelling Starts is assumed to be a reasonable index (in the context) of total housing construction activity.

	British Columbia				Alberta				Percentage change in dwelling units started compared to the prev. year - BC.	Dwelling starts in Vancouver and Victoria expressed as a %age of total starts in BC.
	All <sup>1</sup>	Centres of 10,000 Population and over <sup>2</sup>	Vancouver <sup>3</sup>	Victoria <sup>3</sup>	All <sup>1</sup>	Centres of 10,000 Population and over <sup>2</sup>	Edmonton <sup>3</sup>	Calgary <sup>3</sup>		
1962	13,892	9,877	7,387	1,601	14,328	11,453	5,255	5,136		
1963	17,329	12,210	8,941	1,848	12,316	9,554	4,883	3,672		
1964	21,665	17,045	12,791	2,674	12,013	9,188	4,479	3,887		
1965	21,398	15,820	11,684	1,610	11,575	9,234	4,581	4,178		
1966	17,753	12,851	9,138	1,613	9,380	7,353	3,746	3,304		
1967	24,100	16,988	13,896	1,464	12,674	10,451	6,111	3,833	+35.7	63.5
1968	26,195	19,443	15,690	2,516	19,611	17,317	9,003	7,403	+ 8.7	66.5
1969	31,820	22,936	17,690	3,744	22,662	20,521	9,807	9,737	+21.5	67.5
1970	27,316	17,242	13,437	2,559	16,251	14,093	6,330	6,740	-14.2	58.5
1971	34,765	20,748	15,553	3,102	25,602	21,706	11,286	8,801	+27.3	53.5

1. Table 4 Canadian Housing Statistics 1971

2. Table 5 Canadian Housing Statistics 1971

3. Table 6 Canadian Housing Statistics 1971

TABLE 8

Dwelling Starts: B.C.

Area		1967		1968		1969		1970		1971	
		Dwelling Units	%	Dwelling Units	%	Dwelling Units	%	Dwelling Units	%	Dwelling Units	%
B.C. <sup>1</sup>	1. Single-detach.	13,201		12,487		13,035		13,691		17,707	
	2. Semi-detach. and duplex	826		1,126		1,376		1,169		1,220	
	3. Row	689		562		1,325		1,566		1,803	
	Total	14,716	61	14,175	54	15,731	49	16,426	60	20,720	60
	4. Apartment and others	9,384	39	12,020	46	16,084	51	10,880	40	14,035	40
	Total	24,090	100	26,195	100	31,815	100	27,316	100	34,755	100
Van- couver <sup>2</sup>	1.	5,980		5,146		4,763		4,482		5,283	
	2.	348		512		402		350		391	
	3.	208		311		580		839		1,057	
	Total	6,536	47	5,969	38	5,745	23.5	5,671	42	6,731	43
	4.	7,360	53	9,721	62	11,945	67.5	7,766	58	8,822	57
	Total	13,896	100	15,690	100	17,690	100	13,437	100	15,533	100
Vic- toria <sup>2</sup>	1.	831		1,024		1,009		743		998	
	2.	58		126		278		68		36	
	3.	-		-		226		89		113	
	Total	889	61	1,150	46	1,513	41	900	35	1,147	37
	4.	575	39	1,366	54	2,231	59	1,659	65	1,955	63
	Total	1,464	100	2,516	100	3,744	100	2,559	100	3,102	100

1. Table 12 Canadian Housing Statistics 1971.

2. Tables 10 & 11 Canadian Housing Statistics 1971

Starts: Apartments - B.C.

		1967	1968	1969	1970	1971
B.C.	1. Dwelling Units	9,384	12,020	16,084	10,890	14,035
	2. Percent change over previous year		+28.0	+33.8	-32.3	+28.9
Van- couver	1.	7,360	9,721	11,945	7,766	8,822
	2.		+32.1	+22.8	-35.0	+13.6
Vic- toria	1.	575	1,366	2,231	1,659	1,955
	2.		+137.6	+63.3	-35.6	+17.8
Vancouver plus Victoria		7,935	11,087	14,176	9,425	10,771
Ratio of Vancouver plus Victoria to total B.C., expressed as a percentage )		84.5	92	88	95	76.5

Figures obtained from Table 7

TABLE 10

number of non-apartment dwelling starts tends to remain within 40:60 to 50:50 (Table 9).

From Table 11 it may be noted that the average number of bedrooms in all non-apartment dwellings tends to be the same. Based on this, I have made the following assumptions:

1. All non-apartment dwelling units cost approximately the same.
2. Cost of construction of one non-apartment dwelling unit bears a certain ratio to the cost of construction of one apartment dwelling unit which tends to be constant over the years.

Based on the above assumptions, I have empirically derived a ratio between the cost of construction of a non-apartment dwelling unit and the cost of construction of an apartment dwelling unit. This ratio works out to be 1.6:1 and is assumed constant over the period 1967-1972.

Using the actual total cost of construction and the above ratio I have estimated cost per unit of apartment and non-apartment dwellings in the various years. Based on estimated unit costs I then estimated the size of the apartment and non-apartment market. Please see Table 12 for details.

The estimated cost of construction per dwelling unit corresponds to the expected annual increase in construction costs due to increase in wages and price of material for all the years, except 1970. In 1970 the estimated cost

Average Number of Bedrooms per Dwelling Unit  
- B.C.<sup>1</sup>

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	Number of Bedrooms	Expected Average
Single dwelling units		Housing
Single Detached	3.0	other
Bungalow	3.0	than
Split-level	3.2	apartments
2-storey	3.6	
Two dwelling units		2.9
semi-detached	2.9	
bungalow	2.9	
2-storey	3.2	
duplex	2.8	
Multiple dwelling units		
Row Housing	2.8	
Apartments	1.4	
0-3½ storeys	1.7	apartments
4-6 storeys	1.6	1.4
7 plus storeys	1.1	

<sup>1</sup> Source: Table 16, "Canadian Housing Statistics, 1971."

TABLE 11

Ratio Between the Cost of Construction  
of a Non-Apartment Dwelling Unit to an  
Apartment Dwelling Unit

	1967	1968	1969	1970	1971
1. No. of non-apartment dwelling unit starts	14,716	14,175	15,731	16,426	20,720
2. No. of apartment dwelling unit starts	9,384	12,020	16,084	10,890	14,035
3. Estimated cost of one non-apartment dwelling unit	17.1	17.84	18.47	20.92	19.2
4. Estimated cost of one apartment dwelling unit	10.7	11.15	11.54	12.45	12.0
5. Estimated cost of construction of non-apartment dwellings.(1)x(3)	251,643	253,023	290,551	327,206	397,824
6. Estimated cost of constr. of apartment dwellings.(2)x(4)	100,408	134,023	185,609	135,581	168,420
7. Estimated total cost of residential construction(5)x(6)	352,051	387,046	476,160	462,787	566,244
8. Actual total cost of residential construction	352,700	386,580	476,187	463,131	566,000
9. %age change in above compared to previous year.	19.5	9.7	23.2	-2.7	22.2

Note: all costs are in thousands of dollars.

TABLE 12

of construction was higher than the expected cost. This I feel is because of the reduced volume of construction in that year; with the result that fixed costs of construction were spread over lesser number of dwelling units, leading to a higher unit cost.

Row 6, Table 12 represents the size of the apartment market in B.C. These figures represent an approximate annual growth of 14%. Thus we can expect the new apartment construction market to grow at an overall rate of approximately 14-15%, over the next few years, even though the actual figures would vary from the levels suggested by the above.

Using the above ratio and estimating a unit cost of apartment dwelling in 1972 to be \$12,400; the total cost of apartment construction in B.C. in 1972, based on a forecast of total new residential construction expenditure of \$635.3 million (see Table 13), is expected to be about \$244.3 million.

Thus in a manner similar to the above the expected expenditure for apartment construction can be estimated for any year from the forecast of new residential construction for that year.<sup>4</sup>

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<sup>4</sup> Before applying this to the 1973 forecast however management should confirm that the estimated cost of construction of apartments obtained by multiplying actual apartment dwelling unit starts by \$12,400, plus the estimated cost of construction of non-apartment dwellings obtained by multiplying actual non-apartment dwelling starts by 1.6 x 12,400, adds up close to the actual total expenditure on new residences in 1972.

If there is a wide variation, the ratio may have to be revised.

Construction Dollars Expected to be Spent  
in B.C. and Alberta: 1972

			Capital Expend.	Repair Expend.	Total
Primary Industries and Construction (other than Housing) Industry	B.C. <sup>1</sup>	1970	294.4 <sup>2</sup>	19.9	314.3
		1971	436.6	21.1	457.7
		1972	353.9	22.1	376.0
	Alberta <sup>3</sup>	1970	462.6	86.5	549.1
		1971	481.0	85.2	566.2
		1972	455.6	90.3	545.9
Housing	B.C.	1970	473.7	101.5	575.2
		1971	571.1	106.1	677.2
		1972	635.3	110.7	746.0
	Alberta	1970	279.6	70.4	350.0
		1971	380.5	73.4	453.9
		1972	392.5	78.1	470.6
Total including all other indus- tries (eg. manu- facturing, Utili- ties, Services, & Govt. etc.	B.C.	1970	1,569.0	272.8	1,841.8
		1971	2,084.0	289.1	2,373.1
		1972	2,040.6	309.2	2,349.8
	Alberta	1970	1,431.2	277.9	1,709.1
		1971	1,481.7	282.4	1,764.1
		1972	1,529.8	298.2	1,828.0

1. Table 22, Outlook 1972, Catalogue No. 61-205.

2. Millions of dollars

3. Table 21, Outlook 1972, Catalogue No. 61-205.

TABLE 13

Having obtained the size of the residential construction market serviced by Adka in B.C. let us try and determine the size of the non-residential shelter construction market.

### Non-Residential Construction

Demand for non-residential construction is affected by the same general variables as those affecting residential construction; except that the variables can, in this case, be expressed in terms of:

1. Industrial activity.
2. Government projects.
3. Money supply.
4. Per capita income.
5. Bank rate, etc.

I have however been unable to find either a satisfactory relationship between the various variables and investment in non-residential construction, or reliable forecasts for the same. It may be noted however from Table 6 that construction expenses in the non-residential market in the past 5 years have remained within 45-50% of the total new building construction expenditure.

From Table 6 it may also be noted that the non-residential building construction market has grown over the period 1967-71 at an annual rate of approximately 6%. Thus one can expect this sector to continue to grow at an overall annual rate of

approximately 6% over the next few years. I expect however that the actual annual growth will differ from the levels suggested by the above overall growth figure.

Based on an expected annual growth of 6%, a ratio of non-residential construction expenditure to total new building construction expenditure of 45%, and a forecast of expected residential construction expenses of \$635.3 million in 1972, I expect non-residential construction expenditure in 1972 to be approximately \$500 million.

I can now estimate the expected value of new building construction in the apartment and non-residential markets in a given year in B.C. For example, the market for 1972 is expected to be approximately \$744 million. Having done this I have now to estimate the door-product market in B.C.

#### The Door-Product Market

Based on the experience of the company it has been noticed that the cost of doors, door frames and architectural hardware add up to, on the average, about 3.5% of the total cost of construction of an apartment. Similar costs for non-residential construction average to about 2% of total construction expenditure.

Thus the total door-product market in B.C. in 1972 is expected to be:

Apartments:	\$244.3m	x .035	=	8.55
Non-Residential				
Buildings:	\$500m	x .02	=	10.00
				<u>\$18.55</u>

Sale of door products in B.C. by Adka is however generally confined to Vancouver and Victoria divisions only. (Please see demarcation of these divisions at Appendix 8). It is necessary therefore to estimate the door-product market in these two areas.

I propose to do this by estimating the door-product market for these areas for the period 1967-71 and extrapolating it into the future. Appendix 9 contains details of the estimation. Percentage changes in the estimated market are then compared against percentage changes in various indices<sup>5</sup> in Table 14.

This comparison does not however uncover any obvious correlation between the estimated door-product market in Vancouver and Victoria and any of the other indices. I can only conclude that it follows the same general direction of change and is generally more volatile than the other indices.

It may be noted however that the estimated market in Vancouver and Victoria has grown at an annual overall rate of approximately 6% over the period 1967-71. I can therefore conclude that it will continue to grow at an annual overall rate of at least 6% over the next few years. The actual levels are however expected to vary from those suggested by the above growth rate.

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<sup>5</sup> All these indices are based on actual figures obtained from the various reports of the Dominion Bureau of Statistics. I have not used any of my 'estimated' ratios.

Percentage Change in Various Indices  
When Compared to the Previous Year

	1968	1969	1970	1971
Door-product market <sup>1</sup> in Vancouver and Victoria	16.5	30.2	-25.2	10.1
Total expenditure on <sup>2</sup> new residential con- struction in B.C.	9.6	23.2	- 2.7	22.2
Total dwelling <sup>3</sup> starts in B.C.	8.7	21.5	-14.2	27.3
Total value of new <sup>4</sup> building construction in B.C.	5.6	17.0	- 7.1	22.2
Total value of non- <sup>5</sup> residential building construction in B.C.	1.4	17.7	-12.0	22.2

1. Appendix 9a and 9b.
2. Table 5.
3. Table 8.
4. Table 6.

TABLE 14

The expected expenditure on new residential construction in B.C. in 1972 is \$635.3 million (Table 5), an increase of 10.9% over the previous year. Based on this as well as the overall rate of growth of 6% I estimate that the door-product market in Victoria and Vancouver will be between \$9.8 to \$10 million approximately.

It may be noted that the apartment market in B.C. showed an annual growth of 14% and the non-residential market showed an annual growth of 6% over the period 1967-71. In contrast to this the apartment market in Vancouver and Victoria showed an increase of 10% and the non-residential market an annual increase of only 2% over the corresponding period.

These figures indicate relative saturation and low percentage increases in construction activity in Vancouver and Victoria. The absolute value of the figures however indicate a high level of activity when compared to the rest of the province.

#### Products not Related to Doors

We have so far covered the door-related product market. Let us now consider the 'non-door' products which constitute approximately 14-15% of the total sales.

These products are sold in the entire building construction industry in all B.C. From Table 6 it may be noted that the total expenditure on new building construction has increased at an annual rate of approximately 10% over the period

1966-1971. I would therefore expect it to grow at about the same rate in the near future.

I do not however know the portion of the total building expenses represented by concrete accessories, framing products, etc. There is no data on the dollar volume, past history or potential of the portion of the market represented by non-door products. All that can be said is that the market is also expected to grow at an annual rate of approximately 10%.

As will be discussed in the chapter on Product-Market Policy, because of the posture to be adopted towards sale of these products, the size of this market is not critical for long-range planning. I will therefore not pursue this any further.

#### The Market in Alberta and Washington (U.S.A.)

The company does not foresee the possibility of moving into Washington in a big way by 1976. As will be discussed in the chapter on Product-Market Policy, it expects to sell only steel door frames through a distributor during this period. Thus an analysis of the Washington market is not necessary.

The company does however expect to be able to set up a branch office in Alberta by early 1975, a few months after the expected construction workers' strike is likely to end.

Table 15 shows the value of new building construction in Alberta in the period 1969 to 1971. When compared with

Total Value of New Building Construction - Alberta<sup>1</sup>

	1969		1970		1971	
	dollars <sup>2</sup>	percent	dollars	percent	dollars	percent
Residential	333,000	51.5	271,267	46.5	325,600	54.0
Industrial	30,236	4.5	22,777	4.0	25,664	4.5
Commercial	112,504	17.5	124,109	21.5	76,908	13.0
Institutional	110,841	17.0	112,059	19.5	105,584	17.5
Other building construction	62,687	9.5	50,349	8.5	64,575	11.0
Total building construction other than residential	316,268	48.5	309,294	53.5	272,731	46.0
Total building construction	649,268	100.0	580,561	100.0	598,331	100.0

1. Source: Table 26, "Construction in Canada 1969-71", Cat. No. 64-201.

2. Thousands of dollars.

TABLE 15

figures in Table 6, we note that the total value of new building construction in Alberta is between 60% to 70% of that in B.C.

During the years 1975 and 1976 the company expects to be able to develop sales of \$100,000 to \$200,000 per year of door-related products and \$100,000 to \$150,000 per year of non-door products. Expected sales of this level, given the size of the market in Alberta, do not require detailed market analysis at this stage.<sup>6</sup> When necessary however the market in Alberta can be analysed in a manner similar to that used for B.C.

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<sup>6</sup>Detailed forecasts made now for the Alberta market would become outdated by the time they are required.

## CHAPTER VIII

### PLANNING REQUIREMENTS AND THE TIME HORIZON

The shelter construction industry has a reaction time which can generally be measured in months, the time it takes to build a good sized structure.

While there are definite trends indicating an expanding industry,<sup>1</sup> construction activity varies significantly over time.<sup>2</sup> Figures from Table 16 are reproduced below as evidence of volatility:

#### Dwelling Unit Starts in B.C.

	<u>1969</u> <u>Quarter</u>				<u>1970</u> <u>Quarter</u>				<u>1971</u> <u>Quarter</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
%age change over previous quarter	57	-16	-27	-3	-19	46	23	-29	24	31	-2	

As was discussed in the chapter on the Market, it is extremely difficult to make or obtain reliable forecasts of proposed expenditure on new building construction for more than a year in advance. Estimates beyond that period can, at best, be vague; useful for indicative planning, but not

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<sup>1</sup>See Table 3, indicating increasing demand for households in B.C. and Alberta. See Table 8 indicating increase in dwelling starts in B.C. and Alberta.

See Table 6 indicating increase in new building construction expenses in B.C.

<sup>2</sup>See Table 5 indicating annual fluctuations in new residential construction expenditure in B.C. See Table 8 indicating annual fluctuation in dwelling starts in B.C. and Alberta.

Dwelling Units Started in B.C.:  
Break-up by Quarter of the Year

Year	Quarter	Number <sup>1</sup> of starts	Change over previous quarter	%age change
1969	1	6,548		
	2	10,284	3,736	57
	3	8,656	-1,628	-16
	4	6,332	-2,324	-27
1970	1	6,110	- 222	- 3
	2	4,971	-1,139	-19
	3	7,273	2,302	46
	4	8,962	1,689	23
1971	1	6,341	-2,621	-29
	2	7,889	1,548	24
	3	10,363	2,474	31
	4	10,172	- 191	- 2

1 Source: Table 8, "Monthly Statistical Review", Catalogue No. 11-003.

TABLE 16

specific enough for detailed planning.

Capital equipment of the type used by Monarch Steelcraft Ltd. does not require large outlays. New machines would be expected to have pay-back periods of much less than three years. Management does not expect to go in for other lines of production which may require equipment with large outlays in the foreseeable future.

In view of the above, I feel that a manufacturing cum-wholesale firm similar to Adka should limit its long-range planning to 3 years.

There are however two qualifications to the above statement in the present case:

#### Shortage of Working Capital

Adka is financially relatively unstable.<sup>3</sup> It has been short of working capital for almost two years and has difficulty meeting routine cash payout commitments. It has a low equity level and is not currently a 'healthy' organization. The present period is therefore not representative of the history of the company. Thus in its present predicament Adka is not an average representative manufacturing-cum-wholesale organization.

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<sup>3</sup> See 'Financial Ratios' page 61.

### Construction Workers' Strike

Adka, as well as other companies connected with the construction industry, have recently passed through a period of relative inactivity due to the construction workers' strike in B.C., lasting from May 1 to August 7. On-site construction was at a stand still for over 3 months. Most of the construction planned for this period had to be postponed.<sup>4</sup> Thus physical transfer of good to construction sites and subsequent billing<sup>5</sup> dropped considerably.

However orders continue to pile up, so much so that Adka expects to enter 1973 with an order back-log of approximately \$600,000 (against backlog of \$389,000 in 1971, the past maximum). In anticipation of the heavy outflow of goods required, the company has had to develop a stock-pile, i.e., increase its inventory of both raw material and finished goods to a level higher than normal.

Cash outflow for purchase of material has reduced somewhat, both because of reduction in purchase of material

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<sup>4</sup>While I have no evidence for or against I feel that only a small fraction, if any, of the jobs planned would have been cancelled outright.

<sup>5</sup>Orders can be negotiated and jobs bid and booked even when there is no on-site construction. However customers can be billed only when material has been despatched to the construction site.

and special credit terms. However outflows associated with personnel, rental, financial and other fixed charges, etc. continued at their pre-strike levels.

Because of suspension of construction activity the general construction contractors are short of cash. This, coupled with reduced physical deliveries by Adka, has resulted in reduction in cash in-flow to Adka.

A relatively high level of pay-out commitments in conjunction with reduced cash receipts has overstrained the already otherwise unsatisfactory cash situation.

A similar situation was experienced in 1970 during the last construction workers' strike. A similar situation is expected beginning May 1974, when the present contract runs out. Management at Adka would like to anticipate a graver crisis in 1974 when the strike is expected to last even longer than the 1972 strike.

#### The Proximate Period

In view of the above, i.e., the unusual situation of the company, the prime necessity of restoring financial normalcy, and the possibility of strikes every two years, I would like the first long-range plan to cover a longer period. Specifically, I would like to see the end of 1976 as the planning horizon.

The proximate period will be split up into two portions,

Aug. 72, to April '74, i.e., the pre-1974-strike period, and May 74 to Nov. 76, the post-1974-strike period.<sup>6</sup>

### Planning Requirements

Planning requirements for the two periods will be different. During the first period emphasis will be on stability, and during the second period on expansion.

### Pre-Strike Period

Before the expected 1974 strike, the company will attempt to increase liquidity. It will attempt to raise equity and improve its working capital position. Sales will be increased as far as possible without any major investment in plant, equipment or personnel. The company wants to avoid any investment which may require an increase in pay-out commitments during the '74 strike when cash inflows are expected to go down for at least 3-4 months.

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<sup>6</sup> Strictly speaking, the proximate period should be divided into three periods:

1. the pre-strike period,
2. the duration of the strike, and
3. the post-strike period

The duration of the strike will not be treated as a separate planning period however because of the extreme uncertainty associated with it and the consequent difficulty of developing detailed plans for it two years in advance.

This is not to say that the company will merely 'idle' until May 1974. It will develop and promote its product-line,<sup>7</sup> and explore markets in Canada and the States.<sup>8</sup> It expects to make incursions into Alberta and Washington during this period. If all goes well, the company would be ready to establish a branch office in Alberta by early 1975.

Thus the pre-strike period would be one of stabilising, proving products, feeling out markets, testing and training personnel and planning a big post-strike expansion.

The major (self-imposed) constraint during this period, will be the unwillingness to take on major pay-out commitments which might impose financial strain or force the company to divest if the 1974 strike is of unduly long duration. The pre-strike sales expansion and other activities will be limited to and by the capacity of the existing organization, both in terms of site, machinery and plant, and personnel.

#### Post-Strike Period

After the strike ends however, the company will expand, as fast as the market and its own ability to fund expansion

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<sup>7,8</sup> Discussed in detail in the chapter X: Product-Market Policy.

will permit, for another 2/3 years i.e. before the next strike. The product and market possibilities during this period are discussed in detail in the chapter X: Product-Market Policy.

The major constraint in this period will be availability of funds. If the company has been able, as it expects, to prove itself by the end of this period, it may be worth its while to sell out to a bigger company which can fund expansion at an accelerated pace.

Management will however, have to keep in mind the possibility of another serious strike in 1976 which may leave it 'out on a limb' if it is unable to find a buyer or ensure adequate funding to tide over the strike.

### The President

The above time and achievement schedule will, I feel, also satisfy Boyd's personal objectives, namely:

1. Proving the door-systems concept.
2. Proving Adka.
3. Retiring in good time with a reasonable amount of money.

### Construction Workers' Strike in Washington and Alberta

Construction workers' strikes in Washington and Alberta have not had an appreciable effect on the construction industry in the past and are not expected to have any over the planning period. No consideration has therefore been given to strikes in Washington and Alberta in the plan.

## CHAPTER IX

### THE PLAN

In this chapter I have outlined a long-range plan for the period 1972-1976. The overall performance of the company envisaged under the plan is depicted in the form of year ending financial reports in Table 17.

The performance is based on product-market possibilities and other constraints. The former are discussed in the chapter on Product-Market Policy. While the overall plan and the product-market policy are treated separately, the separation is for expository purposes only. The plan and the policy have to be viewed simultaneously for complete understanding.

In this chapter I consider planning constraints other than the product-market constraints. These are then translated into year-ending financial reports supported by a year to year commentary. The commentary and the reports constitute the plan.

#### Constraints

As discussed in the chapter on Time Horizon, the proximate period can be divided into two, the pre-1974 strike period and the post-1974 strike period. Different constraints are applicable during the two periods.

Year-Ending Financial Reports

	Equity (does not include possible capital gains due to in- creased goodwill)	%age Increase over Previous year	Machinery & Plant of Monarch Steelcraft Ltd.	%age Increase over Previous Year	Sales	%age Increase over Previous Year
	Year-Ending (000)		Year-Ending		Year-Ending (000)	
	(1)	(2)	(3)	(4)	(5)	(6)
1972	230 Market Value		50,000 Market Value		1,900	
1973	252.8 +70 =322.8	40	60,000 Welding plant, and space (10,000)	20	2,185	15
1974	381.7 +20 =401.7	24	75,000 Press-brake and paint- ing(15,000)	25	2,447	12 <sup>2</sup>
					<sup>2</sup> Expected reduction due to strike	
1975	431.1 +10 =441.1	10	90,000 Miscellaneous (5000) Branch office in Alberta (10,000)	6.7	2,936	20
1976	470.1 (514.2) <sup>1</sup>	9 (16.5) <sup>1</sup>	140,000 Custom Steel Door and wood m/c systems (\$50,000)	55.5	3,523	20-

<sup>1</sup> Figures in brackets represent amounts and ratios  
in 1976 if no dividends are paid out in 1975.

TABLE 17

TABLE 17 (Cont'd)

	Net Profit after Tax, before capital investment and dividend			Changes in Equity Other than those Due to Re- tained earn- ings	Return on Equity After In- vestment and Before Pay- ment of dividend %	Divi- dend Pay- out %	Sales to Equity
	Absolute Value (000)	%age of Sales	%age of Equity	(000)			
	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1972	22.8	1.2 <sup>3</sup>	9.9	50	9.9	0	8.3
			<sup>3</sup> poor performance due to the con- struction workers' strike and other reasons	at or before the end of '72.  20 during 72-73			
1973	69.9	3.2	21.6	20	18.5	0	6.8
				during 73-74			
1974	68.5	2.8 <sup>2</sup>	17.0	10	13.3	6	6.1
			<sup>2</sup> expected reduction due to strike	during 74-75			
1975	88.1	3.0	20.0	20)	16.6	10	6.65
				-20) during 75-76 Retirement of Boyd's capital.			
1976	98.6	2.8 <sup>4</sup>	21.0 (19.2) <sup>1</sup>	?	10.3	0	7.5 (6.85)
			<sup>4</sup> expected reduction due to increased expenses due to shifting of site and also because of a strike.				

<sup>1</sup>Figures in brackets represent amounts and ratios  
in 1976 if no dividends are paid out in 1975.

### Pre-Strike Period

The primary constraints during this period are low equity and insufficient working capital. The objective therefore will be to improve financial stability. This leads to the following priorities/planning constraints.

1. Minimal capital investment.
2. Minimal hiring of personnel.
3. Promotion of products with quick returns (early or cash-on-delivery payment).
4. Giving priority to improving margins over improving sales. (Sales to be kept above a certain minimum level however.)
5. Streamlining operations to improve efficiency in all areas.

Since the company expects to expand rapidly after the 1974 strike, it has to finalise its plans before then. This will result in the following requirements in the pre-strike period.

1. Training and testing of personnel, specially their ability to handle workloads greater than those experienced in the pre-strike period.
2. Training and development of second-line management who may be required to supervise operations in Alberta.
3. Development and perfection of the door package preparatory to entry into the retail market.

4. Developing contacts leading into the retail market in B.C., Alberta and Washington.
5. Selection and negotiation for an alternate site for Adka.
6. Testing selected products for price sensitivity in order to maximize profits in the post-strike period.
7. Location (not acquisition) of funds for both expansion and retirement of Boyd's equity in the post-strike period.
8. Developing contacts and goodwill leading to entry into the wholesale market in Alberta in the post-strike period.
9. Developing an organization which has low inertia and reaction time.
10. Developing a cash-flow buffer for the duration of the strike.

#### The Post-Strike Period

The firm expects to expand during this period. Therefore funds are expected to be its primary constraint. Its objective therefore will be to raise funds. Before it can do so however it would have to prove its ability to secure adequate return on these funds. I am assuming that its history of performance in the 1973-1974 period would have

established this ability.<sup>1</sup>

Assuming that funds are forthcoming, attention has to be directed to their application. This would, generally speaking, mean investing in machinery, plant and personnel to manufacture and sell higher volumes of selected products in the various markets according to plans developed in the pre-strike period. I will discuss these later in detail.

The company has in this period however to plan for the post-1976 period also. The post 1976 activities are expected to involve:

1. Further penetration in the retail market in B.C., Alberta and Washington.
2. Further penetration in the wholesale market in Alberta.
3. Penetration in the retail market in Washington, Saskatchewan and Manitoba.

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<sup>1</sup>The following elements are essential for longterm survival of a firm:

1. A viable product.
2. A market for the product.
3. Production-marketing capability.
4. A plan.

As shown in the chapter on Strengths and Weaknesses, Adka fulfils the first three conditions. This planning exercise takes care of the fourth. Barring unforeseen circumstances therefore, (and all relevant possibilities have been considered) I feel, that there is a very high probability of success; as measured by return on capital. Carrying this line of argument a step further, if the firm is able to generate high returns and shows a potential for expansion, it should be able to attract additional capital.

4. Occasional forays into the wholesale market in Saskatchewan and Manitoba.

Planning for these would require developing necessary personnel, market contacts, goodwill and funds. I feel that Adka has the necessary managerial capacity for planning and development. Funds are again expected to be the primary constraint.

While it is too early to think of the actual means to be adopted to raise funds in 1976 and subsequent years, there is always the possibility of selling out to a larger organization, based in one of the eastern provinces. This will also provide, in addition to money, contacts and facilities for expansion beyond Manitoba.

As mentioned earlier Boyd who is now 57 years old, may wish to withdraw his capital and active operational involvement by this time. Selling out therefore would also tie in with his personal objectives.

### Financial Reports

The above constraints are depicted in Table 17 in the form of year-end financial reports. Let us analyse these for each year.

#### 1972

Figures in column 1 represent the total expected net worth of the company by the end of 1972. This does not

include any additional equity which the company expects to be able to raise before the end of the year. Expected sales of \$1,900,000 with a net profit of only 1.2% would result in expected sales to equity and profit to equity ratios of 8.3 and 9.9% respectively.

Similar ratios for comparable industry groups are reproduced below:

	Manufacturing Industry: Metal Stamping		Construction Industry: Special Trade Contractors	
	<u>1970</u>	<u>1971</u>	<u>1970</u>	<u>1971</u>
<u>Sales</u>				
Tangible net worth	2.88	3.25	6.55	5.63
<u>Net Profit After Tax %</u>				
Tangible net worth	11.66	14.18	14.57	15.84

These indicate that Adka has a relatively low equity base and expects to obtain a low return on its equity.

### 1973

The company expects to raise \$50,000 equity, by, or soon after, the end of 1972. All profits are expected to be retained. An additional \$20,000 is expected to be raised during 1973. Most of this money will be required for working capital and debt retirement.

Approximately \$10,000 is expected to be set aside for purchase of a new welding plant and additional space for the machine shop. It is expected that addition to the machine shop floor space and subsequent relocation of machine-tools will

result in a synergistic increase in machine shop efficiency. This is to be given priority as the product-promotion policy is based on additional manufacturing capacity and improved manufacturing efficiency.

While the warehouse and inventory are rationalised to reduce storage requirements, increased emphasis on manufactured products (which will give rise to both raw material and finished goods inventory) over purchase and resale, will result in additional space being required before the end of 1973. This is expected to be leased and will not represent capital investment.

In 1972, which was a poor year, sales were expected to rise by 15% over 1971, which was a good year for the construction industry. 1973 is expected to be a 'bumper' year. One would expect therefore that sales in 1973 would increase by more than 15% over the 1972 level, i.e. they would increase to beyond \$2.2 million.

Sales beyond \$2.2 million in 1973 are possible, even with the existing numerical strength of the sales and co-ordinating staff. (Staff would of course have to be trained and poor performance replaced.) Management emphasis on sales would however result in reduced attention to streamlining and improving internal efficiency. Thus sales would increase at the expense of profit margins and would not

result in proportionate increase in net profit.

The company is now preparing itself for its 'great leap forward'. It has therefore to take time out to set its house in order. Emphasis has to be laid on reducing costs and improving margins. The company is in the process of establishing a cost control system. After costs are ascertained then prices have to be re-established. The company has already uncovered items which were being sold below cost and at low margins. Certain items are not selling enough because they are overpriced. For instance, steel door frames are priced to earn a 65-70% profit. If prices were reduced the resultant increase in sales volume would probably more than offset the reduced margin.

Steel door frames and the door assembly package are key products on which expansion in 1974, 1975 and 1976 is expected to be based. (Towards the end of 1976 the company is expected to be able to start manufacturing wood doors, metal bi-folds and custom steel doors. Expansion beyond 1976 will therefore also be based on these products.) It is important therefore that these products are perfected in terms of quality and are optimally priced.

Thus we see 1973 as a year in which stress is laid on preparation for expansion - even at the expense of foregoing possible short term gains. If on the other hand, management does not attempt to consolidate the organization, but goes

on to increase sales in the short run, this will, I feel reduce the rate of possible growth due to reduction in net profits. Lowered operational efficiency will also make it more difficult for management to obtain funds.

It may be noted that a 15% increase in sales at 3.2% return is expected to return 18.5% on equity (after capital investment), even though equity is expected to have risen to 140% of the 1972 level. This we feel is, under the circumstances, an adequate return.

#### 1974

Most of the streamlining is expected to have been completed or nearing completion by early 1974. Management would by then be concentrating upon anticipating and then battling the forthcoming strike. It may take a couple of months to restore normalcy after the strike ends. By this time the year will be drawing to an end.

Sales during this year are expected to rise by 12% over 1973 at a slightly reduced profit margin of 2.8%, leading to a 17% return on equity before investment.

The company expects to expand as rapidly as possible in 1975. It is therefore expected to invest in a press-brake and painting equipment in late 1974.

The plans do not envisage paying out any dividends in 1973. At the end of 1974 however I expect that shareholders

would want some return on their equity. I have chosen an arbitrary return of 6%. The net profit after taxes, after investment, before dividends, is expected to show a return of 13.3% on equity.

The above plans are based on the expectation of a serious construction workers' strike beginning May 1, 1974 and expected to last at least 4 months. If the strike does not materialize or is of shorter duration, then both sales and profit margins are expected to rise. This will result in an improved financial situation and will also enable expansion to begin earlier.

#### 1975

The company is expected to go all out to expand sales during 1975, without permitting profit margins to drop.<sup>2</sup> This would be expected to net about \$88,000.<sup>3</sup> During this year the company is expected to be faced with the following cash allocation problem:

1. The need to retire part of Boyd's equity.

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<sup>2</sup> Profits are expected to drop from an expected 3.5% to 3.0% due to expenses associated with shifting from its present location. See Table 17 for rationale of 3.5% profit margin.

<sup>3</sup> Please see Table 17 for details.

2. Capital expenses to be incurred in setting up a branch office in Alberta.
3. Capital expenses to be incurred in moving to a new site.
4. The need to pay out dividends.

I feel that the company's financial situation would permit retirement of a maximum of \$20,000 of Boyd's equity.

By mid-1975 the company would be ready to move into the wholesale door-product and non-door market in Alberta. It would also have saturated its manufacturing capacity<sup>4</sup> and be ready to move to a new site. I expect that the company will begin moving towards the end of 1975. The move will be a long drawn out affair, involving simultaneous operation at and from two sites for some time. The company would be expected to complete its move, and purchase and instal additional equipment (wood-door and custom steel-door manufacturing equipment) by early 1976. The move to Alberta will take less time and is expected to be completed

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<sup>4</sup>In 1971 35% of total sales (amounting to \$579,000) were comprised of products manufactured in Monarch Steelcraft Ltd. The plant was then relatively inefficient and running single shift. By 1975 I expect 50% of sales (amounting to \$1,468,000) to comprise of manufactured products. This represents an increase of \$889,000. The plant even if it is running double shift after retooling, re-organising and proper scheduling, cannot meet this increase. So I expect part of the manufacturing load to be sub-contracted during 1975.

before the end of 1975.

The financial report for 1975 shows capital expenditure incurred in establishing a branch office at Alberta. Capital expenditure associated with shifting from the present site is shown in the 1976 report. Other cash out-flows (including lease-hold expenses for land and buildings) have been expensed before calculating net profit. This has resulted in an expected drop in profit from 3.5%<sup>5</sup> to 3.0%, a drop of approximately \$18,000. Since the move is expected to take place towards the end of 1975, only part of the expenditure will be expensed in 1975. If however it is possible to move sooner, then the above report will have to be revised accordingly.

While we do not expect the company to be able to set aside any money for payment of dividends at the end of 1975, financial ratios for 1976 have been calculated on two equity bases, one without any payment, and the other after payment of 10% dividends at the end of 1975.

#### 1976

This is expected to be a crucial year for the company.

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<sup>5</sup> Metal stamping industries operate at a profit to sales ratio of 4% plus. (See chapter on Strengths and Weaknesses, page 50.) As Adka becomes more manufacturing oriented I expect its profit margin to reach 3.5%.

The company has to complete its move, become fully operational and develop a stock-pile before May 1976, when another strike is expected.

If the company expects a long shut-down then it can delay purchase of wood-door and custom steel-door manufacturing equipment. If the strike is expected to be brief, then the equipment can be purchased in the earlier part of the year.

By 1976 I expect the company to have developed its markets, contacts and goodwill. If this were a normal year I would expect a 25% increase in sales over the previous year. Because of the temporary dislocation caused by shifting however I expect sales to go up by only 20%. I also expect profit margins to drop due to expenses associated with moving and the strike.

#### Beyond 1976

I am not sure at this stage how the company will raise equity in 1976-77. Assuming however that adequate finances are forthcoming, I expect sales to grow by about 20% at 3.5% margin.

## CHAPTER X

### PRODUCT-MARKET POLICY

In this chapter I discuss the product-market policy expected to be followed by the company over the period 1972-1976. The time schedule and volume of expected sale of various products in the various markets has been influenced by, in addition to product and market characteristics, the following:

1. Financial constraints.
2. Plant capacity.
3. Capacity of the sales team.
4. Expected co-ordination and management problems.

All the above have been considered while developing the long-range plan. Thus the product-market policy and the plan are integrated. They are being dealt with in different chapters merely for ease of exposition.

In the Chapter on The Plan I developed expected levels of total sales for the various years. In this chapter I propose to examine the constituent segments, sale of various products in various markets, which go to make up the total sales.<sup>1</sup>

As seen in the chapter on The Market, Adka's product line can be divided into:

1. Door-related products.
2. Other products designed for the shelter market,

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<sup>1</sup>Please see Table 18 for details.

Product - Market Posture  
Expected Sales - Thousands of dollars

	Expec. sales	Sale of Custom Prods.	Sale of Non-door products			Door Products through dealers			Installation		Door-prod. by own salesmen		Total Door- prod. non- retail mkt.in B.C. <u>B</u>	<u>A</u> as a %age of <u>B</u>
			B.C.	Alta.	Wash.	B.C. frames and package	Alta.	Wash. frames only	B.C.	Alta.	B.C.	Alta.		
1972	1,900	20	300	-	-	-	-	-	40	-	1,530	10	10,000	15.30
			Total	300										
1973	2,185	20	400	20	-	-	25	25	60	-	1,605	30	10,600	15.15
			Total	420										
1974	2,447	-	400	30	20	25	50	50	80	-	1,742	50	11,250	15.50
			Total	450										
1975	2,936	-	450	100	40	50	100	150	90	-	1,856	100	11,920	15.58
			Total	590										
1976	3,523	-	450	150 <sup>1</sup>	50	200	200 <sup>1</sup>	200 <sup>1</sup>	100	-	1,973	200	12,630	15.60
			Total	650										

<sup>1</sup> includes expected sales in  
Sask. and Manitoba.

TABLE 18

or 'non-door' products.

### 3. Products for other than the shelter market.

I will discuss sale of products under the last category first.

#### Products for other than the Shelter Market

Sale of these products amounted to \$20,000 approximately in 1971. It is expected that this level will be maintained in 1972 and 1973.

These products represent custom orders which are either unsolicited or obtained by top management. These generate a slightly higher than average level of profits. As long as there is spare manufacturing capacity therefore, and production is not rationalised, these orders are welcome. Once production is streamlined however costs are expected to decline, increasing profit margins on standard items. Custom order products will then not be expected to retain a profit advantage over standard products.

Because of their very nature, these orders cannot be anticipated, planned or scheduled. When the plant begins to reach capacity, these products will represent interruption and rescheduling expenses. We expect therefore that such orders, unless unusually attractive, will not be accepted after 1973. Expected sales after 1973 do not therefore include revenue which may be earned from manufacture and sale

of such products.

### Non-door Products

These products have the following characteristics:

1. Quick return. Payment terms are net 30 and buyers tend to be prompt with payment.
2. Larger market. While we do not know the total dollar value of the market for these products in B.C., the market in all B.C. is expected to be larger than the door-product market in Vancouver and Victoria. I do not therefore anticipate any difficulty in achieving annual sales of \$450,000.
3. Easy to sell. These products do not require any technical expertise. They are easily sold through distributors. One salesman has been able to achieve sales of \$250,000 per year approximately (in 1971). Sales can be increased further by hiring another salesman (to cover more territory) and offering volume discounts to dealers.
5. They are manufactured in-house and after rationalisation of manufacture are expected to return higher margins than products purchased for resale.

These products do not however represent the bread and butter of Adka. No attempt has therefore been made to develop a detailed study of the product-market potential of non-door

products. For reasons of tradition, expertise and potential, and indications that door-related products are expected to give adequate financial returns, Adka prefers to concentrate on promoting door-products in preference to non-door products. The latter are carried primarily because they are easy to sell and generate cash for financing development and sale of door-related products.

The sale schedule for these products is expected to be as follows:

1972: Total sales \$300,000.

1973: Hire an extra salesman. Increase sales in B.C. to \$400,000. Contact a dealer/dealers in Alberta early in the year and sell a few lines. Expected sales \$20,000.

1974: Maintain sales in BC. Slightly increase sales in Alberta. Introduce the product in Washington, sell through dealers.

1975: Line expected to be well established in BC and known in Alberta by then. Increase sales in BC, using the same number of salesmen. A branch office expected to be established in Alberta. Sell through this branch office. Sales expected to go up. Increase sales in Washington.

1976: Maintain sales in B.C. Increase sales in Alberta.

Begin to sell into Saskatchewan and Manitoba.

Slight increase in sales in Washington.

#### Door-related Products: Retail Market

It is expected that a new welding plant will be installed in late 1972 or early 1973 and manufacture of SUA (set-up-and-welded) type steel door frames rationalised soon after.

These frames are currently sold in the wholesale apartment market at 65-70% profit (after payment of 11% sales tax). Thus they are an attractive proposition. They are not however sold direct into the single or double unit housing market since retail sales are not worth Adka's effort.

An alternative to direct sale in the retail market is sale through distributors. Distributors in B.C. are not however prepared to carry this line because they perceive Adka, the manufacturers, as competitors. They do not distinguish between the apartment market on the one hand and the non-apartment market on the other.

Since Adka can manufacture more frames than can be sold in the apartment market in B.C. and since they fetch high margins attempts have to be made to sell them outside B.C.

Labour rates are higher in Washington than in B.C.

There is an import duty of only 2%, but the frames are exempt from 11% Federal Sales Tax. Thus they are highly competitive in Washington. It is expected that there will be no difficulty selling them across the border. Expected sales of steel door frames in Washington are as below:

- 1973: \$25,000. Sold through a dealer/distributors. Product introduced.
- 1974: \$50,000. Product accepted by the market.
- 1975: \$150,000. Exploit market acceptance.
- 1976: \$200,000. Raise sales still more.

Frames can similarly be sold through distributors in Alberta. There they are expected to find their way into the retail housing market. The firm has already contacted a distributor who does not object to Adka bidding directly into the wholesale apartment market while the distributor sells to the retail market. Thus there are the beginnings of complete coverage in Alberta. There are some distributors in B.C. who sell in the retail market in Alberta. When they are faced with competition from Adka frames and note the co-existence of Adka and the dealer in the same geographical market they will be prepared to carry this line in B.C. Thus entry in the retail market in Alberta is expected to serve a double purpose.

The expected sales schedule of door frames in Alberta is as below:

1973: \$25,000.

1974: \$50,000.

1975: \$100,000. Branch office in Alberta is expected to help increase sales, partly by developing contacts in Saskatchewan and Manitoba.

1976: \$200,000. Includes possible sales in Saskatchewan and Manitoba.

Acceptance of frames by local dealers is expected to lead to sales in the retail market in B.C. by 1974. These are expected to increase in 1975. By 1975 the company would have perfected the door package and have it available for sale over the counter. It is expected that this will find ready acceptance and lead to combined sales of frames and the door package of \$200,000 in 1976.

### Installation

This is the key to promotion of the door-assembly concept. Emphasis on installation has the following advantages:

1. Makes Adka's offer more attractive and convenient.
2. Does not require any capital investment. Requires a skeleton core of permanent crew. Additional staff can be hired and fired as required.
3. There is no competition, except by the general contractors themselves.

No difficulty is anticipated in working to the following gross sales schedule:

1973: \$50,000.  
1974: \$80,000.  
1975: \$90,000.  
1976: \$100,000.

Door-Related Products: Wholesale Market

In 1973 and 1974 the company is expected to make occasional forays into the apartment market in Alberta. By 1975 it expects to be able to establish a branch office and start bidding in earnest. The following is the expected schedule:

1973: \$ 30,000.  
1974: \$ 50,000.  
1975: \$100,000.  
1976: \$200,000.

The expected door-related sales in B.C. are scheduled below:

1973: \$1,605,000.  
1974: \$1,742,000.  
1975: \$1,856,000.  
1976: \$1,973,000.

If the total door-product market in Vancouver and Victoria in 1972 is expected to be \$10 million, and is expected to grow at only 6% per year thereafter, then the above sales

represent only 15.5 to 15.6% of the total market.<sup>2</sup>

We feel that the total market will rise at higher than 6% per year and that with product improvement and new product development<sup>3</sup> Adka can easily capture up to 20% of the market. Thus according to the above, market estimates for B.C. contain a lot of slack.

The total sales capacity of the company, it may therefore be noted, is limited by its own capabilities, and not by the market. Given the above slack<sup>4</sup> the company can, if necessary, reduce sales in other areas and make up the balance by increased sales in the door-related product market in Vancouver and Victoria.

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<sup>2</sup>The company enjoyed 15.1% of the market in 1971.

<sup>3</sup>For example, metal bi-folds, industrial and overhead doors.

<sup>4</sup>Expected slack at various levels of market share are shown in Table 19.

Expected Slack at Different Levels of  
Market Share of the Door-Related Product  
Market in Vancouver and Victoria, based  
on the Assumption that the Market Grows  
at 6% per Year from a \$10 million base  
in 1972

		slack calculated at different levels of market share (in thousands of dollars)				
		16%	17%	18%	19%	20%
1973	\$ 91 <sup>1</sup>		197	303	410	516
1974		58	170	283	395	508
1975		51	170	290	409	529
1976		48	174	300	426	552

<sup>1</sup> e.g. \$91,000 = (16% of total door-product market  
in Vancouver and Victoria) - (planned  
sales of door-products by Adka in  
Vancouver and Victoria).

TABLE 19

## CHAPTER XI

### SUGGESTIONS FOR REVIEW

The foregoing is a 4-year plan to attain the combined objectives of Adka Industries Ltd. and Monarch Steelcraft Ltd. The plan is based on certain assumptions about objectives, the product, and the market.

The objectives detailed in Chapter V are specific enough to provide guidance and direction and yet broad enough to permit flexibility. They are not 'objective' however, but are based on the product-market potential and the personal values of management, specifically Boyd.

If there is a change in management, it may be necessary to revise, or at least review, the objectives to ensure that they continue to represent the desires of management.

The details of the plan are based on certain assumptions about the behavior of the market. These are mentioned in their context in Chapter VII on market size and potential. It will be necessary for management to analyse rates of change in population growth, construction, etc. These changes will have to be analysed for both short-term fluctuations and long-term trends, and compensatory changes made in the details of the plan.

I personally feel that both the product and the market provide potential for growth in the foreseeable future. An aggressive posture ought to be rewarding.

Here's wishing the management good luck. More power to them.

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## APPENDICES

## APPENDIX 1

At one extreme on a (planning) spectrum is strategic planning, as previously defined. At the other end is tactical planning or the detailed deployment of resources to achieve strategic plans. The following is a line of demarcation between the two extremes to highlight the conceptual distinctions.

1. Level of conduct. Strategic planning is conducted at the highest levels of management (at headquarters and in major divisions) and relates exclusively to decisions in the province of these levels. Tactical planning is done at and relates to lower management levels.

2. Regularity. Strategic planning is both continuous and irregular. The process is continuous but the timing of decision is irregular for it depends upon and is triggered by the appearance of opportunities, new ideas, management initiative, crises, and other nonroutine stimuli. Tactical planning is done for the most part on a periodic cycle that is on a fixed time schedule.

3. Subjective values. Strategic planning is more heavily weighted with subjective values of managers than is tactical planning.

4. Range of alternatives. The total possible range of alternatives from which a management must choose is far greater

by definition, in strategic than in tactical planning.

5. Uncertainty. Again, uncertainty is usually much greater in strategic planning than in tactical planning. Not only is the time dimension much shorter in tactical than in strategic planning, but risks are much more difficult to assess and are considerably greater in strategic planning.

6. Nature of problems. Strategic planning problems are unstructured and tend to be one of a kind. Tactical planning problems are more structured and often repetitive in nature.

7. Information needs. Strategic planning requires large amounts of information derived from, and relating to, areas of knowledge outside the corporation. Most of the more relevant data needed relates to the future, is difficult to get with accuracy, and is tailored to each problem. In mind, for example, is information about competitors, future technology, social and political changes affecting corporate decisions, and economic development altering markets. Tactical informational needs, in contrast, rely more heavily on internally generated data, particularly from accounting systems, and involve a higher proportionate use of historical information. For example, tactical plans to control production rest heavily upon internal historical records of past experience.

8. Time horizons. Strategic planning usually covers a long time spectrum but sometimes is very short, and varies

from subject to subject. Tactical planning, in contrast, is of shorter duration and more uniform for all parts of the planning program.

9. Completeness. Strategic planning conceptually covers the entire scope of an organization. While at any one time only selected areas of business activity may be the subject of strategic planning, no corner of corporate activity is excluded from attention. Tactical planning covers the whole of a suborganizational unit responsible for executing parts of strategic plans. For example, tactical planning may include new product plans, construction, machine replacement, production, and so on, and coordinates these for the whole activity of a subunit.

10. Reference. Strategic planning is original in the sense that it is the source or origin for all other planning in an enterprise. In contrast, tactical planning is done within, and in pursuit of, strategic plans.

11. Detail. Strategic plans are usually broad and have many fewer details than tactical plans. The further out in time the strategic plans stretch, the fewer still are details. As Anthony (1964,p.20) notes: "the concept of a master planner who constantly keeps all parts of the organization at some coordinated optimum is a nice concept but an unrealistic one. Life is too complicated for any human, or computer, to do this."

12. Type of personnel mostly involved. Strategic planning for the most part is done only by top management and its staff. Included in the concept of staff here would be line managers when acting as staff to top management. The numbers of people involved are comparatively few as contrasted with tactical planning where large numbers of managers and employees usually participate in the process.

13. Ease of evaluation. It is usually considerably easier to measure the effectiveness and efficiency of tactical plans than of strategic plans. Results of strategic planning may become evident only after a number of years. Very frequently it is difficult to disentangle the forces which led to the results. In sharp contrast, tactical planning results are quickly evident and much more easily identified with specific actions.

14. Development of objectives, policies, and strategies. The objectives, policies, and strategies developed in strategic planning are new and generally debatable. Experience may be minimal in judging their correctness. At the other extreme, there usually is much experience to guide the development of tactical plans.

15. Point of view. Strategic planning is done from a corporate point of view, whereas tactical planning is done principally from a functional point of view.

(Steiner, 1970, p.37-39)

## APPENDIX 2

Book reviews tracing maturing of the concept of long-range planning.

Theory

Planning Theory, by Le Breton and Henning (1961): Outlines and discusses the theories underlying business planning and the planning process; covers such topics as the importance of planning, the dimensions of planning, and the planning role.

Corporate Planning Process, by Branch (1962): Similar to the above. Goes in detail into problems involved in effectively setting objectives and goals and administering the planning program.

Long Range Planning in American Industry, by Scott (1965): Explores in still greater depth and precision the mental processes involved in planning. Examines in detail the effect of company strengths and weaknesses and shows the effect of market and industry factors on corporate strategy.

Practice

Long-Range Planning Policies and Practices: Selected Companies Operating in Texas, by Newell (1963): Contains long-range planning histories of four companies; The Aluminium Company of America, Texas Power and Light Company, Continental

Oil Company, and the Texas Instrument Company. Reports organization of the planning department, how a long-range plan is constructed, what it contains and who develops it.

Long-Range Planning Practices in 45 Industrial Companies, by Henry (1967): Survey of formal long-range planning organization and administrative procedures employed in 45 industrial companies. The study indicates that during the 1960's large companies were growing more interested in developing stronger planning organizations.

#### Synthesis of Theory and Practice

Effective Long-Range Business Planning, by Collier (1968): A comprehensive discussion of planning. Distinguishes between the strategic and implementational phases of planning, shows how they are integrated and carried out.

Top Management Planning, by Steiner (1969): Probably the most complete study of corporate planning published to date. Covers both concepts and applications in good detail. Discusses specific planning tools and specialised functional planning.

## APPENDIX 3

### Door Systems

The door systems concept involves the following:

1. Manufacture/supply of complete door-systems for buildings on a customised basis from standard and custom door assembly designs and from standard and custom door assembly parts as appropriate.
2. Supply of standard door assemblies from stock; order lead time depending on the size and complexity of the order.
3. Instal door assemblies in selected market segments and areas.
4. Supply simple standard door assemblies to be installed in housing renovations as do-it-yourself projects.
5. Offer after-sales service contracts to selected market segments. Service to include locksmithing and other repairs.
6. Offer after-sales service on a time and material basis.
7. Offer advisory/consultancy services in areas of design, specification, manufacture, installation and repairs of door-systems.

## APPENDIX 4

List of customers (people/associations/organizations) who need to be contacted in order to promote the door-systems concept.

## Associations/Organizations

1. Amalgamated Construction Assn. of B.C.
2. B.C. Construction Association.
3. B.C. Drywell Contractors Association.
4. Vancouver Chamber of Commerce.
5. Junior Chamber of Commerce.
6. Metal Industries Association.
7. The Vancouver office of the Industry, Trade and Commerce Dept. of the Federal Govt.
8. Municipal Hall, Burnaby.
9. City Hall, Vancouver.
10. Offices of the B.C. Govt. Victoria.

Individuals (listed in the Yellow Pages of the telephone directory for Greater Vancouver).

- |                         |          |
|-------------------------|----------|
| 1. Architects           | 137 nos. |
| 2. Building Contractors | 170 "    |
| 3. Structural Engineers | 36 "     |

## APPENDIX 5

HOW THE RATIOS ARE FIGURED - WHAT THEY MEAN<sup>1</sup>

These ratios are based on an analysis of a composite sample of corporation income tax returns for the taxation year 1968 as compiled by the Canadian Department of National Revenue. These ratios are averages and include both profitable and unprofitable concerns.

## COST OF GOODS SOLD

This includes the cost of inventory which has been sold or used, freight or transportation, customs duties, direct labor and factory overhead. Discounts on purchases are deducted. The ratio is a percentage of sales.

## GROSS MARGIN

This ratio is derived by deducting the cost of goods sold from the sales figure. It answers the question "Is the mark-up on cost to selling price sufficient to show a profit?"

## CURRENT ASSETS TO CURRENT DEBT

Current Assets are divided by total Current Debt. Current Assets are the sum of cash, accounts receivable, inventories

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<sup>1</sup>From "Key Business Ratios in Canada", Dun and Bradstreet, Ontario. 1970 and 1971.

including supplies, and Government securities. Current Debt is the total of bank loans, accounts payable, tax liabilities and amounts due to shareholders. This ratio is one test of solvency.

#### CURRENT YEAR PROFITS ON SALES (after tax)

Obtained by dividing the profit declared by the companies, by total sales. This important yardstick in measuring profitability should be related to the ratio which follows. Profits are shown after taxes.

#### CURRENT YEAR PROFITS ON TANGIBLE NET WORTH (after tax)

Tangible Net Worth is the equity of stockholders in the business, as obtained by adding preferred and common stock plus surplus (less deficits) and then deducting intangibles. The ratio is obtained by dividing Profits by Tangible Net Worth. The tendency is to look increasingly to this ratio as a final criterion of profitability. Generally, a relationship of at least 10% is regarded as a desirable objective for providing dividends plus funds for future growth.

#### SALES TO TANGIBLE NET WORTH

Sales are divided by Tangible Net Worth. This gives a measure of the relative turnover of invested capital.

#### COLLECTION PERIOD

Annual sales are divided by 365 days to obtain average daily credit sales and then the average daily credit sales are divided into accounts receivable. This ratio is helpful in analyzing the collectability of receivables. Many feel the collection period should not exceed the net maturity indicated by selling terms by more than 10 to 15 days. When comparing the collection period of one concern with that of another, allowances should be made for possible variation in selling terms.

#### SALES TO INVENTORY

Dividing annual Sales by Inventories. This quotient does not yield an actual physical turnover. It provides a yardstick for comparing stock-to-sales ratios of one concern with another or with those for the industry.

#### FIXED ASSETS TO TANGIBLE NET WORTH

Fixed Assets are divided by Tangible Net Worth. Fixed Assets represent depreciated book values of buildings, leasehold improvements, machinery, furniture, fixtures, tools, and other physical equipment, plus land. Ordinarily, this relationship should not exceed 100% for a manufacturer, 75% for a wholesaler or retailer.

#### CURRENT DEBT TO TANGIBLE NET WORTH

Derived by dividing Current Debt by Tangible Net Worth. Ordinarily, a business begins to pile up trouble when this relationship exceeds 80%.

#### TOTAL DEBT TO TANGIBLE NET WORTH

Obtained by dividing total current debt plus mortgage and other dunded debt by Tangible Net Worth. When this relationship exceeds 100%, the equity of creditors in the assets of the corporation exceeds that of owners.

APPENDIX 6  
PRODUCT CLASSIFICATION

Alphabetical Classification	General Category	Numerical Classification	Product Description
A	Steel door frames and doors	52R* 53M 54M 58R	Door frames Door frames - set up and welded Door frames - dry wall (KD) Metal doors
B	Wood doors	55R 59R	Bifold industrial doors Wood doors
C	Architectural Hardware	50R 60R 62R 64R 66R	Door hardware Window hardware Kitchen hardware Closet hardware Bathroom hardware
D	Concrete Accessories	01M 10R 11M  13M 14M 15A 16M	Concrete accessories Concrete accessories 15F Ezy strip ties -flat 16R Ezy strip ties - round #300 snap ties Snap tie wedges Anchor bolts Rib ties
E	Framing Products	30R 35M 36M 40R  41R	Framing Framing Joist Hangers Hardboard nails and screws Decknails, spikes and splines
F	Electrical Products Products	82M 84M	Staples Pipe straps

G	Custom Work	80M	Industrial sales
H	Drainage Products	20R 25M	Drainage Drainage
I	Miscellaneous	45M 70R	Plaster and drywall Chemical - unclassified
J	Installation Charges	90	Installation labour

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\*M - Manufacture

A - Assembly

R - Resale

## APPENDIX 7

DEFINITIONS<sup>1</sup>Residential:

Includes only self-contained housing units and, therefore, excludes such structures as barracks and dormitories.

Number of units shown under Residential housing indicates the number of self-contained dwelling units added. For example, if an apartment building is constructed and contains 6 apartments, it will be shown as 6 dwelling units. When an existing structure is converted into additional housing units, the number of units added is included. The values of the permits issued for such conversions are included with new residential construction.

Apartments include all multiple housing with 3 or more units such as triplexes, rows and terraces, as well as apartments. Flats, regardless of number, that are part of a non-residential structure are also included.

Single residential units includes only one unit dwelling.

Double residential units includes all two unit dwellings such as doubles and duplexes.

Conversions include number of dwelling units added by conversions of existing structures.

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<sup>1</sup>From Building Permits, 1969, Catalogue No. 64-203.

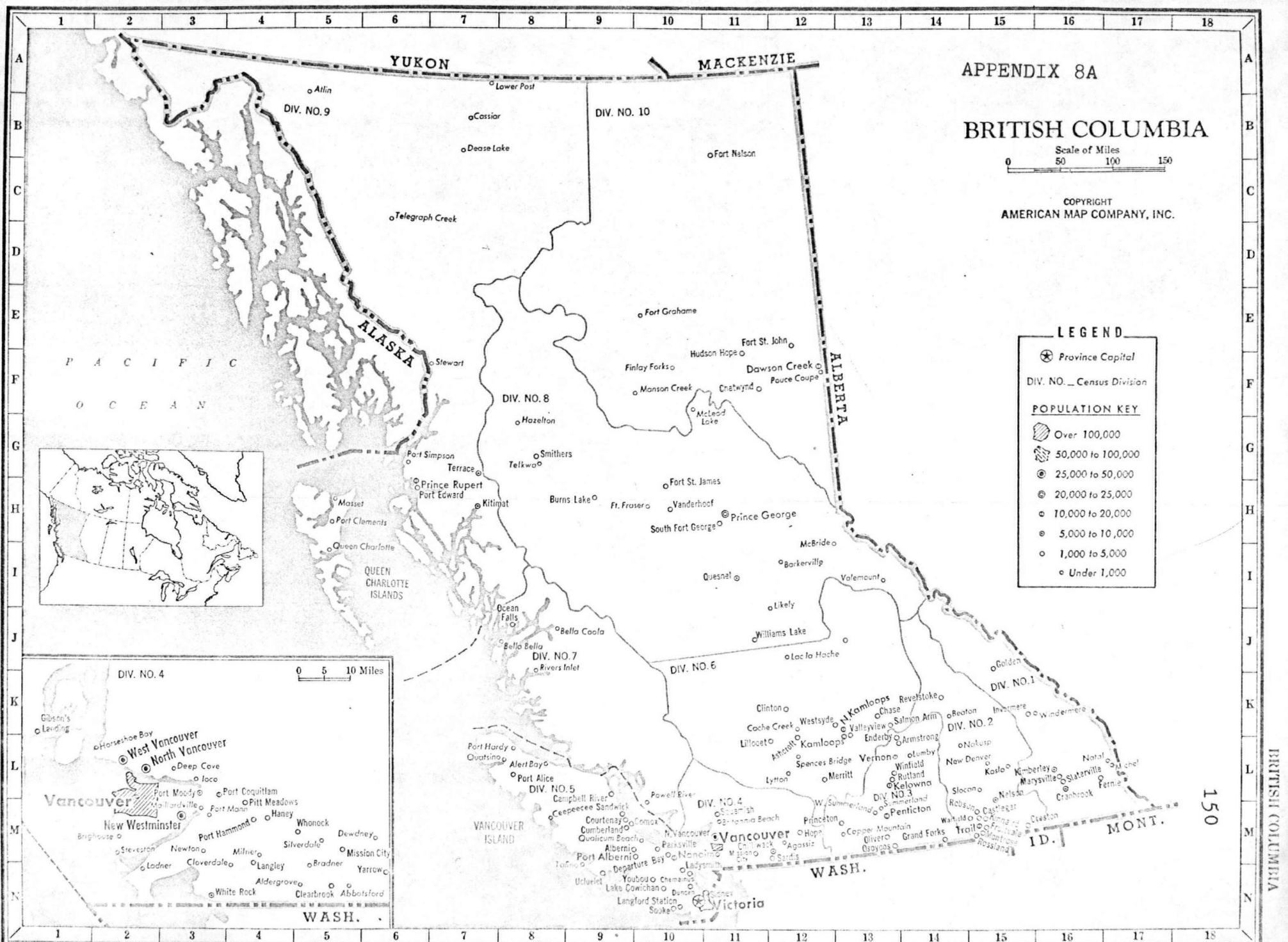
New Residential Construction includes the value of building permits issued for entirely new residential work including detached and attached garages. The values of conversion and addition permits are also included in this group.

Repair Residential Construction includes permits issued for major alterations, improvements, and smaller types of repair.

The classification for non-residential buildings or structures is divided into three major groups pertaining to the use of the structures for industrial, commercial and government and institutional purposes. These major groups are further sub-divided into principal categories of each major group.

1. Industrial - Includes buildings used for:  
manufacturing and processing; transportation,  
communication and other utilities and agriculture,  
forestry, mine and mine mill buildings.
2. Commercial - Includes stores, warehouses, garages,  
office buildings, theatres, hotels, funeral parlours,  
beauty salons and miscellaneous commercial - signs,  
posters, heating and plumbing installations, etc.
3. Institutional and Government - Includes expenditures  
made by the community, public and government for  
buildings and structures - schools, universities,  
hospitals, clinics, churches, homes for the aged,

blind, deaf and dumb, government office and administration buildings, law enforcement, public protection, national defence, and ancillary buildings such as dormitories, residences, church rectories, gymnasiums, heating plants, laundries and cafeterias for hospitals, schools or universities.





## APPENDIX 9a

Estimation of the door-product market in Vancouver and Victoria in 1971.

## Apartments:

1. Number of dwelling starts = 10,777.
2. Cost of construction, at the rate of \$12,000 per unit  
= \$129,324,000.
3. Door-product market, at 3.5% of the total cost = \$4,526,340.

## Non-Residential Construction:

4. Total dwelling starts in Vancouver and Victoria = 18,655.
5. Total non-apartment dwelling starts = 7,878.
6. Cost of construction of non-apartment dwellings, at  
the rate of \$19,200 per unit = \$151,257,600.
7. Total cost of residential construction = \$280,581,600.
8. Cost of non-residential construction at 45% of residential  
construction = \$229.5 million.
9. Door product market, at 2% of the total cost = \$4.590 million.
10. Total door-product market = \$9.116 million.

## APPENDIX 9b

Estimation of the door-product market  
in Vancouver and Victoria, 1967 to 1970

	1967	1968	1969	1970
<b>Apartments</b>				
No. of dwelling starts	7,935	11,087	14,176	9,425
Cost per unit	\$10,700	\$11,150	\$11,540	\$12,450
Total cost	\$84.9m	\$112.2m	\$163.9m	\$117.3m
Door-products at 3.5%	\$2.975m	\$3.940m	\$5.740m	\$4.110m
<b>Non-residential Constr.</b>				
Total dwelling starts	15,360	18,206	21,434	15,996
Total non-apt. starts	7,325	7,119	7,258	6,571
Cost per unit	\$17,100	\$17,840	\$18,470	\$20,920
Cost of non-apt. units	\$125.2m	\$127.0m	\$134.0m	\$137.3m
Total cost of residential construction	\$210.1m	\$239.2m	\$297.9m	\$254.6m
%age of non-residential to residential construction	50.5	48.5	47.0	45.0
Non-residential construction expenditure	\$214.2m	\$226.0m	\$264.0m	\$208.5
Door-products at 2%	\$4.284m	\$4.520m	\$5.280m	\$4.170m
Total door-product market	\$7.259m	\$8.460m	\$11.020	\$8.280m