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Long Range Strategic Planning And Its Relationship To Firm Size, Firm Growth, And Firm Growth Variability: An Explorative Empirical Investigation

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LONG RANGE STRATEGIC PLANNING AND ITS RELATIONSHIP TO FIRM SIZE, FIRM GROWTH, AND FIRM GROWTH VARIABILITY: AN EXPLORATIVE EMPIRICAL INVESTIGATION

by

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ABSTRACT

This thesis studies firm size, firm growth and firm growth variability in relationship to formalized long range strategic planning. The analysis indicated the existence of associations between long range strategic planning and each of the three variables. While the evidence was not conclusive, its weight suggested the descriptive findings of the study have identified a set of useful associations that are related to the practice of long range strategic planning. These are discussed with respect to the theory of the firm, and the evolution of long range planning practices in firms. In addition the study demonstrated operational methods of measuring and discriminating among the long range planning efforts of firms. These methods and further refinements should facilitate further empirical testing in the areas of general management and strategic planning. Suggestions for further research are advanced.

The major research aims were to determine whether these relationships exist and whether it was possible to segment the long range planning continuum on the basis of those variables. A secondary research aim was to demonstrate that empirical testing procedures offer substantial potential in Business Policy or general management research studies. In this study, methods for measuring individual firm's formal long range strategic planning process were developed and used in statistical tests of differences and associations.

The primary hypotheses related to formal planning were as follows:

- Planning increases with firm size;
- Firms that plan more will grow slower than firms that plan less;
- The growth of firms that plan more will be less variable than that experienced by firms that plan less;
- Differences exist on the basis of size, growth, and variability between those firms that plan - the planning system and those firms that do not plan - the market system; and
- Within the planning system - a segmentable planning continuum exists on the basis of the above variables.

In addition to the specific hypotheses a number of supplementary tests were considered. These were: the relationship between firm size and subsequent firm growth; whether long range planning varies by industrial classification; and, whether long range planning pays off.

Measurement of formal long range planning was approached with three independent methods. Each was used to corroborate the others. Firm size was measured on each of: assets, sales, income, employees and common stock market value. Each of the firm size and the long range planning measures was valued as of 1968. Firm growth was measured across each of the size measures for the period 1968 to 1972 inclusive. Empirical data for the long range planning measures was obtained from a previous survey of long range planning practices in Canada. That study surveyed Canada's 300 largest firms and achieved a response rate of 54%.

ACKNOWLEDGEMENTS

One of the important learning experiences acquired from preparing this thesis has been the development of an appreciation for the research efforts of others. Not only were the efforts required and the frustrations experienced in this research greater than anticipated, the relationship of these efforts to the apparent value of the end product proved higher than expected. I now feel better prepared to conduct future research and to value the research of others. These personal benefits and the finished thesis were achieved only with the aid and guidance of a number of other people. To these many people I express sincere acknowledgements of gratitude.

My thesis advisor, Donald H. Thain, deserves particular mention. In addition to arousing and supporting my interest in the role of business in today's society and in long range strategic planning he gave much of his time and energy in assisting the various phases of the research and to my personal development. He tolerantly refrained from directing me to immediate solutions of the many research problems. Instead, he patiently listened and encouraged me to experiment with my own approaches and solutions. From this I have developed a respect for him as a teacher, a relevant scholar and as a human being.

I also thank Professor S. Clarke Gilmour for his unlimited willingness to act as a sounding board and, in particular, for his warm friendship.

The School of Business Administration of the University of Western Ontario provided substantial help throughout my tenure as a student. The faculty freely made themselves available to listen to my problems and ideas. My fellow students were supportive and expressed interest in my works. To both of these groups I express sincere appreciation.

I would also like to thank the Canada Council for their tangible expression of confidence in providing me with a Doctoral Fellowship for each of the three years I enjoyed as a doctoral student. Special mention should also be made of the contributions of those who helped in the process of transforming rough drafts of this thesis into its present form. I gratefully thank Miss Brenda Dunbar, Miss Gayle Bauer and Mrs. Judie DeGuire for their assistance and patience.

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Chapter 1

PURPOSE AND ORGANIZATION

Position of this Study

This research pertains to the general management task of strategic planning. The practice of general management and the responsibility of top executives for the overall results of a business firm are studied as a special field, known to some as Business Policy. Business Policy activities may be distinguished from the functional activities of business such as marketing, production, and finance and from the specific business disciplines such as managerial economics, and operations research by the focus of its purpose. It is concerned with the coordination and integration of all of the other fields. Business Policy has been briefly defined in the following manner:

> "Business Policy is concerned with the primary function of general management, principally top management, to develop and implement a corporate strategy that relates the company's future opportunities to its resources, competence, and aspirations."[1]

The Concept of Strategy

In the field of Business Policy, corporate strategy has emerged as the central concept. Implicit in the concept of strategy is a proactive mode of management. This is evident in the many writings on the concept of strategy. A fuller description of the theory of strategy is outlined in Chapter

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[1] Harvard Business School, Graduate School of Business Administration, Doctoral Program Brochure, 1970/1971.

2 of this study. For introductory purposes, a composite definition of the concept of strategy is advanced:

> The concept of strategy concerns the process of development of sets of resource allocation decisions which commit a firm to a timed sequence of conditional moves, designed to provide a viable match between the organization's capabilities and the opportunities and risks present in its environment, which meets both the values and aspiration levels of its management and its other stakeholders. It results in the specification of objectives, the identification of the critical controllable and uncontrollable variables, the identification of the required action moves, how these are to be implemented and their timing.

This definition is a composite of those advanced by Andrews,[2] Ansoff,[3] Cannon,[4] McArthur and Scott,[5] and Thain.[6] These authors provide an extensive cross section of various in-depth probings of the concept of strategy.

Business research has considered the concept of strategy. This research can be arbitrarily segmented into two parts - strategy formulation and the operations of strategy implementation. More studies have been conducted on how firms implement their strategies than on how these strategies are formulated. This chapter focuses on the formu-

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[2]Kenneth R. Andrews, The Concept of Corporate Strategy, Dow Jones-Irwin, Inc., Homewood, Illinois.

[3]H. Igor Ansoff, Corporate Strategy, McGraw-Hill Book Company, New York, 1965.

[4]T.J. Cannon, Business Strategy and Policy, Harcourt Brace & World, Inc., New York, 1968.

[5]John H. McArthur and Bruce R. Scott, Industrial Planning in France, Division of Research, Harvard University, Boston, 1969.

[6]Donald H. Thain, Corporate Strategy, an unpublished teaching note in the general management court at IMEDE, 1965.

lation aspect of strategy. A review of subject-related research is covered in Chapter 2.

The Practice of Long Range Planning

In business management, strategy formulation is practiced under different names. The most common title is long range planning. Others include corporate planning, strategic planning, comprehensive business planning, and occasionally planning. Definitions of these are discussed below. These terms are widely used in discussions of general management. While it is clear that confusion exists over the specific meaning of these terms, it is equally evident that a number of characteristics are implied whenever any of these terms are used. These characteristics include:

It is proactive. It involves anticipation of the future and moves to influence its outcome.
It is a process not simply a document. It reflects an attitude and thought process.
It is comprehensive. It involves a broad concept of the business and an integration of its functions.
It is flexible. It is designed to permit smooth adjustment to changing conditions.
It is complex. It attempts to encompass all the important variables and their relationships.
It concerns the issues of major importance, both those that are controllable and those that are uncontrollable.
It is a top management activity involving the commitment of the highest echelons of management.

Without examining the process of long range planning in detail, it is possible to grasp the characteristics of its nature, philosophy, structure and process by considering some of the brief definitions being advanced.

Ackoff states: "Planning is the design of a desired future and of effective ways of bringing it about."[7]

For Scott, "Planning is an analytical process which encompasses an assessment of the future, the determination of desired objectives - the context of that future, the development of alternative courses of action to achieve such objectives; and the selection of a course (or courses) of action from among these alternatives."[8]

Steiner states: "As a process, planning may be defined as deciding in advance what is to be done, when it is to be done, how it is to be done and who is to do it."[9]

Warren believes, "Planning is essentially a process of preparing for the commitment of resources in the most economical fashion and, by preparing, of allowing this commitment to be made faster and less disruptively."[10]

From these definitions, and from a review of the literature on long range planning, it is evident to the author that in business practice, long range planning is the real world application of the normative concept of strategy. And like those addressing the theory of strategy, the advocates of long range planning imply a number of normative assumptions. The most important of these, states that planning is the essence of good management and that its practice is a

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[7] R.C. Ackoff, A Concept of Corporate Planning, Wiley, Interscience, 1970.

[8] Brian W. Scott, Long Range Planning in American Industry, American Management Association, 1965.

[9] George A. Steiner, Top Management Planning, The Macmillan Company, 1969.

[10] E. Kirby Warren, Long Range Planning: The Executive Viewpoint, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1966.

necessary and desirable aspect of all well-managed firms. Entertaining this viewpoint, it is continuously suggested that all firms should, and do, practice long range planning regardless of their size and their growth position.

In striking contrast to the above belief in a proactive style of management are those who express that the job of top management is mainly reactive. To these people, good managers are those who make one good decision after another in response to the ever-changing current situation. For them, planning involves too many oversimplifications and unrealistic assumptions which leads to dysfunctional activity employed to avoid decision making and risk taking. Its practice often results in bureaucratic, inflexible organizations which continuously miss good opportunities. They say it should not be practiced and that is is not practiced extensively. Cyert and March in "A Behavioral Theory of the Firm."[11] are the main exponents of this reactive theory of management. They state:

> "We have suggested several times that we think that long term planning in the sense in which it is usually discussed in the theory of the firm plays a relatively minor role in decision making within the firm."[12]

The skeptics of planning suggest that planning may be an escapist activity that managers turn to when confronted with an exceptionally adverse environment. Consequently, they

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[11]Richard M. Cyert and James C. March, A Behavioral Theory of the Firm, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1963.

[12]Ibid., p. 110.

believe planning is more likely to occur in firms facing lower growth prospects.

Cyert and March also cast doubt upon the traditional, fundamental objective of business firms - profit maximization. They suggest that as firms become larger this objective becomes less relevant. They declare:

> "In the present model, managers are held to operate the firm so as to maximize a utility function that has as principal components (1) salaries, (2) staff, (3) discretionary spending for investment and (4) management slack absorbed as cost."[13]

As such, planning becomes one of the standard operating procedures employed to achieve this goal. Larger firms are, therefore, perceived as being more likely to practice planning. As a standard operating procedure, planning is also perceived as being more probable to occur in situations which are controllable and predictable and therefore subject to less variability.

The differences between the above described proactive and reactive modes are quite apparent. In the proactive theory of management, which involves strategy formulation, the practice of long range planning is an essential element. It is suggested that all firms do, and should, practice long range planning regardless of their size, their growth position and the predictability of their environment. In the reactive theory of management, long range planning is perceived as being less useful and important. It is suggested that the practice of long range planning will occur

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[13] Ibid., p. 241.

naturally in larger size firms, in firms confronted with lower growth prospects and in firms where the environment is less variable. The purpose of this research study is to clarify the above almost opposing positions by examining empirical evidence.

In addition to the above theories of planning which are viewed from the perspective of the individual firm, planning is also examined from the perspective of the total economic system. The most renowned writer identified with this viewpoint is Professor John Kenneth Galbraith. A summary of his opinions on the role of planning in the industrial system is included in Chapter 2. Briefly, Galbraith states that the industrial system may be split into two categories - the market system and the planning system. Within this planning system he implies that the practice of planning increases with firm size; declining growth; and a desire to remove growth variabilility.

Purpose of the Research

The purpose of this research was to examine the relationships of long range planning to each of: firm size, firm growth, and growth variability in a sample of Canadian firms. Examination of empirical evidence was considered the only reasonable method of providing a basis for judging which of the above theories was more representative and explanatory of actual managerial behaviour. This study was built on a previous survey of long range planning practices in Canada, conducted in 1968. Utilizing this data, measurement systems were devised to rank the relative long range

planning efforts of the sample firms. Statistical tests were applied to the relationships between these long range planning measures and firm size and firm growth. Four different levels of planning were defined and tests were conducted to determine whether or not differences existed between these levels on the basis of firm size, firm growth, and growth variability. The possibility of segmenting the long range planning continuum in the industrial system was considered.

In addition, the nature of the research design and the data provided an opportunity to test three related issues of interest. One addressed whether or not firms which plan perform better than similar firms which do not plan. Firms were pair-matched to assess this proposition. The second issue involved an assessment of whether larger firms grow more or less rapidly than less large firms. The third area examined whether the degree of long range planning varied by industry classification.

Hypotheses

At the first stages of the research a number of hypotheses were advanced with respect to these relationships and their differences. These hypotheses were chosen on the basis of: the weight of the research evidence in the literature, the arguments of the various theories, and the experience of personal observation. The hypotheses were as follows:

1) Planning increases with firm size.

2) Firms which plan more will experience slower subsequent growth than firms which plan less.

3) The growth of firms that plan more will be less variable than that experienced by firms that plan less.

4) Differences exist on the basis of size, growth and growth variability between those firms that plan - the "planners", and those firms that do not plan - the "non-planners".

5) Within those firms which plan, the "planners", a segmentable planning continuum exists on the basis of the above variables.

Definition of Terms

For the purposes of this research, long range planning was defined in a manner which was compatible with the concept of strategy. The particular definition developed was:

> Long range planning is the process of formulating broad qualitative goals and quantitative objectives which provide the basic guidelines of the company's activities and the establishing of a set of top management decisions that commit the organization and its resources to a sequence of major moves designed to accomplish the agreed upon goals and objectives. These moves are conditional, with a specific date set for each, depending upon the firm's environment in the future.

Definitions were also developed for distinguishing among "non-planners", "low-planners", "medium planners" and "high planners". The basis for and the specifics of these definitions are discussed in Chapter 3 of this report under the heading, Measurement of Long Range Planning.

The other primary variables, firm size, firm growth, and growth variability were measured across the five dimensions of: assets, sales, income, employees, and common stock market value. These terms were defined in a conventional manner. The specifics of these definitions are described in Chapter 3 under the headings of Measurements of Firm Size and Firm Growth and Measurements of Growth Vari-

ability.

Organization of the Study

Chapter 2 discusses the literature on long range planning. Planning is considered from the point of view of the firm and as a part of the total economic system. The individual firm point of view considers the pro-long range planning viewpoint, the prescriptive writing on long range planning, the empirical testing that has been conducted in the area, and the anti-planning viewpoint. Long range planning as a part of the total economic system examines Galbraith's observations on planning.

Chapter 3 presents the research methodology. An overview of the research design is first presented. Consideration is then given to the research sample, the measurements of long range planning, the measurements of firm size and firm growth, the measurements of growth variability, and the analytical procedures involved.

Chapter 4 presents the analysis of the relationship of long range planning to firm size. A comparison on the basis of firm size of those firms which do not practice long range planning with those that do is offered for consideration. In addition, the differences found in comparing the four levels of long range planning on the basis of firm size are presented. A test of the degree of association between firm size and long range planning is included. Consideration is given to the possibility of segmenting the long range planning continuum on the basis of firm size. The chapter closes with a summary of the findings accompanied by a brief

discussion of them.

Chapter 5 discusses an analysis of the relationship of long range planning to subsequent firm growth. Subsequent firm growth of those firms which do not plan, the "non-planners", with those that do, the "planners", is compared. Differences found in comparing the average subsequent firm growth among the four planning levels follow. This is followed by the results of a test of the degree of association between long range planning and subsequent firm growth. Consideration is also given to the possibility of segmenting the long range planning continuum on the basis of subsequent firm growth. A summary of the findings is presented, followed by a brief discussion.

Chapter 6 considers the relationship of long range planning to growth variability. A comparison on the basis of growth variability of those firms which do not plan, the "non-planners", with those that do, the "planners", is presented. Differences found in comparisons of growth variability among the four levels of planning are displayed next. The possibility of segmenting the long range planning continuum as the basis of growth variability is the last section of this chapter. An appraisal of the findings concludes the presentation of the results.

Chapter 7 serves as a summary of other findings. The findings of three supplementary tests are presented. These tests are: the relationship between firm size and subsequent firm growth; whether planning varies by industrial classification; and whether long range planning pays off.

Results of a consideration of the possibility that the relationship between firm size and subsequent firm growth was spuriously causing the relationship between these variables and long range planning are also presented. The latter test of whether long range planning pays off was an attempt to replicate a study by Thune and House which is described in Chapter 2. The end of the chapter is marked by a summary and discussion of the findings of the supplementary research.

Chapter 8 summarizes the results of the research study. The nature of the study is reviewed. This is followed by a compilation of the findings and a discussion of their implications with respect to the Theory of the Firm and the Evolution of Long Range Planning. Suggestions for additional research are advanced.

Brief Summary of the Findings

Analysis of the data yielded results which help clarify the theory of the firm and the practice of long range planning. Briefly this research found the following:

Firms that practice long range planning were of larger average firm size, had slower growth rates and less growth variability than firms which did not practice long range planning.

When the sample of firms was segmented into four levels of practiced long range planning, evidence indicated that a segmentable long range planning continuum existed in the Canadian industrial system on the basis of firm size, firm growth and growth variability.

Relationships existed between the practice of long range planning and firm size and growth. Long range planning increased as firm size increased and as growth decreased.

The evidence demonstrated no detectable indication that firms which plan performed better than similar firms which did not plan.

Empirical evidence was found to support the belief that larger firms grow at slower rates than do smaller firms.

Within broad industry classifications, there was no detectable general difference in the levels of long range planning practiced.

Chapter 2

THE LITERATURE ON LONG RANGE PLANNING

Planning is discussed in the literature from two points of view - the firm and the total economic system. The most common viewpoint is the individual firm. This viewpoint splits naturally into two categories - the planning advocates and those with reservations about planning. The differences between the advocates and those with reservations are rarely discussed in literature. This may be because those who question the value of planning do not think the subject worthy of comment.

The other point of view considers long range planning as part of the total economic society. The most widely read observer with this perspective is Professor John Kenneth Galbraith. Galbraith's discussion of economic society contains many controversial comments on planning. He states large firms use planning as a major instrument to control their environments, markets, and competitors.

This review of the long range planning literature considers both viewpoints. The individual firm viewpoint is discussed under the headings of the pro-long range planning viewpoint, and the reservations about planning. The total economic society viewpoint receives separate discussion.

The purpose of this literature review is to uncover and present principles and theories about associations with long range planning. Relationships between the practice of long range planning and either the nature of firms, or the nature

of the firms' environments, were considered. Knowledge of such relationships should increase the potential for improving the practice of long range planning. The specific variables studied are: firm size, firm growth, and firm growth variability. Generally speaking, associations with long range planning have not been well investigated in the literature.

The anti-planning viewpoint expresses no comment on any relationships, although a few may be implicit.

The literature from the pro-long range planning viewpoint suggests specific relationships. In addition, some empirically-based testing has been conducted by writers in this group. None of this research has, however, considered firm size and firm growth variability. Much of the empirically-based research has surveyed long range planning practices. Some have considered relationships between long range planning and economic performance - i.e. does long range planning pay off? This limited research is of questionable quality due to the presence of research difficulties. For example, it is not possible to determine how a firm which is planning would have performed had it not been planning nor how a firm that is not planning would have performed if it had been planning.

It is important to clarify possible confusion over the distinction between economic performance, as measured by profits, and growth. Two separate, but related, issues exist in the comparison of long range planning and growth. The empirically-based studies of long range planning and

economic performance attempt to determine if planning pays off. They do not address the separate issue of whether long range planning is associated with higher or lower growth rates. This latter issue is of major importance in this study. It may be that firms which practice long range planning perform better, or it may be that they perform worse, in similar circumstances, than firms which do not. Concurrently, it may be that firms which practice long range planning are generally characterized by slower or higher growth opportunities than those which do not.

The controversial writers whose observations concern total economic society suggest that associations do exist with the practice of long range planning. Their suggestions, however, are mainly subjective interpretations. No empirical testing has been conducted to support their opinions.

A brief overview of each of these views on long range planning follows. The weight of the arguments and the limited evidence suggest that associations do exist. It would appear that:

1) Long range planning would increase with firm size;
2) Firms with more long range planning would be more likely to be confronted with slower growth; and
3) Firms with more long range planning would be subject to less growth variability.

The Pro-Long Range Planning Viewpoint

Since the 1960's, the number of articles and books published advocating strategic long range planning has

increased substantially. This literature is of three types: (1) ideas developed from empirical case descriptions, (2) normative, prescriptive writings, and to a much lesser extent, (3) empirically based hypothesis testing research. All of these writings have one common underlying theme - it is good to have a strategy (i.e. it is good to have objectives and a long range plan rather than to only react).

The theory and concept of strategy has received much attention among business managers, teachers, consultants and researchers since the mid-1960's. Reduction of the concept to a theoretical framework makes the concept of strategy appear simple. Actual implementation is difficult and complex. In order to avoid confusion, the meaning of the concept of strategy is discussed.

Strategy has been defined by most commentators on general management. These definitions are essentially similar. Some examples follow. Andrews of the Harvard Business School advances a general definition of strategy:

> "For us strategy is the pattern of objectives, purposes or goals and major policies and plans for achieving these goals, stated in such a way as to define what business is in or is to be in, and the kind of company it is to be."[1]

Some of the ambiguity of the above definition is removed by McArthur and Scott's definition of the strategy of

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[1] Learned, Christenson, Andrews & Guth Business Policy Text and Cases (Homewood, Ills.: Richard D. Irwin Inc., 1965), p. 17.

business:

(1) A concept of how to compete in an industry or industries (this should spell out the markets or market segments which the company intends to serve, the kinds of products needed to serve these markets effectively, and the skills and resources the company must have to develop these specific kinds of products).

(2) The statement of specific goals against which progress can be measured.

(3) A timed sequence of conditional moves."[2]

This definition is more complete because it stresses the importance of a planned series of specific sequential management action moves.

The idea of allocating limited internal resources is not indicated by either of the above definitions. This is expressed in a definition by D.H. Thain:

"a timed sequence of conditional moves for allocating resources to opportunities in a competitive environment."[3]

One or two sentence definitions of strategy oversimplify the concept of strategy. Of the many descriptions of this theory, one of the most straightforward is contained in

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[2]John H. McArthur, and Bruce R. Scott, Industrial Planning in France (Cambridge, Mass.: Division of Research, Harvard School, 1969), p. 116.

[3]Donald H. Thain, "The Coming Crunch in Federal Government-Business Relations", The Business Quarterly (London, Ontario: School of Business Administration, University of Western Ontario, Autumn 1970).

the paper "Strategy as a Problem Solving Theory in Business Planning" (Bower, 1967).[4] A diagram of Bower's model of the concept of strategy is attached as Chart II-1.

Bower's model consists of a five part format as follows:

Formulation Phase; consisting of -

1) The Firm's Environment
   - opportunities and risks
2) The Firm's Resources
   - weaknesses and strengths
3) The StakehoIders' Values
   - motivational and behavioural constraints

Implementation Phase; consisting of -

4) Firm Structure
   - identification of key activities
5) Managerial Style
   - method of accomplishment

Bower suggests the concept of strategy helps the business manager understand his problems. It provides an exhaustive, analytical structure for utilizing the information at his disposal; by defining the relationships among the parts of the company's system and its environment; and by providing an orderly sequence of questions for the definition, analysis, and choice of alternatives. It results in

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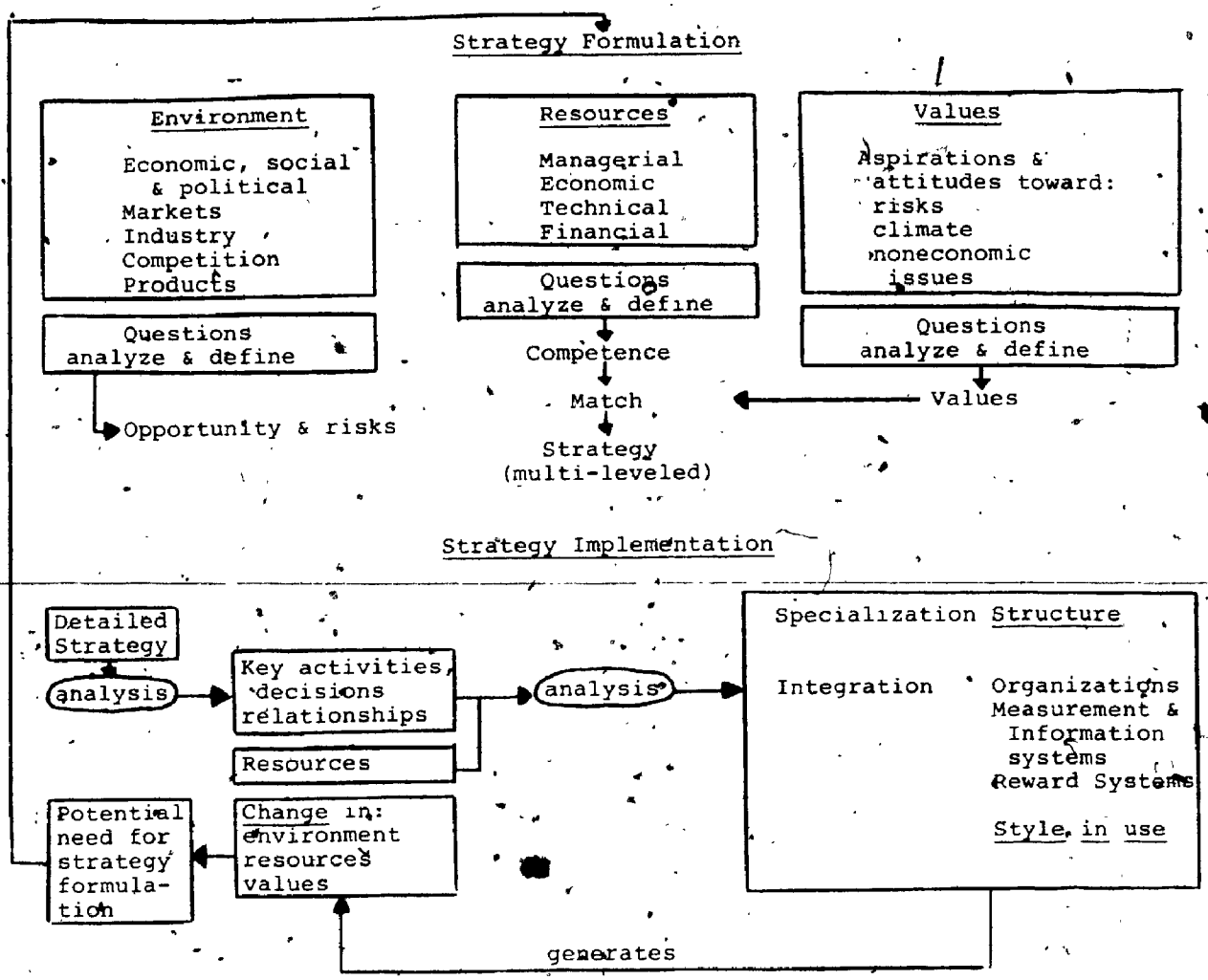
[4] Joseph L. Bower, Strategy as a Problem Solving Theory of Business Planning, BP 894, Harvard Business School, 1967.

CHART II-1

A MODEL OF THE CONCEPT OF STRATEGY



Adapted from: Joseph L. Bower, Strategy as a Problem Solving Theory of Business Planning, BP 894, Harvard Business School, 1967.

the choice of goals, policies, and action programs to achieve those goals. The concept of strategy is conceived as two concurrent processes - strategy formulation and strategy implementation.

In the formulation phase, three broad categories of information must be addressed. These are the firm's environment, its resources, and the values of the stakeholders. Each of these undergoes an in-depth, searching, questioning analysis. Opportunities and risks are identified in the environment, weaknesses and strengths are identified within the firm, and the motivational and behavioural constraints of management values are identified. From this basis, an iterative matching process of identified strategic alternatives, present and potential corporate competences, and management values is conducted to evolve a strategy.

This process of strategy formulation is concurrently focused towards the process of strategy implementation. The implementation phase is concerned with two broad categories of information, firm structure and managerial style. For each of these two broad categories, four subprocesses are conducted. These are:

1) analysis;
2) task specialization;
3) integration; and
4) interative reformulation.

For both firm structure and managerial style, analysis is directed towards identification of the key activities required in the strategy and how these are to be accom-

plished. Task specilization is directed towards the breakdown and assignment of the technological, economic, and behavioural activities. Integration is concerned with ensuring that specialized activities are co-ordinated. The fourth sub-process reformulation, is directed at the constant testing and reformulating of the original strategy and implementation plan.

The above brief description of the "mainstream business policy" strategy process portrays this normative concept. Other more complete descriptions are found in Andrews, The Concept of Corporate Strategy,[5] McArthur and Scott's Industrial Planning in France,[6] and in Learned, Christensen et. al. Business Policy - Text and Cases.[7] These descriptions also portray the underlying broad framework for the "how to long range plan" writings.

Fundamental to this, and to virtually all normative strategy theory, is the belief that good general management involves the formulation and implementation of strategy. Good managers are perceived as those who conduct this process in an explicit and systematic manner. The three basic implied assumptions are:

1) Firms which employ the concept of strategy formu-

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[5]Kenneth Andrews, The Concept of Corporate Strategy (Homewood, Ills.: Dow Jones Inc., 1971).

[6]John L. McArthur and Bruce R. Scott, Industrial Planning in France (Cambridge, Mass.: Division of Research, Harvard Business School, 1969), Chapter IV.

[7]Learned, E.P. et. al. Business Policy Text and Cases (Homewood, Ills.: Richard D. Irwin Inc., 1969).

lation and implementation will achieve substantially better results than they would if it were not used.

2) The better the effort devoted to the process of strategy formulation and implementation, the better will be the results in terms of performance.

3) While the detail may vary substantially with the particular circumstances, application of the theory will cover all of the bases i.e. environment, resources, and values, i.e. the strategy model constitutes a comprehensive, all-encompassing package.

Prescriptive Writings on Long Range Planning

The multitude of "how to" or prescriptive writings on long range planning build on the above or similar normative assumptions. They attempt to provide business managers and students with detailed step-by-step procedures for conducting and implementing the long range planning process.

In these writings, each of Bower's five categories is further sub-divided into the traditional nomenclature of business i.e. marketing, production, finance and personnel. Efforts are also devoted to the timing and allocation of the procedural efforts required in establishing and operating the long range planning process.

The prescriptive writings are based on the strategy

model. These authors often assume that its normative assumptions are fact. John Argenti, a British long range planning consultant, in his book Corporate Planning - A Practical Guide states that "... corporate planning has achieved remarkable success for the firms to which it has been introduced."[8] He goes further to state that "Results should start to effect profits within one year to a small extent but by the second year these results should be more extensive."[9] The belief that long range planning leads to better economic performance is clear. Argenti states that firms practicing long range planning should perform better than firms that do not. He does not address the issue of whether long range planning is associated with growth.

Another of the many scholars writing about the practice of long range planning is Professor George A. Steiner of the Graduate School of Business at Columbia University. His recent book entitled Top Management Planning[10] is currently the most comprehensive in the field. Steiner's prescriptive writings are also based on the normative theory of strategy and include its assumptions. Steiner states that "... other things being equal, comprehensive corporate planning will bring much better results than if it is not done."[11] With

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[8]John Argenti, Corporate Planning - A Practical Guide (Homewood, Ills.: Dow Jones Irwin Inc., 1969), p. 12.

[9]Ibid., p. 280.

[10]George A. Steiner, Top Management Planning (New York: The Macmillan Company Ltd., 1969).

[11]Ibid., p. 85.

respect to the practice of long range planning he states that "It seems to me that great strides have been made in the past decade. Today's status is contributing importantly to operations."[12] Steiner strongly implies that firms practicing more long range planning will perform better than firms practicing to a lesser degree. This implication is made, providing all other conditions are similar. He does not comment on whether long range planning is associated with growth. He offers no empirical evidence of a cost-benefit analysis of long range planning.

Like Argenti, Steiner clearly implies that a general process of long range planning is applicable to all firms. Steiner states, "... it is becoming clearer that there are fundamental planning generalizations or principles which apply to all organizations."[13] He maintains that it is a pitfall to assume "that effective total planning can be done piecemeal or that integration of the major parts is unnecessary."[14] While long range planning "cookbooks" recognize that each firm's circumstances will dictate more or less analysis, they do state that all of the major elements must be considered and incorporated into the planning process.

In addition to advocating complete, comprehensive, long range planning for all types of firms, Steiner strongly implies that long range planning should not vary with firm

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[12] Ibid., p. 719.

[13] Ibid., p. 718.

[14] Ibid., p. 720.

size.

Although the major portion of Steiner's book advocates one ideal, all-encompassing planning model, he recognizes the possible limitations of the present theory. He suggests further research is required. He implies the one ideal operational planning model may not be appropriate to all circumstances. An area he suggests receive further research is "probing into (the) question (of) what is the proper planning process for different sized firms, for different type operations and for various conditions."[15] He suggests further research into the question of "The overall conceptual model of corporate planning needs to be refined to fit different types of situations in different companies."[16]

Empirical Testing

Little statistical empirical testing has been published in the field of long range planning. Much of the research describes planning in particular firms or industries.[17] The authors of these studies appear to approach their analysis with normative positive beliefs. Consequently, these studies tend to reconfirm the positive assumptions of the

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[15] Ibid., p. 723.

[16] Ibid., p. 723.

[17] See for example Stewart Thompson, How Companies Plan (New York: American Management Association Inc., 1962) and Harold W. Henry, Long Range Planning Practices in 45 Industrial Companies (Englewood Cliffs, N.J.: Prentice Hall Inc., 1967).

strategy concept. It is difficult to distinguish these studies from the prescriptive writings.

Most of the actual empirical testing has been conducted to establish the extent of long range planning practice. These studies often included a general search for relationships between firm characteristics and methods of planning. Generally, these studies have not found any relationships. With loose definitions, the studies indicate that long range planning is widely practiced. For example, Cleland in a 1962 Ph.D. thesis at Ohio State University entitled The Origin and Development of a Philosophy of Long Range Planning in American Business found 85% of the firms practicing long range planning.[18] Polishuk in a 1968 study of long range planning in the American aerospace industry found 95% of the firms were practicing long range planning.[19] Probably the most extensive search for long range planning correlations is in the formal planning systems research project presently being conducted by Professor Vancil at the Harvard Business School. This is perhaps the most comprehensive study ever undertaken on long range planning. The study commenced in 1966 and expenditures to the end of 1971 were more than $500,000. Examination of his questionnaires and the limited number of articles published to date indi-

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[18]David Cleland, Origin and Development of a Philosophy of Long Range Planning in American Business (unpublished doctoral dissertation, Ann Arbor: University Microfilm Inc., 1962).

[19]Paul Polishuk, Survey of Long Range Planning in the Aerospace Industry (Wright Patterson Air Force Base, Ohio: United States Air Force, 1969).

cates no major findings have yet been published. Publication of the results of other analyses are expected shortly.

Empirical tests evaluating the effectiveness of long range planning are exceptionally sparse. A 1966 Ph.D. thesis at Ohio State entitled Planning in Small Manufacturing Companies: An Empirical Study[20], by M.A. Najjar, describes one such study. This report assessed the correlations between managerial satisfaction with profits and sales growth in firms by using four different measures of planning. Much to the author's apparent disappointment, no significant correlations were found. The results were, nonetheless, interesting. While all of the correlations were relatively low and without statistical significance, each of the eight possible comparisons was negatively correlated. Managers of firms with planning were less satisfied. The author expressed his dissatisfaction that they "are in the wrong direction. Such results throw some doubt on the satisfaction criteria as measures of business success."[21]

The author's disappointment reflected a failure to show long range planning pays off. An obvious implication of the findings was ignored. The consistently negative associations may indicate an underlying negative relationship

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[20]Mohamed A. Najjar, Planning in Small Manufacturing Companies: An Empirical Study (Ann Arbor: University Microfilm Inc., 1966).

[21]Ibid., p. 69.

between long range planning and managerial satisfaction with profits and sales growth. Najjar found that firms practicing long range planning were less satisfied with their performance than non-planning firms. His dissatisfaction reflects his concern with the normative assumption that long range planning pays off. Instead, his empirically based findings may indicate the practice of long range planning is more common in firms which are faced with the adversity of low growth. He did not develop this as a conclusion.

Only one other empirical research study was uncovered assessing the relationship between formal long range planning and subsequent economic performance. This study, by Thune and House, is entitled, "Where Long Range Planning Pays Off - Findings of a Survey of Formal, Informal Planners". There is no confusion about the issue addressed in this study. Thune and House attempted to determine whether planners perform better than non-planners in similar situations. Formal planners significantly outperformed informal planners with respect to five economic measures.[22] An extension of this study was subsequently conducted by D.M. Herold and published as an article entitled, "Long Range Planning and Organizational Performance A Cross Valuation Study".[23] These joint studies are the only empirical tests

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[22] S. Thune and R. House, "Where Long Range Planning Pays Off - Findings of a Survey of Formal, Informal Planners", Business Horizons (August, 1970), pp. 82-87.

[23] D.M. Herold, "Long Range Planning and Organizational Performance: A Cross Valuation Study", Academy of Management Journal (March, 1972), pp. 91-102.

supporting the major tenet of faith in the concept of strategy - the belief that strategic planning improves economic performance.

Review of these articles indicated a lack of adequate statistical evidence to advance the assumption to the status of a management principle. Many in the field of business policy do. The research design of these studies is of questionable validity. From a sample of 71 firms defined as formal planners and 21 firms defined as informal planners, Thune and House[24] "carefully" selected 17 formal planners and 19 informal planners so that the formal and informal planning firms were pair matched on the basis of broad industry classification and sales level. Since the formal planners, and to a lesser extent the informal planners, were not randomly chosen, it is unreasonable to suggest they are representative of either formal or informal planning firms. The results may not be generalizable beyond the particular circumstances of these firms. Questions also exist as to the validity of the basis of pair matching.

Herold's study[25] used the same firms and data as the Thune and House study, with the exception that the time horizon was extended four years. An additional measure of economic performance was also employed. His sample was

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[24] S. Thune and R. House, "Where Long Range Planning Pays Off - Findings of a Survey of Formal, Informal Planners", Business Horizons (August, 1970), pp. 82-87.

[25] D.M. Herold, "Long Range Planning and Organizational Performance: A Cross Valuation Study", Academy of Management Journal (March, 1972), pp. 91-102.

reduced to five pairs of firms because of mergers, acquisitions, etc. Herold's extension is subject to the limitations of the Thune and House study plus those related to the reduction in the sample size. These joint studies add to the credence of the underlying assumptions of long range planning. They do not, however, empirically justify them. To suggest that the claims made and implied for long range planning have been proven is incorrect.

Further empirical research is needed into the process of long range planning. Not only is the amount of management time devoted to it significant, but the research to date indicates there is need for further understanding of the conceptual framework. The ever-growing body of long range planning knowledge and its practice is based upon normative assumptions which have not yet been adequately empirically tested. One of the main reasons for the lack of empirical testing is the difficulty in conducting research.

Summary

Advocates of formal planning thus advance both empirical tests and informed opinions concerning the management practice of long range planning. In the area of empirically tested research, their findings are as follows:

1) Long range planning is widely practiced in North American business firms.

2) Some limited evidence supports the belief that firms which practice long range planning will perform better than similar firms which do not.

3) Some evidence indicates that firms which practice

long range planning are less satisfied with their performance than firms that do not practice it.

In the research and normative writings on long range planning a number of beliefs are evident. These are:

1) The practice of long range planning should not vary by the growth expectancies of firms.

2) The practice of long range planning should not vary with the size of the firm.

3) The basic long range planning process should be applied to all firms without variation. Details may vary, but all the general procedures and areas of analysis should be covered.

Reservations About Planning

One of the notable aspects of the literature on planning is the absence of an "anti" point of view. This obvious omission should not imply its non-existence. Instead, it indicates that believers in planning have promoted their views. Inside business firms, planning is often delegated as a staff responsibility to individuals, without accompanying operational responsibility. In such circumstances, negative writings on planning would naturally not occur.

While the literature of long range planning rarely takes a negative point of view, general management literature occasionally does. Four examples are presented here to illustrate the strength of the reservations which exist about planning. The four are: a general management class note prepared at IMEDE by Professor D.H. Thain, entitled, "Corporate Strategy - General Management Course Memorandum

No. 12"; a Harvard Business Review article by H. Edward Wrapp entitled "Good Managers Don't Make Policy Decisions"; an article by Charles Lindbloom entitled "The Science of Muddling Through"; and a classical descriptive book of general management by Cyert and March entitled "A Behavioral Theory of the Firm".

The IMEDE general management course note considers an anti-planning position. To illustrate this position, the note quotes the chairman of a leading U.K. company. This article reflects the strength of the reservations held about long range planning. For illustration purposes, a few of these quotes are presented:

> "I have accomplished a considerable degree of success in this company by concentrating on day-to-day operations. The question of living in the present or the future is not an either-or problem. Any sensible manager concentrates on today's problems but in the light of his view of the future. We have several people in our company who are concerned with new developments. Our marketing manager, for example, has just returned from a trip around the world. I spent most of yesterday with him talking about what is going on and the things he was able to observe that may tip us off as to important new developments that will affect us in the future.
>
> "I think that many managers try to create the impression that they are wiser than they really are when talking to reporters or university researchers. If more top managers were realistic and frank they would be proud of the fact that true successes are the result of putting one good decision after another day-after-day. In the company that I worked for previous to my employment here we had a remarkable 15 year record. I can give you my personal guarantee that this outstanding end result was simply the accumulation of a process of correct short-term decisions. If you are operating well on a day-to-day basis, when the days finally amount to months and years you have a record to be proud of . . .

"Another problem that I have with strategy is that people who talk about it usually get involved in long range planning. I would seriously like to ask you the question - what good are long range plans? Either you follow them or you do not. If you follow them you are sure to miss good opportunities that cannot possibly be foreseen by any planner. If you do not follow them, why bother making them in the first place? I have friends who have been bitten by the long range planning bug and I am sure that they have wasted a great deal of time and money on an activity that amounts to nothing much more than the latest management fad."[26]

Negative attitudes towards planning are also expressed by other authors. Professor H. Edward Wrapp strongly implies a distrust of comprehensive formal long range planning. He states:

"Many of the articles about successful executives picture them as great thinkers who sit at their desks drafting master blueprints for their companies. The successful top executives I have seen at work do not operate this way. Rather than produce a full-grown decision tree, they start with a twig, help it grow, and ease themselves out on the limbs only after they have tested to see how much weight the limbs can stand.

"The fifth, and most important skill I shall describe bears little relation to the doctrine that management is (or should be) a comprehensive, systematic, logical, well-programmed science. Of all the heresies set forth here, this should strike doctrinaires as the rankest of all!

"The successful manager, in my observation recognizes the futility of trying to push total packages or programs through the organization."[27]

Charles Lindbloom in an article "The Science of Muddl-

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[26]Donald H. Thain, "Corporate Strategy", IMEDE (General Management Course Memorandum No. 12, 1965 and 1966).

[27]H. Edward Wrapp, "Good Managers Don't Make Policy Decisions", Harvard Business Review (September-October, 1967).

ing Through",[28] describes "the rational comprehensive method" of decision making which is similar to long range planning. With this method, the decision maker, for each of his problems, proceeds deliberately, one step at a time, to collect complete data, to analyze the data thoroughly, to study a wide range of alternatives, each with its own risks and consequences, and finally, to formulate a detailed course of action. Lindbloom dismisses "the rational comprehensive method" in favour of the "successive limited comparison". To him, the decision maker compares the alternatives which are open to him in order to learn which most closely meets his objectives. This is not a rational planning process. Instead, he sees the manager as opportunistic and reactive.

Cyert and March's "Behavioral Theory of the Firm" attempts to build a general theory of the economic behaviour of the individual business firm based on case observations. They try to fill the evident gap between the traditional economic theory of the firm and business practice. The central thesis of the authors is: management decision-making is mainly a reactive rather than a proactive process. The coalition of top managers is motivated to satisfice their aspiriation level constraints instead of maximizing anything, especially profits. In this environment, it is unreasonable to suggest that serious long range strategic

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[28] Charles Lindbloom, "The Science of Muddling Through", Business Strategy, edited by H. Igor Ansoff (Middlesex: Penguin Books).

planning would be formulated or used. The authors state:

> "Our studies indicate quite a different strategy on the part of organizations. Organizations avoid uncertainty: (1) They avoid the requirement that they correctly anticipate events in the distant future by using decision rules emphasizing short-run reaction to short-run feedback rather than anticipation of long-run uncertain events. They solve pressing problems rather than develop long-run strategies. (2) They avoid the requirement that they anticipate future reactions of other parts of their environment by arranging a negotiated environment. They impose plans, standard operating procedures, industry tradition, and uncertainty-absorbing contracts on that environment. In short, they achieve a reasonable manageable decision situation by avoiding planning where plans depend on predictions of uncertain future events and by emphasizing planning where the plans can be made self-confirming through some control device."[29]

Most planning skeptics are top managers with primary responsibility for the success or failure of a firm. Some of these view long range planning as an oversold fad, full of meaningless 'buzz words' with great "associational richness". This viewpoint has not been given serious consideration in the literature. The skeptics about long range planning do not necessarily oppose it. Most simply have unresolved doubts about the process. These doubts concern its cost, complexity, removal from reality and inflexibility. A brief discussion of the possible reasons for these doubts follows.

In terms of cost, long range planning often involves the hiring of professional and expensive staff who are not normally needed by the firm. In addition, operating managers

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[29]Richard M. Cyert and James G. March, A Behavioral Theory of the Firm (Englewood Cliffs, N.J.: Prentice-Hall Inc.), 1968.

must devote valuable time, energy, and emotional commitment to the non-productive tasks of, teaching, filling in forms, making projections and writing reports. It is questionable whether these costs can be justified.

Preparation of a comprehensive plan may be too mammoth a task. Every business firm is an almost infinitely complex system. Attempts to reduce this essence to a plan are difficult and involve many oversimplifications and omissions. Sophisticated computer models, forecasting techniques and operating research methods are complex in themselves. Armed with these, it still may not be possible to reflect the real situation. In preparing plans, much is left out and many assumptions are made. Both the product and the process may be so artificial that they are meaningless.

Long range planning may be too far removed from reality to be useful. In addition to the implicit assumptions involved and the use of often poorly informed staff, it is feared managers may use planning as an escapist "cop-out". Serious planning may be done only when an extremely adverse or risky situation confronts the firm. Planning could become management's psychological defense mechanism to displace and to sublimate the anxiety of risky and unfavourable situations. It may be better to face up to a problem and accept the natural risks involved rather than to attempt to analyze it away.

Planning may also be impractical in view of the dynamic environment of firms. Planning often assumes the status

quo. As a result, plans may cause firms to become inflexible and incapable of adapting effectively to an ever-changing environment. Few managers, and even fewer business scholars, openly express these positions. To do so would attack an almost virtuous conventional wisdom. The risk of being labelled "bad" or "incompetent" is not worth the perceived benefits. Instead, this position is discussed informally.

In summary, the literature on long range planning makes an almost overwhelming case for its importance. However, serious considerations of planning should also give reasonable attention to the possible opposing position. Long range planning is controversial. It is highly touted in journals, books, and seminars. At the same time, some business practitioners still have reservations about its value.

These reservations are based on the following possibilities:

1) Formalized long range planning is expensive and may not lead to better economic performance.
2) Long range planning tends to be intensified in face of adversity and thus may be a "cop-out".
3) Practical planning is impossible to perform because of its complexity.
4) Planning makes the firm inflexible and unable to adapt to changing environments.
5) Planning may not be natural.

Long Range Planning as Part of the Total Economic System

The above discussions of the process of planning were from the perspective of the individual firm. Another perspective views planning as part of the total political, economic and social system. The best known commentator on economic society is Professor John Kenneth Galbraith. In his classics, "The Affluent Society"[30] and "The New Industrial State",[31] and his most recently published "Economics and the Public Purpose",[32] Galbraith describes and theorizes a general and comprehensive model of economic society. He discusses the public sector, the private sector, and the public at large. In his discussion of the private sector, which he labels as the Industrial System, he comments on planning conducted by firms. He suggests that planning is the main instrument firms employ to escape from the constraints of the environment and to effect control over their marketplace. In many respects, his observations disagree with the theories described above.

Galbraith's concept of planning does not disagree materially from the definition of strategy formulation or formal long range planning. He defines planning in this manner:

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[30]John K. Galbraith, The Affluent Society (Toronto: The New York American Library of Canada Ltd.), 1967.

[31]John K. Galbraith, The New Industrial State (Toronto: The New American Library of Canada Ltd.), 1967.

[32]John K. Galbraith, Economics and the Public Purpose (Boston: Houghton Mifflin Company), 1973.

> "As viewed by the industrial firm, planning consists in foreseeing the actions required between the initiation of production and its completion and preparing for the accomplishment of these actions. And it consists also of foreseeing and having a design for meeting any unscheduled developments, favorable or otherwise, that may occur along the way."[33]

Galbraith believes planning in today's large corporation is essential. He states:

> "The large commitment of capital and organization well in advance of result requires that there be foresight and also that all feasible steps be taken to ensure that what is foreseen will transpire."[34]

Galbraith advances six specific reasons for the increasing importance of planning. His stated reasons are:

1) "An increasing span of time separates the beginning from the completion of any task ..."

2) "There is an increase in the capital that is committed to production aside from that occasioned by increased output ..."

3) "With increasing technology the commitment of time and money tends to be made ever more inflexibly to the performance of a particular task ..."

4) "Technology requires specialized manpower ..."

5) "The inevitable counterpart of specialization is organization. This is what brings the work of specialists to a coherent result ..."

6) "From the time and capital that must be committed, the inflexibility of this commitment, the needs of large organizations and the problems of market performance and under conditions of advanced technology, comes the

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[33] John K. Galbraith, The New Industrial State (Toronto: The New American Library of Canada Ltd:), 1967, p. 36.

[34] Ibid., p. 16.

> necessity for planning. Tasks must be performed so that they are right not for the present but for that time in the future when, companion and related work having also been done, the whole job is completed ... thus the need for planning.... The need for planning arises from the long period of time that elapses during the production process, the high investment that is involved and the inflexible commitment of that investment to the particular task."[35]

Planning is of such importance to firms in the industrial system that Galbraith contends it is the main variable for distinguishing among them. He suggests that a sharp division exists among the firms in the industrial system on the basis of planning. He divides the industrial system into two categories - the market system and the planning system. He describes this distinction as follows:

> "This distinction which may be thought of as separating the twelve million small firms from the one thousand giants, underlies the broad division of the economy here employed. It distinguishes what is henceforth called the market system from what is called the planning system."[36]

> "The difference between the planning and the market systems does not lie in the desire to escape from the constraints of the market and to effect control over the economic environment. It is in the instruments by which these are accomplished and the success with which they are attended."[37]

Galbraith states that management in the planning system uses planning as one of the major instruments to preserve its autonomy. This planning tends to be comprehensive,

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[35] Ibid., pp. 25-31.

[36] John K. Galbraith, Economics and the Public Purpose (Boston: Houghton Mifflin Co., 1973), p. 44.

[37] Ibid., p. 49.

product planning, price and market strategies, procurement planning, etc. Planning is employed by the firm's techno-structure to acquire and maintain power. He observes that firms in the planning system will do more planning, be of a larger size, grow at slower rates and suffer less growth variability.

Galbraith suggests the distinction between the market system and the planning system is not a simple, dichotomous, 'in or out' situation. Instead, within the planning system, a virtual continuum exists. He states:

> "The firms in the planning system ... - are by no means homogeneous. At one extreme are relatively small corporations where organization is still elementary - ... At the other extreme are General Motors ... As one proceeds from the smaller corporations to the giants, the role of any single individual diminishes, the authority of organization increases. Among the very large corporations of some age - those I shall refer to as the mature corporations - the power of organization is plenary."[38]

If, as Galbraith implies, a continuum exists in the planning system, it should be distinguishable on a number of variables. He suggests a few of these. Galbraith observes: planning increases with firm size, growth declines as planning increases, and growth variability decreases as planning increases.

In his writings he states that long range planning increases with firm size. For example:

> "It is clear, first of all, that industrial planning is in unabashed alliance with size."[39]

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[38] Ibid., p. 83.

> "The most obvious requirement of effective planning is large size. This, we have seen, allows the firm to accept market uncertainty where it cannot be eliminated; to eliminate markets on which otherwise it would be excessively dependent; to control other markets in which it buys and sells; and it is very nearly indispensable for participation in that part of the economy, characterized by exacting technology and comprehensive planning, where the only buyer is the Federal Government. That corporations accomodate well to this need for size has scarcely to be stressed. They can, and have, become very large."[40]

Galbraith also implicitly suggests a relationship between the practice of planning and growth. According to Galbraith, planning is the major technique that firms employ to achieve their ambitions. But, he states, this motivation is not to maximize profits. Instead, Galbraith maintains that management, - he refers to it as the 'technostructure', - is primarily interested in preserving its autonomy from creditors and shareholders. To do this, firms must achieve only a certain minimum level of earnings. No perceived need exists to maximize profits and therefore it is not done. He states:

> "If revenues are above some minimum - they need not be at their maximum for no one will know what that is - creditors cannot intervene and stockholders cannot be aroused."[41]

> "Maximization of income for the technostructure is neither needed nor sought."[42]

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[39] John K. Galbraith, The New Industrial State (Toronto: The New American Library of Canada Ltd.), 1967, p. 42.

[40] Ibid., p. 85.

[41] Ibid., p. 93.

[42] Ibid., p. 148.

> "The mature corporation, as we have seen, is not compelled to maximize its profits and does not do so."[43]

Galbraith further justifies this position by referring to the relationship of firm size to profitability. Other writers[44] and economists suggest that larger firms do not grow as rapidly as do smaller firms. This has been tentatively explained in terms of declining economies of scale or an unavailability of adequate supply of managerial talent relative to size. Galbraith challenges this position. Instead, he maintains that larger firms are better able to maximize profits. They do not, he asserts, because management is not motivated to do so. He explains: managers with the aid of planning reduce risk by trading off profit maximization for security and the opportunity for personal need satisfaction. He expresses this position as follows:

> "Should it be that as the firm becomes larger, it is better able to control its costs, its technology, its prices, the responses of its consumers or the government (were all these a dependent variable associated with size), the scale at which profits are maximized could obviously increase with the increasing size of the firm. To increase size and associated control over costs, technological processes, prices, demand and the state could become, then, one way of maximizing profits. And, as will be presently be seen, profit maximization is not, in any case, the central goal of the technostructure. Above a certain profit threshold the members of the technostructure are better rewarded by growth itself."[45]

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[43] Ibid., p. 171.

[44] See for example, Edith T. Penrose, The Theory of the Growth of the Firm (Oxford: Basil Blackwell & Mott Ltd.), 1959.

From Galbraith's perspective, the individual firm as it increases in size will put increasing emphasis on planning to increase the security of management. In order to maintain security, planning is directed to a number of specific ends. The first of these is to ensure an acceptable level of earnings.

> "With low earnings or losses it becomes vulnerable to outside influence and loses its autonomy. But above a certain level more earnings add little or nothing to its security therein ... This casts light, in turn, on the assumption that the mature corporation will seek to maximize its profits. By the most elementary calculation of self-interest, the technostructure is compelled to put prevention of loss ahead of maximum return. Loss can destroy the technostructure high revenues accrue to others. If as will often happen, the maximization of revenues invites increased risk of loss, then the technostructure, as a matter of elementary interest, should forgo it.
>
> The need for protecting a minimum level of return will have, in turn, an important effect on industrial planning. While it will be desirable to achieve planned results, it will be even more important to avoid unplanned disasters. The first is pleasing; the second can be mortal."[46]

Once this goal has been protected the individual firm can direct itself to other goals. Among these, of course, is growth. Galbraith states:

> "A rate of earnings that allows, over and above investment needs, for progressive rise in the dividend rate will also regularly be a goal of the technostructure. This return must not be achieved by prices which would prejudice growth. Nothing better suggests the primacy of growth as a goal

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[45] John K. Galbraith, Economics and the Public Purpose (Boston: Houghton Mifflin Company, 1973), p. 83.

[46] John K. Galbraith, The New Industrial State (Toronto: The New American Library of Canada Ltd., 1967), p. 179.

> than the vehemence with which this would be dismissed as unsound business practice. The risks taken for such higher return, it is axiomatic, must not jeopardize the basic level of earnings."[47]

Galbraith's position with respect to profit maximization and growth appears almost contradictory. He makes it clear that larger firms with the aid of their planning do not maximize profits. Instead they strive to preserve their managerial autonomy and protect a basic level of earnings. At the same time he contends that growth is a primary goal. But larger profits is a main method of achieving growth. Firms which do not maximize profits will be less able to maximize growth. A reasonable interpretation of this apparent contradiction is that while growth is a major goal of large firms, a trade-off is made with it when profits are not maximized. Large firms will use planning to achieve growth but since they are not primarily interested in maximizing profits they will tend to grow slower than firms which are maximizing profitability. Those firms which do not plan may be expected to grow at faster rates than firms which do plan. Also firms which do plan will be expected to show greater growth in sales and total resources than they will in profit growth.

In summary, Galbraith's views on planning, based on his observation of the industrial system, differ with those who discuss planning from the viewpoint of the individual firm. Galbraith suggests the following relationships to planning

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[47] Ibid., p. 186.

in the industrial system:

1) Planning increases with firm size;

2) Firms that plan more will grow slower than firms that plan less;

3) The growth of firms that plan more will be less variable than that experienced by firms that plan less;

4) Differences exist on the basis of size, growth, and variability between those firms that plan - the planning system and those firms that do not plan - the market system; and

5) Within the planning system - a segmentable planning continuum exists on the basis of the above variables.

These suggested relationships have been chosen as the hypotheses of this research study.

Chapter 3

RESEARCH METHODOLOGY

This chapter presents the methodological considerations of this research study. An overview of the research design is exhibited first, followed by discussions of: the research sample and methods of data collection, measurements of long range planning, measurements of firm size and firm growth, and measurements of growth variability. This is followed by a description of the analytical procedures applied to the data.

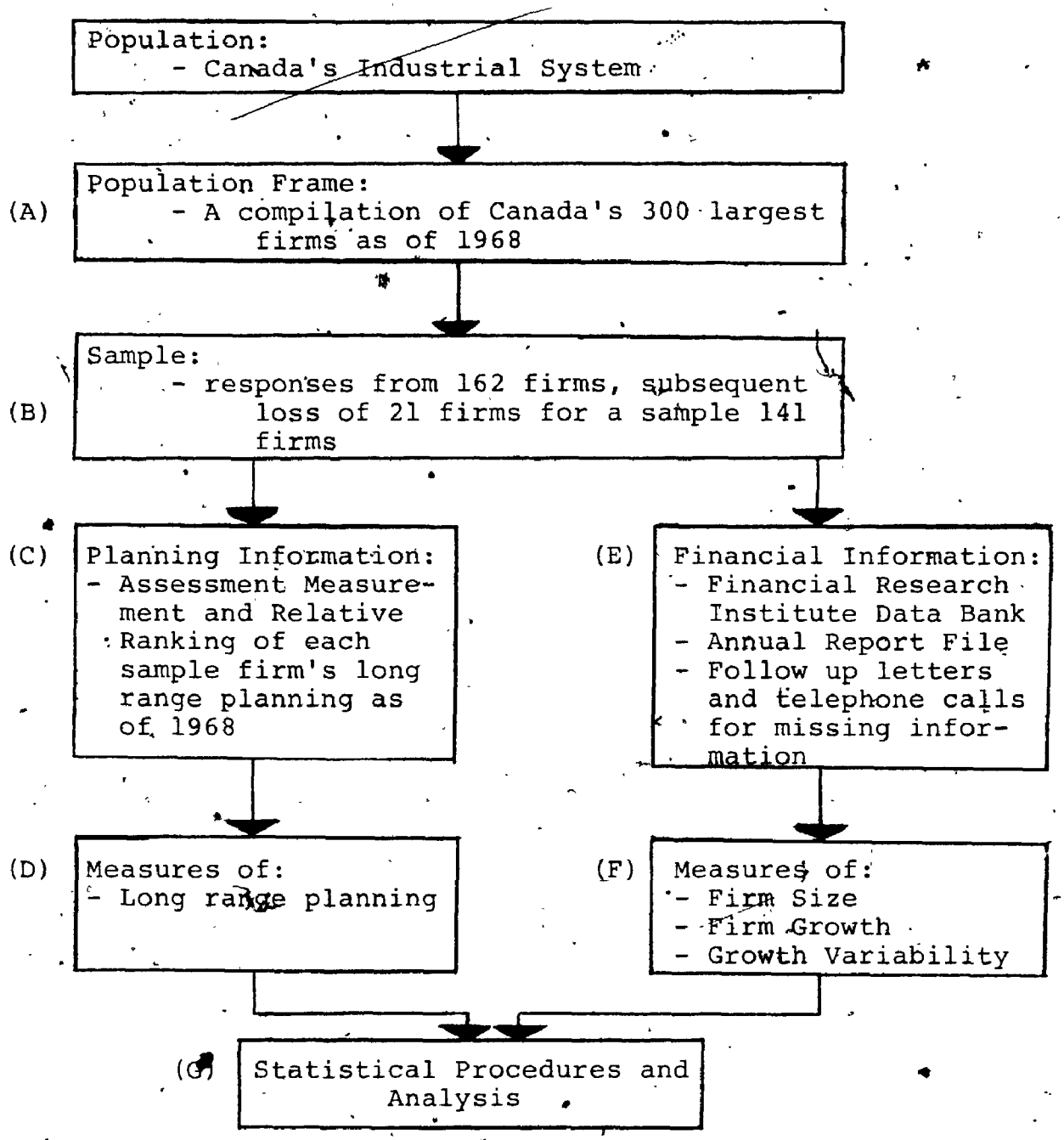
An Overview of the Research Design

The basic design of this research study was straightforward, in that it attempted to discover whether there were relationships and differences between the practice of long range planning and each of firm size, firm growth and growth variability. An outline of the research methodology is shown in Chart III-1 which follows.

The research design is built upon a previous survey of long range planning practices in Canada's 300 largest firms conducted in 1968 (A). That study achieved a response rate of 54% (B). For each of the sample firms, an assessment (C) and ranking of the formal long range planning practices as of 1968 was made from information obtained in the questionnaires (D). From the Financial Research Institute's computer data bank of company financial information annual reports and follow-up correspondence (E), information was obtained on each firm's size and growth in the period 1968

CHART III-1

An Overview of the Research Methodology



to 1972 (F). Tests for associations and differences (G), were performed between the assessment of long range planning practices (D) and each of: the measures of firm size, the measures of firm subsequent growth, and the measures of growth variability (F). A more complete description of each of these steps and the obstacles encountered follows.

The Research Sample

As mentioned above, the sample for this research study was that of a previous survey of long range planning practices conducted in a 1968 study, entitled "A Survey of Long Range Planning in Canadian Industry."[1] It was prepared by Braithewaite, Malcolm, Nicholl and Pretty under the direction of Professor D.H. Thain at the School of Business Administration of the University of Western Ontario. This study mailed questionnaires to chief executive officers in each of the 300 largest firms in Canada. The original questionnaire responses had been carefully kept intact for future research purposes.

Close scrutiny of these questionnaires indicated they were exceptionally comprehensive. A copy of this questionnaire is attached as Appendix I. In most cases the questionnaires were completed by a top, if not the top, official of the company. A list of the companies responding, with the respondent's title, is attached as Appendix II. The

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[1] J.L, Braithewaite, et. al., "A Survey of Long Range Planning in Canadian Industry" unpublished, The University of Western Ontario, 1969. The questionnaire employed in this report is based upon a 1963 study directed by Professor Thain.

questionnaire consisted of 60 questions covering an in-depth probing of the individual firm's business planning process and its financial status up to 1968. Comparison of this questionnaire with research surveys of long range planning practices done in the United States indicated this one was substantially more complete. In discussions with business managers the impression was gained that this questionnaire represented the absolute maximum demand level for information by mail that could be put on executives. The Braithewaite et. al. study relied heavily on the prestige of the University of Western Ontario School of Business Administration and on a personal letter from its Dean.

The Braithewaite et. al. study defined the population frame as a listing of the 300 largest firms in Canada which was compiled for this purpose from the Financial Post Survey of Mines, 1968, the Financial Post Survey of Industrials, 1968, and the Financial Post Top 100 by Sales, 1968. From this defined population of 300 firms, responses were received from 54% of the firms. In the present research study twenty-one firms were removed from this initial sample of firms to yield a sample of 141 firms. These firms were discarded either because it was evident from a close scrutiny of their questionnaires that they had not been properly completed or because financial information could not be obtained on the firms either as of 1968 or 1972.

Consideration was given to the potential biases of this resulting sample prior to the research analysis. Sampling bias could have occurred in any of the following areas:

- the choice of the population frame - the top 300 firms in Canada,
- the non-response bias,
- the loss of sample firms for which financial information could not be obtained or that had not adequately completed the questionnaire.

A brief description of the consideration given to each of these biases follows.

The choice of the population frame presented no significant bias. This list represented the most complete compilation of large firms operating in Canada as of 1968. The significance of the non-response bias also appeared to be very small. The 54% response rate was exceptionally high for mail surveys, particularly when the comprehensiveness of the questionnaire was considered. With respect to the discarded incomplete questionnaires, no substantial bias appeared to exist. Inclusion of those suspect questionnaires as low or non-planners may have induced a more significant bias due to the real possibility that they were not filled in conscientiously. For those firms discarded because of the impossibility of obtaining any financial information, their inclusion would not have allowed any comparisons. This potential bias was perceived as small because the number of firms involved was very few. When only part of the required financial information was available the firm was retained in the sample and when tests involving the available information were made these firms were included.

Measurements of Long Range Planning

One of the major obstacles encountered in this research study was assessing and measuring formal long range planning in the sample firms. Relative rankings as a method of measurement of long range planning was chosen over more common, dichotomous methods. Other research studies have used dichotomous methods which distinguish between planners and non-planners or between formal planners and informal planners. It was felt that such methods do not represent the actual variations in the degree of long range planning effort as practiced in large enterprises. As mentioned in Chapter 2, other research studies indicate that most firms practice long range planning. The survey research which provided the long range planning data base for this study shows that 86% of the firms conducted some long range planning. Examination of these questionnaires showed that the extent of the long range planning practiced varied substantially. This proportion compared favourably with the 85% and the 95% reported in the Cleland and Polishuk studies previously mentioned in Chapter 2 of this report. In order to give adequate consideration to these important variations a ranking method was deemed essential.

It would have been desirable to create a measurement system which would have distinguished between the sample firms not only on the basis of whether one firm practised more long range planning than another, but which also would have permitted an expression of how large the differences were between any two firms. Such measurement systems are

usually referred to as interval level measurements. At the outset, it was recognized that construction of such a measurement system for long range planning would be very difficult, if not impossible; but also probably very misleading. Instead, design of the measuring system for long range planning in the sample firms focused on methods which enabled distinction merely on the basis of 'greater than' or 'less than'. Such measurement systems are usually referred to as ordinal or ranking scales of measurement.

It was possible to develop ranking methods which allowed simple relative 'greater than' or 'less than' distinctions of the long range planning efforts among the firms. Such ranking methods, by necessity, were based upon the planning elements surveyed in the 1968 questionnaire. The elements included in the questionnaire concerned the standardized procedures employed in formulating the long-range plan and the nature of the resulting long range plan. Ten planning characteristics were surveyed. They were as follows:

1) The existence of a corporate strategy that is written,

2) The existence of a corporate strategy through which the company plans to achieve its goals and/or objectives,

3) The existence of written goals and objectives,

4) The existence of long range forecasts which are revised on a regular basis for any three of: market, sales, production facilities, funds, or personnel,

5) The existence of objectives which are specified in quantitative terms,

6) The existence of an annual review of the long-range plans themselves,

7) The existence of standard practices for conducting the long range planning effort,

8) The existence of standard practices for formally reviewing and updating long range plans,

9) The existence of an annual review of long range planning procedures and methods,

10) The existence of a full time planning staff.

For the purposes of the research questionnaire, key terms were defined as follows:

- Company goals are broad, qualitative statements which provide basic guidelines for the company's activities.

- Company objectives are quantitative statements generally falling within the broad framework of the company's goals.

- Strategy is a set of top management decisions that commits the organization and its resources to a sequence of major moves designed to accomplish agreed upon goals and/or objectives. These moves are conditional, depending upon the firm's future environment. A specific date should be set for each of these future moves.

- Long Range Planning is, primarily, formulating company goals and objectives and establishing a strategy for accomplishing these goals and objectives.

- Standard practices are written procedures outlining a planned approach to long range planning activities.

A copy of these definitions was included with each mailed questionnaire.

Two basic approaches were used in establishing these rankings. Adopting more than one method was elected in order to increase the objectivity and discriminating power of the rankings. Each method acted as a check on the other.

The first approach was based upon judgmental criteria of what constitutes a comprehensive long range plan. The basis for the second approach was a survey polling of relatively well-informed individuals. This two-fold approach provided an inherent check for consistency of each method of ranking and also provided the opportunity for the construction of ranking methods which were discriminatory.

The objective criteria method of ranking created four categories of long range planning based upon what was perceived as comprehansive long range planning. These criteria may be summarized as is shown on the following Chart III-2.

"High Planners" were defined as firms which indicated they had a written strategy, written goals and written objectives, with the objectives existing in a quantified form. It was reasonable to suggest that a firm possessing these attributes has analysed its own strengths and weaknesses, analyzed its environment, determined its own present prognosis, generated alternatives and chosen a specific series of action moves. These firms have devoted substantial effort to long range planning.

"Medium Planners" were defined as firms which had made some effort to project where they were going; and had some idea of the action moves they would make to influence their success. These firms had made forecasts or prognoses of important elements of their business and had developed a strategy to cope with their anticipated future. Their strategy need not have been written.

"Low Planners" were defined as firms which had made an

CHART III-2

Criteria for Distinguishing Between
"High Planners", "Medium Planners", "Low Planners",
and "Non-Planners"

Planning Category	Long Range Planning Characteristics
"High Planners"	These firms were identified by: 1) an expression that they did formal long range planning, and 2) a written corporate strategy, and 3) written goals and objectives, and 4) objectives which were in a quantified form, and 5) an existence of long range forecasts for at least three important dimensions of the business. These firms may or may not have had: 1) an annual review of their long range plans, 2) standard practices for conducting long range planning, 3) standard practices for reviewing and updating their plans, 4) an annual review of the planning procedures and methods, and 5) a full time planning staff.
"Medium Planners"	These firms did not qualify as "High Planners" but did show: 1) an expression that they did formal long range planning, and 2) existence of long range forecasts for at least three important dimensions of the business, and 3) existence of a strategy, but not necessarily written. These firms did not have: 1) a written corporate strategy, and 2) written goals and objectives, and 3) quantified objectives. These firms may or may not have had: 1) an annual review of their long range plans,

2) standard practices for conducting long range planning,
3) standard practices for reviewing and updating their plans,
4) an annual review of the planning procedures and methods, and
5) a full time planning staff.

"Low Planners" — These firms did not qualify as "High "Planners" or "Medium Planners" but they did indicate:

1) an expression that they did formal long range planning, and
2) the existence of at least one of the other long range planning characteristics.

These firms did not have:

1) a strategy

"Non-Planners" — These firms stated that they did not practice long range planning.

They generally had none of the ten planning characteristics.

effort at long range planning but had yet to develop even an unwritten corporate strategy. Their efforts at long range planning were indicated by the eight long range planning characteristics which did not pertain to corporate strategy.

"Non-Planners" were defined as firms which stated they did not practice long range planning. A scrutiny of their questionnaires indicated they had few, if any, of the ten long range planning characteristics.

The polling approach established long range planning rankings by surveying the opinions of informed individuals. This was done in two ways. One may be described as an additive approach; and the other as a multiplicative approach. The additive ranking method was determined by examining the relative weightings given for each of the ten long range planning characteristics. Each of the respondents was asked to give each long range planning characteristic a numerical value. The total of the ten characteristics was to equal a score of twenty-five. For ranking purposes, the value of each of the individual long range planning characteristics was determined by averaging the estimates prepared by a combined total of twenty-five doctoral students and faculty who were chosen as polling respondents at the School of Business Administration of the University of Western Ontario. A summary of the results obtained in this polling survey is attached as Appendix III. Long range planning scores were then prepared for each of the firms included in the sample by an application and summation of these average values to the long range planning

characteristics which existed in each firm. The maximum long range planning score obtained by any one firm in this sample was 25 and the minimum score proved to be two. These scores were then used to rank the sample firms in the order of their long range planning effort. While this additive ranking index was more objective and discriminating than the judgment ranking method, recognition was given to the limitations of additive methods. Additive approaches do not give adequate consideration to the interdependency of, and possible synergy between, the various components.

In order to overcome this possible deficiency, a multiplicative ranking method was developed. Approximately 40 graduating honours business students were presented with 26 combinations of the ten long range planning characteristics and asked to give each combination a score from 0 to 100. These particular combinations were chosen to ensure coverage of a large portion of the firms in the sample. To control for consistency, two of the 26 combinations were identical. Those students who did not give these two identical combinations a long range planning score within five points of each other had all of their long range planning scores discarded. As a result, the long range planning scores for each of the twenty-five different combinations were determined as the average score given by the remaining twenty students. A summary of the results obtained in this polling survey is attached as Appendix IV.

Firms in the sample which exhibited one of the 25 combinations were then given a long range planning score

equal to the average for that combination determined by the polling survey. For those few firms exhibiting a long range planning characteristic combination which was not scored in the survey, a planning score was interpolated. The maximum long range planning score which any one firm obtained in this sample was 100 and the minimum score was five. These scores were then used to rank the sample firms in order of their long range planning efforts. This method was both the most sophisticated and the most discriminating of the three measures. In many respects it proved almost as powerful as interval levels of measurement.

All three ranking methods were used in this research study. The sample firms were ranked by each of the three different methods. Statistical tests were then conducted to determine whether or not the resultant long range planning rankings were statistically similar. The three ranking methods were retained throughout the analysis in order that their objectivity could be continually checked. A comparison of the distributions obtained by the three scoring methods are shown, in Table III-1, on the following page.

In order to further check for consistency between the three different long range planning indices, Spearman Rank Correlation coefficients were computed. In each of the three possible combinations the degree of association was very high. The associations are shown, in Table III-2, on the following page. The tight associations and high statistical significance levels clearly indicated that each of the three different long range planning indices were each

TABLE III-1

Comparison of the Three Long Range Planning Measurements on the Basis of Groupings

Planning Categories (with additive and multiplicative planning scores indicated within brackets)	Judgment	Additive Polling	Multiplicative Polling
N =	141	141	141
Non-Planners	20.6%	20.6%	20.6%
Low Planners (less than 12)	14.9	16.3	
(13 to 49)			18.4
Medium Planners (12 to 19)	31.2	29.1	
(50 to 78)			27.0
High Planners (20 to 25)	33.3	34.0	
(79 to 100)			34.0
	100.0%	100.0%	100.0%

TABLE III-2

Comparison of the Three Long Range Planning Measures on the Basis of Correlation Coefficients

Long Range Planning Measures Compared	Spearman Correlation Coefficient	Statistical Significance
Judgment to Additive	.82	.001
Judgment to Multiplicative	.83	.001
Additive to Multiplicative	.98	.001

measuring the same thing in a similar manner. The higher association between the additive and the multiplicative long range planning measures reflected the substantially greater discriminating power of both these two measures.

The above methods of measuring long range planning may seem elementary and crude. Empirical testing research in the field of long range planning is presently in the early development stage. This level of development of both the theory and the research required the use of tentative taxonomies. Advancements in this body of knowledge will likely be made only if pre-empted by attempts to use tentative measurement methodologies. The usefulness of these tentative taxonomies can be determined only after research utilizing them has been conducted.[2]

Measurements of Firm Size and Firm Growth

Firm size and firm growth were each measured across five dimensions: assets, sales, income, employees, and common stock market value. The choice of these particular measures was made to give a fairly comprehensive perspective of both each firm's size as of 1968 and growth during the period 1968 to 1972. Each of the five measures are familiar, easily understandable measures which are often used to describe any firm's present status and progress. Their relevant definitions were based on historical accounting information extracted from published financial statements. The facilities of the Financial Research Institute were employed to obtain much of this financial information. Aided by the Canadian Institute of Chartered Accountants,

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[2] For a discussion of the use of tentative taxonomies see for example, C.J. Burke, "Measurement Scales and Statistical Models", in Marx, M.H., ed., Theories in Contemporary Psychology (New York, The Macmillan Co.), 1963, p. 149.

certain adjustments were made to this data bank of published figures to make them more appropriate and consistent. The relevant definitions employed were as follows:

Assets

Represents total assets as reported by the company subject to adjustment for accumulated depreciation if it is not deducted from gross plant by the company on the asset side.

Sales

Includes:

1. Sales, net of: trade discounts, sales and excise taxes, returns and allowances
2. Gross revenue from which net income is derived
3. Exchange adjustments from the conversion of foreign sales into Canadian dollars.

Income

Consists of pretax income less income taxes on a deferred tax basis and less minority interest.
Note: Extraordinary items are excluded from net income.

Employees

Represents the number of full-time employees employed by the company at its fiscal year-end.

Market Value of Common Stock

Represents the average of the stock's high price during the fiscal year and the stock's low price during the fiscal year times the number of shares outstanding which represents the number of common shares used to calculate per share income account values. Usually this item will be the actual number of shares outstanding at the fiscal year-end. If the company has consistently reported net income per share on the basis of average shares, this item will be the average shares outstanding as reported by the company. If there is more than one class of stock which shares in the distribution of income, this item will include the number of common equivalent shares of that class. Proper adjustments are made for stock splits.

Measures of firm size and firm growth were mainly extracted from the Financial Research Institute computer

data bank. This information was supplemented by information from the Financial Post Card Service and the collection of annual reports held in the library at the School of Business Administration at the University of Western Ontario. If the above three major sources were unable to provide the required information, a letter was mailed to the chief executive officer of the sample firm requesting this information. Such mail requests were usually followed up by a personal telephone call. Attached as Appendix V is a copy of the letter mailed to those sample firms for which the required information was not available in public sources.

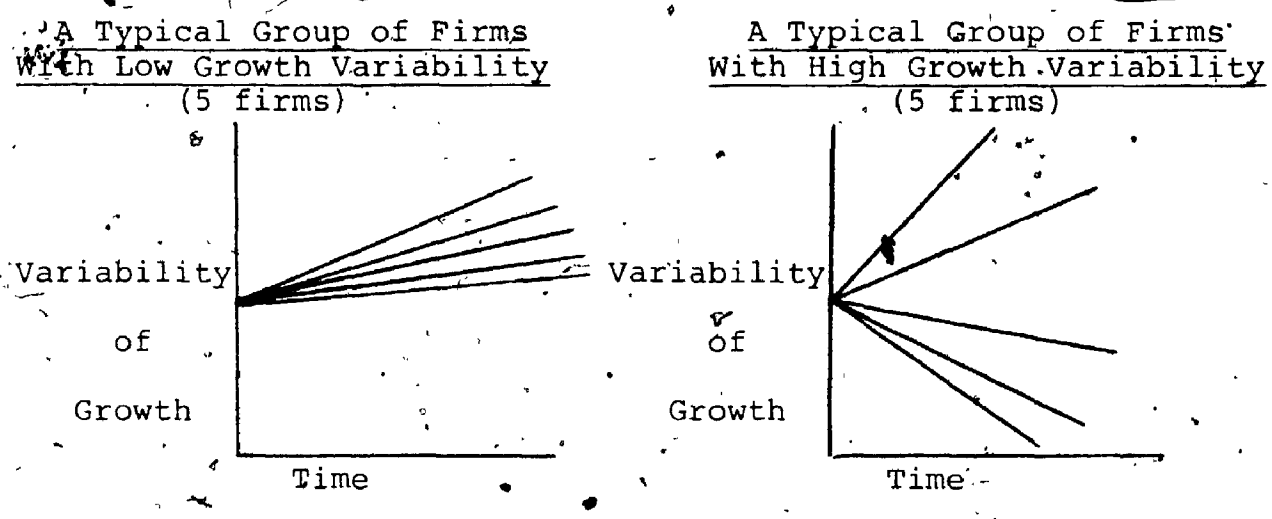
Measurements of Growth Variability

As described in Chapter 2, the literature on long range planning only briefly considers growth variability. With this secondary interest it is natural that no definition of growth variability has been advanced. Galbraith suggested that "planners" should experience less growth variability than "non-planners"; yet he failed to explain what he meant by growth variability. For the purposes of this study, growth variability has been defined as the variance in the average growth of the firms in each of the different categories of planning. For example, in the comparison of "planners" with "non-planners", the issue concerned whether or not the growth experienced was more or less similar among the group of firms classified as "planners" or among the group of firms classified as "non-planners". In this situation, the average growth of each firm in each of the two groups was considered. This situation may be demonstrated

diagrammatically:

CHART III-3

Illustration of a Group of Firms with Low Growth Variability and a Group of Firms with High Growth Variability



While the average growth of the two typical groups may be the same, the growth experienced by the individual firms in the second group is much less similar. To determine whether or not the variances were significantly different statistically, the "F" test was applied. The "F" test assesses the degree to which differences in sample variances could occur by probable chance. It is computed by considering the ratio of the larger variance to that of the smaller variance.

Analytical Procedures

To accomplish the research objective of determining whether there were associations and differences between long range planning, and firm size, and firm growth, two main statistical techniques were employed. The common T-test was used to determine whether differences existed in the averages of the different, defined levels of long range plan-

ning. Correlation tests were used to determine whether associations existed. The T-test is a statistical procedure for testing whether the differences between the averages of two samples signifies, or is indicative at some level of, a significant difference between the two populations represented by the samples.[3] Correlation tests are statistical procedures for testing for the existence of both an association in some population and for measuring the degree of association between the two variables.

The most common and widely applied correlation procedure is the Pearson product-moment correlation. This parametric statistical procedure requires scores which represent measurement in at least an equal-interval scale. It also assumes that the scores are from a bivariate, normal population. Since the measurement of long range planning was of ordinal measurement: i.e., the values are numeric and could be arranged in increasing or decreasing order, although these rankings did not explain the distances between the rankings, it was considered more appropriate to use a non-parametric correlation procedure. These procedures make no assumptions about the shape of the population from which the scores are drawn and are capable of handling measurements which may be ranked. The particular test chosen was the Spearman rank correlation coefficient which was the earliest

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[3] For further discussion of this statistical test, see any basic statistics book. For e.g., Mason, R.D., Statistical Techniques in Business and Economics, Richard D. Irwin, Inc., Homewood, Illinois.

developed rank correlation technique and still remains the best known.[4] For the benefit of those people who may be unfamiliar with the non-parametric statistical procedures, Pearson correlations were also computed and are presented in addition to the Spearman Rank correlations.

In addition to the above major statistical procedures, a number of other procedures were used during the research analysis. A brief description of partial correlation analysis is advanced here. Partial correlation provides a single measure of association describing the relationship between two variables while adjusting for the effects of one or more additional variables. In essence, partial correlation enables removal of the effect of the control variables from the relationship between the independent and dependent variables.

The calculations in this research analysis were performed primarily with the aid of a system of computer programs known as the "Statistical Package for the Social Sciences (SPSS)"[5] at the Computing Centre at the University of Western Ontario. The SPSS system is the most comprehensive set of programs presently available for social science research. It is in extensive use as a major research tool in a large number of respected academic institutions in the

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[4] For further explanation of this non-parametric procedure see, for example, Siegel S., Non-parametric Statistics for the Behavioural Sciences, McGraw-Hill, 1956.

[5] N.H. Nie, D.H. Bent, C.H. Hull, Statistical Package for the Social Sciences, McGraw-Hill, New York, 1970.

United States and Canada. High confidence is universally given to the validity of its programs.

An issue addressed early in this research was the question of statistical significance levels. This issue concerned the fundamental and practical question of whether to draw, or not to draw, an inference from the findings of the analysis of the empirical data. Much of the social research has adapted the practice employed in the physical sciences which may be aptly labelled the "null hypothesis decision procedure". With this procedure, the research formulates a null hypothesis that no differences exist in what is being investigated, for the express purpose of rejecting it in order that the alternative hypothesis, the investigator's operational hypothesis, can be accepted. In order to reject this null hypothesis, the researcher sets a significance level which is the probability of committing an error of rejecting this null hypothesis when it is, in fact, true. Great emphasis is placed on minimizing this error to guarantee that mistakes will not be made in rejecting true null hypotheses. 'Almost sacred' significance levels of .01, .05 or .10 have become standard criteria. Because the risk of making a wrong decision is perceived as high, little, if any, emphasis is placed on the equally important possible error of accepting null hypotheses when they are actually false. This 'null hypothesis decision procedure', with its inherent dichotomous acceptance or rejection, is a particularly useful format when an actual decision has to be made on the basis of the results obtained from a controlled

experiment. Confirmation of the effects of new drugs or vaccines are common applications. However, this procedure may not be appropriate for the general process by which scientific knowledge is generated.[6]

Instead of following the null hypothesis procedure approach, this research study has advanced its hypotheses in operational form. Since the emphasis of this explorative study was on understanding and discovery, no acceptance or rejection significance levels were set prior to the analysis. An attempt has been made to report all results. The significance levels were used as one of the inputs for assessing and formulating inferences about the hypothesized relationships.

Summary

This chapter has described the nature of the research methodology of this study. An overview of the research design was presented, followed by: description of the research sample, the measurements of long range planning, the measurements of firm size and firm growth, the measurements of growth variability and the statistical procedures employed in the analysis.

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[6] For a discussion of statistical significance levels see for example, D.E. Morrison, and R.E. Henkel, The Significance Test Controversy - A Reader, Aldine Publishing Company, Chicago, 1970.

Chapter 4

THE RELATIONSHIP OF LONG RANGE PLANNING TO FIRM SIZE

This chapter presents the analysis and the findings of the tests of the relationship of long range planning to firm size. The presentation parallels the two approaches employed in the analysis. The first approach considered whether differences in average firm size existed between those firms which practised long range planning - the "planners" and those firms which indicated they did no long range planning - the "non-planners". The check for differences in average firm size was further extended to consider differences among "low planners", "medium planners", and "high planners". The second approach tested the association between firm size and long range planning in the portion of the sample defined as "planners". In addition, the association was tested in each of the sub-categories of "planners" - i.e. "low planners", "medium planners", and "high planners". A discussion of the findings and their relationship to the current literature follows their presentation.

Comparison of "Planners" and "Non-Planners"

For purposes of this analysis, "non-planners" were defined as firms which stated "they did not do any long range planning for more than one year ahead". "Planners" were defined as firms that stated they did. In the sample, 29 (21%) of the 141 sample firms indicated they were "non-planners".

Firm size was considered on each of: assets, sales,

net income, employees, and common stock market value, as of 1968. To determine whether "planners" were different from "non-planners", the average size for each of these two groups was compared and the differences were tested for statistical significance. An hypothesis of this study was supported, when it was found that the mean size of the "planners" was significantly greater statistically than the mean size for the "non-planners". The results of the analysis were as follows:

Table IV-1

Comparison of "Non-Planners" With "Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size		Statistical Probability
	Non-Planners	Planners	
Assets (N = 29 + 106)	$735	$327	wrong direction
Sales (N = 29 + 108)	$171	$201	.28
Income (N = 27 + 90)	$ 8	$ 12	.09
Employees (00's) (N = 27 + 109)	33	59	.01
Market Value (N = 18 + 64)	$105	$254	.01

With the exception of asset size, the planning firms were of consistently larger average size than the non-planning firms. All of the differences were highly significant statistically, with the possible exception of sales size. Both common stock market value size, and employees

size were statistically significant at the .01 level of probability. Net income size was statistically significant at the respectable level of .09. The assets size measure yielded unanticipated results. Close scrutiny of the data showed that asset size was larger in the "non-planners" because nearly all the sample firms classified as financial institutions in the total sample were also "non-planners".

Banks and other financial institutions are among the most highly-levered firms in the industrial system. Thus, their asset size was disproportionally higher than any of their other size measures. The fact that these financial firms did not practice long range strategic planning was reflected in a comment on one of the questionnaires by one of the top managers of a major bank:

> "The major reason for not formulating objectives and/or strategy is the lack of top management and the lack of a history of planning.... We are looking for a full-time corporate planning officer to help the senior officer responding to this questionnaire. Please contact us at ..."

This non-planning tendency of the financial institutions, with their disproportionately higher asset size, explained why the assets firm size measure did not follow the same pattern as the other firm size measures.

On four of the five measures, firms which planned were found to be larger, on average, than firms which did not plan. A valid reason existed to explain why the fifth size measure, assets, did not show this pattern. These findings lead to the general conclusion that if the universe of industrial firms is segmented into two categories - those

that do plan, the "planners", and those that do not, the "non-planners", the planning segment will, on average, be larger in size than the non-planning segment.

Comparison of "Non-Planners", "Low Planners", "Medium Planners", and "High Planners"

The following sections summarize the differences found in the comparisons of "non-planners", "low planners", "medium planners", and "high planners" with each other, on the basis of firm size. The previous section showed that a difference existed between "non-planners" and "planners". On the basis of firm size, "non-planners" represented a different population of firms than "planners". To extend this test the sample of "planners" was sub-divided into three categories: "low planners", "medium planners", and "high planners". The basis of this segmentation was previously discussed in Chapter 3. Tests were conducted to determine if discernible differences existed between each of the four categories of long range planning.

Prior to conducting the analysis described in the following sections, the hypothesis described in Chapter 2 was further expanded so it would be applicable to each of the comparisons. The relevant hypothesis in Chapter 2 was as follows:

> Larger firms do more long range planning, than less large firms.

For purposes of these 'category by category' comparisons the above general hypothesis was translated into more operational hypotheses. These were as follows:

1) "Non-planners" would be of smaller average firm size than "low planners" but the differences would be marginal and of low statistical significance.

2) "Non-planners" would be of smaller average firm size than each of "medium planners" and "high planners" and these differences would be much more discernible and more statistically significant than that found in comparing "non-planners" with "low planners".

3) "High planners" would be of larger average firm size than "medium planners" who in turn would be larger than "low planners".

Sections describing each of the comparisons are then presented. The first sections compare "non-planners" with each of "low planners", "medium planners", and "high planners". The next sections compare "low planners" with each of "medium planners" and "high planners". Finally, "medium planners" and "high planners" are compared.

Comparison of "Non-Planners" and "Low Planners"

Comparison of "non-planners" with "low planners" on the basis of firm size indicated that there may be differences between the two. The results of this comparison are shown in Table IV-2 on the following page.

Comparison of "non-planners" with "low planners" indicated "non-planners" were of larger average firm size than "low planners". These results were not as anticipated. It was expected that while differences between the two would be relatively small, there would be some detectable tendency showing that "low planners" were of larger firm size than "non-planners". Due to the high proportion of financial and

Table IV-2

Comparison of "Non-Planners" With "Low Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Size		Statistical Probability
	Non-Planners	Low Planners	
Assets (N = 29 + 21)	$736	$306	.14
Sales (N = 29 + 21)	$171	$ 87	.05
Income (N = 27 + 19)	$ 8	$ 6	.24
Employees (00's) (N = 27 + 21)	33	32	.44
Market Value (N = 1[illegible] + 13)	$105	$109	.48

banking firms in "non-planners", as mentioned in a previous section of this chapter, it was reasonable to hypothesize that asset firm size would be larger in "non-planners". Thus the substantially higher average sales firm size of the "non-planners" was not readily explained. On the income and employees firm size measures, "non-planners" were only marginally larger than "low planners". And on the market value size measure, "low planners" were marginally larger than "non-planners". The income, employees, and market value firm size comparisons yielded results which were compatible with expectations. The sales firm size measure did not yield those results. While strong evidence is lacking, the findings may suggest that "non-planners" were, on average, of larger firm size than "low planners". This finding conflicted with what was expected. The most

reasonable conclusion that one may draw from these findings indicates that a lack of sufficient evidence was obtained to support the belief that "non-planners" and "low planners" were different on the basis of firm size.

Comparison of "Non-Planners" and "Medium Planners"

Comparison of "non-planners" with "medium planners" on the basis of average firm size yielded the expected results. "Medium planners" were found to be of larger average firm size than "non-planners". The results obtained in this comparison are shown in Table IV-3 on the following page.

As was expected, "medium planners" were found to be of larger average firm size than "non-planners". On each of four size measures, (sales, employees, income, and common stock market value), "medium planners" were larger than "non-planners". While the statistical probability varied from a highly significant .04 to a less significant .32, the consistency of the trend appeared to be meaningful. Again, on the measure of asset size, "non-planners" proved to be larger than "medium planners". This 'wrong direction' was explained by the previously discussed high proportion of financial firms in "non-planners". Generally speaking, it was indicated "medium planners" were of larger average firm size than "non-planners".

Table IV-3

Comparison of "Non-Planners" With "Medium Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size: Non-Planners	Average Firm Size: Medium Planners	Statistical Probability
Assets (N = 29 + 43)	$736	$211	wrong direction
Sales (N = 29 + 43)	$171	$202	.32
Income (N = 27 + 33)	$ 8	$ 12	.15
Employees (00's) (N = 27 + 42)	33	59	.09
Market Value (N = 18 + 26)	$105	$222	.04

Comparison of "Non-Planners" and "High Planners"

Comparison of "non-planners" with "high planners" on the basis of firm size again yielded expected results. "High planners" were, on average, significantly larger than "non-planners". The results of this comparison are shown in Table IV-4 on the following page.

On four of the five firm size measures, the findings indicated "high planners" were of significantly larger average firm size than "non-planners". Only on the basis of asset size were "non-planners" larger than "high planners". The existence of larger firm asset size for "non-planners" was consistent in each of the comparisons with "low planners", "medium planners", and "high planners". These unex-

Table IV-4

Comparison of "Non-Planners" With "High Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size: Non-Planners	Average Firm Size: High Planners	Statistical Probability
Assets (N = 29 + 42)	$736	$457	wrong direction
Sales (N = 29 + 43)	$171	$256	.11
Income (N = 27 + 38)	$ 8	$ 15	.06
Employees (00's) (N = 27 + 46)	33	70	.00
Market Value (N = 18 + 25)	$105	$362	.02

pected findings were again explained by the large number of financial firms in the "non-planners" category. The presence of the consistency of the other four size measurements, the large differences in their values, and the accompanying high statistical significance levels, leads to the conclusion that "high planners" were of larger average firm size than "non-planners".

Comparison of "Low Planners" and "Medium Planners"

A comparison of "low planners" with "medium planners" on the basis of firm size continued to yield expected results. "Medium planners" were found to be of larger average firm size than "low planners". The results obtained in the comparison were as follows:

Table IV-5

Comparison of "Low Planners" With "Medium Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size: Low Planners	Medium Planners	Statistical Probability
Assets (N = 21 + 43)	$306	$211	wrong direction
Sales (N = 21 + 43)	$ 87	$202	.01
Income (N = 19 + 33)	$ 6	$ 12	.05
Employees (00's) (N = 21 + 42)	32	59	.08
Market Value (N = 13 + 26)	$109	$222	.05

As anticipated, the results showed "medium planners" were of greater average size than "low planners". On four of the five average firm size measures, "medium planners" were of significantly greater average size than "low planners". Only on the measure of asset size did "medium planners" have a larger average firm size. Thus the evidence strongly indicated that "medium planners" were of greater average firm size than "low planners".

Comparison of "Low Planners" and "High Planners"

Comparison of "low planners" with "high planners" on the basis of average firm size conformed to anticipated results. "High planners" were found to be of larger firm size than "low planners". A chart of the results obtained

2 3

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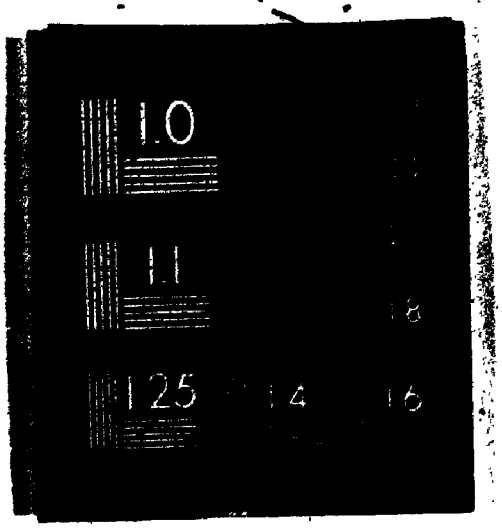

appears as follows:

Table IV-6

Comparison of "Low Planners" With "High Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size: Low Planners	High Planners	Statistical Probability
Assets (N = 21 + 42)	$306	$457	.29
Sales (N = 21 + 44)	$ 87	$256	.00
Income (N = 19 + 38)	$ 6	$ 15	.02
Employees (00's) (N = 21 + 46)	32	70	.00
Market Value (N = 13 + 25)	$109	$362	.02

As was expected, "high planners" were of larger average firm size on each of the five size measurements. The findings indicated "high planners" were of larger average firm size than "low planners".

Comparison of "Medium Planners" and "High Planners"

This comparison produced anticipated results. "High planners" were of larger average size than "medium planners". Results obtained are shown, in Table IV-7, on the following page.

On the dimension of average firm size, "high planners" were clearly larger than "medium planners". On each of the

Table IV-7

Comparison of "Medium Planners" With "High Planners" on the Basis of Average Firm Size

($ in millions)

Size Measure	Average Firm Size: Medium Planners	Average Firm Size: High Planners	Statistical Probability
Assets (N = 43 + 42)	$211	$457	.09
Sales (N = 43 + 44)	$202	$256	.21
Income (N = 33 + 38)	$ 12	$ 15	.28
Employees (00's) (N = 42 + 46)	59	70	.30
Market Value (N = 26 + 25)	$222	$362	.13

five size measures, "high planners" showed greater average size than "medium planners" at varying levels of statistical significance. The results indicated "high planners" were of larger average firm size than "medium planners".

Summary of the Comparisons of the Different Planning Categories

Comparisons of "non-planners", "low planners", "medium planners", and "high planners" on the basis of average firm size, showed discernible differences among the groupings. These differences suggested the existence of a segmentable planning continuum within the industrial system and the existence of a general relationship between the practice of long range planning and firm size. A brief sketch of thi

tentative planning continuum is presented in the following chart:

Chart IV-1

A Tentative Long Range Planning Continuum On the Basis of Firm Size

Level of Planning	Average Firm Size
Non-Planners	Small
Low Planners	Smaller
Medium Planners	Large
High Planners	Larger

This tentative long range planning continuum shows that as the level of long range planning increases, average firm size increases. While the above finding, based on the differences between averages in each of the four categories, did not provide conclusive evidence of underlying relationships, it did strongly suggest their existence. The next section of this chapter summarizes further exploration of the above tentative continuum and the tests made to determine whether an underlying relationship existed.

Long Range Planning and Its Relationship to Firm Size

This section summarizes further investigation of the tentative segmentation of a long range planning continuum advanced in the previous section; and the tests conducted on the hypothesized underlying association between long range planning and firm size. The results of this analysis added further evidence to support the existence of the tentative continuum. The results also strongly indicated the presence

of an association between the practice of long range planning and firm size. The relationship found was similar to that advanced as an hypothesis in Chapter 2, which stated that planning increases with firm size.

Two parallel, investigative approaches were used in this analysis. One approach built on the results of the search for differences between the four tentative categories of planning - i.e. "non-planners", "low planners", "medium planners", and "high planners". This approach employed the T-test which tested for differences in means. The results of this analysis have been previously described. In the subsequent section, probability patterns in the trends of these means were checked to assess whether the evidence supported the tentative, segmented, long range planning continuum.

The second approach tested for the hypothesized relationships by applying correlation techniques to the total sample of planning firms. In both approaches the relevant terms were defined in the same manner as described in Chapter 3, with the exception of long range planning, which was measured by the four categories. In the correlation test approach, long range planning was measured by the planning measure described as the multiplicative polling score in Chapter 3. This method of scoring each sample firm's long range planning was the most sophisticated and discriminating of the three methods employed; and thus was the most useful for correlation testing. The results of the two approaches substantially corroborated each other. These findings are

preceded by the results of the correlation tests.

Firm Size and Long Range Planning

Correlation test results between long range planning and firm size indicated a definite underlying positive association between the two measures. Tests were conducted between each of the measures of firm size and the most discriminating of the three long range planning measures - the multiplicative polling score described in Chapter 3. On each firm size measure it was found that, as firm size increased, long range planning increased. A summary of the results is as follows:

Table IV-8

Summary of Spearman Rank Correlations
Between Long Range Planning and Firm Size

Size Measure	N	Correlation Coefficient	Statistical Probability
Assets	106	.39	.001
Sales	108	.41	.001
Income	90	.34	.001
Employees	109	.41	.001
Market Value	64	.39	.001

These correlation coefficients indicated a positive association between firm size and long range planning. The consistency of the coefficients and their exceptionally high statistical significance levels indicated the existence of an important underlying relationship between firm size and

planning.

It was also found that this relationship became stronger as the degree of planning increased. Discovery of this phenomenon occurred when the relationship within each of the long range planning categories was considered, i.e. "low planners", "medium planners", and "high planners". Results indicated that within the "low planners" the relationship between planning and firm size was not strong. It is conceivable that size was not as relevant at low levels of long range planning. In the "medium planners" the degree of association was found to be stronger. In the "high planners" the relationship between planning and firm size was much stronger and more statistically significant. The comparative results are shown, in Table IV-9, on the following page.

Within "low planners" there was little, if any, relationship between a planning measure and firm size. Two of the size measures, assets, and market value, showed insignificant negative associations. The other three size measures showed small positive associations. Within "medium planners" there was evidence of an association between size and planning at high statistical significance levels. This association became stronger and more significant in the "high planners" category. In summary, the results of the correlation tests indicated a general positive association between long range planning and firm size. The strength of the relationship was low at low levels of planning and increased substantially at higher levels of planning.

Table IV-9

Comparative Summary of Spearman Rank Correlations Between Long Range Planning and Firm Size For "Low Planners", "Medium Planners", and "High Planners"

Size Measure	Low Planners N	Low Planners Co-efficient	Low Planners Signi-ficance	Medium Planners N	Medium Planners Co-efficient	Medium Planners Signi-ficance	High Planners N	High Planners Co-efficient	High Planners Signi-ficance
Assets	21	-.08	.36	43	.30	.02	42	.65	.00
Sales	21	.07	.38	43	.24	.06	44	.61	.00
Income	19	.05	.43	33	.25	.08	38	.64	.00
Employees	21	.22	.17	42	.39	.01	46	.48	.00
Market Value	13	-.07	.41	26	.39	.03	25	.45	.02
Average Coefficient		+.04			+.31			+.56	

With respect to the investigation of the tentative planning continuum advanced in the previous section, further analysis indicated that on the basis of firm size the evidence supported this possibility. A comparison of the rankings of the four tentative categories of planning, i.e. "non-planners", "low planners", "medium planners", and "high planners", on the basis of average firm size, yielded the results; in Table IV-10, on the following page. In this table, four represents the highest average firm size and one represents the lowest average firm size.

Examination of these rankings indicated that the four categories did not conform to a true continuum. If a continuum existed in which planning increased as firm size increased, the rankings would have been in the order of 1, 2,

Table IV-10

Comparison of the Four Planning Categories on the Basis of the Rankings of Their Average Firm Size

Size Measure	Non-Planners	Low Planners	Medium Planners	High Planners
Assets	4	2 (2)	1 (1)	3 (3)
Sales	2	1 (1)	3 (2)	4 (3)
Income	2	1 (1)	3 (2)	4 (3)
Employees	2	1 (1)	3 (2)	4 (3)
Market Value	1	2 (2)	3 (2)	4 (3)
Average Rank	2.2	1.4 (1.2)	2.6 (1.8)	3.8 (3)

3 and 4. This pattern was observed only on the market value measure of average firm size. On the average firm size measures of sales, income, and employees, the possible continuum did not fit between "non-planners" and "low planners". "Non-planners" were larger than "low planners", but were smaller than either of "medium planners" or "high planners". On the measure of average asset firm size there was lack of fit between "non-planners", "low planners", and "medium planners".

The table indicated, however, that, when ignoring the "non-planners", a continuum on the dimension of average firm size among the three planning categories did exist. The bracketed numbers indicated these rankings and showed that on four of the five average firm size measures the tentative continuum was in the anticipated order. Only the measurement of average asset firm size indicated some breakdown

between the order of "low planners" and "medium planners". Pooling the non-planning category with the low planning category yielded the same results, as indicated by the bracketed rankings; the exception being asset size measure which had the rankings of 3, 1, 2.

A more in-depth consideration of this tentative continuum was given to all the four planning categories by examining the relationships between them. If an underlying continuum existed it would have exhibited the following size characteristics:

"High planners" would be of larger average firm size than:

- "non-planners",
- "low planners", and
- "medium planners".

"Medium planners" would be of larger average firm size than:

- "low planners", and
- "non-planners".

"Low planners" would be of larger average firm size than:

- "non-planners".

A tabulation of these comparisons is shown on the next page.

This table indicated that the 'planning category incidence of fit' was a perfect score of five on all the comparisons except on the comparison between "non-planners" and "low planners". On the 'size measure incidence of fit', only the market value measure had a perfect score of six.

Table IV-11

Comparison of The Relative Positions of "Non-Planners", "Low Planners", "Medium Planners", and "High Planners" on the Basis of Average Firm Size

	Firm Size Measure					
Characteristic	Assets	Sales	Employees	Income	Market Value	Planning Category Incidence of Fit
High Planners greater than:						
Medium Planners	Yes	Yes	Yes	Yes	Yes	5
Low Planners	Yes[1]	Yes[1]	Yes[1]	Yes[1]	Yes[1]	5
Non-Planners	No	Yes[2]	Yes[1]	Yes[1]	Yes[1]	4
Medium Planners greater than:						
Low Planners	No	Yes[1]	Yes[1]	Yes[1]	Yes[1]	4
Non-Planners	No	Yes[1]	Yes	Yes[2]	Yes[1]	4
Low Planners greater than:						
Non-Planners	No	No	No	No	Yes	1
Size Measure Incidence of Fit	2	5	5	5	6	
Binomial Probability With Equal Prior Expectations	.89	.11	.11	.11	.02	

[1] means significantly different statistically at the .10 level or better.

[2] means significantly different statistically at the .20 level or better.

Three of the other four size measures exhibited scores of five. All of the four scores failed, on the comparison between "low planners" and "non-planners", to show the anticipated direction. It appeared that either there was little, if any, distinction between "non-planners" and "low planners" on the basis of average firm size, or that "non-planners" were larger. The other categories exhibited meaningful distinctions. These results indicated that a segmentable long range planning continuum on the basis of average firm size may exist in the industrial system.

Summary of Findings

In summary, the analysis produced strong evidence to support the hypothesis that long range planning increases with firm size. The strength of this association was found to increase substantially as the planning level increased. Also, there was some evidence to support segmentation of the tentative planning continuum on the basis of firm size. Firms which did not plan - the "non-planners", were found to be of smaller average size than firms which did plan - the "planners". When the "planners" were split into three levels of planners, those firms which did not plan and those firms which did little planning were of smaller size than those firms which did a moderate amount of planning. The latter firms, in turn, were smaller than those firms which did an intensive amount of planning.

These findings may be summarized in chart form. The following chart shows the findings within each of the four planning categories.

Chart IV-2

Segmentation of the Long Range Planning Continuum on the Basis of Firm Size

Level of Planning	Firm Size
Non-Planners	- SMALL
	- smaller than "planners"
	- appeared to be marginally larger than "low planners"
	- smaller than each of "medium planners" and "high planners"
Planners	
Low Planners	- SMALLER
	- within "low planners" there was little, if any, relationship between size and planning
	- marginally smaller than "non-planners"
	- smaller than each of "medium planners" and "high planners"
Medium Planners	- LARGE
	- within "medium planners" a positive relationship existed between size and planning
	- larger than each of "non-planners" and "low planners"
	- smaller than "high planners"
High Planners	- LARGER
	- within "high planners" a strong positive relationship existed between size and planning
	- larger than each of "medium planners", "low planners", and "non-planners"

Discussion of Findings

The author believes the findings described in this chapter aid in clarifying the literature on long range strategic planning. The findings tend to refute an implicit assumption held by authors writing from the point of view of the individual firm. In Chapter 2, The Literature on Long Range Planning, it was shown that both Argenti and Steiner tend to believe that planning should not vary by firm size. No empirical research was uncovered to test this position. The findings of this study indicate that a positive association exists between planning and firm size.

Chapter 2 also discussed Galbraith's position on planning as an observer of the total economic system. He states that a relationship exists between long range planning and firm size. His position, however, is based on personal observation, void of any apparent supportive empirical evidence. The findings of this study provide empirical evidence to support the position of an association between planning and firm size.

In addition, Galbraith suggests that within the industrial system a planning continuum exists. At the simplest level he splits this continuum between the market system and the planning system. He goes further to suggest that within the planning system a continuum exists. Again he advances no empirical evidence to support his observations. The findings of this study provide some empirical support for his position and an operational method of segmenting the continuum. This study found that on the basis of average

firm size, "planners" - those firms that plan, were of larger average firm size than those firms which did not plan - the "non-planners". This study also found that within the "planners" it was possible to further segment the firms on the basis of planning. This segmentation showed that firms at higher levels of planning were of larger average firm size than firms at lower levels of planning. The findings of the study provide support, overall, to Galbraith's previously untested observations that planning increases with firm size, and that a planning continuum exists of which one of the important distinguishing variables is firm size.

Chapter 5

THE RELATIONSHIP OF LONG RANGE PLANNING TO SUBSEQUENT FIRM GROWTH

This chapter presents the analysis and the findings of the tests of the relationship of long range planning to subsequent firm growth. Organization of this chapter parallels that of Chapter 4. The presentation corresponds to the two approaches adopted in the analysis. The first approach considered whether differences in average subsequent firm growth existed between those firms which practiced long range planning - the "planners", and those firms which indicated they did no long range planning - the "non-planners". The examination for differences in average firm growth was further extended to consider differences among "low planners", "medium planners", and "high planners". The second approach tested the association between firm growth and long range planning in the portion of the sample defined as "planners". In addition, the association was tested in each of the sub-categories of "planners" - i.e. "low planners", "medium planners", and "high planners". A discussion of the findings and their relationship to contemporary literature follows their presentation.

Comparison of "Planners" and "Non-Planners"

For purposes of this analysis, "non-planners" were defined as firms which stated "they did not do any long range planning for more than one year ahead". "Planners" were defined as firms which stated that they did. In the

sample, 29 (21%) of the 141 sample firms indicated they were "non-planners".

In a manner similar to the comparison of firm size with long range planning, the planning firms were compared to the non-planning firms on the basis of their average growth in the four years between 1968 and 1972. Growth was measured in percentage terms on each of: assets, sales, employees, net income, and common stock market value. To have supported the hypothesis of this study, the mean growth of the "non-planners" would have had to be significantly greater than that experienced by the "planners". The results of the analysis were as follows:

Table V-1

Comparison of "Non-Planners" With "Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Non-Planners	Planners	
Asset Growth (N = 27 + 93)	70%	49%	.22
Sales Growth (N = 27 + 95)	79%	70%	.42
Income Growth (N = 24 + 76)	83%	54%	.10
Employees Growth (N = 17 + 87)	91%	17%	.13
Market Value Growth (N = 17 + 63)	39%	36%	.45

For each of the five measures of growth, the "non-planners" exhibited greater average growth rates than the "planners". These differences were highly significant

statistically for income and employee growth. The statistical probabilities for these two measures of growth were .10 and .13 respectively. The measure of asset growth was statistically significant at .22 level. The other growth measures, sales growth and market value growth, with significance levels of .42 and .45, made statistical inference difficult. The overall consistency with which the average growth of the "non-planners" was greater than that of the "planners" on each of the five growth measures and the adequate statistical significance on three of the five measures lead to a general conclusion. These findings indicated that, on average, "non-planners" have grown more rapidly than "planners".

Comparison of "Non-Planners", "Low Planners", "Medium Planners", and "High Planners"

The following sections summarize the differences found in the individual comparisons of "non-planners", "low planners", "medium planners", and "high planners" on the basis of average firm growth. It has been shown previously that a difference existed between "non-planners" and "planners". On the basis of average subsequent firm growth, "non-planners" represented a different population of firms than "planners". To extend this test, the sample of "planners" was sub-divided into three categories: "low planners", "medium planners", and "high planners". The basis of this segmentation was previously discussed in Chapter 3. Tests were conducted to determine if discernible differences existed between each of the four categories of long range

planning.

Prior to conducting the analysis described in the following sections, the hypothesis described in Chapter 2 was further expanded to lend applicability to each of the comparisons. The relevant hypothesis in Chapter 2 was stated as follows:

> Firms which do more long range planning grow less rapidly than firms that plan less.

For purposes of these 'category by category' comparisons, the above general hypothesis was translated into more operational hypotheses. These were as follows:

1) "Non-Planners" would experience higher average growth than "low planners" but the difference would be marginal and of low statistical significance.

2) "Non-planners" would experience higher average growth than each of "medium planners" and "high planners" and these differences would be much more discernible and more statistically significant than that found in comparing "non-planners" with "low planners".

3) "High planners" would experience slower average growth than "medium planners" who, in turn, would experience less than "low planners".

Each of the comparisons is then described. The first sections compare "non-planners" with each of "low planners", "medium planners", and "high planners". Subsequent sections compare "low planners" with each of "medium planners" and "high planners". The last section compares "medium planners" and "high planners".

Comparison of "Non-Planners" and "Low Planners"

A comparison of "non-planners" with "low planners" on the basis of average firm growth indicated that there may be no difference between the two. Comparative results are tabled as follows:

Table V-2

Comparison of "Non-Planners" With "Low Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Non-Planners	Low Planners	
Asset Growth (N = 27 + 19)	70%	61%	.38
Sales Growth (N = 27 + 19)	79%	105%	wrong direction
Income Growth (N = 24 + 16)	83%	69%	.32
Employees Growth (N = 17 + 18)	91%	15%	.13
Market Value Growth (N = 17 + 12)	39%	78%	wrong direction

Although the results were similar to what was anticipated, they were not conclusive. It may be argued that since "non-planners" grew at faster rates on three of the five growth measures than "low planners", i.e., asset growth, employees growth, and income growth; that there is some detectable tendency of higher growth in "non-planners". The more rapid growth by "low planners" on the measures of sales growth and market value growth does not allow for any definitive inter-

pretation. The most reasonable interpretation of these findings is: insufficient evidence existed to believe that "non-planners" and "low planners" grew at different average rates.

Comparison of "Non-Planners" and "Medium Planners"

Comparison of "non-planners" and "medium planners" on the basis of average firm growth supported initial expectations. The "non-planners" grew at faster rates, on average, than "medium planners". The results obtained were as follows:

Table V-3

Comparison of "Non-Planners" With "Medium Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth: Non-Planners	Medium Planners	Statistical Probability
Assets (N = 27 + 35)	70%	57%	.33
Sales (N = 27 + 35)	79%	87%	Wrong direction
Income (N = 24 + 27)	83%	54%	.11
Employees (N = 17 + 31)	91%	16%	.14
Market Value (N = 17 + 26)	39%	27%	.30

Only on the measure of sales growth did "medium planners" outperform "non-planners". "Medium planners" increased sales 87%, while "non-planners" increased sales by 79%. Of

the five measures of firm growth this difference of eight percent was the smallest difference and had the poorest statistical significance level. On each of the other four growth measures, "non-planners" outperformed "medium planners". Interpretation of these results indicated that "non-planners" experienced faster growth rates than "medium planners".

Comparison of "Non-Planners" and "High Planners"

Comparison of "non-planners" and "high planners" on the basis of average firm growth supported prior expectations. "Non-planners", on average, outperformed "high planners". The results follow:

Table V-4

Comparison of "Non-Planners" With "High Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Non-Planners	High Planners	
Assets (N = 27 + 39)	70%	35%	.11
Sales (N = 27 + 41)	79%	40%	.16
Income (N = 24 + 33)	83%	48%	.08
Employees (N = 17 + 38)	91%	18%	.14
Market Value (N = 17 + 25)	39%	24%	.25

On each of the five measures of average firm growth

"non-planners" exhibited significantly higher growth than "high planners". This finding indicated that "non-planners" grew at faster rates than "high planners".

Comparison of "Low Planners" and "Medium Planners"

A comparison of "low planners" and "medium planners" on the basis of average firm growth supported the anticipated results. "Low planners" grew at faster rates, on average, than "medium planners". The results of the comparison on the basis of average firm growth were as follows:

Table V-5

Comparison of "Low Planners" With "Medium Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Low Planners	Medium Planners	
Asset Growth (N = 19 + 35)	61%	57%	.41
Sales Growth (N = 19 + 35)	105%	87%	.36
Income Growth (N = 16 + 29)	69%	54%	.27
Employees Growth (N = 18 + 31)	15%	16%	Wrong direction
Market Value Growth (N = 12 + 26)	78%	27%	.18

In comparison, an almost consistent greater growth rate was experienced by "low planners" over "medium planners". On four of the five growth measures, "low planners" outper-

formed "medium planners". On the fifth growth measure, employees growth, "medium planners" outperformed "low planners", but only by one percent. Interpretation of the evidence indicated that "low planners" outperformed "medium planners".

Comparison of "Low Planners" and "High Planners"

Comparison of "low planners" and "high planners" on the basis of average firm growth supported prior expectations. "Low planners" grew at faster rates than "high planners". The results are compiled as follows:

Table V-6

Comparison of "Low Planners" With "High Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Low Planners	High Planners	
Asset Growth (N = 19 + 39)	61%	35%	.03
Sales Growth (N = 19 + 41)	105%	40%	.06
Income Growth (N = 16 + 33)	69%	48%	.22
Employees Growth (N = 18 + 38)	15%	18%	Wrong direction
Market Value Growth (N = 12 + 25)	78%	24%	.17

On four of the five growth measures, "low planners" grew at faster rates than "high planners". Two of these comparisons, assets growth and sales growth, were highly

statistically significant. Only on the employees growth measure did "high planners" marginally exceed "low planners". These findings indicated that "low planners" experienced more rapid growth than "high planners".

Comparison of "Medium Planners" and "High Planners"

Comparison of "medium planners" with "high planners" on the basis of subsequent growth yielded the anticipated results. "Medium planners" grew at faster average rates than "high planners". The results obtained were as follows:

Table V-7

Comparison of "Medium Planners" With "High Planners" on the Basis of Average Firm Growth

Growth Measure	Average Firm Growth		Statistical Probability
	Medium Planners	High Planners	
Asset Growth (N = 35 + 39)	57%	35%	.05
Sales Growth (N = 35 + 41)	87%	40%	.05
Income Growth (N = 27 + 33)	54%	48%	.38
Employees Growth (N = 31 + 38)	16%	18%	Wrong direction
Market Value Growth (N = 26 + 25)	27%	24%	.41

On the basis of average firm growth, "medium planners" grew at faster rates than "high planners". On three growth measures, employees, income, and common stock market value, the two groupings grew at approximately the same rates. On

the measures of asset growth and sales growth, however, "medium planners" grew at substantially greater rates. "Medium planners" were higher overall on four of the five growth measures. This indicated that "medium planners" experienced more rapid growth rates than "high planners".

Summary of the Comparison of the Different Planning Categories

Comparison of "non-planners", "low planners", "medium planners", and "high planners" on the basis of average subsequent firm growth, showed discernible differences among the groupings. These differences suggested the existence of a segmentable planning continuum within the industrial system and the existence of a general negative relationship between the practice of long range planning and firm growth. A brief sketch of this tentative planning continuum is as follows:

Chart V-1

A Tentative Long Range Planning Continuum On the Basis of Firm Growth

Level of Planning	Average Firm Growth
Non-Planners	Higher
Low Planners	High
Medium Planners	Low
High Planners	Lower

This tentative segmentation of the long range planning continuum shows that, as the level of long range planning

increased, average firm growth decreased. The above finding, based on the differences between averages in each of the four categories, did not provide conclusive evidence of an underlying relationship. The finding did, however, strongly suggest its existence. The chapter continues by summarizing further exploration of the above tentative continuum and the tests made to determine whether an underlying relationship existed.

Long Range Planning and Its Relationship to Subsequent Firm Growth

This section summarizes further investigation of the tentative segmentation of a long range planning continuum advanced in the previous section and the tests conducted on the hypothesized underlying association between long range planning and subsequent firm growth. The results of this analysis added further evidence to support the existence of a segmentable long range planning continuum. The results also strongly indicated the presence of a negative association between the practice of long range planning and firm growth. This finding supported an initial hypothesis of the research study.

Two parallel investigative approaches were used in this analysis. One approach built on the results of the search for differences between the four tentative categories of planners; - i.e. "non-planners", "low planners", "medium planners", and "high planners". This approach has been described in the previous sections of this chapter. Using the above information, probability patterns in the trends of

the means were checked to assess whether the evidence supported the tentative segmentable long range planning continuum.

The other approach tested for the hypothesized relationship by applying correlation techniques to the total sample of planning firms. In both approaches the relevant terms were defined in the same manner as described in Chapter 3 and Chapter 4. The results of these two approaches substantially corroborated each other.

Firm Growth and Long Range Planning

The results of correlation tests between long range planning and subsequent firm growth indicated a definite underlying negative association between the two. Tests were conducted between each of the measures of firm growth and the most discriminating of the three long range planning measures - the multiplicative polling score described in Chapter 3. With each firm growth measure a negative association was found. A summary of results is shown on the following page. While the correlation coefficients were not particularly large, the fact that they were all negative and that some had high statistical significance levels added evidence to support the hypothesis that an underlying negative relationship existed.

A possible explanation for the relatively low degree of negative correlation was found when the relationship between subsequent firm growth and long range planning was consider-

Table V-8

Summary of Spearman Rank Correlations Between Long Range Planning and Subsequent Growth Measures

Growth Measure	N	Correlation Coefficient	Statistical Probability
Asset Growth	93	-.28	.00
Sales Growth	95	-.16	.06
Income Growth	76	-.11	.18
Employees Growth	87	-.01	.45
Market Value Growth	63	-.06	.31

ed within each of the sub-samples of "low planners", "medium planners", and "high planners", on an individual instead of on a combined sample basis. These results indicated that a negative relationship existed between subsequent growth and planning within each of "low planners" and "medium planners". In "high planners", the relationship was, however, in the opposite direction. Within "high planners", firms that plan more appeared to grow more rapidly than firms in the "high planner" category which planned less. The comparative results follow on the following page.

These results indicated that within "low planners" a negative relationship existed between the amount of planning and subsequent growth. Although all of the firms in this category practiced relatively little long range planning, those that tended to do more experienced lower subsequent growth. The degree of negative association ranged from a low of -.18 for employee growth to a high of -.51 for asset growth. Firms in the low planning category which practiced

Table V-9

Comparative Summary of Spearman Rank Correlation Between Long Range Planning and Subsequent Growth For "Low Planners", "Medium Planners", and "High Planners"

Size Measure	Low Planners N	Low Planners Co-efficient	Low Planners Signi-ficance	Medium Planners N	Medium Planners Co-efficient	Medium Planners Signi-ficance	High Planners N	High Planners Co-efficient	High Planners Signi-ficance
Asset Growth	19	-.51	.01	35	-.45	.00	39	+.23	.10
Sales Growth	19	-.23	.17	35	-.25	.07	41	+.41	.00
Income Growth	16	-.19	.24	27	-.29	.07	33	+.12	.25
Employees Growth	18	-.18	.24	31	-.37	.02	38	+.26	.06
Market Value Growth	12	-.33	.15	26	-.35	.04	25	+.14	.26
Average Coefficient		-.29			-.34			+.23	

more long range planning had experienced lower subsequent growth than firms in the low planning category which practiced less long range planning.

Similar results were found amongst "medium planners". In this category the negative relationship between planning and subsequent growth was even more pronounced than in "low planners". It ranged from a degree of negative association of -.25 for sales growth to a high of -.45 for asset growth. All statistical significance levels were at equal to, or better than, the .07 level. Firms in the medium planning category which practiced more long range planning had thus

experienced lower subsequent growth than firms in the medium planning category which practiced less.

In the high planner category of firms, the phenomenon changed directions. Although the firms in this category practiced relatively large amounts of planning, those which practiced more experienced greater subsequent growth than those which practiced less. The degree of positive association ranged from a low of +.12 for income growth to a high of +.41 for sales growth. In a previous section of this chapter it was shown that "high planners" generally had lower subsequent growth than either "medium" or "low planners". In this analysis it was found that within "high planners", those that practiced more planning performed better than those that did less. The findings indicated a generally negative relationship between long range planning and growth, but the relationship began to become positive at higher levels of long range planning.

With respect to the investigation of segmenting the tentative planning continuum, further analysis indicated that on the basis of subsequent firm growth there was evidence to support this possibility. A comparison of the rankings of the four categories of planners on the basis of average firm growth yielded the following results. In this table, four represents the highest average subsequent growth and one represents the lowest average subsequent growth.

Both asset growth and income growth showed rankings which were in complete conformity with a planning continuum where, as planning increased, actual subsequent growth

Table V-10

Comparison of the Four Planning Categories
On the Basis of the Rankings of Their Average Growth

Growth Measure	Non-Planners	Low Planners	Medium Planners	High Planners
Asset Growth	4	3	2	1
Sales Growth	2	4 (3)	3 (2)	1 (1)
Income Growth	4	3	2	1
Employees Growth	4	1	2	3
Market Value Growth	3	4 (3)	2 (2)	1 (2)
Average Ranking	3.2	3	2.2	1.4

decreased. The market value growth measure conformed reasonably well to the continuum as only the positions of "non-planners" and "low planners" were reversed. Employees growth conformed to the continuum in that "non-planners" exhibited the greatest growth. The positions of the low, medium, and high planners were, however, completely reversed. Close scrutiny of these particular growth rates showed that they were, in fact, very similar. Their respective growth rates were:

low planners	15%
medium planners	16%
high planners	18%

These were the most similar growth rates exhibited in all the growth measures and may have indicated that there was no difference in the employee growth rates of the low, medium, and high planners. Closer scrutiny of the sales growth

measure indicated that it also conformed fairly well to the continuum. "Non-planners" exhibited only the second highest growth rate. When the "non-planners" were ignored, the low, medium, and high planners were in the order of highest, second highest, and lowest respectively.

A further test was applied to assess whether a segmentable planning continuum existed. This test examined trends in the means of each of the four categories and considered the probability of their occurrence by chance. If a perfectly segmentable planning continuum existed on the basis of firm growth it would have exhibited the following six characteristics:

- "Non-planners" would show higher growth than:
  "low planners",
  "medium planners", and
  "high planners".
- "Low planners" would show higher growth than:
  "medium planners", and
  "high planners".
- "Medium planners" would show higher growth than:
  "high planners".

Table V-11, summarizing this comparison, follows on the next page.

This table shows that the tentative segmentation of the planning continuum did not discriminate between "non-planners" and "low planners". This comparison had an 'incidence of fit' of three versus a maximum of five. The similarity of these two categories suggested that there may be little

Table V-11

Comparison of the Relative Positions of "Non-Planners", "Low Planners", "Medium Planners", and "High Planners" on the Basis of Average Firm Growth

Characteristic	Average Growth Measure: Assets	Sales	Employees	Income	Market Value	Planning Category Incidence of Fit
Non-Planners greater than:						
Low Planners	Yes	No	Yes[2]	Yes	No	3
Medium Planners	Yes	No	Yes[2]	Yes[2]	Yes	4
High Planners	Yes[2]	Yes[2]	Yes[2]	Yes[1]	Yes	5
Low Planners greater than:						
Medium Planners	Yes	Yes	No	Yes	Yes[2]	4
High Planners	Yes[1]	Yes[1]	No	Yes	Yes[2]	4
Medium Planners greater than:						
High Planners	Yes[1]	Yes[1]	No	Yes	Yes	4
Growth Measure Incidence of Fit	6	4	3	6	5	
Binomial Probability With Equal Prior Expectancies	.02	.34	.66	.02	.11	

[1] means significantly different statistically at the .10 level or better.

[2] means significantly different statistically at the .20 level or better.

difference between "non-planners" and "low planners". The contrast between "non-planners" and "high planners" exhibited the highest possible incidence of fit of five. This indicated that the polar ends of the continuum were clearly different on the basis of subsequent growth, at high statistical significance levels. Each of the other contrasts showed a 'planning category incidence of fit' of four. This lack of perfect fit may be clarified by examining the 'growth measure incidence of fit'.

Both the asset growth measure and the income growth measure showed a score of six which indicated that on each of the six possible contrasts the direction of this subsequent growth measure was perfectly compatible with the tentative segmentation of the planning continuum. The ~~market value growth measure had a score of five out of six.~~ It did not move in the expected direction in the contrast between "non-planners" and "low planners". Similar results were obtained in the sales growth measure where the 'growth measure incidence of fit' was four. The expected directions were not observed in the contrasts between "non-planners" and "low planners" and the contrast between "non-planners" and "medium planners". The sales growth measure and the market value growth measure indicated that on a directional basis there may be no difference in subsequent growth between "non-planners" and "low planners". The employees growth measure had a score of three. It showed that "non-planners" had higher growth than any of the low, medium, and high planners. But, among the low, medium, and high plan-

ners the evidence indicated that there was no difference in employee growth rate.

Examination of the trend pattern and its probability, on balance, supported the possibility of a segmentable planning continuum in the industrial system on the basis of subsequent growth. There appeared to be little distinction, however, between "non-planners" and "low planners".

Summary of Findings

In summary, while the evidence was not strong it did support the hypothesis that an underlying negative relationship between long range planning and subsequent growth existed. This relationship appeared to exist across the spectrum of all the firms in the industrial system. It was also found that the nature of the relationship varied with the amount of planning being conducted. In the category of firms which could be generally considered to be "low planners" those firms which planned to a greater extent experienced lower growth than those firms which planned less. Similar results were observed in the category of firms labelled as "medium planners". In the category of firms which are generally considered to be "high planners" the phenomenon was reversed. Among those firms which were "high planners", firms which planned more experienced greater subsequent growth than firms which planned less.

The findings also supported the concept of a segmentable long range planning continuum where differences existed on the basis of subsequent firm growth. Firms that did not plan - the "non-planners", were found to have experienced

higher average subsequent growth than firms that did plan - the "planners". When the "planners" were split into three levels of planning, it was found the average firm growth tended to decrease as the level of planning increased.

These findings may be summarized in chart form. The following chart, Chart V-2, shows the findings within each of the four planning categories.

Discussion of the Findings.

The findings outlined in this chapter add to the body of knowledge concerning the practice of long range planning. These descriptive findings challenge some of the normative theory discussed in Chapter 2, The Literature on Long Range Planning. The findings and their relationship to planning as viewed by those who advocate it, by those with reservations concerning it, and by those who view it as a part of the economic system are discussed in that order.

In Chapter 2 it was shown that many authors strongly advocate the practice of long range planning because they believe it improves business success. Only one empirical study was uncovered to support this belief. This study, the Thune and House study,[1] found, on the basis of pair-matched 'formal planners' versus 'informal planners', that 'formal planners' significantly outperformed 'informal planners'. In contrast, the findings described in this chapter showed that firms which planned less grew more rapidly. These

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[1] S. [redacted]ne and R. House, "Where Long Range Planning Pays Off - Findings of a Survey of Formal, Informal Planners", Business Horizons (August, 1970), pp. 82-87.

Chart V-2

Segmentation of the Long Range Planning Continuum on the Basis of Firm Growth

Level of Planning	Firm Growth
Non-Planners	- HIGHER - higher growth than "planners" - appeared to have marginally higher growth than "low planners" - higher growth than each of "medium planners" and "high planners"
Planners	
Low Planners	- HIGH - within "low planners" there was a negative relationship between growth and planning - marginally lower growth than "non-planners" - higher growth than each of "medium planners" and "high planners"
Medium Planners	- LOW - within "medium planners" a negative relationship existed between growth and planning - lower growth than each of "non-planners" and "low planners" - higher growth than "high planners"
High Planners	- LOWER - within "high planners" a relationship existed between growth and planning - lower growth than each of "medium planners", "low planners", and "non-planners"

findings and the Thune and House findings may not, however, be incompatible. It is tempting to suggest that long range planning may lead to slower growth. This interpretation does not appear to be reasonable. Instead a more reasonable interpretation of the findings of this study is that planning is intensified in firms confronted with greater adversity. Thus when the population of firms is viewed in total, firms that plan more are observed to perform worse than firms which plan less. The observation implies a causal relationship between adversity and planning rather than one between planning and poorer performance. This interpretation is consistent with the findings of Najjar[2] described in Chapter 2. Najjar found that firms which plan more expressed lower managerial satisfaction with profits and sales growth.

The literature described in Chapter 2 concerning reservations about the practice of long range planning has two main aspects. The first concerns the usefulness of long range planning. The second concerns the inclination of top managers to plan. In terms of usefulness those with reservations believe that long range planning is a waste of scarce management energy. They believe its practice impairs performance. This belief is inconsistent with the Thune and House findings. If that study is ignored, the findings described in this chapter are, at minimum, consistent with

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[2]Mohamed A. Najjar, Planning in Small Manufacturing Companies: An Empirical Study (unpublished doctoral dissertation, Ann Arbor: University Microfilm Inc., 1966).

the views of the reservationists. To further clarify this issue, a supplementary test was conducted. This test paralleled the Thune and House study and is described in Chapter 7, Summary of Other Findings, of this report.

In terms of management's inclination to plan, the findings of this study are consistent with the behavioural theories described in Chapter 2. Cyert and March contend that management is mainly reactive rather than proactive. They support their position by empirical case observations. The generally negative relationship between planning and growth as described in this chapter may indicate that long range planning is a form of managerial reaction. Currently planning is generally perceived, at least in theory, to be a proactive mode. Its practice may be instituted and intensified by management's reaction to adversity. Firms which are finding it difficult to perform well may react by intensifying their long range planning effort. This interpretation is consistent with the findings of this study.

Chapter 2 considered planning as part of the total economic system. The views of John Kenneth Galbraith were discussed. Galbraith's observations concerning a long range planning continuum and reasons why firms plan are relevant to the findings presented in this chapter. Galbraith suggests that within the industrial system a planning continuum exists. At the simplest level he splits this continuum between the market system and the planning system. He goes further to suggest that within the planning system a continuum exists. He advances no empirical evidence to support

his observations. The findings presented in this chapter provide some empirical support for his position. This study found that on the basis of average firm growth, "planners" - those firms that plan, experienced lower average firm growth on all five measures than those firms which did not plan - the "non-planners". This study also found that, within the "planners", it was possible to further segment the firms on the basis of planning. This segmentation showed that firms at higher levels of planning had lower average firm growth than firms at lower levels of planning.

Galbraith also suggests that firms plan to preserve managerial autonomy rather than to improve economic performance. The reverse is suggested by those who advocate the practice of planning. The finding of a negative relationship between planning and growth presented in this chapter is consistent with Galbraith's contention. Galbraith contends that while growth is important, profit growth is not of paramount importance. A finding of this study supports that position. Table V-9 shows that among those firms which do intensive long range planning - the "high planners", the highest positive association was found between planning and sales growth. The association between planning and income growth was the smallest of the five associations. The findings presented in this chapter lend support to Galbraith's previously untested observations that planning is not done mainly to achieve growth; and that a planning continuum exists where one of the important distinguishing variables is firm growth.

Chapter 6

THE RELATIONSHIP OF LONG RANGE PLANNING TO GROWTH VARIABILITY

This chapter presents the analysis and the findings of the test of the relationship of long range planning to growth variability. The organization of this chapter is similar to that of chapters 4 and 5. The analytical approach determined whether variability in growth differed in each of four categories of planning. Growth variability was measured by the variance of growth in each of the four planning categories. The possible limitations of this measure of growth variability have been discussed in chapter 3. The first check for differences in growth variability was between those firms which practised long range planning - the "planners" and those firms which indicated they did no long range planning - the "non-planners". The check for differences in growth variability was further extended to consider differences among "low planners", "medium planners" and "high planners". A discussion of the findings and their relationship to the current literature follows their presentation.

Comparison of "Planners" and "Non-Planners"

For purposes of this analysis, "non-planners" were defined as firms which stated they did not "do any long range planning for more than one year ahead". "Planners" were defined as firms that stated they did. In the sample 29 (21%) of the 141 sample firms indicated they were "non-

planners".

Growth variability was considered on each of: asset growth, sales growth, net income growth, employee growth and common stock market value growth for the four year period between 1968 and 1972. To determine whether "planners" were different from "non-planners", the variance of the growth for each of these two groups was compared and the differences were tested for statistical significance. A hypothesis of this study was supported, when it was found that the variance in growth of "non-planners" was significantly greater statistically than that of "planners". The results of the analysis were as follows:

Table VI-1

Comparison of "Non-Planners" With "Planners" on the Basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth Non-Planners	Planners	F Value	Statistical Probability
Asset Growth (N = 27 + 93)	1.90	.29	6.4	.00
Sales Growth (N = 27 + 95)	4.00	1.69	2.4	.00
Income Growth (N = 24 + 76)	.98	.49	2.0	.01
Employees Growth (N = 17 + 87)	6.8	.56	12.1	.00
Market Value Growth (N = 17 + 63)	.63	.82	1.3	wrong direction

On four of the five measures of growth, the variability of this growth was much higher in "non-planners" than it was

in "planners". In each of these four measures the differences were statistically significant at approximately the .01 level of probability. In the measure of market value growth, "planners" exhibited a larger variance of growth than did "non-planners". While this difference was in the opposite direction of the other four it was, however, the smallest difference of the five differences. The findings indicated that, overall, "planners" experienced much more homogenous growth than "non-planners".

A Comparison of "Non-Planners", "Low Planners", "Medium Planners" and "High Planners"

The following sections summarize the differences found in the comparisons of "non-planners", "low planners", "medium planners" and "high planners" with each other on the basis of growth variability. The previous section showed that a difference existed between "non-planners" and "planners". On the basis of growth variability, "non-planners" represented a different population of firms than "planners". To extend this test, the sample of "planners" was subdivided into three categories: "low planners", "medium planners" and "high planners". The basis of this segmentation was previously discussed in chapter 3. Tests were conducted to determine if discernible differences existed between each of the four categories of long range planning.

Prior to conducting the analysis described in the following sections, the hypothesis described in Chapter 2 was further expanded so it would be applicable to each of the comparisons. The relevant hypothesis in Chapter 2 was

as follows:

> Firms which do more planning will have less growth variability than firms which do less planning.

For purposes of these 'category by category' comparisons the above general hypothesis was translated into more operational hypotheses. These were as follows:

1) "Non-planners" would evidence more variability in their growth than "low planners". The difference would be marginal and of low statistical significance.

2) "Non-planners" would evidence more variability in their growth than each of "medium planners" and "high planners" and these differences would be greater and more statistically significant than that to be found in comparing "non-planners" with "low planners".

3) "High planners" would experience less growth variability than "medium planners" who, in turn, would experience less than "low planners".

The following sections describe each of the comparisons. The first sections compare "non-planners" with each of "low planners", "medium planners", and "high planners". The next sections compare "low planners" with each of "medium planners" and "high planners". The last section compares "medium planners" and "high planners".

Comparison of "Non-Planners" and "Low Planners"

Comparison of "non-planners" with "low planners" on the basis of growth variability among the individual firms in the two segments yielded the expected results. "Non-planners" were found to have higher among firm growth variabil-

ity than "low planners". The results are shown below:

Table V-2

Comparison of "Non-Planners" With "Low Planners" on the Basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth		F Value	Statistical Probability
	Non-Planners	Low Planners		
Asset Growth (N = 27 + 19)	1.90	.22	8.7	.00
Sales Growth (N = 27 + 19)	4.00	3.06	1.3	.28
Income Growth (N = 24 + 16)	.98	.77	1.3	.32
Employees Growth (N = 17 + 18)	6.80	.34	29.9	.00
Market Value Growth (N = 17 + 12)	.63	3.24	5.3	Wrong direction

In each of four measures; asset growth, sales growth, employees growth and income growth, "non-planners" exhibited higher growth variability than "low planners". In this context, both asset growth variability and employees growth variability exhibited exceptionally high statistical significance levels. Only on the measure of market value growth did "low planners" indicate greater variability. These results indicated that "non-planners" are different from "low planners" in that they experience greater among firm growth variability than the "low planners". It would seem that firms which do no long range planning experience greater variability in growth than firms which practice even a minimal amount of long range planning.

Comparison of "Non-Planners" with "Medium Planners"

Comparison of "non-planners" with "medium planners" on the basis of among firm growth variability supported the prior expectations. The results strongly indicated that "medium planners" experienced more similar average growth than "non-planners". The results obtained were as follows:

TABLE VI-3

Comparison of "Non-Planners" With "Medium Planners" on the Basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth: Non-Planners	Medium Planners	F Value	Statistical Probability
Asset Growth (N = 27 + 35)	1.89	.41	4.66	.00
Sales Growth (N = 27 + 35)	4.00	2.59	1.54	.12
Income Growth (N = 24 + 27)	.99	.32	3.09	.00
Employees Growth (N = 17 + 31)	6.92	.24	29.00	.00
Market Value Growth (N = 17 + 26)	.63	.28	2.29	.03

On each of the five average growth measures "non-planners" exhibited substantially greater variability than "medium planners." All of the differences were at significant statistical levels. These results indicated that "medium planners" experienced less among firm growth variability than "non-planners".

Comparison of "Non-Planners" with "High Planners"

On the basis of among firm growth variability the results supported prior expectations. "Non-planners" showed much greater growth variability than "high planners". The results were as follows:

TABLE VI-4

Comparison of "Non-Planners" With "High Planners" on the Basis of Growth Variability Among the Two Groups

Variability Measure	Variance of Growth: Non-Planners	High Planners	F Value	Statistical Probability
Asset Growth (N = 27 + 39)	1.89	.22	8.64	.00
Sales Growth (N = 27 + 41)	4.00	.13	30.83	.00
Income Growth (N = 24 + 33)	.99	.50	1.97	.04
Employees Growth (N = 17 + 38)	6.92	1.02	6.74	.00
Market Value Growth (N = 17 + 25)	.63	.19	3.34	.00

On each of the five measure of growth variability "non-planners", experienced significantly greater growth variability than did "high planners". This finding indicated that "non-planners" experienced distinctively greater among firm growth variability than "high planners".

Comparison of "Low Planners" with "Medium Planners"

Comparison of "low planners" with "medium planners" on the basis of among firm growth variability did not confirm prior expectations. From the results it was not evident that "medium planners" experienced greater or less growth variability than "low planners". The results obtained were as follows:

TABLE VI-5

Comparison of "Low Planners" With "Medium Planners" on the basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth: Low Planners	Variance of Growth: Medium Planners	F Value	Statistical Probability
Asset Growth (N = 19 + 35)	.22	.41	1.87	wrong direction
Sales Growth (N = 19 + 35)	3.00	2.59	1.18	.33
Income Growth (N = 16 + 27)	.77	.32	2.43	.02
Employees Growth (N = 18 + 31)	.23	.24	1.03	wrong direction
Market Value Growth (N = 12 + 26)	3.37	.28	12.16	.00

Asset growth of "medium planners" exhibited, greater among firm variability than in "low planners". In addition, "medium planners" exhibited marginally greater variability when measuring employees growth. However, on the other three growth measures "low planners" showed greater vari-

ability than "medium planners". The different directions of these findings did not lead to a clear, definite indication of which group experienced greater growth variability. Since "low planners" had greater variability on three of the five measures, and the employees growth variability was almost the same, it was possible to suggest that the weight of the evidence suggests that "low planners" have somewhat greater growth variability than "medium planners". A detectable tendency of lower growth variability in the "medium planners", may be evidenced by the results. A more reasonable interpretation, however, is the following: insufficient evidence was obtained to state whether "medium planners" and "low planners" differ on the basis of growth variability.

Comparison of "Low Planners" With "High Planners"

Comparison of "low planners" with "high planners", on the basis of growth variability, yielded results which were compatible with prior expectations. "Low planners" appeared to have more growth variability than "high planners". The results obtained are shown on the following page.

On three of the five measures; sales growth, income growth, and market value growth, "low planners" clearly showed significantly greater growth variability than the "high planners". For asset growth, the variability of "low planners" and "high planners" was approximately the same.

TABLE VI-6

Comparison of "Low Planners" With "High Planners" on the Basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth: Low Planners	High Planners	F Value	Statistical Probability
Asset Growth (N = 19 + 39)	.22	.22	1.00	.50
Sales Growth (N = 19 + 41)	3.06	.13	23.60	.00
Income Growth (N = 16 + 33)	.78	.50	1.55	.15
Employees Growth (N = 18 + 38)	.23	1.02	4.43	wrong direction
Market Value Growth (N = 12 + 25)	3.37	.19	17.74	.00

Only on the variability of employees growth did "high planners" exhibit greater variability. The combined findings indicated that "low planners" experienced greater firm growth variability than "high planners".

Comparison of "Medium Planners" With "High Planners"

On the basis of among firm growth variability, comparison of "medium planners" with "high planners" yielded the expected results. "Medium planners", on balance, exhibited greater variability than "high planners." The results obtained are shown on the following page.

On three of the five growth measures, "medium planners" had greater variability than "high planners". Two of these,

TABLE VI-7

Comparison of "Medium Planners" With "High Planners" on the Basis of Growth Variability Among the Two Groupings

Variability Measure	Variance of Growth: Medium Planners	Variance of Growth: High Planners	F Value	Statistical Probability
Asset Growth (N = 35 + 39)	.41	.21	1.85	.04
Sales Growth (N = 35 + 41)	2.59	.13	20.06	.00
Income Growth (N = 27 + 33)	.32	.50	1.57	wrong direction
Employees Growth (N = 31 + 38)	.24	1.02	4.30	wrong direction
Market Value (N = 26 + 25)	.38	.19	1.46	.18

asset growth and sales growth, were highly significant. On the measures of employees growth and income growth, "high planners" had greater variability than "medium planners". Because three of the five measures indicated that "medium planners" have greater variability, and because asset growth and sales growth were so highly statistically significant, the results were interpreted to mean that "medium planners" experienced greater growth variability than "high planners".

Summary of the Comparisons of the Different Planning Categories

Comparison of "non-planners", "low planners", "medium planners", and "high planners" on the basis of growth variability showed discernible differences among the groupings.

These differences suggested the existence of a segmentable planning continuum within the industrial system and the existence of a general relationship between the practice of long range planning and growth variability. A brief sketch of this tentative planning continuum is as follows:

CHART VI-1

A Tentative Long Range Planning Continuum on the Basis of Growth Variability

Level of Planning	Growth Variability
Non-Planners	Larger
Low Planners	Large
Medium Planners	Low
High Planners	Lower

This tentative long range planning continuum shows that as the level of long range planning increases, growth variability decreases. While the above findings, based on the differences between growth variance averages in each of the four categories, did not provide conclusive evidence of underlying relationships, they did strongly suggest their existence. The next section of this chapter summarizes further exploration of the above tentative continuum.

Firm Growth Variability and Long Range Planning

Further consideration of the tentative segmentation of the planning continuum on the basis of 'among firm' growth variability provided evidence to indicate that groups of firms which practiced more long range planning tended to have more homogenous growth than groups of firms with less long range planning. A comparison of the ranks of this

growth variability across the four tentative planning categories yielded the following results. In this table four represents the highest variability and one represents the lowest variability.

TABLE VI-8

Comparison of the Four Planning Categories on the Basis of the Rankings of Their Growth Variability

Variability Measure	Non-Planners	Low Planners	Medium Planners	High Planners
Asset Growth	4	2	3	2
Sales Growth	4	3	2	1
Income Growth	4	3	1	2
Employees Growth	4	1	2	3
Market Value Growth	3	4	2	1
Average	3.8	2.6	2.0	1.8

Examination of these rankings indicated that, across the four categories, the results did not consistently fit with what would be expected of a planning continuum where growth homogenity increased with the planning level. Only the sales growth measure showed perfectly the expected pattern. Income growth and market value growth yielded patterns which were quite similar to what would be anticipated. Asset growth and employees growth yielded patterns which were in the opposite direction in the low, medium and high planning categories. Overall the average rankings were, however, in the anticipated direction.

A closer examination of the relationship between planning and among group growth variability follows. This

examination attempted to consider how well the actual growth variability measures by planning category fit with what would be anticipated, if there was an underlying inverse relationship. If growth homogenity does increase with planning the following six characteristics would have held true:

"Non-planners" would show larger variability than:

- "low planners",
- "medium planners", and
- "high planners".

"Low planners" would show larger variability than:

- "medium planners", and
- "high planners".

"Medium planners" would show larger variability than:

- "high planners".

A tabulation of these comparisons yielded the results on the following page.

This table showed that the extent of the differences varied. In the comparisons involving "non-planners," a difference in growth homogenity appeared obvious. In the comparison of "non-planners" with "low planners", the 'planning category incidence of fit' had a score of four out of a maximum possible score of five. In the comparison with both "medium planners" and "high planners", the 'planning category incidence of fit' was the maximum score of five. It would appear that "non-planners" have greater growth variability of any of the categories, which indicated the practice of long range planning.

TABLE VI-9

Comparison of the Relative Positions of Non-Planners, Low Planners, Medium Planners and High Planners on the Basis of Average Growth Variability Among the Categories

Characteristic	Growth Variability Measure					Planning Category Incidence of Fit
	Assets	Sales	Employees	Income	Market Value	
Non-Planners greater than:						
Low Planners	Yes[1]	Yes	Yes[1]	Yes	No	4
Medium Planners	Yes[1]	Yes[2]	Yes[1]	Yes[1]	Yes[1]	5
High Planners	Yes[1]	Yes[1]	Yes[1]	Yes[1]	Yes[1]	5
Low Planners greater than:						
Medium Planners	No	Yes	No	Yes[1]	Yes[1]	3
High Planners	No	Yes[1]	No	Yes[2]	Yes[1]	3
Medium Planners greater than:						
High Planners	Yes[1]	Yes[1]	No	No	Yes[2]	3
Variability Measure Incidence of Fit	4	6	3	5	5	
Binomial Probability With Equal Prior Expectations	.34	.02	.66	.11	.11	

[1] means different statistically at the .10 level of significance or better

[2] means different statistically at the .20 level of significance or better

Comparison of low, medium and high planners indicated a trend, but not a strong trend, of greater growth homogenity with greater planning. The 'planning category incidence of fit' scores of three appeared to be indicative of a trend in that direction. The trend varied substantially with the growth variability measure employed. The variability measures of asset growth and employees growth showed low 'variability measure incidence of fit' scores of four and three respectively out of a possible maximum of six. These growth variability measures were the cause of the low 'planning category incidence of fit' scores. Closer examination of these particular variances showed that on asset growth "low planners" and "high planners" had exactly the same variances. On employees growth "low planners" and "medium planners" had virtually the same scores, with variances of .23 and .24 respectively.

The sales growth and market value growth measures, with 'variability measure incidence of fit' scores of six and five respectively, conformed almost perfectly to the tentative segmentation of the planning continuum. Sales growth, income growth and market value may be the more important variables when considering growth variability.

Summary of Findings

In summary, the results indicated that "non-planners" have greater among firm growth variability than any of the other three planning categories. There is some evidence to suspect that this among firm growth variability decreased as the level of planning increased. This appeared to be

especially so with respect to the sales growth, the income growth and the common stock market value growth variability measures.

There was also evidence to support segmentation of the tentative planning continuum on the basis of growth variability. Firms which did not plan - the "non-planners", were found to have larger growth variability than firms which did plan - the "planners". When the "planners" were split into three levels of planning, there was some evidence that growth variability decreased as the level of planning increased.

These findings may be summarized in chart form. The following chart shows the findings within each of the four planning categories.

Discussion of Findings

The findings presented in this chapter provide a basis for further clarification of the literature on long range planning. Neither the advocates of, or those with reservations concerning, long range planning comment on any expected relationships between growth variability and planning. By implication, those writing from the point of view of the firm suggest that no relationship would exist. The findings of this study suggest that growth variability and its relationship to planning should be considered.

Galbraith's writings provide reasonable grounds for inferring that his expectation appears to be that firms which plan more should experience less variability in growth than firms that plan less. He states that larger firms are

Chart VI-2.

Segmentation of the Long Range Planning Continuum on the Basis of Growth Variability

Level of Planning	Growth Variability
Non-Planners	- LARGER
	- larger than "planners"
	- larger than each of: - "low planners", - "medium planners", and - "high planners".
Planners	
Low Planners	- LARGE
	- lower than "non-planners"
	- marginally larger than "medium planners"
	- larger than "high planners"
Medium Planners	- LOW
	- lower than "non-planners"
	- marginally lower than "low planners"
	- marginally larger than "high planners"
High Planners	- LOWER
	- marginally lower than each of "medium planners", and "low planners".
	- lower than "non-planners"

better able to control their environments. And since, he believes that larger firms use planning as a main instrument to achieve this control, it seems reasonable to infer that firms which plan more will have less growth variability. This position is also reflected in Galbraith's comments on risk taking. Galbraith states that firms will not jeopardize their basic position by taking high risks, even for high returns. If growth variability, as defined in this study, is treated as a proxy for risk measurement, the findings then indicate that firms which plan take less risks than firms that do not plan. The findings suggest a positive association between planning and risk reduction. Galbraith provides no empirical evidence to support his propositions. The findings of this study do provide some empirical evidence to support his observations.

In addition, Galbraith suggests that within the industrial system a planning continuum exists. At the simplest level he splits this continuum between the market system and the planning system. He goes further to suggest that within the planning system a continuum exists. Again he advances no empirical evidence to support his observations. The findings of this study provide both some empirical support for his position and an operational method of segmenting the continuum. This study found that on the basis of growth variability, "planners" - those firms that plan, had larger growth variability than those firms which did not plan - the "non-planners". This study also found that with the "plan-

ners" it was possible to further segment the firms on the basis of planning. This segmentation indicated that firms at higher levels of planning had lower growth variability than firms at lower levels of planning. The findings of the study support Galbraith's previously untested observations that as planning increases growth variability decreases and that a planning continuum exists where one of the important distinguishing variables may be growth variability.

Chapter 7

SUMMARY OF OTHER FINDINGS

This chapter presents the analysis and findings of the supplementary research conducted. The tests described in this chapter were not part of the original research design of this study. While conducting the major research effort the opportunity to consider these supplementary issues became evident. These secondary investigations complemented the findings of the major research described in the three previous chapters. Supplementary research was conducted in three main areas. A summary and discussion of the supplementary research findings follows a detailed description of each of the tests.

One area of supplementary research concerned the relationship between firm size and subsequent firm growth. A negative relationship between the two was found. A further check was made to determine whether or not this negative relationship was spuriously causing the negative relationship found between long range planning and subsequent firm growth previously described in Chapter 5. The results of this check indicated firm size was not causing the negative relationship between planning and subsequent growth.

The second area of supplementary investigation focused on the issue of whether long range planning varied by industry classification. In general, no difference in planning was found by industry classification.

The third area of supplementary investigation concerned

the issue of whether long range planning pays off. An attempt was made to replicate the Thune and House study previously described in Chapter 2. Two approaches were attempted. Neither approach supported or contradicted the findings of the Thune and House study. No significant differences were found in the performance of pair-matched, informal versus formal planners.

Comparison of Firm Size and Subsequent Firm Growth

An issue which arose during this research study was the possible relationship between firm size and the rate of subsequent firm growth. The nature of this relationship has been of continuing interest to economists and scholars of business. Traditional economic theory suggests that a firm reaches an optimal size, after which, diseconomies of size arise leading to a reduction in a firm's growth rate. Accordingly, large firms eventually grow at slower rates than less large firms. If this theory is correct, empirical testing of this relationship would be expected to show a negative relationship between firm size and subsequent firm growth rates.

Other theories generally agree with the existence of slower growth rates in larger firms, but they sharply disagree with the causes of the phenomenon. Chapter 2, The Literature on Long Range Planning, noted that Galbraith's theory states that there is no fundamental reason for any diseconomies of size. Larger firms inherently have substantial economies of size and could continually use this advantage to increase their size in pursuit of profit maximiza-

tion. According to him, there is no limiting optimal size. It is inferred from Galbraith that, while increasing growth rates are a practical possibility, they do not occur because larger firms are not primarily interested in profit maximization. Instead, in larger firms the most important goal is preservation of managerial autonomy. At very large firm size, rapid rates of growth are not essential to ensure this autonomy. Thus, he appears to suggest that larger firms tend to grow at slower rates than smaller firms.

Penrose, in, The Theory of the Growth of the Firm,[1] hypothesized that medium size firms would grow at faster rates than large size firms. She, like Galbraith, did not agree with the diseconomies of scale or optimal size limit concepts of traditional economic theory. Instead, Penrose suggested that medium size firms grow faster than larger firms because the ratio of managerial services available for expansion to the amount of managerial services required per dollar of expansion, decreases as firms become larger.

In discussions with top business managers, some of them speculated that very large firms tend to lose the essential spirit of entrepreneurship. They suggested that as firms expand beyond some undefined "optimal mass" the organization becomes institutionalized and bureaucratic. Problems of communication and control become so great that resource allocation decisions take much longer to be evaluated, made,

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[1] Edith T. Penrose, The Theory of the Growth of the Firm (Oxford Basil Blackwell Mott Ltd., 1959).

and implemented. A tendency to maintain the status quo develops. They go further to suggest that motivation of management becomes clouded. Like Galbraith, these managers suggest that with very large size, managers find it tempting to devote substantial energies to personal needs satisfaction. With large size, present profits and minimum growth are sufficiently satisfying. In addition, the dangers of precipitating government involvement due to the large environmental changes which may be necessary for very large firms to continue to grow rapidly are heightened.

Whatever the theoretical reasons, substantial belief was found that larger firms grow at slower rates than do smaller firms. Review of the literature did not uncover any empirical research supporting or disputing this important phenomenon. The findings of this research study provided some empirical evidence to support it. Table VII-1, on the following page, summarizes the statistical results of the correlation test between firm size and subsequent firm growth. These results suggested that a possible statistically significant negative relationship existed between firm size and subsequent firm growth. All of the comparisons between size - assets, sales, employees, income and market value, with growth - asset growth, sales growth, employees growth, income growth, and market value growth yielded negative correlation coefficients. Both the degree of statistical significance and the degree of association found were not high. All of the correlation coefficients were, however, negative, ranging from -.00 on the comparisons of

TABLE VII-1

Summary of Spearman Rank Correlations
Between Firm Size and Subsequent Firm Growth

Firm Size Measure	Firm Subsequent Growth Measure	N	Correlation Coefficient	Statistical Probability
Asset Size	Asset Growth	120	-.10	.15
Sales Size	Sales Growth	122	-.10	.14
Employee Size	Employee Growth	104	-.04	.34
Income Size	Income Growth	100	-.22	.01
Market Value Size	Market Value Growth	80	-.00	.50

market value size with market value growth to -.22 on the comparison of income size with income growth. It is interesting that income size had the highest degree of negative association and the highest level of statistical significance.

These findings were considered to be of significant research interest by themselves, without considering their implications to the phenomenon of long range planning. They provided some empirical evidence to support the proposition that:

- Larger firms grow at slower rates than smaller firms.

Closer examination showed that the nature of the relationship between firm size and subsequent growth varied within each of the "low", "medium" and "high" planners. A comparison of these statistical results yielded the following:

TABLE VII-2

Comparative Summary of Spearman Rank Correlations Between Firm Size and Subsequent Firm Growth

Firm Size	Firm Subsequent Growth Measure	Low Planners N	Low Planners Correl. Coeff.*	Low Planners Stat. Prob.**	Medium Planners N	Medium Planners Correl. Coeff.*	Medium Planners Stat. Prob.**	High Planners N	High Planners Correl. Coeff.*	High Planners Stat. Prob.**
Asset Size	Asset Growth	19	-.10	.35	35	-.38	.01	39	+.16	.16
Sales Size	Sales Growth	19	-.31	.10	35	-.36	.01	41	+.25	.06
Employee Size	Employee Growth	18	+.04	.44	31	18	.16	38	+.12	.23
Income Size	Income Growth	16	-.35	.10	27	-.23	.13	33	+.12	.26
Market Value Size	Market Value Growth	12	-.18	.29	26	+.02	.45	25	+.18	.19
Average Coefficient			-18			-23			+17	

* Correlation Coefficient
** Statistical Probability

Within "low planners", four of the five comparisons showed negative correlations. The positive one, employees size with subsequent employees growth, showed a very low coefficient of correlation of +.04. This comparison yielded very similar results to those obtained in the total sample i.e., -.04. The findings in the "low planning" category generally indicated a stronger negative relationship between firm size and subsequent firm growth in "low planners" than there was overall. In "medium planners" the negative associations were more pronounced than in either the total

sample or in "low planners". The previous table, Table VII-1, showed that there was a negative degree of association of -.10 between sales size and subsequent sales growth for the total sample. The "low planning" category showed a negative degree of association of -.31 for this comparison, while in "medium planners", the negative degree of association increased to -.36. "Low planners" exhibited overall larger negative associations than the total sample. "Medium planners" showed higher negative association than either the total sample or the "low planners".

In "high planners", the association changed direction, and became more complicated. In this category, instead of a negative association, a positive degree of association was found. These correlations ranged from a low of +.12 for both the employees and income measures to a high of +.25 on the sales measure. It would appear that within "high planners" the larger the size, the greater the relative subsequent growth. Again, sales growth was found to be of more importance than income growth.

The Interaction of Growth, Size and Long Range Planning

The previous analysis indicated associations between long range planning and both firm size and subsequent firm growth rates. It was observed that:

1) Long range planning increased with firm size and the degree of association became stronger as the amount of planning increased.

2) Long range planning decreased with subsequent firm growth. Among "high planners" there was instead, a positive association between planning and subsequent firm growth.

3) Subsequent growth decreased with firm size, but amongst "high planners" there was a positive association between subsequent firm growth and firm size.

These findings raised the general question - Which of firm size or subsequent firm growth was more important in explaining the existence of long range planning? More precisely, was the relationship between long range planning and subsequent firm growth spuriously caused by the relationship between long range planning and firm size?

This issue was of particular importance when the relationship between firm size and subsequent growth was noted. A comparison of the size of the coefficients of the relationships gave some indication of which was more important. A comparison of Table V-8, (Summary of Spearman Rank Correlations Between Long Range Planning and Subsequent Firm Growth), with Table VII-1, (Summary of Spearman Rank Correlations Between Firm Size and Subsequent Firm Growth), showed that the degree of association between long range planning and subsequent firm growth was largely stronger than that between firm size and subsequent firm growth. For example, on the asset growth measures, the coefficients were -.28 and -.10 respectively; while on the sales growth measures, the coefficients were -.16 and -.10 respectively. On the income growth measure, however, the association was stronger with firm size than it was with planning - the coefficients were -.22 versus -.11. Yet overall, there was a marginally stronger negative relationship between long range planning and subsequent firm growth than between firm size and sub-

sequent firm growth.

Further insight into the relative strengths of the degree of association of these two comparisons was obtained when the comparisons were each segmented by the "low", "medium", and "high" planning categories. Comparison of Table V-9 (Comparative Summary of Spearman Rank Correlations Between Long Range Planning and Subsequent Firm Growth), with Table VII-2 (Comparative Summary of Spearman Rank Correlations Between Firm Size and Subsequent Firm Growth) provided this information. The results of a comparison of the average correlation coefficients between each of long range planning with subsequent firm growth and long range planning with firm size, appear on the next page (Table VII-3). As would be expected, both the relationships between subsequent firm growth and firm size followed the same general pattern. In both "low planners" and "medium planners", negative associations were found. In "high planners", positive associations were found. Since the average correlation coefficients were higher for the comparison with long range planning, it appeared that the association between long range planning and subsequent firm growth was stronger than the relationship between firm size and subsequent firm growth. On this basis, the association between long range planning and subsequent firm growth did not appear to be spurious.

In an attempt to further investigate the possibility of a spurious relationship between long range planning and

TABLE VII-3

Comparison of Average Spearman Correlation Coefficient Between Subsequent Firm Growth With Long Range Planning and With Firm Size

	Long Range Planning	Firm Size
Low Planners	-.29	- 18
Medium Planners	-.34	-.23
High Planners	+ 23	+ 17

growth, partial correlation tests were conducted. Partial correlation is a statistical test designed to remove the effects of one variable from the relationship between two other variables, in search of a better understanding of the association between the two main variables.

In order to facilitate the computation of these partial correlations, it was necessary to assume that the long range planning measure was of the interval level of measurement. This was not the case, however, as the long range planning measurements were at the ranking level of measurement. Since the multiplicative long range planning measure was very discriminating and because results obtained with the Spearman and Pearson Correlation tests using the multiplicative long range planning measures yielded relatively similar results, it was felt that in this instance, this assumption did not lead to erroneous results.

The following Table VII-4 presents the Pearson correlation coefficients between long range planning and subsequent firm growth, before and after controlling for the effects of firm size with the partial correlation technique.

TABLE VII-4

Summary of Pearson Correlations Between Long Range Planning and Subsequent Growth Controlling for the Effects of Firm Size in all the Firms which Practice Long Range Planning

Direct Comparison		Controlling For Firm Size Comparison	
Growth Measure	Degree of Association With Long Range Planning	Size Measure Controlled	Degree of Association With Long Range Planning After Controlling for Effects of Firm Size
Assets Growth		Asset Size	
- pearson coefficient	- 26		- 26
- statistical significance	.01		.02
Sales Growth		Sales Size	
- pearson coefficient	- 20		- 17
- statistical significance	.03		.09
Employee Growth		Employee Size	
- pearson coefficient	- 06		- 04
- statistical significance	.30		.39
Income Growth		Income Size	
- pearson coefficient	- 12		- 08
- statistical significance	.14		.28
Market Value Growth		Market Value Size	
- pearson coefficient	- 20		-.22
- statistical significance	.06		.05

Comparison of the Pearson correlation coefficients under the heading, 'degree of association with long range planning', with the Spearman correlations found on Table V-8, showed that when the multiplicative long range planning measure was used, both tests of correlation yielded similar results. Comparison of the correlation coefficients under the heading, 'degree of association with long range planning' with those under the heading 'degree of association with long range planning after controlling for the effects of firm size,' showed that when the partial correlation test was applied to take care of the effects of firm size, the relationship between long range planning and subsequent firm growth remained relatively the same. These findings provided further indication that the association between long range planning and subsequent firm growth did, in fact, exist and was not spuriously caused by the effects of firm size.

Similar partial correlation tests were conducted within each of the three "low", "medium" and "high" planning categories. The results were very similar to the above. Tables VII-5, VII-6 and VII-7 present these results. It was found that when the effects of firm size were controlled for in each of "low planners", "medium planners", and "high planners", the association between long range planning and growth remained almost the same.

Planning by Industry Category

Another area of interest which emerged during this study was whether the degree of long range planning varied

TABLE VII-5

Summary of Pearson Correlations Between Long Range Planning and Subsequent Growth Controlling for the Effects of Firm Size in "Low Planners"

Direct Comparison		Controlling For Firm Size Comparison	
Growth Measure	Degree of Association With Long Range Planning	Size Measure Controlled	Degree of Association With Long Range Planning After Controlling For Effects of Firm Size
Assets Growth		Asset Size	
- Pearson coefficient	- 42		- 42
- statistical significance	.04		.12
Sales Growth		Sales Size	
- Pearson coefficient	- 23		- 21
- statistical significance	.17		.29
Employee Growth		Employee Size	
- Pearson coefficient	- 16		-.15
- statistical significance	.26		.34
Income Growth		Income Size	
- Pearson coefficient	- 14		- 23
- statistical significance	.30		.26
Market Value Growth		Market Value Size	
- Pearson coefficient	- 02		- 11
- statistical significance	.48		.38

TABLE VII-6

Summary of Pearson Correlations Between Long Range Planning and Subsequent Growth Controlling for the Effects of Firm Size in "Medium Planners"

Direct Comparison		Controlling For Firm Size Comparison	
Growth Measure	Degree of Association With Long Range Planning	Size Measure Controlled	Degree of Association With Long Range Planning After Controlling For Effects of Firm Size
Assets Growth		Asset Size	
- Pearson coefficient	- 18		-.10
- statistical significance	.16		.34
Sales Growth		Sales Size	
- Pearson coefficient	- 03		- 02
- statistical significance	.43		.48
Employee Growth		Employee Size	
- Pearson coefficient	- 30		- 29
- statistical significance	.05		.12
Income Growth		Income Size	
- Pearson coefficient	-.21		- 11
- statistical significance	.15		.34
Market Value Growth		Market Value Size	
- Pearson coefficient	- 25		- 28
- statistical significance	.11		.13

TABLE VII-7

Summary of Pearson Correlations Between Long Range Planning and Subsequent Growth Controlling For the Effects of Firm Size in "High Planners"

Direct Comparison		Controlling For Firm Size Comparison	
Growth Measure	Degree of Association With Long Range Planning	Size Measure Controlled	Degree of Association With Long Range Planning After Controlling For Effects of Firm Size
Assets Growth		Asset Size	
- Pearson coefficient	-.02		-.06
- statistical significance	.44		.39
Sales Growth		Sales Size	
- Pearson coefficient	+.36		+.36
- statistical significance	.01		.05
Employee Growth		Employee Size	
- Pearson coefficient	- 06		- 04
- statistical significance	.36		.44
Income Growth		Income Size	
- Pearson coefficient	+.20		+.21
- statistical significance	.14		.18
Market Value Growth		Market Value Size	
- Pearson coefficient	+.19		.00
- statistical significance	.18		.49

by industry classification. Review of the literature on long range planning did not indicate any research which had explored this question. The normative writings advocating the practice of long range planning state that long range planning should not vary by industry. The lack of any research study of long range planning by industry category may be due to the difficulty of defining meaningful industry categories. Most industries, particularly in Canada, are dominated by a very few number of firms. This fact makes it difficult to apply any statistical testing procedure.

Rather than ignore the issue, this study approached the problem by using broad industry classifications so that an adequate sample could be obtained in each industry category. Within these industry classifications, the distribution of the firms across the four planning categories was considered. These classifications were similar to those used by Statistics Canada. The categories, with a description of their meaning, are listed as follows:

Primary Resource Extraction - included firms involved mainly in the extraction of primary resources such as forest products, oil and mining.

Heavy Industrial Manufacturing - included firms in the machinery, transportation equipment, primary metals, and metal fabricating industries.

Low Technology Manufacturing - included firms whose process and product were of low levels of technological sophistication. Examples include textiles, automobile part

manufacturers, aircraft part manufacturers and other miscellaneous categories.

High Technology Manufacturing - included firms whose product or process was mainly at high levels of technological sophistication. Examples include electronics and chemicals.

Food and Beverage Industry - included firms that process raw food products such as meat, fish, grains, etc.

Retailing Industry - included those firms operating chains of stores which deal directly with the consumer.

Financial Industry - included those firms which are the major financial institutions of the country. Examples include banks, trust companies and life insurance companies.

Public Utilities and Public Transportation - included firms which have been granted monopolies. Examples include gas, pipeline power, telephone and transportation companies.

A summary of the distribution of the sample across the above eight industry classifications and by planning level is shown in Table VII-8 on the following page.

Two statistical tests were applied to determine whether the differences in the planning level distribution of firms within each of the eight industry classifications signified genuine differences between industries or whether the differences represented chance variations normally expected among several random samples from the same population. The

TABLE VII-8

Distribution of Firms by
Industrial Classification and Planning Level

Industrial Classification	Planning Level			
	Non-Planners	Low Planners	Medium Planners	High Planners
Primary Resources	4	2	6	5
Heavy Industrial Manufacturing	5	0	5	5
Low Technology Manufacturing	6	3	9	15
High Technology Manufacturing	1	5	6	7
Food and Beverage	8	1	8	6
Retailing	2	1	3	3
Financial	7	2	0	2
Public Utilities	2	4	4	4

two statistical tests employed were the Kruskal-Wallis one-way analysis of variance by ranks and the chi-square test.[2] Both of these tests are common non-parametric statistical techniques. The Kruskal-Wallis test is the most powerful of the two tests. It makes the most use of the information contained in the data. It also makes use of the fact that the planning categories represented an ordinal measurement of long range planning. The Chi-Square test merely treated the planning categories as a nominal level of measurement. In order to make the chi-square test meaningful and proper,

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[2]For further explanation of both of these tests see Chapter VIII on Nonparamatic Statistics for the Behavioural Sciences, by Sidney Siegel (Toronto: McGraw-Hill Book Company, 1956).

it was necessary to combine "non-planners" with "low planners" and "medium planners" with "high planners". This was done to ensure that the expected frequencies in each of the cells would not be too small.

Results from the Kruskal-Wallis test yielded an H (the statistic used in the Kruskal-Wallis test) of 7.9. The probability of obtaining an H equal to or larger than 7.9 with eight groups is greater than .30. With this low level of statistical significance it is reasonable to conclude that there was no difference in the distribution of the planning levels of the firms in the eight industrial groupings.

Results from the Chi-Square test yielded more informative results. Using the collapsed planning level categories, the probability of obtaining this distribution was .12, which may have signified that planning varied by industry. Closer examination showed that the differences were due entirely to the "Financial" industrial classification. When the "Financial" industrial classification was removed and the Chi-Square test applied to the remaining seven industry classifications, the probability of obtaining the distribution increased to .96. This level of statistical probability indicated there was no difference in the distributions of firms by planning level within each of the seven remaining industry classifications. As a further check each industry's distribution was compared with each other industry's distribution. Of the 28 comparisons, only seven comparisons indicated statistically significant dif-

ference. These seven differences were found in the comparison of the "Financial" industry classification with each of the seven other industrial classifications. From this analysis it was concluded that with the exception of the "Financial" industry classification, the planning level distribution of firms within industries does not vary by industry. The "Financial" industry had an atypically low level of long range planning.

The results of the analysis, using both the Kruskal-Wallis and the Chi-Square tests, indicated that, in general, there was no difference in long range planning among the broad industry classifications.

An Investigation of the Differences in Economic Performance of Pair-matched Formal and Informal Planners

In conjunction with testing for differences between "planners" and "non-planners", a test was conducted to determine whether the practice of long range planning leads to better economic performance when other conditions, such as firm size and industry, are similar.

This investigation attempted to add further evidence to support the findings of the Thune and House study mentioned in Chapter 2, The Literature on Long Range Planning. That study is the only known empirical test that has addressed this issue. Their study, which pair-matched informal and formal planners on the basis of industry and size, showed that formal planners outperformed informal planners. The findings of the attempted replication described in this chapter did not confirm the Thune and House findings.

Instead, no differences were found in the performances of pair matched formal versus informal planners.

This study employed two similar approaches. The first approach contrasted pairs of formal and informal planners. The second contrasted pairs of "non-planners" and "planners". The definitions of these four categories are described below. Each approach resulted in its own set of pair-matched firms. The comparison of the formal planners with the informal planners is described first because this approach is very similar to the Thune and House study. The comparison of "non-planners" with "planners" follows. While the research methodology and analytical approach used in both were similar, in the second comparison the definitions were different than those employed in the Thune and House study.

In the total sample, 46 firms were determined to be "formal planners". "Formal planners" were defined as those firms which indicated they had the following:

- a written strategy;
- written goals and objectives;
- objectives in quantified form; and
- long range forecasts for at least three important dimensions of their business.

All firms not meeting the above requirements were considered "informal planners".

Starting with the list of "formal planners", an attempt was made to find a similar firm among the "informal planners" for each of the "formal planners". The bases for this

pair-matching were industry and firm size. Industry was considered in broad terms. Size was measured as of 1968 on the basis of assets, sales, employees, income and common stock market value. As a result of this matching process, 14 pairs of formal and informal planning firms were obtained. Table VII-9 describes these pair-matched firms by industry and by the five measures of firm size.

The performances of formal and informal planners were computed over the period 1968 to 1972 inclusive. The performances of the companies were analyzed in terms of five economic measures: asset growth, sales growth, income growth, employees growth, and market value growth. On each of these economic measures, each pair of formal and informal planners was compared and differences between the two were computed. For each economic measure, the average difference across all the pairs of formal and informal planners was determined. Statistical tests were performed to determine whether or not these average differences were statistically different from a zero difference. Table VII-10 summarizes these results.

The findings showed no significant difference between the economic performance of the formal planners and that of the informal planners. On the measure of asset growth the informal planners grew, on average, 3.4 percentage points more than the formal planners. On the measures of sales growth, employees growth, and income growth, the formal planners experienced 1.0, 5.3 and 9.0 percentage points of

TABLE VII-9

Listing of Paired Firms in Sample, Formal Versus Informal Planners, Matched on the Basis of Industry and Firm Size

Industry (A and A*, B and B* ... are matched pairs where * indicates the informal planner)	Size as of 1968				
	Millions of $				00's
	Assets	Sales	Income	Market Value	Employees
Gas					
A	374	123	12	344	21
A*	242	102	11	249	21
Oil					
B	252	154	5	218	20
B*	247	161	12	162	16
C	802	622	46	1012	67
C*	922	617	44	944	--
Paper					
D	477	295	12	111	140
D*	361	256	11	144	100
Aircraft					
E	117	151	2	--	92
E*	74	109	5	--	48
Chemicals					
F	184	166	10	196	51
F*	196	208	13	241	63
G	212	121	9	123	60
G*	187	144	8	--	37
Packaging					
H	44	37	2	29	28
H*	46	66	2	26	49
Food and Beverage					
I	65	88	2	--	50
I*	112	150	3	30	28
J	36	63	2	--	17
J*	50	54	1	4	12
K	151	225	14	255	40
K*	195	244	13	179	55
Construction					
L	251	203	4	95	46
L*	157	95	7	74	30
Finance					
M	534	94	6	--	20
M*	1076	123	15	--	36
Retail					
N	272	468	15	319	140
N*	279	276	10	265	--

TABLE VII-10

A Comparison of the Differences in Economic Performance of Pair-Matched Formal Versus Informal Planners For the Period 1968 to 1972 Inclusive

	Asset Growth	Sales Growth	Employees Growth	Income Growth	Market Value Growth
Number of Pairs of Matched Firms	14	14	7	13	9
Average Growth - Formal Planners	33.4%	41.6%	14.0%	51.2%	8.8%
- Informal Planners	36.7%	40.6%	8.7%	42.2%	42.8%
Difference in Average Growth	-3.4%	+1.0%	+5.3%	+9.0%	-34.0%
Standard Deviation of the Difference in the Growth Among the Pairs	24.2%	31.4%	23.9%	70.7%	50.8%
Is the Difference in Average Growth Significantly Different from a Zero Difference Based on a T-Test at the .20 Level of Significance on a Two-Tailed Basis?	No	No	No	No	Yes .10 level of significance

greater growth, respectively, than the informal planners. On the basis of market value growth, the informal planners had 34.0 percentage points of greater growth than the formal planners. These differences between the formal and the informal planners were not statistically significant. At the .20 level of statistical significance none of the differences were significantly different, with the exception of

the difference in market value growth which was significantly different at the .10 level. The mixture of directions in the differences and the low to non-existent statistical significance levels indicated no difference in the economic performance of pair-matched formal and informal planners.

An alternative method of approaching this research issue was considered. This technique involved a comparison of the "non-planners" with the "planners", rather than a comparison of the "formal planners" with the "informal planners". "Non-planners" were defined as firms that stated they did not practice any long range planning. All of the other firms which stated that they did practice some long range planning were classified as "planners" regardless of whether they were informal or formal planners. In the sample, 29 firms indicated that they did not practice long range planning.

Using the same criteria outlined in the comparison described above, it was possible to obtain 15 matched pairs of "non-planners" and "planners". Table VII-11 describes these pair matchings by industry and by the five measures of firm size.

Comparison of the performance of these pair-matched firms for the period 1968 to 1972 showed that there was no statistically significant differences across any of the five different measures of growth. Table VII-12 summarizes the results of this comparison. On the measures of asset growth, income growth and market value growth, "non-plan-

TABLE VII-11

Listing of Paired Firms in Sample, "Non-Planners" Versus "Planners", Matched on the Basis of Industry and Firm Size

Industry (A and A*, B and B* ... are matched pairs where * indicates the non-planners)	Size as of 1968				
	Millions of $				00's
	Assets	Sales	Income	Market Value	Employees
Steel					
A	812	590	68	549	216
A*	396	216	20	226	71
Gas Pipelines					
B	403	106	23	509	6
B*	225	28	5	94	3
C	152	69	3	--	1
C*	225	28	5	94	3
Paper					
D	477	295	12	111	140
D*	361	256	11	144	100
E	26	34	1	18	10
E*	35	35	1	14	13
F	86	130	7	15	42
F*	126	99	3	39	45
G	86	130	7	15	42
G*	184	119	8	81	41
Electronics					
H	93	101	2	--	46
H*	53	75	4	42	46
Food and Beverage					
I	52	240	1	16	43
I*	164	790	8	111	120
J	36	63	2	--	17
J*	50	54	1	4	12
K	195	244	13	179	55
K*	286	245	15	208	60
L	126	603	10	134	91
L*	48	221	3	2	25
M	446	634	44	543	33
M*	1048	1255	51	674	100
Publishing					
N	46	78	8	154	40
N*	23	48	2		13
Finance					
O	4378	263	15	--	100
O*	5217	325	16	--	122

hers", on average, outperformed "planners". On the measures of sales growth and employees growth, "planners", however, outperformed "non-planners" on average. None of these differences were statistically significant at the .20 level of significance.

The failure of both the "planners" - "non-planners" approach and the "formal planners" - "informal planners" approach to replicate the findings of the Thune and House study may be due to the differing nature of the Thune and House study. While the research approaches of this study and the Thune and House study were similar and equally valid, there were differences. The reasons for the differences in the findings could possibly be attributed to differences in the methodologies. The Thune and House study:

- sampled in a different time period;
- pair matched on a less stringent basis;
- used a slightly different definition of formal planners;
- obtained its planning information from a brief two page mail questionnaire;
- measured performance from the date long range planning was initiated in each firm; and
- used different measures of economic performance.

Any difference or combination of these differences could have been the basis for the incongruence of the findings. An alternative explanation may be that there was, in fact, no difference between the performance of similar firms which did or did not practice long range planning.

TABLE VII-12

A Comparison of the Differences in Economic Performance of Pair-Matched "Non-Planners" Versus "Planners" For the Period 1968 to 1972 Inclusive

	Asset Growth	Sales Growth	Employees Growth	Income Growth	Market Value Growth
Number of Pairs of Matched Firms	15	15	10	14	10
Average Growth					
- Planners	35.5%	57.5%	51.6%	41.3%	17.2%
- Non-Planners	47.1%	46.7%	46.6%	68.3%	29.7%
Difference in Average Growth	-11.6%	+11.0%	+5.0%	-27.0%	-12.5%
Standard Deviation of the Difference in the Growth Among the Pairs	53.8%	42.1%	48.5%	84.6%	69.1%
Is the Difference in Average Growth Significantly Different from a Zero Difference Tasted on a T-Test at the .20 Level of Significance on a Two-Tailed Basis?	No	No	No	No	No

Since the Thune and House study was the only research study that expressed a finding that firms which plan, perform better than similar firms which do not plan, it appears reasonable that acceptance of their finding should be held in abeyance until further research adds additional support.

Summary and Discussion of Findings

This chapter presented the findings of the supplementary research conducted during the study. This supplementary research covered three broad areas: the relationship

of firm size to subsequent firm growth; whether long range planning varied by industrial classification; and whether long range planning pays off. The findings of these tests may be summarized as follows:

1) There was some empirical evidence that larger firms grew more slowly than less large firms.

2) The negative relationship between planning and firm growth was not spuriously caused by the relationship between firm size and firm growth.

3) Within broad industry classifications, there was no detectable general difference in the levels of long range planning practiced.

4) In a sample of pair-matched, formal versus informal planners, no significant differences were found in the rates of subsequent firm growth.

The detectable negative relationship found between firm size and subsequent firm growth was an interesting finding, but of limited use by itself. The literature review described in Chapter 2 uncovered no empirical research which addressed this issue. This issue does have substantial research interest. Theories have often considered whether larger firms are more capable of growing faster than smaller firms. The fundamental question of whether big firms are better or worse for a growth-oriented economy must consider this issue. Others, such as Galbraith's followers, can relate this finding to the profit and growth motivation of managers in larger firms. As previously stated, the finding described in this chapter is not important by itself, but further research in the same area should consider incorporating the findings of this test.

The finding that the negative relationship between planning and firm growth was not spuriously caused by the relationship between firm size and firm growth has important implications to one of the major findings of this research study. Chapter 5 described the negative relationship found between planning and subsequent firm growth. Before conducting the test for a spurious relationship described in this Chapter, it was possible to hypothesize that the Chapter 5 finding was mainly caused by a negative association between firm size and firm subsequent growth. The control test indicated that this was not so. The finding of a negative association between planning and firm growth thereby acquired greater credibility.

The inability to detect a general difference in the levels of planning practiced within broad industry classifications may have been due to the practical difficulty of defining meaningful industry classifications. Only the "financial" industry classification showed significantly lower levels of planning. If a more efficient method was developed to discriminate among industries, detection of differences in the planning levels by industry might become possible. Development of such an industry taxonomy was considered beyond the scope of this study. An alternative interpretation might be that planning levels by industry are, in fact, similar. This possibility could be explained in that firms may perceive their performance relative to other firms in the same industry. Thus, building on the findings described in Chapters 4 and 5, firms which are

larger relative to their industry and with slower growth rates, again, relative to their industry, practice more long range planning. If this were so, there would be no differences in the planning levels by industry.

The finding of no difference in the subsequent firm growth of pair-matched, formal planners versus informal planners did not support the findings of the Thune and House study previously described in Chapter 2. To the author's knowledge the test described in this chapter is the sole known, attempted replication of the Thune and House study. The fact that the test did not conform to the findings of Thune and House would suggest their conclusions be held in abeyance until further empirical tests are conducted. Whether or not long range planning leads to better economic performance is recognized as a controversial issue. Research efforts to empirically demonstrate this are difficult to conduct. Thus, this issue would appear to currently remain unresolved.

Chapter 8

SUMMARY AND SUGGESTIONS FOR ADDITIONAL RESEARCH

The final chapter of this study investigating the relationships of long range planning to firm size, firm growth, and firm growth variability, consists of five sections. Sections one and two are mainly factual. The first section deals with the nature of the study, and the second summarizes the findings. The next three discuss inferences that may be drawn from the findings. The third section examines the role of long range planning in the theory of the firm. The fourth discusses the evolution of long range planning. The fifth suggests further research possibilities.

The Nature of the Study

This research concerned the practice of long range strategic planning in Canadian companies. One of the main objectives of the study was to determine whether the practice of long range planning was associated with firm size, firm growth and growth variability. It was believed that knowledge of such associations would provide a meaningful basis for interpreting and contributing to the various theories of long range planning and of general management. Another main objective was to determine whether a tentative method of segmenting the long range planning continuum was operational. It was believed that an operational method would be useful for future research on long range planning.

The research study also considered a number of supplementary objectives. These included the issues of: whether long range planning pays off; whether long range planning varies by industry; and, whether growth varies by firm size. These supplementary objectives were not part of the original research design. The value of addressing these supplementary issues became apparent, however, while conducting the primary research.

The study employed an empirical data base comprised of 141 sample firms in Canada's top 300 firms. For each firm an assessment of its long range planning process was made and ranked relative to the other firms in the sample. Associations were checked between this planning measure and five measures of firm size, and five measures of firm growth for the period 1968 and 1972 inclusive. To test the segmentability of the long range planning continuum, differences in each of the five measures of firm size, firm growth, and firm growth variability, were tested across the four tentative long range planning categories. Suitable statistical tests were chosen to test results for each of the particular supplementary objectives.

Summary of Findings

The findings of this research segment into three distinct categories. The first concerns evident relationships between firm characteristics and long range planning. The second concerns differences which exist at the various levels of long range planning and the possibility of seg-

menting the long range planning continuum. The third concerns supplementary issues pertaining to the practice of long range planning. These findings are summarized below.

The evidence strongly indicated the existence of relationships between long range strategic planning and the variables of firm size and subsequent firm growth. The relationships found were as follows:

(1) Long range planning is associated with firm size. As firm size increased the degree of long range planning practiced increased. This association became stronger as the level of planning increased.

(2) Long range planning is associated with subsequent firm growth. An inverse relationship existed between long range planning and subsequent firm growth. Firms which practiced greater amounts of long range planning grew at slower rates than firms which practiced less long range planning.

An evaluation of the evidence strongly indicated that it was possible to segment the long range planning continuum on the basis of the tentative categories. The existence of a planning continuum and the possibility of segmenting it was considered in two ways. One method distinguished between those firms who practiced long range planning - the "planners", and those who did not - the "non-planners". The other method further segmented the "planners" into three categories - "low planners", "medium planners", and "high planners". The findings, with respect to "non-planners" and "planners", were as follows:

1) Those firms in the planning segment of the industrial system, the "planners", were characterized by larger average firm size than those firms in the non-planning segment of the industrial system, the "non-planners";

2) The "planners" experienced slower average growth than the "non-planners"; and

3) The "planners" experienced less variability in growth than was experienced by firms in the non-planning segment of the industrial system, the "non-planners".

There was strong evidence supporting the possibility of further segmentation of the long range planning continuum. This evidence indicated that:

1) On the dimension of average firm size, as the level of planning progressed from "non-planners" to "high planners" the average firm size increased, with the exception that the two adjacent categories, "non-planners" and "low planners" were reversed;

2) On the dimension of average subsequent firm growth, as the level of planning progressed from "non-planners" to "high planners" the average subsequent firm growth decreased. In this progression "non-planners" and "low planners" were not distinguishable; and

3) On the dimension of among firm growth variability, as the level of planning progressed from "non-planners" to "high planners", the amount of among firm growth variability decreased.

A table summary of the results of attempts to segment the long range planning continuum is attached as Chart VIII-1. The segmentation was structured on the basis of firm size, firm growth and firm growth variability, using the tentative planning categories.

The supplementary findings of this research study concerned the issues of: whether long range planning pays off; whether the practice of long range planning varies by

Chart VIII-1

A Summary of the Segmentation of the
Long Range Planning Continuum
On the Basis of: Firm Size, Firm Growth, and Firm Growth Variability

LEVEL OF PLANNING	FIRM SIZE	FIRM GROWTH	FIRM GROWTH VARIABILITY
Non-Planners	- SMALL - smaller than "planners", - appeared to be marginally larger than "low planners", - smaller than each of "medium planners" and "high planners".	- HIGHER - higher growth than "planners", - appeared to have marginally higher growth than "low planners", - higher growth than each of "medium planners" and "high planners".	- LARGER - larger than "planners", - larger than each of: - "low planners", - "medium planners", and - "high planners".
PLANNERS			
Low Planners	- SMALLER - within "low planners" there was little, if any, relationship between size and planning, - marginally smaller than "non-planners", - smaller than each of "medium planners" and "high planners".	- HIGH - within "low planners" there was a negative relationship between growth and planning, - marginally lower growth than "non-planners", - higher growth than each of "medium planners" and "high planners"	- LARGE - lower than "non-planners", - marginally larger than "medium planners", - larger than "high planners".
Medium Planners:	- LARGE - within "medium planners" a positive relationship existed between size and planning, - larger than each of "non-planners" and "low planners", - smaller than "high planners".	- LOW - within "medium planners" a negative relationship existed between growth and planning, - lower growth than each of "non-planners" and "low planners", - higher growth than "high planners".	- LOW - lower than "non-planners", - marginally lower than "low planners", - marginally larger than "high planners".
High Planners	- LARGER - within "high planners" a strong positive relationship existed between size and planning, - larger than each of "medium planners", "low planners", and "non-planners".	- LOWER - within "high planners" a relationship existed between growth and planning, - lower growth than each of "medium planners", "low planners", and "non-planners".	- LOWER - marginally lower than each of "medium planners" and "low planners", - lower than "non-planners".

industrial classification; and, whether growth varies with firm size. The findings were as follows:

1) In a sample of pair-matched firms, firms which practiced long range planning were found to be neither more, nor less, likely to experience better economic performance, on average, than firms which did not practice long range planning.

2) Within broad industry classifications, there was no detectable general difference in the levels of long range planning being practised.

3) There was some empirical evidence indicating that larger firms grew more slowly than less large firms.

The Theory of the Firm

A possible application of the findings of this research study is in further development of the theory of the firm. Economists, business scholars and government planners continuously strive to further develop the theory of the firm. This search is motivated by a desire to understand and to explain the behaviour of business firms. These individuals wish to be better able to predict business firms' behaviour and to improve their actual practices. In this quest, they search for principles which have broad applicability, which have been tested, and which help organize and classify relevant knowledge and experience. The principal findings of this research study provide additional, empirically-based findings from which logical inferences concerning the theory of the firm can be made.

An area where these findings have applicability is to the perceived different modes or styles of management. Henry Mintzberg discusses the modes of management in a paper

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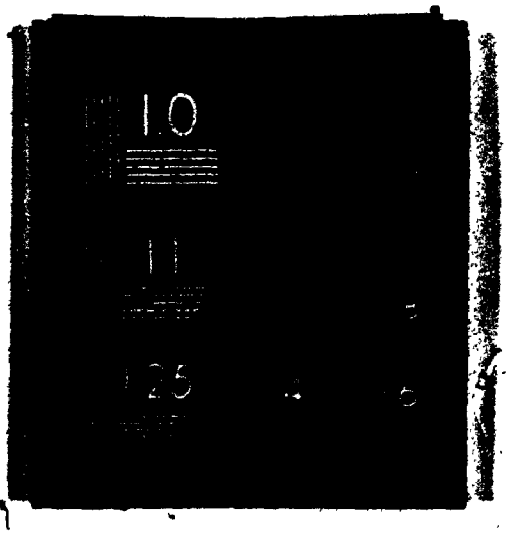

entitled Strategy - Making in Three Modes.[1] He suggests the literature of management falls into three distinct groupings or "modes" - the entrepreneurial mode, the adaptive mode, and the planning mode. In the entrepreneurial mode, one strong leader takes bold, risky actions on behalf of his organization. In the adaptive mode, the organization adapts in small, disjointed, incremental steps to a difficult environment. These two modes are similiar to Cyert and March's belief that management is primarily a reactive process. The third mode is referred to as the planning mode, where comprehensive formal analysis is done to anticipate and to plan for the future, using explicit integrated strategies. Cyert and March refer to this as proactive management.

The findings of this research provide a basis for inferring that management is mainly a reactive process. This inference is evident from the negative relationship found between long range planning and subsequent firm growth. If subsequent firm growth is treated as a reasonable proxy for firm growth expectancies, it would be observed that long range planning, the most proactive style of management, tends to be practised most when firms are confronted with adversity. Long range planning takes on major importance in firms facing an adverse environment.

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[1] Henry Mintzberg, Strategy - Making in Three Modes, McGill University, Faculty of Management, Working Paper, Montreal, 1972.

This proposition has important implications when considering the question of whether management (and strategic planning), is mainly a proactive or a reactive discipline. At one end of the spectrum, the firm is viewed as a self-directed unit which acts on its environment in an intentional and rational manner to achieve specific objectives and goals. At the other end of the spectrum, the firm is viewed as an organism which responds to its environment when its internal equilibrium is threatened. It appears that firms adopt both modes of behaviour depending on where the firm is situated on the long range planning continuum. When a firm is threatened by lower growth prospects, it reacts in a stimulus-response fashion by dramatically intensifying its formal strategic planning process.

Another aspect of the theory of the firm to which the research findings have applicability is the issue of propensity for risk-taking. The capability and inclination of firms to accept and take risks has long been hypothesized as one of the major beneficial characteristics of the free-enterprise system. Based on the findings of this research study, it may be reasonable to infer that formal long range planning reduces the inclination to take risks. Top managers may use formal planning as an instrument to manage and control the risk profiles of their firms. In addition, comprehensive formal planning may involve extensive, if not, over analysis, which may cause firms to avoid high risk situations. The positive association between planning and firm size may imply that larger firms are less

willing to accept risk than smaller firms.

Another issue related to risk-taking focuses on the fundamental objective of the firm. There has been growing controversy over whether or not firms are profit maximizers. The findings of this study can be interpreted as providing further evidence that large firms are not primarily profit maximizers. It was observed that as firms increase in size, there is a greater amount of long range planning. Associated with higher long range planning is lower growth and lower growth variability. It was also observed in Table V-9 that, among "high planners", sales growth had the highest association with long range planning. Income growth had the lowest and weakest association. It would appear that planning for growth places more emphasis on sales and least emphasizes profit growth. It could be argued that these findings are compatible with the explanation that larger firms attempt mainly to retain their autonomy by providing a satisficing, minimum level of growth consistent with a low level of risk exposure.

Another controversial issue in the theory of the firm is whether firms control or are controlled by their respective marketplaces. In classical economics, it has been theorized that firms respond primarily to a flow of instructions from the consumer and the marketplace. Increasingly, observers have questioned this uni-directional flow by suggesting, instead, that as firms become larger they acquire the abilities to control their marketplaces and to manage and to shape consumer demands. If this latter obser-

vation is correct, it is probable that long range planning would play an increasingly important role in larger firms. The findings of this research study show that larger firms do practice more long range planning than less larger firms. While this phenomenon may be a necessary condition to support Galbraith's observation that larger firms exercise substantial control over their marketplaces, it is not sufficient proof that it is so. The advocates of this position have, however, another piece of empirical evidence to reinforce their belief.

Evolution of Long Range Planning

The prescriptive writings advocating the practice of long range planning imply that its practice is introduced as one comprehensive program at some arbitrary point in time in a firm's history. The implication here is that the practice of long range planning is a new managerial phenomenon, at least for a substantial portion of the firms in the industrial system.

The findings of this research study may suggest that the practice of long range planning is an evolutionary process within firms. Not only is long range planning extensively practiced in Canada's industrial system; but the nature of the process appears to vary with the natural growth and development of firms. As firms grow and evolve, the practice of long range planning appears to parallel his development by taking on more importance and by becoming more sophisticated. Planning is, therefore, a natural and common managerial process employed by firms.

This study investigated the possibility of a segmentation of the long range planning continuum on the basis of firm size, firm growth, and firm growth variability. The findings suggest the following inferences. As firms grow from smaller size to larger size, the level of long range planning increases substantially. As this growth in size continues over time, it is accompanied by a decline in the rate of growth. It is possible to suggest that further development and use of the long range planning process causes a decline in the growth rates of firms. It is more likely, however, that declining growth rates, or prospects of them, cause further development and use of the long range planning process. It does appear there is an important link between growth and long range planning. Low growth prospects may be a major reason for improving the long range planning process. Where long range planning is practiced extensively the negative effects of the reduced growth rate appear to be offset by greater firm stability and security. It was observed that firms which planned more had less variability in growth than firms which planned less.

One may speculate that management employs the process of long range planning as one of its major instruments in adapting to the changing nature of: the firm's internal resources; the firm's environment; and, the aspiration levels of management. Adverse changes in these variables are natural impetus for the improvement in the firm's long range planning process. In the early transition stages

going from small to larger size, the parts of the long range planning process that aid the firm in monitoring and controlling its internal operations develop first. When this has largely been accomplished, the firm's planning process remains relatively constant until the firm's environment assumes increasing importance. Past growth rates are the major determinants of management's aspirational levels. The firm's increasing size and position in its markets renders it difficult to maintain these past growth rates. Recognition of the possibility of not being able to continue achieving these aspired growth rates causes further development of the dimensions of the long range planning process concerned with the firm's present and future environment. Management attempts to confirm whether the feared decline in anticipated growth rates is probable. At this point, efforts are devoted to finding new growth opportunities and to identifying the controllable variables in the environment. During this transitional and firm development stage, the motivation of management undergoes a change from that of traditional profit maximization to that of satisficing and maintaining security. A fully comprehensive planning system is developed to control and manage growth and to minimize the risks related to wide fluctuations. Planning becomes an essential part of the management process and those firms which do more planning are more successful than those firms, at similar stages of development, who do less planning.

Suggestions for Additional Research

In the field of general management, there is an indis-

putable need for additional research on the subject of strategic planning. The knowledge in this field has increased and is growing to the point where emphasis should be placed on testing propositions by the use of empirical data bases. This research study has utilized an empirical data base in an attempt to contribute further knowledge to this subject area. The importance and complexity of strategic planning demand that further research be conducted. It is maintained that the findings of this research study provide some basis for directing and improving further empirical research on the subject.

The long range planning taxonomy developed for this research study offers the potential of facilitating further empirical data-based research. While this four category hierarchy of planning was developed as a simple means of discriminating among the long range planning efforts of this particular research sample, it does appear to be more generalizable. It provides an acceptable basis for measuring and distinguishing between various levels of long range planning. Use of the taxonomy in this research study indicated that it was operational on the three variables tested. This taxonomy, and any further refinements of it, will be substantially more powerful than the more common dichotomous methods of comparing formal versus informal planners. This taxonomy should prove to be a valuable research tool for those persons investigating the subject of strategic planning.

An important area for further studies in strategic

planning is non-profit, purposive organizations. With an ever-increasing proportion of Gross National Product being consumed in the public sector, it is essential to understand both the extent and the nature of the strategic planning process present in the institutions and organizations entrusted with the responsibility for these resources. Here is an important area where management principles are applied and a natural area for general management study. To contrast strategic planning in these organizations with both the normative theories and with what is known of strategic planning in the private sector is recommended. The potential benefits of studies in this area appear very high.

One of the first planning research issues to attract attention was the question of whether strategic planning paid off. Those involved in strategic planning have believed, as a tenet of faith, that strategic planning was worthwhile. A few recent research studies have provided evidence to support this belief. As a supplementary part of this research study, an attempt was made to replicate those research studies which had demonstrated that firms which plan perform better than firms which do not plan. In this study it was found no differences existed between those firms which plan and those that do not. This finding would appear to reinforce the uncertainty which exists re the value of strategic planning.

The issue of whether long range planning pays off may not, however, be important. Firms do plan and the incidence of such planning is very high. If, as it appears, the

practice of long range planning is a naturally evolutionary process which develops with the growth of firms, the question of its value may merely be academic. The answer to the question could be used only to speed up or to slow down the rate of development of the strategic planning process within firms. It is doubtful that it would concern itself with whether its practice would exist.

For those people interested in bringing research evidence to bear on this issue, this research study offers some important clues. The four category planning taxonomy would obviously be more valuable than the more arbitrary dichotomous methods which are currently in use. In addition, the process of selecting pair-matched firms should give consideration to the growth expectancies of the indiyidual firms. It would appear that growth expectancies may play a major role in the evolution of a firm's long range planning process.

An area which warrants further investigation is the relationship of firm growth expectancies to the long range planning process and its development. The findings of this study strongly imply that firms which have lower growth expectancies are more likely to practice more long range planning. It may be interpreted that long range planning is mainly motivated by conditions of adversity. It seems reasonably feasible to test this proposition with further empirically-based data. Such research should consider studying the relationship of firm growth expectancies to long range planning.

While the level of knowledge about strategic planning is sufficiently advanced such that further case research studies are unwarranted, there are a number of areas in which research of this type would be desirable. One such area concerns the development of the process of strategic planning within firms. It would be desirable to study, over a sufficiently long time period, the evolution of the planning process within a number of firms. The process of planning is not static. By capturing the evolution of the planning process and the reasons for its major changes, it may be possible to gather valuable insights into the process of planning, management, and the workings of the industrial system as a whole.

Further research should be conducted into how long range planning varies by the types of diversification adopted by firms. This study found no differences by industry category. It would be interesting to know whether firms which have diversified away from their traditional core skills plan more or less than firms which have diversified within or close to their traditional core skills.

APPENDIX I

LONG RANGE PLANNING QUESTIONNAIRE - 1968

APPENDIX I

The University of Western Ontario, London, Canada

School of Business Administration

- STRICTLY CONFIDENTIAL -

No information of any kind will be divulged
that would indicate or identify the company concerned

LONG RANGE PLANNING QUESTIONNAIRE INSTRUCTIONS

1. Please carefully follow all capitalized instructions throughout the questionnaire. In no case will any respondent answer all questions. The instructions throughout the questionnaire will tell you which questions to do.

2. Please answer the classification data at the end of the questionnaire in all cases.

3. Please enclose a head office organization chart with the completed questionnaire, if possible. If the company has written goals and/or objectives, we would appreciate it if you could enclose a copy of same, as requested in question 22.

4. Please mail the completed questionnaire to the following return address:

UNIVERSITY OF WESTERN ONTARIO,
c/o DR. D. H. THAIN,
SCHOOL OF BUSINESS ADMINISTRATION,
LONDON, ONTARIO.

DEFINITION OF TERMS

For the purposes of this questionnaire the following terms will be defined as follows:

Company goals are broad qualitative statements which provide basic guidelines for the company's activities.

Company objectives are quantitative statements generally falling within the broad framework of the company goals.

Strategy is a set of top management decisions that commit the organization and its resources to a sequence of major moves designed to accomplish agreed upon goals and/or objectives. These moves are conditional, depending upon the firm's environment in the future. A specific date should be set for each of these future moves.

Long Range Planning is primarily formulating company goals and objectives and establishing a strategy for accomplishing these goals and objectives.

Standard practices are written procedures outlining a planned approach to long range planning activities.

THE UNIVERSITY OF WESTERN ONTARIO SCHOOL OF BUSINESS ADMINISTRATION

LONG RANGE PLANNING QUESTIONNAIRE

1. Check which of the following markets are served by your company, and indicate the percentage breakdown of total company sales in each market.

Consumer	( )	_____ %
Industrial or Commercial	( )	_____ %
Military (or other government)	( )	_____ %
Export	( )	_____ %

2. Does your company do any long range planning? (For more than one year ahead)

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 37

3. Does your company have standard practices (i.e. agreed upon methods) for conducting your long range planning effort at present?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 5

4. How long has your company had standard practices for long range planning?

1 year or less	( )	4 years	( )
2 years	( )	5 years or more	( )
3 years	( )		

PLEASE PROCEED TO QUESTION 6

5. If your company does not have standard practices for conducting long range planning, what methods does your company employ for doing its long range planning?

6. For each of (a), (b), (c) and (d), which statement best describes where most of the long range planning work-load is performed in your company.

(a)	Line management	( )
	Staff management	( )
(b)	Top management	( )
	Middle management	( )
	Lower management	( )
(c)	By committee(s)	( )
	By individual(s)	( )
(d)	Centralized	( )
	Decentralized	( )

7. Are there subsidiary companies, branch plants, or field divisions in your Canadian corporate organization?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 9

8. How many of these subsidiary companies, branch plants, or field divisions conduct their own long range planning programs?

None of them do ( )
Some of them do ( )
Most of them do ( )
All of them do ( )

9. Does your company have a person whose sole responsibility is the development and co-ordination of long range plans for the company as a whole?

Yes ( ) What is his title? _____

No ( ) What is his salary range? _____

IF YES, PLEASE PROCEED TO QUESTION 11

10. If you do not have a person whose sole responsibility is the development and co-ordination of long range company plans, what person(s) is(are) primarily responsible for your long range planning efforts?

Title _____

11. To whom does this person(s) report?

Title _____

12. Does this person(s) have a full time planning staff?

Yes ( ) If yes, how many? _____

No ( )

13. Does he get continuous assistance from certain other people in the company?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 15

14. Please fill in the titles of those who assist him and state what assistance he gets from each.

Titles of those assisting him	Description of assistance given
_____	_____
_____	_____
_____	_____
_____	_____

15. Does your company have a management or executive committee which is involved in the planning efforts of the company?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 19

16. Who regularly comprises this committee? (Please list titles)

17. Generally speaking, how often does this committee meet to discuss long range planning?

Every week	( )	Every 3-6 months	( )
Every 2 weeks	( )	6 months to 1 year	( )
Every month	( )	Less than once per year	( )
Every 1-3 months	( )	Other, please specify	_____

18. What kind of assistance does the planning committee provide the chief planner or the person primarily responsible for the long range planning effort?

IMPORTANT INSTRUCTIONS

IN ANSWERING QUESTIONS 19 TO 36, PLEASE REFER TO PAGE (i) FOR DEFINITION OF COMPANY GOALS, OBJECTIVES AND STRATEGY

19. Does your company distinguish between goals and objectives?

Yes ( )

No ( )

20. Has the company defined any long range goals and/or objectives?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 24

21. To what extent are the company goals and objectives communicated throughout the organization?

Not beyond top management ( )
To middle management ( )
To lower or first-line management ( )

22. Are these goals and objectives written? (If YES, it would be appreciated if you could enclose a copy.)

Yes ( )

No ( )

23. Are the objectives specified in quantitative terms?

Yes ( )

No ( )

24. Does the company have a corporate strategy through which it plans to achieve its goals and/or objectives?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 26

25. Does the corporate strategy consist of a series of major moves?

Yes ( )

No ( )

If not, how would you best describe it?

_____

_____

Is this strategy written?

Yes ( )

No ( )

26. To what extent do you develop and assess alternatives in deciding upon a strategy?

Always ( )
Usually ( )
Sometimes ( )
Seldom ( )
Never ( )

27. In formulating objectives and strategy how would you rate the importance of each of the following?

CHECK ONE BOX ON EACH LINE	Very important	Important	Little Importance
Forecast of future economic conditions			
Forecast of future competitive conditions			
Forecast of political conditions			
Forecast of the rate of technological change			
Forecast of future funds needed			
Forecast of future sales			
Forecast of future market opportunities			
Forecast of future personnel needs			
Forecast of future profits			
Forecast of production facilities needed			

28. How do the following areas rate in importance in sizing up the company's situation in setting objectives and strategy?

CHECK ONE BOX ON EACH LINE	Very Important	Important	Little Importance
Advertising			
Distribution system			
Financial strength			
Measurement of operating results			
Management resources			
Management rewards related to performance			
Organization structure			
Pricing			
Product line			
Production costs and capacity			
Research and development ability			
Return on investment			
Technical operating capabilities			

29. Please check which (one or more) of the following long range forecasts (done for more than one year ahead) are revised on a regular basis as part of your long range planning program.

Forecast of rate of technological change	( )
Forecast of political conditions	( )
Forecast of future markets	( )
Forecast of future sales	( )
Forecast of future economic conditions	( )
Forecast of future industry conditions	( )
Forecast of production facilities needed	( )
Forecast of future profits	( )
Forecast of future funds needed	( )
Forecast of future personnel needs	( )

30. Please check which of the following long range plans of action or strategy are formulated as part of your long range planning program.

Plans for future marketing strategy	( )
Plans for new product development and research	( )
Plans for developing new production facilities	( )
Plans for acquiring future sources of funds	( )
Plans for acquiring future personnel needed	( )
Plans for new diversification opportunities	( )

31. Please check which of the following reviews are done annually as part of your long range planning program.

Review of planning procedures and methods ( )
Review of long range plans themselves ( ).

32. Has the company standard practices for formally reviewing and updating long range plans?

Yes ( )

No ( )

33. Who set or formulated the long range company objectives and strategy? (Please state titles of persons or groups.)

_____

_____

_____

_____

34. Please check which of the following activities are engaged in by the long range planning group.

Developing company goals and objectives ( )

Educating and encouraging operating managers and others throughout the company to recognize the value of planning and to plan effectively. ( )

Developing planning procedures and standards to be followed by divisions or departments. ( )

Integrating sales and other forecasts made by divisions or departments. ( )

Monitoring and assessing external changes in technology and the business environment. ( )

Evaluating the progress of company development relative to established goals. ( )

Developing strategies through which the company can achieve its goals and objectives. ( )

Identifying industry, or economic areas, in which the company can most effectively participate relative to its capabilities. ( )

Evaluating competitive threats. ( )

Balancing divisional goals with company-wide goals. ( )

Developing methods for evaluating planning performance. ( )

35. Does your company have a breakdown or an estimation at present of the annual costs of its long range planning program?

Yes ( ) Rough estimate of these annual costs at present. $ _____

No ( )

PLEASE PROCEED TO QUESTION 37

36. Briefly state the company's major reason(s) for not formulating objectives and/or strategy.

_____

_____

IMPORTANT INSTRUCTIONS

IF YOUR COMPANY HAS STANDARD PRACTICES (PLANNED APPROACH) FOR CONDUCTING YOUR LONG RANGE PLANNING EFFORT AT PRESENT, PLEASE PROCEED TO CLASSIFICATION DATA. (QUESTIONS 47 TO 61)

IF YOUR COMPANY DOES NOT HAVE STANDARD PRACTICES FOR CONDUCTING YOUR LONG RANGE PLANNING EFFORT AT PRESENT, CONTINUE.

37. Did your company ever have a long range planning program (using standard practices) in the past?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 41

38. What were the main reasons why it was discontinued?

39. Was this planning program specifically under the direction of:

The president or chief executive	( )
A permanent planning director	( )
A permanent planning director assisted by a staff	( )
A top executive - if so, specify his title _____	( )
Other, please specify title _____	( )

40. How long was this program in effect? (Approximately) _____

41. Are you thinking of setting up a long range planning program using standard practices?

Yes ( )

No ( )

42. If you were to set up a long range planning program in your company, using standard practices, what activities do you feel it should entail?

43. How many people on a full time basis would you feel to be necessary for the accomplishment of these activities?

44. Do you feel that the time and the money which you would have to invest in a long range planning program with standard practices would be worth the benefits of such a program to your company?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 46

45. What are the major reasons that you have for not engaging in such a long range planning program?

PLEASE PROCEED TO QUESTION 47

46. What are the major reasons for concluding that the benefits of a long range planning program with standard procedures would not be worth the costs involved in terms of time and money?

TO BE COMPLETED BY ALL RESPONDENTS

COMPANY CLASSIFICATION DATA

Company Name: _____

(Optional – if you do not wish to disclose the name of your company, omit this question)

47. What industry (or industries) is your company in? _____

48. Approximately what are the company's total assets? (in dollars)

_____ Year ____ ____

49. Approximately what are the company's current annual sales? (in dollars)

_____ Year _____

50. Approximately how many employees do you have at present?

Full time _____ Part time _____ Date _____

51. Please check the appropriate average rate of return (net profits after tax as a per cent of net worth) of the company over the past five years.

Up to 6% ( )
6% - 10% ( )
10% - 20% ( )
20% - 30% ( )
Over 30% ( )

52. Please indicate which statement best describes the stage of development of your corporate organization?

Degree of complexity →

Stage I	Stage II	Stage III
One unit management with key decisions centered in one man.	One unit management group with functional specialized top managers	Decentralized divisions or operating units reporting to a central office.

PLEASE INDICATE A POINT ON THE ABOVE SCALE

53. Is the company a subsidiary or division of a parent, or holding company?

Yes ( )

No ( )

IF NO, PLEASE PROCEED TO QUESTION 55

54. (a) Is the parent or holding company:

British ( )
American ( )
Canadian ( )
Other, please specify nationality _____

(b) Is your own company free to plan its future operations?

Yes ( )
No ( )
Partially ( )

RESPONDENT CLASSIFICATION DATA

55. Name of Respondent: _____
(Optional - If you do not wish to disclose your name, omit this question)

56. Age of Respondent: _____

57. Education of Respondent:

Public School ( )

High School ( )

College:

Undergraduate ( ) Degree received if any _____
Graduate Studies ( ) Degree received if any _____

58. Present position of respondent in the company.

Title: _____

59. What do you consider the three most important criteria in evaluating the success of your company?

_____

_____

_____

60. How would you rate the success of your company over the past 5 years?

Outstandingly successful	( )
Very successful	( )
Moderately successful	( )
Not very successful	( )
Unsuccessful	( )

61. Is there any information pertaining to long range planning, that your company would be interested in obtaining from institutions such as Government, Business Schools or Industry Associations?

THANK YOU VERY MUCH FOR YOUR ASSISTANCE

We would appreciate any comments or elaborations you care to make on the following comment sheet.

COMMENT SHEET

APPENDIX II

CORPORATIONS AND POSITION OF RESPONDENT OF FIRM IN SAMPLE - 1968 DATA BASE

APPENDIX II

CORPORATIONS AND POSITION OF RESPONDENTS OF FIRMS INCLUDED IN SAMPLE - 1968 DATA BASE

Abitibi Paper Company Limited
- Vice President, Corporate Development

Air Canada
- Director of Operations Planning

Alberta Distillers Limited
- President

Alberta Gas Trunk Line Company Limited
- Assistant Secretary

Alcan Aluminum Limited
- Planning Assistant to Executive Vice President, Finance

Algoma Central Railway
- Executive Assistant to President

Algoma Steel Corporation Limited
- Chairman and President

Anglo-Canadian Pulp and Paper Mills Ltd.
- Vice President, Corporate Planning and Development

Aviation Electric Limited
- position not disclosed

Babcock and Wilcox Canada Ltd.
- President

Bank of Montreal
- President

Bank of Nova Scotia
- Deputy Chief General Manager

Bell Canada
- Assistant Vice President, Planning

B.F. Goodrich Canada Limited
- position not disclosed

BP Canada Limited
- Manager Corporate Planning

British Columbia Forest Products Limited
- Manager of Financial Planning

British Columbia Telephone Company
- President and Chief Executive Officer

Burns Food Limited
- President

CDRH Limited
- President and Chief Executive Officer

Calgary Power Limited
- Executive Assistant, Finance

Canada Bread Company Limited
- President

Canada Cement Company Limited
- Assistant to the President

Canada and Dominion Sugar Company Limited
- Vice President, Corporate Development

Canada Packers Limited
- Vice President

Canada Permanent Mortgage Corporation
- Deputy General Manager

Canada Safeway Limited
- Vice President and Controller

Canada Wire and Cable Company Limited
- Vice President

Canadian Breweries Limited
- Vice President and Treasurer

Canadian Canners Limited
- Vice President Corporate Development and Controller

Canadian Industries Limited
- Corporate Planning Manager

Canadian Marconi Company
- Vice President Finance and Treasurer

Canadian Pacific Railway Company
- position not disclosed

Canadian Pittsburg Industries Limited
- position not disclosed

Canadian Tire Corporation Limited
- President

Canadair Limited
- Assistant to President

Canron Limited
- Chairman and President

Celanese Canada Limited
- Director of Corporate Development

Central Dynamics Limited
- Assistant to President

Chrysler Canada Limited
- Manager - Material Cost and Product Analysis

Cominco Limited
- Administrative Assistant

Consolidated-Bathurst Limited
- Planning Co-ordinator

Consumer Gas Company
- Assistant to President

Consumers Glass Company Limited
- position not disclosed

Continental Can Company of Canada Limited
- Manager of Marketing

Cosmos Imperial Mills Limited
- position not disclosed

R.L. Crain Limited
- Secretary of Corporate Planning Committee

Credit Foncier Franco-Canadian
- Vice President, Assistant General Manager

Cyanamid of Canada Limited
- Manager, Commercial Development

The de Havilland Aircraft of Canada Limited
- Director of Company Planning and Research

Distillers Corporation - Seagrams Limited
- Vice President, Canadian Subsidiaries

Dobbie Industries Limited
- President

Dominion Corset Company Limited
- Secretary Treasurer

Dominion Glass Company Limited
- position not disclosed

Dominion Stores Limited
- Director Corporate Planning

Dunlop Canada Limited
- Vice President Finance and Corporate Development

Dupont of Canada Limited
- Manager Corporate Planning

Eldorado Nuclear Limited
- Corporate Secretary

Electric Reduction Company of Canada Limited
- Manager Corporate Marketing

Electrohome Limited
- Executive Assistant to the President

Firestone Tire and Rubber Company of Canada Limited
- position not disclosed

Fleet Manufacturing Limited
- Executive Vice President

Ford Motor Company of Canada Limited
- Assistant Controller

Garrett Manufacturing Limited
- Vice President and General Manager

General Foods Limited
- President

Genstar Limited
- Manager Corporate Planning

Glidden Company Limited
- President
- Controller

Goodyear Tire and Rubber Company of Canada Limited
- President and General Manager

The Great-West Life Assurance Company
- Vice President and Secretary

Gulf Oil Canada Limited
- Manager of Corporate Planning

Harding Carpets Limited
- Secretary Treasurer

Hawker Siddeley Canada Limited
- General Manager

Hayes-Dana Limited
- President

H.J. Heinz Company of Canada Limited
- Vice President, Administration

Hiram Walker-Gooderham & Worts Limited
- position not disclosed

Husdon's Bay Company
- Assistant Controller

Husky Oil Canada Limited
- Manager Planning and Economics

Imperial Oil Limited
- Executive Vice President

Imperial Tobacco Company of Canada Limited
- President

Industrial Acceptance Corporation Limited
- Assistant Vice President, Research and Development

International Business Machines Company Limited
- position not disclosed

Inmont Canada Limited
- President

Interprovincial Pipe Line Company
- President

I U International Corporation
- Chairman of the Board and Chief Executive Officer

John Labatt Limited
- Vice President, Planning and Development

Lake Ontario Cement Limited
- President

Lafarge Cement Canada Limited
- Vice President, Finance

Laura Secord Candy Shops Limited
- President

Leigh Instruments Limited
- Planning Assistant

Thomas J. Lipton Limited
- President

Litton Systems (Canada) Limited
- Director of Corporate Planning

MacMillan Bloedel Limited
- position not disclosed

MacMillan Company of Canada Limited
- Chairman and President

Maple Leaf Mills Limited
- President

Marine Industries Limited
- Vice President, Personnel and Finance

Marshall Wells Limited
- President

Massey-Ferguson Limited
- Director of Logistics

Melton Real Estate Limited
- President

Merck, Sharp and Dohme of Canada Limited
- Director of Chemical Sales

MLW-Worthington Limited
- President

Molson Breweries Limited
- Vice President, Corporate Planning

Montreal Trust Company
- Executive Vice President
Moore Corporation Limited
- President
National Sea Products Limited
- President
National Trust Company Limited
- President
Northern and Central Gas Company Limited
- Assistant to President
Northwest Industries Limited
- President
Nova Scotia Light & Power Company Limited
- Assistant General Manager
Ogilvie Flour Mills Company Limited
- Vice President, Technical
Pacific Gas Transmission Company
- President and General Manager
Pacific Western Airlines Limited
- position not disclosed
Penmans Limited
- Vice President and General Manager
Petrofina Canada Limited
- Manager of Technical Planning
Phillips Cables Limited
- President
Phillips Electronics Industries Limited
- Assistant Treasurer
Polymer Corporation Limited
- position not disclosed
RCA Victor Company Limited
- Controller
Rio Algom Mines Limited
- Executive Vice President, Corporate Staff
Rolland Paper Company Limited
- President and General Manager
Rolls-Royce of Canada Limited
- Executive Vice President
Rothmans of Pall Mall Canada Limited
- position not disclosed
Royal Bank of Canada
- Chief Accountant and Controller
Salada Food Limited
- President
Savage Shoes Limited
- Executive Vice President
Scott Paper Limited
- Executive Vice President
Shell Canada Limited
- Executive Vice President
Silverwood Dairies Limited
- President and Chief Executive Officer

Simpsons' Limited
- Vice President

Southam Press Limited
- Vice President

Standard Paving and Materials Limited
- Secretary-Treasurer

The Steel Company of Canada Limited
- Vice President, Planning, Engineering and Research

Traders Group Limited
- President

Trans Air Limited
- Director of Planning

Texaco Canada Limited
- Manager Economics Department

Toronto Dominion Bank
- Superintendent Systems Planning

Toronto Star Limited
- Vice President and Managing Director

United Aircraft of Canada Limited
- position not disclosed

Union Carbide Canada Limited
- General Manager

Union Gas Company of Canada Limited
- Vice President, Finance and Treasurer

Wabasso Limited
- Vice President and Secretary Treasurer

Warner-Lambert Canada Limited
- Chairman

Westfair Foods Limited
- President

Westinghouse Canada Limited
- position not disclosed

Weldwood of Canada Limited
- Vice President

W.J. Gage Limited
- President

Zeller's Limited
- President and Chief Executive Officer

APPENDIX III

SUMMARY OF LONG RANGE PLANNING RATING SURVEY - ADDITIVE METHOD -

APPENDIX III

SUMMARY OF LONG RANGE PLANNING RATING SURVEY - ADDITIVE METHOD

The ten LRP planning characteristics which the researchers used were as follows:

		Average Value
1)	The existence of an annual review of the long range plans themselves,	3
2)	The existence of a corporate strategy through which the company plans to achieve its goals and/or objectives,	4
3)	The existence of long range forecasts which are revised on a regular basis for any three of: markets, sales, production facilities, funds, personnel,	3
4)	The existence of standard practices for conducting the long range planning effort,	3
5)	The existence of written goals and objectives,	2
6)	The existence of objectives which are specified in quantitative terms,	2
7)	The existence of standard practices for formally reviewing and updating long range plans,	2
8)	The existence of a corporate strategy that is written,	2
9)	The existence of an annual review of long range planning procedures and methods,	2
10)	The existence of a full time planning staff.	2
		25

Note: The above ten LRP characteristics are presented in random sequence.

APPENDIX IV

LONG RANGE PLANNING RATING SURVEY - MULTIPLICATIVE METHOD

APPENDIX IV

LONG RANGE PLANNING RATING SURVEY - MULTIPLICATIVE METHOD

A number of researchers have gathered data on the long range planning effort of a large number of Canadian firms. These researchers would like your assistance in overcoming some problems. Attached are descriptions of the particular long range planning characteristics which existed in certain of their sample firms. They would like you to help them assess the relative intensity of the long range planning effort among the firms by giving each of the described firms a score between 0 and 100. A score sheet is attached for this purpose.

The ten LRP planning characteristics which the researchers used were as follows:

1) The existence of an annual review of the long range plans themselves,

2) The existence of a corporate strategy through which the company plans to achieve its goals and/or objectives,

3) The existence of long range forecasts which are revised on a regular basis for any three of: markets, sales, production facilities, funds, personnel,

4) The existence of standard practices for conducting the long range planning effort,

5) The existence of written goals and objectives,

6) The existence of objectives which are specified in quantitative terms,

7) The existence of standard practices for formally reviewing and updating long range plans,

8) The existence of a corporate strategy that is written,

9) The existence of an annual review of long range planning procedures and methods,

10) The existence of a full time planning staff.

For the purposes of this research the following terms were defined as follows:

- Company goals are broad qualitative statements which provide basic guidelines for the company's activities.
- Company objectives are quantitative statements generally falling within the broad framework of the company goals.
- Strategy is a set of top management decisions that commit the organization and its resources to a sequence of major moves designed to accomplish agreed upon goals and/or objectives. These moves are conditional, depending upon the firm's environment in the future. A specific date should be set for each of these future moves.
- Long Range Planning is primarily formulating company goals and objectives and establishing a strategy for accomplishing these goals and objectives.
- Standard practices are written procedures outlining a planned approach to long range planning activities.

For each of the following companies, evaluate and score the intensity of their LRP effort. For relative purposes, Company C1 has a score of 100. Each of the other firms should have a score relative to firm C1. The firms are ordered in series for tabulation purposes and not because of their LRP effort.

Sample Companies

Long Range Planning Characteristics	D4	D3	D2	D1	A12	A11	A10	A9	A8	A7	A6	A5	A4	A3	A2	A1	B2	B1	C8	C7	C6	C5	C4	C3	C2	C1
1) Annual Review	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2) Strategy	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3) Forecasts					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4) Standard LRP Practices		X	X	X					X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X
5) Written Goals	X	X	X		X	X	X		X	X	X						X	X	X	X	X	X	X	X	X	X
6) Quantified Objectives	X	X			X	X						X					X	X		X	X	X	X	X	X	X
7) Standard Formal Review				X	X				X	X		X	X						X	X	X	X	X	X	X	X
8) Written Strategy					X	X	X	X	X				X						X	X	X				X	X
9) Annual Review of Procedures		X			X				X								X		X		X	X	X			X
10) Planning Staff									X			X		X					X				X	X	X	X
Long Range Planning Rating																										
Average Rating From Polling	46	53	43	40	77	63	57	49	86	63	58	66	61	52	48	41	73	67	85	84	91	81	89	83	92	100

APPENDIX V

SAMPLE LETTER REQUESTING FINANCIAL INFORMATION

APPENDIX V

The University of Western Ontario, London 72, Canada

School of Business Administration

April 2, 1974.

I would very much appreciate your assistance in providing me with some information about your company. This information request is for use in the remaining thesis research work involved in my completion of the requirements for a Ph.D. degree in business administration. Although the information needed will take only a few minutes of your time it is vitally important to this thesis research.

My thesis is studying the relationship of firm size and firm growth to the practice of long range planning. This is an important subject area that to date has received very limited research attention. Your company is among a number of companies chosen to contribute to this study by providing needed comparative information.

If you would take the few minutes required to fill out the information below and return this letter or a copy of it to me by April 15, it will be greatly appreciated. As a chartered accountant, I assure you that this information will remain absolutely confidential.

	1972	1971	1970	1969	1968
Assets					
Sales					
Profit					
Employees					

Yours very truly,

GAS:gb

Gary A. Sheehan, C.A.
Telephone- 519-679-6055

BIBLIOGRAPHY

Books

Ackoff, Russell L. A Concept of Corporate Planning, Oxford: Permagon Press Ltd., 1971.

Andrews, Kenneth The Concept of Corporate Strategy, Homewood, Ill.: Dow Jones Inc., 1971.

Ansoff, H. Igor Corporate Strategy, New York: McGraw-Hill Book Company, 1965.

Argenti, John Corporate Planning - A Practical Guide, Homewood, Ill.: Dow Jones-Irwin Inc., 1969.

Cannon, T.J. Business Strategy and Policy, New York: Harcourt Brace and World Inc., 1968.

Cyert, Richard M. and March, James G. A Behavioral Theory of the Firm, Englewood Cliffs, N.J.: Prentice-Hall Inc., 1965.

Galbraith, John K. Economics and the Public Purpose, Boston: Houghton Mifflin Company, 1973.

Galbraith, John K. The Affluent Society, Toronto: The New American Library Limited, 1970.

Galbraith, John K. The New Industrial State, Toronto: The New American Library of Canada Ltd., 1967.

Henry, Harold W. Long Range Planning Practices in 45 Industrial Companies, Englewood Cliffs, N.J.: Prentice-Hall Inc., 1967.

Learned, Edmund P., Christensen, C. Roland, Andrews, Kenneth, R. Gurth, William, D. Business Policy, Homewood, Ill.: Rihcard D. Irwin Inc., 1969.

Mason, Robert D. Statistical Techniques in Business and Economics, Homewood, Ill.: Richard D. Irwin Inc., 1974.

McArthur, John H. and Scott, Bruce R. Industrial Planning in France, Boston: The President and Fellows of Harvard College, 1969.

Morrison, D.E. and Henkel, R.E. The Significance Test Controversy - A Reader, Chicago: Aldine Publishing Company, 1970.

Nie, Norman H., Brent, Dale H. and Hull, C. Hadlai, Statistical Package for the Social Sciences, New York: McGraw-Hill Book Company, 1970.

Penrose, Edith T. The Theory of the Growth of the Firm, Oxford: Basil Blackwell and Mott, Ltd., 1959.

Scott, Brian W. Long Range Planning in American Industry, New York: American Management Association, 1965.

Siegel, Sidney Non-parametic Statistics for the Behavioral Sciences, Toronto: McGraw-Hill, 1966.

Steiner, George A. Top Management Planning, New York: The Macmillan Co., 1969.

Thompson, Stewart How Companies Plan - AMA Research Study 54, New York: American Management Association Inc., 1962.

Vancil, Richard F. Formal Planning Systems 1971 - A Collection of Research Reports Presented at the 4th Annual Workshop for Planning Executives, Cambridge, Mass.: The President and Fellows of Harvard College, 1971.

Warren, E. Kirby Long Range Planning: The Execution Viewpoint, Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1966.

Reports

Braithewaite, J.L. et. al. A Survey of Long Range Planning in Canadian Industry, London, Ontario: unpublished dissertation, The University of Western Ontario, 1969.

Cleland, David Origin and Development of a Philosophy of Long Range Planning in American Business, Cleveland: unpublished dissertation, The Ohio State University, 1962.

Mintzberg, Henry Strategy Making in Three Modes, Montreal: Faculty of Management Working Paper, McGill University, April 1972.

Najjar, Mohamed A. Planning in Small Manufacturing Companies: An Empirical Study, Cleveland: unpublished dissertation, The Ohio State University, 1966.

Polishuk, Paul Long Range Planning in the Aerospace Industry, Preliminary Draft to the Air Force Flight Dynamics Laboratory, Wright-Patterson Air Force Base, Ohio: Department of the Air Force, December 23, 1969.

Thain, Donald H. Long Range Planning, Business Policy Course Note No. 5, London, Ontario: School of Business, The University of Western Ontario.

Thain, Donald H. "Corporate Strategy", IMEDE General Course Memorandum Note No. 12, Lausanne: IMEDE, 1965 and 1966.

Periodicals

Bower, John L. Strategy as a Problem Solving Theory of Business BP894, Boston: Harvard Business School, 1967.

Burke, C.J. "Measurement Scales and Statistical Models", Theories of Contemporary Psychology, edited by M.H. Marx, New York: The Macmillan Company, 1963.

Herold, David L. "Long Range Planning and Organizational Performance: A Cross Valuation Study", Academy of Management Journal, March 1972.

Lindbloom, Charles "The Science of Muddling Through", Business Strategy, edited by H. Igor Ansoff, Middlesex: Penguin Books Inc.

Thain, Donald H. "The Coming Crunch in Federal Government Business Relations", The Business Quarterly, London, Ontario: School of Business Administration, The University of Western Ontario, Autumn 1970.

Thune, Stanley and House, Robert "Where Long Range Planning Pays Off - Findings of a Survey of Formal, Informal Planners", Business Horizons, August 1970, pp. 82-87.

Wrapp, H. Edward "Good Managers Don't Make Policy Decisions", Harvard Business Review, Boston: Harvard Business School, September-October 1967.