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FORMAL PLANNING SYSTEMS: THEIR ROLE IN STRATEGY FORMULATION AND IMPLEMENTATION

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I. Introduction

This paper attempts to survey the empirical-based research literature on long-range formal planning processes for corporations, and to assess the state of the art of the research-based body of knowledge on formal planning systems. Its scope is thus limited in several ways. First, we shall be dealing solely with the planning process as it goes on in profit-making corporations. Thus, although our discussion might have relevance for a broader set of applications, planning in organizations such as those in the public sector will not be discussed. Further, we shall limit ourselves to formalized planning processes. Formalized systems become particularly useful in instances where the company has grown too diverse, big, or interrelated to handle planning informally. Not surprisingly, therefore, most of the research findings to be discussed will be dealing with larger organizations. And since formal planning concepts have been extensively developed by companies in the industrial sector, we shall confine ourselves to discussing planning efforts in large, complex industrial corporations.

It seems increasingly clear that the systems approach to strategy formulation and implementation, as signified by formal planning systems, is only one of many aspects relating to effective strategy formulation and implementation; several other factors might contribute equally or more to a corporation's strategic success. One is the intellectual process of developing a good substantive strategy, without which no formal planning system or process can suffice. Although the formal planning system is intended to facilitate the development and implementation of the company's strategy, it is clear that the element of managerial vision, strategic

understanding and "feel" is critical. No formal strategic planning system can compensate for managerial insight and the will to manage strategically. As a corollary, it becomes difficult to discuss planning systems in isolation from the substantive strategic decisions that might face the firm.

Organizational structures and processes is another key area that affects strategy implementation. Formal planning systems cannot function in a vacuum but need to be reinforced by other formal systems, such as management control, managerial accounting, management information and management incentives and compensation. Again, however, at the expense of being unrealistically narrow, we shall not discuss these issues of how the formal planning system can be positioned as one element of an overall strategic system.

In summary, then, the focus of this paper has been kept intentionally narrow in several ways, by only dealing with research on formal planning systems in relatively large, profit-making industrial organizations, by separating the issues of designing a planning system from the decision-making tasks of facing specific substantive strategic choices, and by not focusing on other interrelated systems that also play important roles in the formulation and implementation of strategy.

II. Classification System and Overview

There are several potentially useful ways of classifying the research literature for the purpose of a survey like the one undertaken here. A conceptually appealing approach would be to outline a normative/theoretical

framework for long-range planning for then to compare the various empirical research findings against this conceptual scheme. This would allow us to assess the extent to which the various aspects of the conceptual framework seem to be validated by the empirical findings, or, alternatively, to specify areas of modifications that seem to be called for in order to improve on the relevance of the conceptual scheme. This logico-experimental approach, although superior from a research methodology point of view, does however raise several practical problems if attempting to apply it in our present task. A primary concern is the newness of long range planning as a field for research. Consequently, a commonly accepted conceptual scheme has hardly yet emerged; on the contrary, the nature of much of the research at this embryonic stage has been focused on delineating what might be relevant parameters in a conceptual scheme for planning. We might characterize this research effort as a preliminary step anticipating the evolution of the field to a stage where the state-of-the-art can be sufficiently operationally described to allow for a logico-experimental research thrust. A second concern is our desire to be able to reconcile a broad set of empirical studies in our discussion, done during the recent two decades, reflecting an often dramatic progress in our understanding of formal planning systems as a management tool and, consequently, also often with vastly differing research purposes in mind. A framework following strict conceptual lines would blur our sense of direction of progress over time, an important consideration for being able to understand where the field might be going.

Consequently, we shall organize our discussion in such a way that the dynamic direction of progress in the field gets highlighted. It

shall therefore be useful to first review the rather broad research literature which attempts to address the rationale for formal planning in general -- why do we need a planning approach and what might be its payoffs -- for them to review a set of studies which have a somewhat more sharpened focus in that they address issues of how to establish a long-range planning system, such as what seem to be the most common general pitfalls in implementation? Moving one important step further in terms of added focus of the research, our next task will be to review the literature on how to design aspects of a formal planning system so that this might reflect differing corporate situational settings, address the question of what seems to work for different types of companies. This will bring up to where the bulk of the research activities in the field seem to be going on as of today. It shall be a logical next step, then, to ask the question of what will be a likely and useful evolution of direction for research to take us from here. Our survey of empirical studies on planning shall, thus, be followed by a sequel section where we shall discuss the potential research directions that we see.

Our discussion of the empirical knowledge-base on formal planning -- retrospective, perspective and prospective -- cannot be properly interpreted, however, without a recognition of what seem to be some of the major problems and challenges in doing research in this area. This paper shall thus conclude with a few caveats for doing research on planning systems.

Before embarking on our review, let us point out one overall generalization about the studies as a whole, as well as one general limitation with respect to our discussion. As we shall see there seems

to be a generally strong empirical verification that formal planning has reached a high degree of usefulness and seen to be generally beneficial. Also the areas of general pitfalls of formal planning seem to have been excessively research. However, when it comes to research that focuses on contingency-related issues for planning systems design there seems to be much less research undertaken and, not unexpectedly, also a less clear pattern of consensus as to the implications of the research results. Thus, the interpretations and viewpoints of this reviewer become relatively more important during this portion of the discussion. This subjective element will be even more pronounced when it comes to discussing fruitful research directions. Thus, although we have attempted to be as objective as possible in our review of the various stages of research in this field, it is inevitable that some element of personal bias will be present. Most important in this respect is probably the reviewer's belief that formal long-range planning systems might contribute more usefully to strategy formulation and implementation when such "systems" are seen primarily as decision-process elements of a larger strategic management process, rather than being isolated as a separable body of knowledge about formal planning systems as such.

III. Planning's Acceptance and Payoffs

In this section we shall discuss the empirical research literature which deals with issues relating to the general acceptance and payoffs of formal planning. Starting with surveys of the rate of acceptance of planning, i.e., the degree to which planning is being used, Ringbakk asserts that very few corporations had adopted what we would call systems

for corporate planning prior to 1960. The major waves of adoption came from 1962 to 1965 for U.S. firms and from 1964 to 1969 for European firms.[1] Studies by Ringbakk[2,3] for the U.S.A. and by Kempner and Hewkin[4] and Taylor and Irving[5] for the United Kingdom indicate that the degree of use of formalized corporate planning is somewhat less than might have been expected. According to Ringbakk,

> "Organized corporate long-range planning is neither as well accepted nor as well practiced as suggested by the literature on the subject."[6]

And Taylor, et al, concluded that,

> "Corporate planning in major U.K. companies is neither as well developed nor as fully accepted as one might expect."[7]

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[1]Ringbakk, K.-A., "The Corporate Planning Life Cycle - An International Point of View", Long Range Planning, 1972.

[2]Ringbakk, K.-A., Organized Planning in Major U.S. Companies - A Survey, Stanford Research Institute, 1969.

[3]Ringbakk, K.-A., Organized Corporate Planning Systems - An Empirical Study of Planning Practices and Experiences in American Big Business, Unpublished Ph.D. Thesis, University of Wisconsin, 1968.

[4]Hewkin, J. W. M. and T. Kempner, "Is Corporate Planning Necessary?", BIM Information Summary, December 1968.

[5]Taylor, B. and P. Irving, "Organized Planning in Major U.K. Companies", Long Range Planning, June 1971.

[6]Ringbakk, K.-A., Organized Planning in Major U.S. Companies - op cit.

[7]Taylor, et al, op cit.

A number of studies have been made to establish the potential payoff of planning. Thune and House[1] undertook a study in which from an initial sample of 96 corporations, 26 were matched in terms of industry and size into six industry groups. This study showed that, when measured in terms of earnings, companies with formal planning tended to achieve better performance after this. Herold[2] attempted to replicate the study of Thune, et al, but focused on two industries only and with a sample of only five pairs of companies. Both in terms of sales and profits the companies with formal planning performed better than those with informal planning. Karger reports on a study comparing high-growth with low-growth U.S. corporations in which "93 percent of high-growth companies rated the 'Setting of Basic Objectives' and the 'Setting of Goals for the Years Ahead' as important factors whereas low-growth companies rated these items 81 and 88 percent respectively".[3] Although these differences are not large they nevertheless may suggest that the goal-setting process is more emphasized in effective corporations than in less effective ones. Taylor, et al's study of 27 large U.K. companies indicates that,

> "while any assessment of planning benefits must be largely subjective, it is perhaps worth noting that virtually all respondents were enthusiastic about the benefits to be derived."[4]

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[1]Thune, S. and R. House, "Where Long-Range Planning Pays Off", Business Horizons, August 1970.

[2]Herold, D. M., "Long Range Planning and Organizational Performance: A Cross-Valuation Study", Academy of Management Journal, March 1972.

[3]Karger, D. W., "Integrated Formal Long Range Planning and How to Do It", Long Range Planning, December 1973.

[4]Taylor, et al, op cit.

A final study by Perkins and Sugden also attempts to evaluate the effectiveness of formal planning systems in general.[1] This study was part of a large empirical research project on planning undertaken at Harvard Business School, which will be discussed later. After stating definitions of the "purpose" of planning and planning's "effectiveness", an index of planning effectiveness was developed. Thus, the relationship between purpose and effectiveness was expressed in a single quantifiable measure. However, the study failed to come up with significant results.

A team of researchers at Carnegie-Mellon University under the leadership of Ansoff undertook a study of the potential payoff from planning when making acquisitions.[2] The study addressed solely the phenomenon of diversification planning undertaken at the corporate level of the organization. Ninety-three corporations which had acquired 299 other firms were studied. Two different planning behaviors were identified, namely those firms which took an unplanned opportunistic approach and those which planned systematically. Measures of success were both objective as measured by profits and stock performance, taken from the Compustat tapes, as well as perceived effectiveness measures. The main results, which were all significant within reasonable confidence levels were as follows:

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[1]Perkins, A. E. and B. K. Sugden, "Purposes and Effectiveness of Formal Planning Systems", in Vancil, Richard F., ed, Formal Planning Systems - 1971, Harvard Business School, Boston, 1971.

[2]Ansoff, H. I., J. Avner, R. G. Brandenburg, F. E. Porter, and R. Radosevich, "Does Planning Pay? The Effect of Planning on Success of Acquisitions in American Firms", Long Range Planning, December 1971.

> "Although subjective evaluation of results by management does not differ greatly between planners and non-planners, objective financial measurements show a substantial difference. ... On virtually all relevant financial criteria, the planners ... significantly outperformed the non-planners....(Also,) they performed more predictably than non-planners. Thus, planners appear to have narrowed the uncertainty in outcomes of acquisition behavior."[1]

Lorange undertook a study of what seemed to be more effective as opposed to less effective designs of planning systems for major capital expenditures. This study was heavily based on the contingency theory concept. In it, he attempted to correlate the "tailoring" of a system to the given setting of a company, and measured systems effectiveness according to an index of perceived effectiveness.[2] With this he found significant differences at the 95 percent or better level between the more effective and the less effective subsamples when it came to two out of 10 possible systems design elements. Using an index for the rate of financial growth as an alternative effectiveness measure, he found significant differences at the 95 percent or better level between more and less effective subsamples for only one of the 10 design factors. A

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[1]Ansoff, et al, op. cit.

[2]Lorange, P., Tailoring the Capital Budgeting System to the Behavioral Style of Management, D.B.A. Thesis, Harvard Business School, Boston, 1972. See also Lorange, P., Behavioral Factors in Capital Budgeting, Norwegian University Press, Bergen, Norway, 1973.

third alternative effectiveness measure, an index for "the degree of confronting as a problem solving style", gave no significant differences between the more effective and the less effective subsamples along any of the 10 systems design dimensions.[1]

Given the apparent difficulties of estimating the effects of formal planning based on real-life company data, one might speculate that experimental research design approaches could be an alternative. Surprisingly, we know of only two experiemental studies of the effects of formal planning. The first is a study by McKinney[2], which focused on how systematic approaches to strategic planning might aid in developing better corporate strategies. The effects of two alternative formal planning approaches were tested, namely,

> "the dominant concept for a formal approach to strategic planning -- it focuses on allocating corporate resources to meet opportunities in the environment. The other approach is oriented instead at detailing desirable improvements in the corporate strategy -- at the tactical elements that make up corporate strategy."[3]

These procedures were based on Cannon's strategy concepts.[4] The strategies were operationalized as computer-based check-lists and made

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[1]This surrogate measure for systems effectiveness has been suggested by Lawrence and Lorsch; see Lawrence, P. R. and J. W. Lorsch, Organization and Environment, Division of Research, Harvard Business School, Boston, 1967.

[2]McKinney, III, G. W., An Experimental Study of the Effects of Systematic Approaches to Strategic Planning, Unpublished Ph.D. Thesis, Stanford University, Palo Alto, 1970.

[3]Ibid.

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

available in the form of an experiment to Master's students for solving a policy case. Judges then rated the quality of these strategies. An important result emerged: The performance of the students using the formal planning system which laid out a pattern of resource allocation to an overall set of opportunities was much higher than the performance of the students using the increments-driven "tactical" planning system. Thus, a broad overall consistent approach to planning seems advantageous as a tool for better strategic decisions.

Lee[1] studied the performance of competing "companies" run by teams of senior executives as well as Master's students in the context of a management game situation. He found that teams that formulated more focused corporate goals and objectives tended to outperform teams that took a more informal approach towards goals- and objectives-setting. It seems particularly interesting that in a highly time-pressure oriented setting such as when playing a management game, a more formalized approach towards planning and policy formulation seemed to pay off. A total of 24 teams of 4-7 students were part of the study. There was no difference between the performance of the teams composed of senior executives versus those composed of Master's students when it came to the benefits from formalized planning; in both instances a more formal approach seemed to pay off.

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[1] Lee, D., "Strategic Decision Making in a Management Game: An Experimental Study of Objectives Setting and Consistency in Complex Decision-Making", Sloan School of Management, M.I.T., Working Paper No. WP 887-76, Cambridge, 1976.

The general pattern of the results from the studies just reviewed seems to indicate that formal long-range planning indeed is an accepted management tool, that might provide competitive advantages to those companies that adopt such systems. Thus, at a highly generalized level there seems to be strong indications that planning might pay off. This conclusion is however neither particularly surprising nor particularly useful. What would be potentially useful to know but what is however not being shed much light on by the results of most of the studies just cited is the question of specifically what potential benefits that seem to be yielded by different types of planning approaches. However, given the number of factors that may affect the performance of a corporation, not only such as the degree of effectiveness of management systems other than the planning system, but also the goodness of strategic choices actually made by management as well as a component of "sheer luck", it seems a priori unlikely that one should be able to establish strong detailed causal empirical relationships between a firm's adoption of formal planning and its performance, at least not unless the company's performance is judged over an excessively long period of time. Therefore, it is probably not surprising that no more specific conclusion as to what are the more tangible benefits from planning seems to emerge from the studies just reviewed.

Two potential shortcomings in the designs of several of the studies might however also account for the inability to verify more specifically the ways that effective formal planning might pay off. First, several of the studies neglected to specify what type of planning they have in

mind, be it corporate level portfolio planning, divisional level business planning or functional planning.[1] Thus, except for the studies by Ansoff et al and Lorange (1972), planning was being treated as a broad phenomenon, and little effort was being made to distinguish with what sort of planning one is dealing. Thus, the problem largely still remains in deciding which planning activities proved specifically advantageous. In future attempts to establish the usefulness of planning, care should be taken to focus on each particular type of planning separately; if not, potential patterns of empirical causality might be "averaged" out.

Secondly, the measures of planning's effectiveness that have been used might not be as relevant as we might wish; many of these measures have attempted to assess effectiveness by means of some general surrogate variable, when it probably would be more relevant to determine planning's effectiveness as a function of how well the formal planning system's capabilities are able to meet the specific planning needs at hand for a given company.[2] Such an approach towards researching whether there is a

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[1]It is outside the scope of this paper to discuss conceptual approaches to the structure of formal planning systems; however, there seems to be a general consensus that it is useful to consider three levels of strategic planning, as indicated above. See, for instance, Vancil, R. F., "Strategy Formulation in Complex Organizations", Sloan Management Review, Winter 1976, or Lorange, P. and Vancil, R. F., "Strategic Planning in Diversified Companies", Harvard Business Review, Jan.-Feb., 1975.

[2]See Lorange, P., "An Analytical Scheme for the Assessment of a Diversified Company's Corporate Planning System: Needs; Capabilities; Effectiveness", Sloan School of Management, M.I.T., Working Paper No. 964-77, Cambridge, 1977.

relationship between high performance and high planning effectiveness, when effectiveness is defined as the degree of "match" between a particular firm's specific planning needs and its specific planning capabilities, would however probably require a highly clinically based research design, emphasizing an in-depth assessment of planning needs and capabilities for a given firm, i.e., probably an approach involving smaller samples than was the case in the studies discussed in this section.

While the focus of the research discussed this far has been focused primarily on establishing a verification that the planning approach is a useful management tool in general, we have paid little attention this far to what specific factors that we may have to consider in order to implement planning and actually achieve the potential benefits from the approach. This will be discussed in the next section.

IV. General Pitfalls of Planning

Let us now discuss a few studies which address how to make planning work. Ringbakk reports on a survey study of 350 companies, of which 65 companies participated in an interview study and 285 responded to a questionnaire which listed a total of 32 planning problem issue questions.[1] These companies were based in the United States, as well as in Europe. This study revealed ten common reasons why the planning process typically might malfunction:

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[1]Ringbakk, K.-A., "Why Planning Fails", European Business, No. 29, Spring 1971.

1. Corporate planning has not been properly integrated with the rest of the company's management systems;
2. There may be a lack of understanding of certain dimensions of planning, such as lack of consideration of alternative strategies or exclusion of alternative courses of action;
3. Management at various levels in the organization may not be participating properly in planning;
4. A staff planning department, not the line, has gotten the brunt of the planning responsibility;
5. There may be a misconception among many managers that they actually expect the plans to be realized, despite the fact that new events almost inevitably will change the assumptions of the plan;
6. Often, too much may be attempted at once when starting formal planning;
7. There may be a lack of willingness among management to follow the plan in their operating decisions;
8. Extrapolations and projections may be confused with planning;
9. There may be elements of inadequate or unbalanced inputs in planning, such as too little environmental input, or too little participation in projections by top management, engineering or marketing personnel;
10. Small planning details may distract and hamper the development of an overall view of planning.

Some of these reasons, notably 4, 6 and 8, simply seem to indicate a lack of general pragmatic competence among management with respect to how to approach the task of implementing planning. The other reasons, however, suggest that the planning process in this large sample of real-life companies does not particularly seem to resemble what we might call a mode of rational or optimal decision-making choice behavior. Rather the nature of the pertinent implementation problems seem to indicate that long-range planning activities in most companies is more in line with the so-called organizational behavior decision-making approach, as a more realistic way to describe what goes on in real life. (Look at problem 2, for example!) This is consistent with the view taken by the so-called "behavioral theory" school which see the planning process primarily as one of facilitating organizational directions as a result of a combined set of inputs of limited rationality rather than one of rational choice with respect to one unified directional thrust as such.[1] Thus, it seems as if the behavioral implementation "realities" of planning imply that we may be dealing with a process significantly characterized by limited search, bounded rationality and suboptimization.

Unfortunately, empirical data is given only to verify problems two, seven and nine on the above list in Ringbakk's study. Also, since the findings were not crosstabulated against subgroups of respondents, it is not possible to conclude whether the findings are relevant to all types of planning or, say, primarily to portfolio planning, or to business planning, and so on. This seems particularly critical because the sample

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[1]Cyert, R. M., and J. March, A Behavioral Theory of the Firm, Prentice-Hall, Englewood Cliffs, 1963, Cohen, K. J. and Cyert, R. M., "Strategy: Formulation, Implementation, and Monitoring", Journal of Business, July 1973, or Allison, G., Essence of Decision, Little Brown, Boston, 1971.

includes mining and raw materials processing corporations as its biggest industry group. Such companies would normally be managed in a more centralized way than firms in several of the other industry groups which normally would be expected to be more diversified. Thus, the fact that the findings are not reported in a form which would correspond to a contingency that would distinguish between the planning tasks of these different companies probably limits the usefulness of the results. Also, the variance in sales and number of employees is high and indicates a heterogeneous sample, another reason why a contingency analysis of this kind of data seems appropriate.

Taylor and Irving undertook a survey study of corporate planning practices in 27 large United Kingdom based corporations.[1] They defined corporate planning to be:

a) The formal process of developing objectives for the corporation and its component parts, evolving alternative strategies to achieve these objectives and doing this against a background of a systematic appraisal of internal strengths and external environmental changes.

b) The process of translating strategy into detailed operational plans and seeing that these plans are carried out.

Thus they limited their study to corporate level portfolio planning, and were hence also explicit about what type of planning that was being researched, a definite strength of this study. However, they solicited

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[1]Taylor et al, op cit.

response from corporate planners solely and not from line managers; there might be a systematic "optimistic" bias in the data due to this.

One finding of Taylor, et al, is that formal planning seems to require a particular type of systematic upper management attitude, and that informally managed organizations will have to change management style if attempting to undertake planning. This seems to raise the question of seeing style as an independent variable, i.e., as a given, to which we shall have to tailor the system's design. Thus, failure of planning may result from inappropriately tailormaking the design of the planning systems for organizations, reflecting that their situational settings may differ in terms of the formality of their management styles.

Twelve major reasons were given why formal planning was needed; 36% of the reasons quoted related to "external" reasons, 40% related to "internal" needs and 24% were unspecified. The dominant external need shown was to enable better response to environmental changes, while the major internal need was to coordinate overall internal activities better following decentralization. This corresponds to what has been postulated in a number of normative studies on planning, namely, that a formal planning system should fulfill two major types of tasks, namely adaptation to environmental opportunities and/or threats as well as integration of the internal pattern of activities so as to reap benefits from strengths and/or ameliorate effects from weaknesses.[1] The formal planning system's capacity

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[1]See Lorange, P., Corporate Planning: An Executive Approach, Prentice-Hall, Englewood Cliffs, 1979, Hax, A. C. and N. S. Majluf, "Towards the Formalization of Strategic Planning - A Conceptual Approach", Technical Report No. 2, Sloan School of Management, M.I.T., 1977, do., "A Methodological Approach for the Developing of Strategic Planning in Diversified Corporations", Technical Report No. 3, Sloan School of Management, 1977, and Malm, A. T., Strategic Planning Systems, Student Litteratur, Lund (Sweden), 1975.

to facilitate adaptation through "opportunistic surveillance"[1] will probably be relatively more important when the environment is rapidly changing than when it is more stable.[2] Its capacity to facilitate integration will probably be relatively more important when the company is relatively more differentiated as well as larger and more diversified.[3]

As to which factors had provided major stimulus for planning, the occurrence of tangible events such as major personnel turnover, organizational changes or some sort of a crisis seems to be very significant. This seems to be consistent with findings relating to the implementation of more structural management systems such as management information systems.[4] It also seems consistent with the clinical intervention theories for organizational change developed by Schein and others.[5]

The major internal "political" problem arose when planning was seen as embracing activities traditionally carried out by other functions.

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[1]Thompson, J. D., Organizations in Action, McGraw-Hill, New York, 1967.

[2]Gordon, I. E. and D. Miller, "A Contingency Framework for the Design of Accounting Information Systems", Accounting, Organizations and Society, 1976.

[3]Vimberly, J. R., "Organization Size and the Structuralist Perspective: A Review, Critique and Proposal", Administrative Science Quarterly, Dec. 1976.

[4]Keen, P. G. W., (ed.), The Implementation of Computer-Based Decision Aids, Center for Information Systems Research, Sloan School of Management, Cambridge, 1975.

[5]Schein, E. A., Process Consultation: Its Role in Organization Development, Addison-Wesley, Reading, 1969, do., "Increasing Organizational Effectiveness through better Human Resource Planning and Development", Sloan Management Review, Fall 1977, and Beckhard, R. D., Organization Development: Strategies and Models, Addison-Wesley, Reading, 1969.

The role of careful and open information and communication, attempts not to preserve old interests, and the active role of the top management were seen as important factors in removing such political problems. This seems consistent with the clinical findings of Lorange which indicate that a major barrier to more effective implementation of strategic programs is a tendency among the various functions not to adequately cooperate in what might be seen as a predominantly crossfunctional process. An important general management role seems to be to facilitate such cooperation on strategic programs.[1] Several interesting case studies have also been reported which illustrate the need to create a strategic mode of cooperation among management which might differ from the operating mode.[2]

As to the role of the planner it was found that "...the common theme was that planning is a line job. The role of the planner therefore is not to do the planning but to design, sell and direct the planning effort."[3] Given that Taylor, et al, look at planning at the corporate level only, it seems to be a very plausible finding that the planner should be a system's "catalyst", not a plans "analyst". This is consistent with the normative

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[1]See Lorange, P., "Implementation of Strategic Planning Systems" in Hax, A. C. (ed.) Studies in Operations Management, North Holland/American Elsevier, New York, 1978.

[2]See "Texas Instruments Incorporated", in Lorange, P. and R. F. Vancil, Strategic Planning Systems, Prentice-Hall, Englewood Cliffs, 1977, and Goggin, W., "How the Multi-Dimensional Structure Works at Dow-Corning", Harvard Business Review, Jan.-Feb., 1974.

[3]Taylor, et al, op. cit.

arguments of others,[1] and is also supported by case study profiles that indicate that this seems to be the appropriate role for the corporate planner.[2] However, at the divisional or functional levels the role of the planner does not necessarily have to serve an identical function. In fact these planners are probably "doers" much more than catalysts.

As to the chief executive's involvement, it was found that 33% of the chief executives were said not to be personally involved in strategic planning. This seems to be consistent with Ringbakk's finding that only 10% of the chief executives participated in the original development of plans.[3] Three major reasons were cited for the top executive's lack of involvement: misunderstanding about the nature of the planning process, short-term operations orientation and lack of planning philosophy.

The line managers were cited to have various types of motivations for planning, the most important being that planning would help them do a better job (30% response frequency), the second being corporate pride (22% response frequency). Only 3% response frequency indicated an interest in the role of planning in capital expenditure allocations and

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[1]See Ackerman, R. W., "Role of the Corporate Planning Executive", in Lorange, P. and R. F. Vancil, eds., Strategic Planning Systems, Prentice-Hall, Englewood Cliffs, 1977, and Lorange, P., Corporate Planning: An Executive Approach, "Ch. 7 - Executives' Roles in Planning", Prentice-Hall, Englewood Cliffs, 1979.

[2]See the following cases: "The State Street Boston Financial Corporation" in Lorange, P. and Vancil, R. F., eds., Strategic Planning Systems, op. cit. and E. G. & G. (A) and (B), Harvard Business School, 9-376-187 and 9-376-188, Boston, 1976.

[3]Ringbakk, K.-A., Organized Planning in Major U.S. Companies - op. cit.

its linkage to control. Somewhat surprisingly, this seems to indicate that planning's role in the resource allocation process is unemphasized, that is, that line managers do not see the full value of planning as a tool for "narrowing down options". The predominant characteristics of the planning process coming out of this study seem to resemble the behavioral model; in this respect Taylor, et al's findings seem to agree with Ringbakk's.

Steiner and Schoollhammer[1] undertook a survey study of pitfalls in long-range planning in 460 multinational corporations, about half of which were headquartered in the U.S., and the others headquartered in Japan, Canada, Great Britain, Italy or Australia. The ten most important pitfalls to be avoided when implementing planning were as follows:

1. Top management assumes that it can delegate the planning function to a planner.
2. Top management becomes so engrossed in current problems that it spends insufficient time on long-range planning, and the process becomes discredited among other management and staff.
3. There is a failure to develop company goals suitable as a basis for formulating long-range plans.
4. There is a failure to create a climate in the company which is congenial and not resistant to planning.
5. Top management fails to review with departmental and divisional heads the long-range plans which they have developed.

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[1]Steiner, G. A. and H. Schoollhammer, "Pitfalls in Multinational Long-Range Planning", Long Range Planning, April 1975. The methodology is based on Steiner, G. A., Pitfalls in Comprehensive Long Range Planning, The Planning Executives Institute, Oxford, Ohio, 1972.

6. Major line personnel fail to assume the necessary involvement in the planning process.
7. There is a widespread assumption within the company that corporate comprehensive planning is something separate from the entire general management process.
8. There is a failure to make sure that top management and major line officers really understand the nature of long-range planning and what it will accomplish for them and the company.
9. There is a failure to locate the corporate planner at a high enough level in the managerial hierarchy.
10. There is a failure to use plans as standards for measuring managerial performance.

It turned out that in general there was little dramatic difference between companies of different country origins, except for a few relatively minor characteristics. The most important pitfalls were also classified by organizational size. There was surprisingly little difference in the choice and ranking of variables due to size differentials. It is interesting to compare the small effect of size differentials among larger companies on the design of their formal planning systems with the noticeable effect of size differentials between relatively small companies and somewhat larger but still small companies on the designs of their formal planning system. Examining planning in 95 companies with annual sales in the range between five and fifty million dollars, Lorange found that the formality of planning in companies larger than 25 million dollars in sales was significantly higher than for smaller companies along several

design dimensions.[1] This might underscore that there typically will be a relatively large, one-shot investment in setting up a formal planning system, requiring a certain size to become affordable as an overhead item. Above this critical size range, however, the formality of the planning system and the costs of planning might not be expected to grow at as high rate as sales; hence, we find less variation in systems design due to sales differentials above a certain level.

Steiner and Schoollhammer also identified the least important pitfalls, and these revealed even less disparity among the different groups of respondents. An assessment was also made of the effects of various pitfalls on the perceived effectiveness of the long-range planning system. It turned out that the two pitfalls that most reduced planning's effectiveness (and, therefore definitely should be avoided) were lack of top management's awareness of the importance of the planning system and that corporate goals were not stated in clear and operational terms. In terms of overall satisfaction there does not seem to be as much dissatisfaction with the planning system as one might have expected. Divisionalized corporations tend to be slightly more satisfied with their planning systems than more centralized corporations. Further, there is a strong positive correlation between satisfaction with the planning system and the degree of formality of the system, as well as with the extent of written plan documentation, and some with the "age" of the planning system -- the older the system the more satisfaction.

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[1] See Lorange, P., "Administrative Practices in Smaller Companies," paper given at TIMS/ORSA conference on strategic planning, New Orleans, 1977.

The findings of Steiner and Schoollhammer call for two general observations. First, the general pitfall list of ten problem issues for the implementation of planning seems to verify, in general, the earlier findings by Ringbakk and by Taylor, et al, namely that effective planning should be seen as a strategic decision-making process, belonging to the line and reflecting that a relatively large number of managers will be involved in what might more resemble a behavioral process than an explicit optimal choice process. It is significant that these more recent findings corroborate this general pattern, particularly given the extreme care that seems to have been given to research design and pilot testing in the study by Steiner, et al. Secondly, Steiner, et al, report on very valuable contingency analysis results in their study. It is an important finding that many of the demographic factors they have tested, such as national origin of headquarter location, or size, do not seem to be as discriminatory as one might have expected in calling for different planning system design approaches. It is particularly interesting, however, that Steiner, et al, have attempted to measure user satisfaction with the planning system, and have found that users' perceptions do seem to differ. This might call for a measure of perceived effectiveness of planning among its users as a criterion for planning success rather than using success criteria based on the organization's performance as such. (In the next section this issue shall be pursued further.) It is also interesting that Steiner, et al, find degree of diversity/decentralization and the maturity of the planning systems to be two important situational factors, which verifies what has been postulated by Lorange and Vancil.[1]

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[1]Lorange, P. and R. F. Vancil, "How to Design a Strategic Planning System", Harvard Business Review, Sept.-Oct., 1976.

Now that we have established relatively broad evidence indicating that formal planning is a useful and valuable management approach and also have identified a set of common factors that seem to be important for the implementation of effective formal planning systems, our next question will be to address the issue of how to approach more specific aspects of the design of these formal planning systems, particulary so in order to enable such systems to "fit" the settings of different corporations.

V. Special Purpose and Contingency-Based Studies

There have been a number of what might be called special-purpose studies which are relevant in the context of our present discussion in that they focus on aspects of the design of formal planning systems, which, when taken together might take us one step further towards understanding the elements of a more full-fledged contingency-based theory of formal planning systems design.

An early attempt at such contingency-based special purpose studies stems from the so-called Harvard Business School Data-Bank Project.[1] During the years 1970 and 1971, under the direction of Vancil, an extensive set of data were collected from 60 and 90 organizations respectively, encompassing detailed measures of the situational setting, a large number of planning systems design characteristics and practices, and several effectiveness measures for planning. Given that the situational factors

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[1]See Aguilar, F. J., R. A. Howell, and R. F. Vancil, Formal Planning Systems - 1970, Harvard Business School, Boston, 1970, and Vancil, R. F., Formal Planning Systems - 1971, Harvard Business School, Boston, 1971.

(i.e., the set of independent variables) may partly or entirely relate to several systems design issues (i.e., sets of dependent variables), there is potentially great economy in building a data-bank as a research tool: the background information -- the independent variables -- may be collected once and remain constantly accessible in the data-bank. The dependent variables may then be collected separately by means of a number of short questionnaires, each addressing the particular research question in focus.

One of the Harvard Data Bank studies, undertaken by Lorange, was addressing some of the design problems which arise when suggesting planning systems to handle major investment decisions in large industrial companies.[1] He attempted to evaluate the supposition that, in order to be effective, a formal system for capacity expansion planning would have to be designed in such a way that the specific situational setting of the firm be reflected. Focusing attention on behavioral situational variables in particular, he proposed that ten controllable systems design factors, or dependent variables, be considered as elements of such a planning system, and seven situational human behavior factors, or independent variables, be used to reflect the setting of a firm. In order to explore the relationship between dependent and independent variables in effective systems, he developed an index of perceived effectiveness. Out of a total of 87 respondents, 30 turned out to be highly effective, 40 were in the middle, and 17 were less effective. By means of multiple regression he estimated the multivariate relationships between the seven independent variables and each of the dependent variables, both with the effective and the less effective samples as bases.

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[1]See Lorange, P., Tailoring..., op. cit., and Lorange, P., Behavioral..., op. cit.

Only four of the predictions were highly significant, indicating that in the more effective firms the degree of linkage of the project to plans and budget tended to be tighter, the incorporation of the shape of the cash-flow pattern tended to be more explicit, the degree of generality of the analytical approach tended to be less and the commitment to improvement of the planning method tended to be higher. Running factor analysis on the dependent and independent sets of variables, four situational, "independent" factors and four "dependent" factors were identified. It turned out that one design factor, the degree of detail in the system, depended strongly and positively on management's conflict resolution behavior. Two other design factors, technical complexity in the system, and the commitment to systems improvement, depended negatively on three factors: management's conflict resolution behavior, management's R & D orientation, and management's concern for operations. The final design factor, the financial orientation of the system, depended positively on both management's conflict resolution behavior and the planner's competence. In general, the multivariate analysis based on the factor-analysis reached similar conclusions to those arrived at in our multiple regression analysis. Although not revealing an overly conclusive general pattern of statistically significant results, the study is significant in that it provided an early empirical verification of the merits of contingency-based planning systems design approach through the citing of four instances of statistically significant verification of the contingency design approach to effective planning systems design.

A recent study by Anand explores further the relationship between capital budgeting, resource allocation and strategic planning.[1] The study revealed that senior managers typically consider a large number of dimensions when making up their decisions with regard to resource allocation alternatives. Specifically, based on in-depth data collected in 13 firms, he found that the number of dimensions seems to increase with the uncertainty of the firm's environment, and also that as the amount of planning done prior to investment evaluation increases, the dimensions used by managers for this evaluation shift from a combination of externally-oriented as well as internally oriented ones to predominantly internally oriented factors. The data did not seem to indicate large differences due to different degrees of diversity of the firms.

Another study to test aspects of the validity of the contingency theory to systems design was undertaken by Vancil, who addressed how to develop schemes for tailored business planning, which was distinguished from portfolio planning.[2] He started by running a number of simple correlations between a number of industry characteristics and business characteristics, as well as correlations within the two sets of characteristics. Perhaps the most significant result of this was that a large number of paired relationships seemed to exist, and that any one

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[1]Anand, S., Resource Allocation at the Corporate Level of the Firm: A Methodological and Empirical Investigation of the Dimensions Used by Managers for Evaluating Investments, Unpublished Ph.D. Thesis, Sloan School of Management, Cambridge, 1977.

[2]Vancil, R. F., "Tailored Business Planning", in Vancil, Richard F., ed., Formal Planning Systems - 1971, op. cit., pp. 145-166.

industry or business characteristic might be related to several others. Vancil also undertook a number of progressive analysis of independent variables relating to a given design feature. First, he ran simple correlations with the dependent variable. Then he selected significant correlations for multiple regression while progressively reducing the number of independent variables in order to finish with the "best" ones. Unfortunately, the approach did not reveal many intuitively meaningful results.

Vancil concluded that such a disappointment as finding few significant multivariate relationships might perhaps be expected for a project attempting to describe systematic patterns of differencea in planning practices at the very detailed busineas planning level. Not only might it be that the approach simply might not work in a relatively new and rapidly developing field such as long-range planning, given our limited ability to specify plausible a priori hypotheses which then would be tested through design of measures and collection of data specifically for the purpose. More fundamentally, however, one might actually expect that a pattern of causal relationships might be particularly difficult to detect at the business level, where extensive differences among various busineases can be expected to be the rule, thereby making it less realistic to expect to be able to develop more robust contingency-based rules in business level planning systems deaign practices.

The difficulty of developing a contingency-based business level planning systems approach waa also corroborated by Lorange, who compared the nature of the formality of the planning systems of well-performing and

less well-performing companies which were predominantly in high-growth businesses versus predominantly in more mature businesses.[1] In general he found relatively few significant differences in systems design, except for a significantly more formal emphasis on the preparation of funds flow planning items for the more effective firm in high growth business areas, and a more formal emphasis on efficiency-related planning issues among the more effective firms in predominantly mature businesses.

It is particularly worthwhile noticing that this far we have been unable to come up with a relatively robust contingency-based approach to the business level planning systems design, given what seems to be an emerging consensus on what seem to be the relevant dimensions in the substantive strategic choices in business strategizing, both conceptually[2] as well as empirically.[3] Thus, the role of formal planning systems as an implementation tool at the business level does not yet seem to have been operationalized to a corresponding extent.

Returning once more to Harvard's data bank project, a number of other studies were undertaken to explore aspects of systems design. In general these were rather explanatory in nature and will be only cursorily dealt with here. As to the roles of various executives in planning there seemed to be a difference between a corporate planner's and a divisional planner's

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[1]Lorange, P., "Administrative Practices in Smaller Companies", op. cit.

[2]See, for instance, Boston Consulting Group, Growth and Financial Strategies, Boston, 1971, or Arthur D. Little, Inc., A System for Managing Diversity, Cambridge, 1974.

[3]See, for instance, The Strategic Planning Institute, Nine Basic Findings on Business, Cambridge, 1977.

involvement,[1] the "track record" of the planner may be important,[2] and the line executive must be centrally involved.[3] The goal-setting process was found to be an important part of planning.[4,5] It was found that the planning system tended to become more tightly linked to the management control system as time evolved, both in terms of similarity of the plan's and budget's content, the timing of the planning-budgeting sequence as well as the degree of contact between the planner's and controller's offices.[6,7] Lorello more recently has done a survey study of linkage practices involving 92 companies, attempting to verify the findings of Shank; he generally comes up with corroborating results.[8] As to the planner's role in acquisition it was found that planning and the planner

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[1]Lorange, P., "The Planner's Dual Role - A Survey of U.S. Companies", Long-Range Planning, March 1973, pp. 13-16.

[2]Greiner, L. E., "Integrating Formal Planning Into Organizations", in Aguilar, F. J., et al, eds., op. cit., pp. 85-109.

[3]Ewing, D. W., "Involvement of Line Executives in Planning", in Aguilar, F. J., et al, eds., op. cit., pp. 65-68.

[4]Aguilar, F. J., "Setting Corporate Objectives", in Vancil, R. F., ed., op. cit., pp. 13-21.

[5]Muray, T. F. and W. F. Tuxbury, "Plan Review Process: Negotiated Goal Setting", in Vancil, R. F., ed., op. cit., pp. 34-56.

[6]Shank, J. K., "Linkage Between Planning and Budgeting Systems", in Aguilar, F. J., et al, eds., op. cit., pp. 109-123.

[7]Camillus, J. C., Formal Planning: Creativity vs. Control, doctoral thesis, Harvard Business School, Boston, 1973.

[8]Lorello, B., Plan-Budget Linkage, unpublished M.Sc. thesis, Sloan School of Management, Cambridge, 1976.

might play a useful role in identifying areas of acquisition.[1,2] The findings on acquisition planning are strongly corroborated by Ansoff et al.[3]

In terms of potential generalizations that seem to emerge from the contingency-based studies, these seem to be relatively few and tentative in nature. Let us first attempt to summarize these conclusions for them to discuss why a more unidirectional pattern of direction for contingency-based design does not seem to emerge. We shall make three generalizations with regard to contingency-based formal planning systems design.

First, it seems as if a contingency-based approach towards the design of formal planning systems seems to be necessary, in general, in order to achieve more effective systems. Thus, less than ever we can probably now expect eventually to arrive at a general theory of planning systems design. Secondly, several situational factors seemed to emerge as potentially important for taking into consideration when assessing the needs of a particular corporate setting when it comes to the design of a formal planning system. Strictly demographic factors such as the size of the company and maturity of the planning system seem important. Also factors relating to the strategic setting seem relevant, including the diversity of a firm's portfolio of businesses and the nature of the product/market setting of various businesses. Finally, management style

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[1]Tennican, M. L., "Diversification by Acquisition", in Aguilar, F. J., et al, eds., op. cit., pp. 123-147.

[2]Cash, W. H. and J. M. Revie, "The Long-Range Planner and Acquisition Planning", in Vancil, R. F., ed., op. cit., pp. 206-234.

[3]Ansoff, H. I., et al, op. cit.

factors, such as management's perceptions about the needs for planning seem important. Thirdly, several systems design factors seem to emerge as important in terms of appropriately choosing how to tailormake them into the formal planning system, given a particular situation. Such issues include the relative top-down versus bottom-up involvement and division of labor between the corporate and the divisional level in initiating, formulating, reviewing and executing plans, the relative emphasis on longer-term objectives-setting versus near term action programs, the nature of various devices for linking together elements of the planning process, such as timing, content and organizational linkage, and the role of the corporate planner as well as other staff and line executives in the planning process.

Admittedly, however, nothing more than a few rudiments of a contingency-based approach towards formal planning systems design seems yet to have emerged. Largely, this is what we would expect; it is a formidable research task to explore not only what might be relatively exhaustive sets of situational and design variables in various types of settings. Even more monumental is the task of increasing our understanding about the specific nature of the interrelationship between these variables. As such we can only consider our present findings as a mere start-up.

There might, however, also be research methodological issues that contribute towards the relatively low degree of conclusiveness that has emerged from the contingency-based thrust of studies. One might be a lack of precision in hypothesis-formulation (some of the studies did not state hypotheses at all) and in data gathering. Another reason might be

due to the typically high degree of variability of the underlying data. Thus, several of the research designs were inadequate to study such a large and apparently complex set of problems as contingency-based design of planning systems. Although the Harvard data bank, for instance, contained a large number of "cases" with data on corporations' planning practices, the causal relationships may well be so unique for each case that it may be unrealistic to expect general relationships to emerge. This may be so even if the number of responses had been substantially increased. Finally, in some of the studies discussed there was possibly also a tendency to "over-kill" the data by "forcing" it to be analyzed by means of powerful multivariate techniques, often violating the data-requirement assumptions. Simple non-parametric frequency distributions, gross classifications, and cross-tabulations often may be more appropriate and yield more meaningful research insights than the use of parametric techniques such as correlation, multiple regression and factor analysis.

VI. Potential Research Directions

As indicated at the outset of the present discussion, one of our key purposes is to establish a reasonably clear sense of direction with regard to the evolutionary direction the field has been taking and to suggest potential research directions as a function or extension of this. Thus, as a preliminary step to our identification of potential research directions, let us briefly recap the impacts that might be identified from the empirical studies. There are three overall conclusions. First,

there seems to be ample empirical evidence that long-range planning as a general phenomenon has received widespread use in practice, and that planning as such seems to pay off for corporations and is potentially a useful management tool. There is also a strong empirical body of knowledge relating to general pitfalls that might detract from the effectiveness of the overall planning process. Second, there is some empirical evidence, although less clear than that cited above for general aspects of planning, that indicates that the nature of the planning process is multifaceted, not monolithic, that there seem to be several types of planning at work, and that a design approach which is heavily contingency-based seems to be necessary. Third, there are a few instances of piecemeal and sporadic evidence about the relationship between the actual design variables that are part of a contingency-based theory of planning, although in this instance the empirical evidence is not strong.

It seems clear from the above that the thrust of our future research efforts should be towards a better understanding of situational design and implementation of planning systems. It is in the area of specific, contingency-based research that new efforts are particularly needed, rather than within areas of more "global" planning issues. Specifically, the challenge seems to be to be able to better understand how formal planning systems can be used more effectively for different organizations' strategy formulation and implementation attempts. In this respect there will probably be a need for better insights with respect to contingency-related planning systems design issues. Until we more fully understand how to better tailormake a planning system to a particular situational setting the adaptation of the use of strategic planning systems as a tool

for corporations' strategy formulation and implementation might be hampered. But we are probably here dealing with a complicated problem; the issue of how to increase a planning system's usefulness and role in a firm's strategic decision-making process is indeed a major challenge and seems to represent the most significant research problem ahead.

The first specific research need that we shall identify follows naturally from the evolutionary trend that we have just identified. This calls for a continued emphasis on contingency-based research, so that one can continue the progress that we have just embarked on of better being able to understand how to tailormake the design of a formal planning system so that it is as responsive as possible to each given corporate setting. However, a significant shift in the nature of this research is probably to be called for. Although the predominantly demographic situational factors emphasized thus far, such as for instance corporate size or diversity, would probably indirectly have provided some indication of a corporation's strategy, these factors nevertheless basically inherently remain non-strategic "mechanical" proxies. What is needed is to shift the emphasis more directly towards the explicit recognition of the strategic setting itself as the key situational factor. Thus, the particular strategic setting that a company is in will probably dictate the particular needs that this firm has in a better way than any other situational factor might do.

To further pursue the issue of the strategic setting's role as a prime determinant of its planning needs let us elaborate on this somewhat. Considering a division of a company for the moment that typically carries out business activities in several products and markets; given that we can measure the market share of a product in such a market we therefore

have a useful unit of entity in terms of lending itself to strategic business decision-making, commonly denoted "Strategic Business Units" (SBUs). For such a SBU there will probably be different needs for planning depending on where the SBU is positioned strategically in terms of the relative attractiveness of its business (say, market growth position) as well as in terms of its positioning of relative competitive strength (relative market share). What are specifically the differences in planning needs between SBUs that are enjoying fundamentally different strategic positionings? How can the formal planning system be designed to meet these needs?

These are key questions about how to achieve strategy-determined situational design for the formal planning system. Analogous questions could be raised for the division level's planning needs - how can the planning system meet the strategic planning needs of divisions with different SBU structures and different patterns of interdependence between the SBUs (consolidation attractiveness") -, as well as at the corporate portfolio level - how can the planning system be tailormade to meet the strategic needs stemming from different portfolio strategy directions, such as due to differences in availability and usage patterns of funds? Unfortunately, we do not have many empirically tested answers with regard to questions like these. It should be a high-priority challenge for research to attack these issues.

This leads us to a second and related research area. If we understand how to better tailormake a planning system's capabilities to its strategy-driven planning needs, then the next issue is how to be able to better undertake modifications in the design of the planning system so as to meet modified needs for planning due to a change in the firm's strategy. Thus, we are calling for an expanded role for the formal planning systems

in that we want to become able to manage the evolution of the system so that it will support and reinforce decisions on shifts in strategy.

Thus far, there has been done little research on the issue of managing the evolution of formal planning systems. Not only might such an evolutionary approach towards a "plan for planning" facilitate that the systems maintain their effectiveness as vehicles for providing capability for strategy implementation. Even more promising would be this approach's opening up for the potential to more actively support and reinforce strategic change. Research questions that in all likelihood would have to be addressed in order to develop an operational approach towards a strategy-driven management of the planning system's evolution might include: what design factors seem particularly effective in enhancing a desired change in a planning system's capabilities - in terms of features that should be relatively more as well as relatively less emphasized; how might such an actively managed evolutionary approach which typically would imply frequent changes in the planning system more effectively be implemented with the line organization; what would be the relationships between the planning system and other formal systems that have a bearing on the firm's strategies - are we seeing the emerging of an overall strategic administrative system, and in case, what would this imply for the formal planning system; what would be the role of the corporate planner now that he is more directly involved in being a change agent for the corporation's strategic shifts; and so on.

In terms of potential research directions, then, we see a shift in emphasis towards better understanding formal planning's role as a tool in strategy formulation and implementation, the issue becoming how to achieve an appropriate match between strategic needs and capabilities. We see a contingency-design approach as the most likely to be followed in order to

yield meaningful results with respect to this, and we see a need for the contingency approach taking on a second, dynamic dimension in the form of an active management of the evolution of planning systems in order to be able to meet emerging strategic needs.

An emerging issue at this point is the question of what might be useful research approaches for tackling the research problems just outlined. We shall now address this issue together with a discussion of some general caveats about doing research in the planning systems area.

VII. Caveats for Doing Research on Planning Systems.

Having gone through a considerable body of literature for the purpose of this survey study, we can conclude that, despite a vast number of impressive works that have been done in the field, we are left with the uncomfortable feeling that it is difficult to fit the bits and pieces together. There seems to be considerable lack of consensus in the literature when it comes to such central questions as what are the critical elements of the nature of planning systems, what constitutes relevant empirical areas of research, etc. Also, the common vocabulary is surprisingly small and too often lacks adequate definitions. The research design frequently is less precise than desirable, particularly when it fails to state assumptions which might limit the universality of the research findings. The reasons why this situation of fragmentation and lack of synthesis exists may be due to the nature of our general research problem. We are studying a very complex administrative phenomenon, consisting of a number of different planning types (such as systems for corporate planning, business planning, functional planning), and a number of sequentially related stages (such as stages of objectives-setting, multi-year programming and budgeting), each of these aspects interrelated. Added complexity is due

to the vast differences in situational settings between corporations and, therefore, the requirement to tailor strategies and planning systems to each company. Finally, with rapid changes now so typical for corporations' situational settings and environments, the task of upgrading the planning system in response to a phenomenon of dynamic change seems formidable. Thus, given the complexity of the empirical "terrain," it seems prudent not to have too high a hope of arriving at a more general theory of formal planning systems concepts. However, although it may be unrealistic to expect a more orderly pattern of research output in this field, it may also be that some of the research in the area has started out from unnecessarily narrow or inaccurate premises, thereby making them less reconcilable with other studies than elsewise might have been the case.

The nature of our research problem is also influenced by the fact that we are dealing with a relatively recent addition to management's tools. This is evidenced in several ways. For instance, the data for empirical research may not be readily available; longitudinal data may simply not exist. Also, most of the progress in the "art" of designing long-range planning systems has been spearheaded by business organizations themselves. Understandably, there might be reluctance to give out data about these often sensitive systems developments. Measurement problems and complications due to lack of a well established common language are also typical for an emerging field.

The choice of research methodologies for the research problems we have identified is consequently not easy. Our feeling is that the researcher to an increasing degree probably will have to be working with a relatively low number of companies over typically quite considerable periods of time and according to a clinical action-research oriented approach, in order to be able to get the relevant insights called for about

what will be exceedingly process-oriented issues. A necessary requirement for getting access to companies and developing working relationships will probably be that the researchers are prepared to and in a position to "give something back" to the companies, in the form of advice and impulses. More traditional predominantly one-way information-gathering approaches are not likely to be adequate in providing relevant information at this stage. Thus, the research challenges ahead seem to be calling for highly involved efforts from researchers with considerable skills on planning systems and with the willingness and patience to spend the time that seems to be necessary.

VIII. Summary Conclusions

We have attempted to address the empirical research literature concerning formal planning systems. We have also attempted to outline what might be fruitful directions for research in this area in the future. Our major conclusions, which also provide a picture of the evolution of research and thinking on formal planning systems, were as follows:

- Formal planning systems as a management technique seem to be well accepted at this point and its payoff seems to be recognized.
- The implementation of formal planning systems seems to have become relatively well understood, with a relatively standard set of issues emerging in terms of pitfalls to be avoided.
- The contingency-based design of formal planning systems is still close to its infancy, and is relatively heavily oriented towards acknowledging demographic-type factors as characterizing the situational setting, with little or no emphasis on the strategic setting as the basis for dictating the design of the planning system.

- It is expected, however, that future research will focus on bringing formal planning systems more in line with the particular strategic settings of companies so that such systems can contribute more effectively toward strategy formulation and implementation.

In summary then, formal planning systems have evolved a long way, and are today important and integral tools in many companies' decision-making. We expect that formal planning systems will play an increasingly important role in the corporate strategizing process in the future.