

***Managerial and Leadership
Think-Work Functions***

***and
Associated Concepts and Practices***

Planning Phase (General)

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PLANNING PHASE

The planning phase of the integrative process is composed of these four major managerial/integrative functions: goal setting; planning (planning/programming); budgeting; and formulating policies, procedures, and rules.

This section is an introduction to the individual sections on the four planning functions. It provides an initial overview of these functions and establishes a framework for discussing them in more detail. First, it provides general perspectives on planning—i.e., basic definitions of planning functions; the nature of planning; major purposes/benefits of planning; and basic principles of planning. Second, it briefly describes the sequence in which planning functions are performed and the resulting outputs (goals/objectives, strategies/tactics, programs/projects and plans of action, budgets, and policies/procedures/rules) that are generated. Third, it distinguishes between methodological processes and organizational processes, describing the steps that many organizations actually take when conducting the planning process. Fourth, it provides basic perspectives on strategic/long-range planning. Fifth, it provides basic perspectives on annual or short-term planning. And sixth, it discusses psychological phenomena involved in planning and in formulating alternative solutions to problems.

General Perspectives on Planning

Basic Definitions of Planning Functions

Goal setting: This function involves formulating goals or objectives, which are statements of the specific aims or desired results to be achieved by the end of some specified time period.

Planning: This function involves performing several sub-functions: (1) formulating strategies and tactics (for reaching goals or objectives), (2) formulating programs and projects (for carrying out strategies/tactics), and (3) formulating plans of action (for implementing programs/projects).

Budgeting: This function involves costing plans (translating plans into dollar terms), and then allocating financial, human, and other types of resources to organizational units.

Formulating Policies/Procedures/Rules: This function involves formulating (a) guidelines for making decisions, (b) steps for performing tasks, and (c) regulations for governing behavior.

The Nature of Planning

Performing the planning functions amounts to deciding in advance what is to be accomplished, what to do, who is to do what, when it is to be done, and how it is to be done.

Planning is future-oriented. It is aimed at goal- and means-orienting people's activities.

When properly formulated, goals represent clear and specific targets toward which activities can be aimed and resources can be channeled.

When properly formulated, plans (strategies, tactics, programs or projects, and the action plans for implementing them), budgets, and policies/procedures/rules constitute the ways and means for reaching goals both effectively and efficiently.

Planning is an intellectual process. It involves consciously formulating alternative courses of action and basing those alternatives on purposes, facts, and considered estimates of the future. As shown in **Table 1** on page I-4, the planning phase of the managerial process is equivalent to formulating alternative solutions during a problem-solving process.

Major Purposes/Benefits of Planning

1. To develop guidelines for the organization to operate successfully over time (to help units and individuals perform in an effective, efficient, coordinated manner).
2. To provide direction and a sense of purpose.
3. To help managers anticipate, cope with, and plan for externally-caused change.
4. To help managers improve (change) the many internal

and external socio-technical factors that affect groups' and individuals' performance.

5. To help minimize surprises (but not necessarily to eliminate uncertainties associated with the future).
6. To help crystallize and communicate management's thinking as to where the organization is going and how it will get there.
7. To help managers perform other integrative functions more effectively—functions such as organizing, staffing, guiding activities, and keeping operations under control.
8. To save time and effort during the implementation of plans. It has been said that *each hour of effective planning tends to save three hours of time and effort during the implementation of solutions or decisions*.
9. To minimize time-consuming problems. Goal-setting and planning processes are opportunities to anticipate problems, to formulate preventive measures, and to incorporate preventive measures into plans.

Basic Principles of Planning

Purpose-Related Principles

1. Contribution to Objectives: The purpose of every plan (and any derivative plans) is to contribute positively toward the achievement of organizational objectives.
2. Efficiency: Plans should maximize the attainment of goals within the constraints of the resources available. They should also minimize costs. The efficiency of a plan is measured by the amount it contributes to objectives—offset by the costs and other unsought consequences required to formulate and implement it.
3. Primacy: Since the Implementation Functions (Organizing, Staffing, etc.) are designed to support and further the accomplishment of organizational objectives, Planning is the primary managerial or integrative function.
4. Pervasiveness: Planning should be performed by every individual in an organization—and especially by every manager and supervisor.

5. Crystallization: Goals, plans, budgets, and policies/procedures/rules should be written down. Writing them down forces individuals to translate vague and ambiguous mental impressions into specific statements regarding what, who, when, and how.

Structure-Related Principles

1. Consistent Premises: The more that individuals involved in planning understand and agree to utilize common planning premises (analyses/data/forecasts), the more integrated organizational planning will be.
2. Timing: The more that plans are structured to provide an appropriately timed and intermeshed network of basic, derivative, and supporting programs/plans, the more effectively and efficiently they will contribute to the attainment of organizational objectives.
3. Clarity: Goals, plans, budgets, and policies/procedures/rules should be simply stated, clear, and easily understood.
4. Synergism: Goals, plans, budgets, and policies/procedures/rules should be compatible and coordinated, thereby enabling all personnel to work as a team in an organization's best interests.

Process-Related Principles

1. Consideration of Alternatives: Having one “alternative” (do A or not do A) is not enough. Consideration should be given to a variety of alternatives (do A, B, C, or some combination). The choice among alternatives should be based on which contribute(s) most effectively and efficiently to the attainment of a desired goal.
2. Limiting Factors: The more that planners recognize and solve for factors which are limiting or critical to the attainment of a desired goal, the more easily they will be able to select the most appropriate alternative(s) during the decision-making phase.
3. Commitment: Units and individuals must commit themselves to achieving goals, following plans, operating within budgets, and adhering to policies/procedures/rules.

4. **Flexibility:** Goals, plans, budgets, and policies/procedures/rules should be flexible guidelines rather than rigid directives. Regardless of their commitment, personnel should be able to modify plans when it becomes apparent that they are not contributing to organizational purposes.
 5. **Monitoring and Evaluation:** It is important that managers monitor events and evaluate the results of plans, so that they can be reformulated if necessary to put things back on track toward a desired goal.
 6. **Facilitation of Control:** The various types of plans should facilitate control of operations. In fact, there is no basis for monitoring, measuring, and evaluating results without having goals, plans, and budgets.
- b. **Planning (Phase II):** The outputs of the two sub-phases are:
 - * **Organizational Strategies and Tactics** in the various areas, which (a) are based on organizational goals/objectives in those areas, and (b) state broad means (or approaches) for achieving the goals in those areas.
 - * **Organizational Programs/Projects** in the various areas, which (a) are based on strategies/tactics for those areas, and (b) state more specific means for carrying out the strategies/tactics and achieving the goals in those areas.
 - * **Plans of Action**, which (a) are based on programs or projects in the various areas, and (b) state the specific means (the who, what, and when) necessary to implement those programs and projects. These outputs may or may not be formulated at the highest level(s).

Planning Methodology Versus Organizational Approaches and Processes

Planning Methodology and Resulting Outputs

Figures 7-A and 7-B on the next two pages illustrate (a) the order in which planning functions should be performed (regardless of the organizational level at which they are performed), (b) the outputs generated as a result of performing each function, and (c) how the outputs of one function are inputs to (or are bases for formulating) the next. (The figures may seem complicated because they also illustrate other relationships among outputs that will be explained later.) The two figures are introduced at this point in order to (a) illustrate basic goal-setting and planning methodology, and (b) call initial attention to the main relationships among outputs indicated by the bold vertical arrows.

1. **Figure 7-A** illustrates the following with respect to planning at the organizational/corporate level:
 - a. **Goal Setting (Phase I):** The outputs of goal setting at the highest level(s) are organizational goals or objectives, which state the major or key results desired in each of the various areas indicated: (a) overall organizational performance areas such as profitability and return on investment; (b) operations-related areas such as market standing, innovation, and productivity; and (b) supporting or resources-related areas such as facilities, organizational structure, human resources, and finances.
 2. **Figure 7-B** illustrates the same basic methodology being used to formulate more specific goals, plans, budgets, and policies/procedures/rules for major units and their sub-units (based on organizational goals, plans, budgets, and policies/procedures/rules).
- c. **Budgeting (Phase III):** The outputs of budgeting at the highest level(s) are organizational budgets in the various areas, which translate the resources necessary to carry out plans for those areas into monetary terms.
 - d. **Formulating Policies/Procedures/Rules (Phase IV):** The outputs that result from performing this function at the highest level(s) are organizational policies, procedures, and rules. These can deal with any or all of the following: (a) guidelines for making decisions that will affect the various operational and supporting areas; (b) the standardized ways in which certain systems-related tasks and administrative activities are to be performed throughout the organization; (c) broad or general policies/procedures/rules applying to activities in the various areas; (d) how planned activities and results are to be monitored, measured, and evaluated; and (e) how all personnel are expected to behave.

Figure 7-A: Methodological Planning Steps and Resulting Outputs at the Organizational/Corporate Level

(arrows with dotted lines indicate that information relating to one area is or can be input to another)

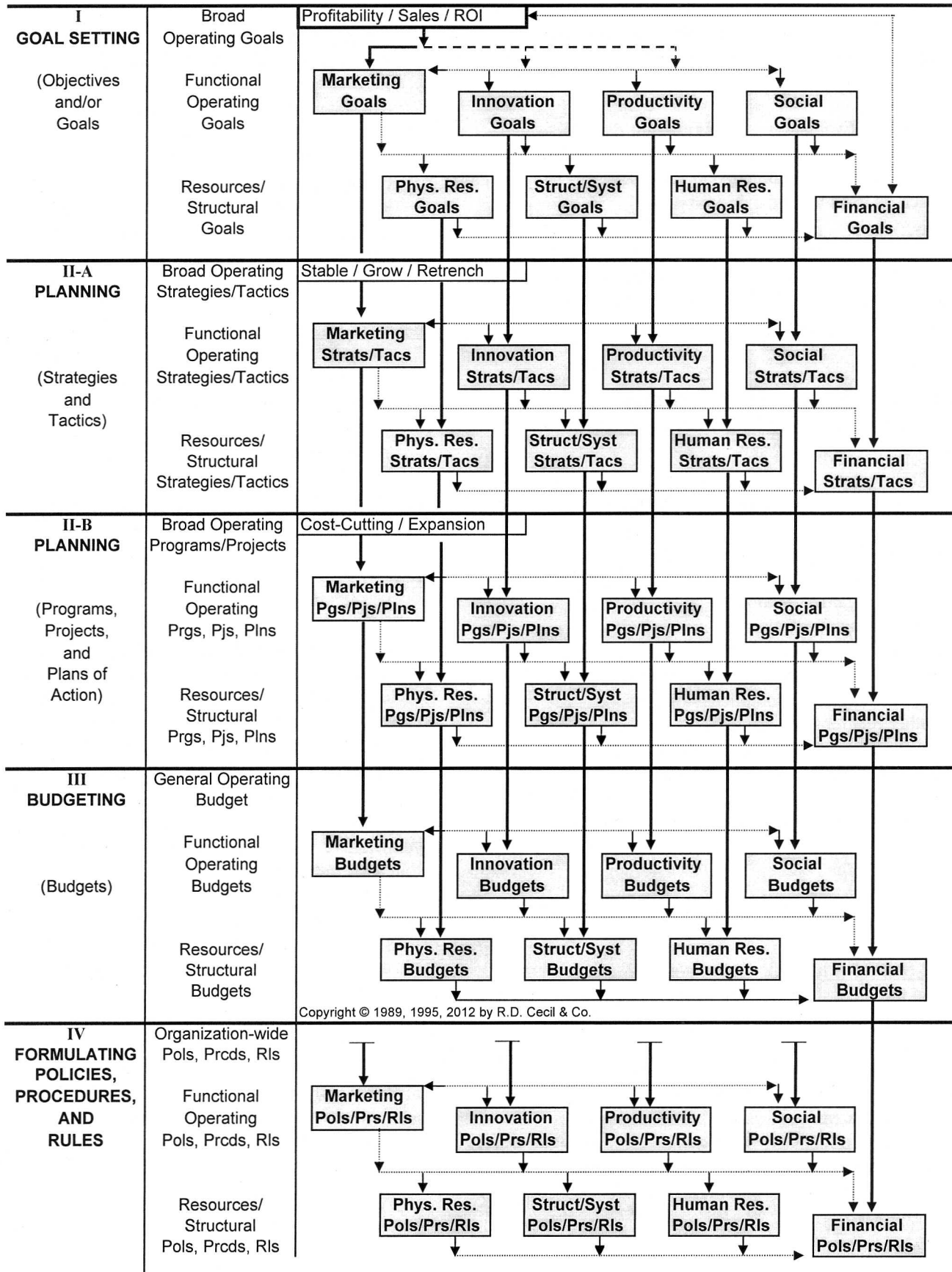


Figure 7-B: Methodological Planning Steps and Resulting Outputs at the Major Unit Level

(arrows with dotted lines indicate that information relating to one area is or can be input to another)

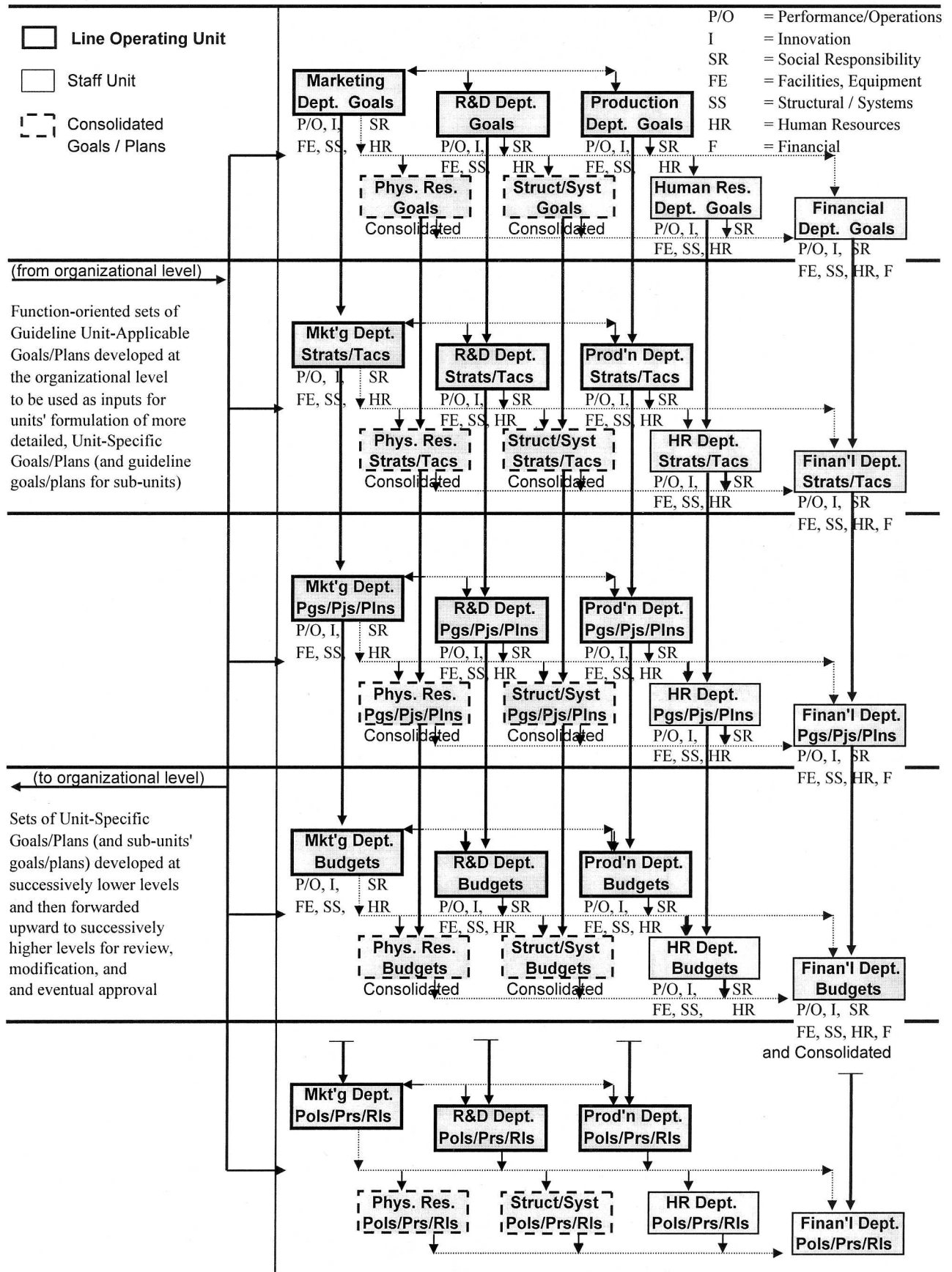
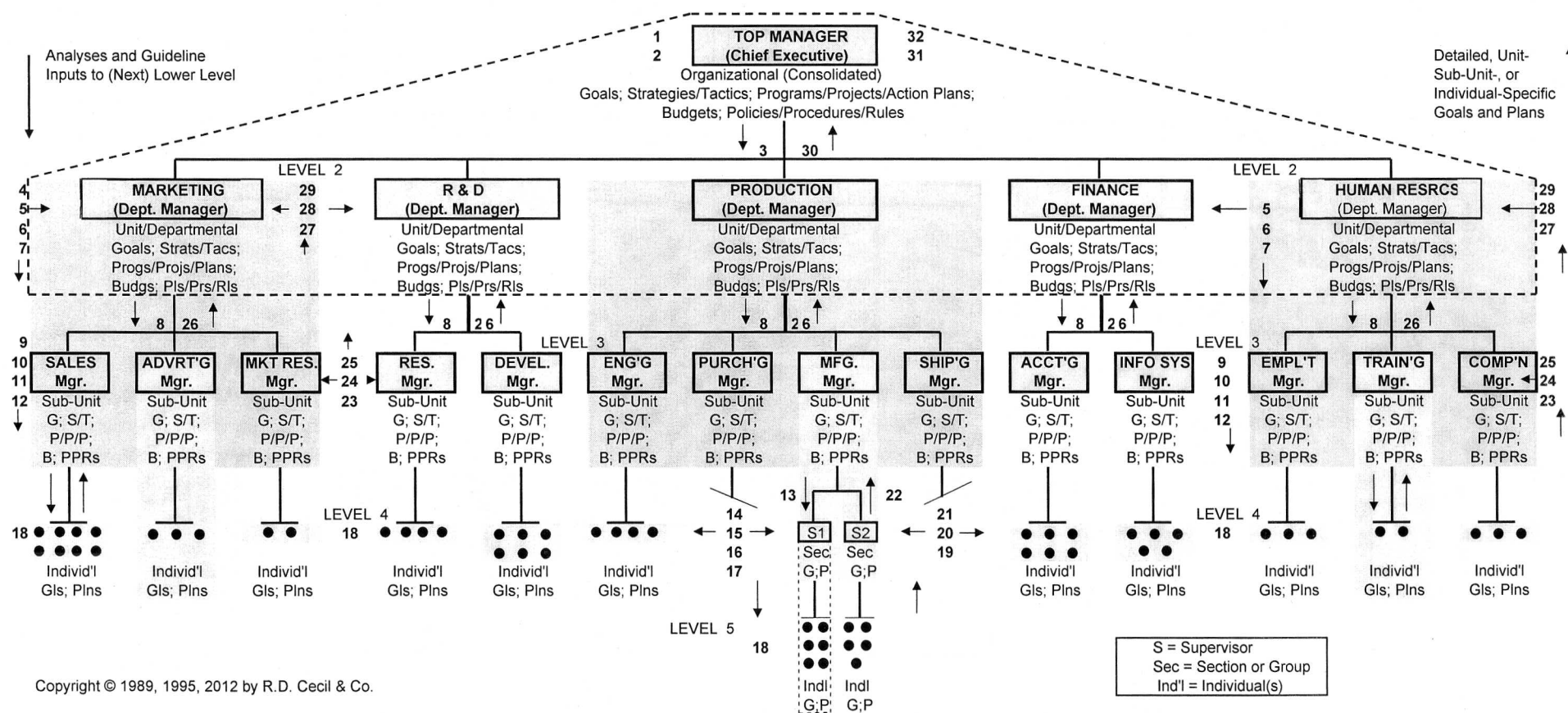


Figure 8: Illustration of Organizational Process Steps Involved in "Top-Down/Bottom-Up" Goal Setting and Planning (in a Five-Level Organization)



- * An organization's approach to planning determines whether or not the methodology is applied by managers and personnel at lower levels—as well as by top management. (The comments on the left in **Figure 7-B** indicate that this figure illustrates the basic planning methodology also being applied by personnel at lower organizational levels.)

Organizational Planning

Approaches and Processes (Steps)

For a number of reasons, different organizations use different goal-setting/planning/budgeting/decision-making approaches. The three most basic approaches are the “top-down” or authoritarian approach, the “bottom-up or permissive approach, and the “top-down/bottom-up,” team, or participative approach. In order to describe each approach, we also describe an associated process (set of steps) for conducting that approach. It should be pointed out that, with respect to a particular approach, an organization may actually use some variation on the associated process described here.

- A. **The Top-Down or Authoritarian Approach:** In many organizations, top management performs the entire planning process (perhaps with the assistance of a planning staff).

First, top management formulates either a single set or alternative sets of goals and associated plans (strategies, tactics, programs/projects, general plans of action, budgets, and policies/procedures/rules) more or less in the manner illustrated in Figure 7-A.

Second, if it has formulated alternative sets of outputs, it makes a decision (chooses one set of goals and associated plans).

Third, it translates the set of organizational goals/plans into goals/plans for major units (and perhaps their sub-units). Essentially, the outputs in Figure 7-A become (are translated into) the goals/plans in **Figure 7-B**. For example: market-related goals/plans generally become the goals/ plans of the marketing department; many if not most innovation goals/plans become the goals/plans of the research and development department; many if not most productivity-related goals/plans become the goals/plans of the production department; many if not most human resources goals/plans

become the goals/plans of the human resources or personnel department; and many if not most financial goals/plans become the goals/plans of the finance department. (Certain aspects of facilities-related goals/plans are often incorporated into goals/plans for an engineering department, while other aspects are incorporated into goals/plans for the units/departments that occupy or utilize facilities.)

Fourth, top management simply promulgates these decisions to lower levels, making the respective units (and perhaps sub-units) responsible for (a) implementing their assigned plans, (b) adhering to their allocated budgets, (c) following specified policies/procedures/rules, and (d) achieving their assigned performance goals.

Some organizations use the following variation on this top-down approach: Top management formulates organizational goals and associated plans, and then translates them into goals/plans for major units. In turn, managers of major units translate their units' goals/plans into goals/plans for each of their sub-units. And so on down the organization.

- B. **The Bottom-Up or Permissive Approach:** In some organizations, top management solicits goal-setting and planning inputs (proposed goals, plans, budgets, and policies/procedures/rules) from lower levels. For example:

First, tentative goals, plans, budgets, and policies/procedures/rules are formulated at the sub-unit level (or possibly lower), and are then forwarded up to the next (unit) level.

Second, unit managers review their sub-units' proposals, revise them, tentatively approve them (pending top-level approval), and consolidate them into proposed unit-level goals/plans. Then they forward their consolidated proposals (sometimes including sub-unit proposals) up to top management.

Third, top management reviews units' (and perhaps sub-units') proposals, revises them, approves them, and consolidates them into overall organizational goals, plans, budgets, and policies/procedures/rules.

Although this bottom-up approach involves lower-level personnel in the planning process, it does not always generate goals/plans that are both challenging and realistic.

- C. **The Top-Down/Bottom-Up, Team, or Participative Approach:** This is the approach that most management experts recommend. It is essentially an integration of (a) the Management by Objectives (MBO) process advocated by Peter Drucker,¹⁵ George Odiorne,¹⁶ and others, and (b) the “linking pin” process advocated by Rensis Likert.¹⁷ [In the linking pin process, superiors and their immediate subordinates work together—level by level (in turn), first downwards, and then upwards—to perform goal-setting and planning functions.] Because this approach has been used successfully to generate goals and plans that are both challenging and achievable, it is being adopted by an increasing number of organizations.

Here, top management uses the methodology illustrated in **Figure 7-A** to formulate (alternative sets of) goals/plans for the organization as a whole. It then translates organizational goals and plans into target goals and guideline plans for major units. (The various types of unit goals and plans are illustrated in **Figure 7-B**.) During this initial phase of the process, top management purposefully builds a certain degree of “reach” or “stretch” into organizational and unit goals in order to (a) set high performance standards, and (b) challenge all personnel to perform up to their potentials. Once (alternative sets of) target goals and guideline plans have been formulated for major units, they are passed downward—to be used as guideline inputs for more detailed goal-setting and planning at successively lower levels. As shown in **Figure 7-B**, the methodology used at the unit, sub-unit, and lower levels is the same as that used at the top management level. After lower levels have reviewed their inputs, have revised them to take account of realities, have modified them in order to make them achievable, and have refined them in order to make them more unit-, sub-unit, and individual-specific, they forward their outputs back up the organization for further review, revision, and consolidation at successively higher levels. The process concludes with top management’s review, revision, integration, finalization, approval, and consolidation of lower levels’ goal-setting and planning outputs.

While Figures 7-A and 7-B illustrate the methodological steps involved in a top-down/bottom-up process, **Figure 8** illustrates the organizational process steps involved. The steps in Figure 8 are outlined below. Two points should be made before we proceed:

- a. These are the basic steps. Organizations may

design goal-setting and planning processes that include more specific steps and sub-steps.

- b. Although Figure 8 is based on a hypothetical organizational structure (that resembles the structure typically found in small to medium-size manufacturing companies), the same basic steps can be taken in any organization having a number of levels.
1. Together, the two upper levels of management (the President and the Vice Presidents or Department Managers in Figure 8) analyze their organization’s competitive situation, past performance, and recognized problems. Next, perhaps with the aid of a computerized financial model and with some staff assistance and input, they . . .
 - a. formulate (alternative sets of) organizational goals in the various areas;
 - b. translate goals into (alternative) strategies and tactics for the various areas;
 - c. translate strategies/tactics into (alternative) programs/projects and (basic) courses of action for the various areas;
 - d. translate (alternative) plans into (alternative) budgets for the various areas; and
 - e. formulate general (and tentative) policies/procedures/rules for the organization.
 2. Next, they translate the (alternative sets of) organizational goals, plans, budgets, and policies/procedures/rules into (alternative sets of) guideline goals, plans, budgets, and policies/procedures/rules for each major unit or department.
 3. Then, they pass their analyses and guideline outputs to the major units for further analysis and refinement, asking questions such as these:
 - * Can the unit meet the guidelines?
 - * Are there any opportunities not initially recognized and taken into account?
 - * Are there any constraints not initially recognized and taken into account?
 - * Are the guidelines too challenging given real world constraints and anticipated problems?
 - * What should the department’s goals, plans, budgets, and policies/procedures/rules actually be?

- * What is your justification for recommending modification of any initial target goal or guideline plan?
4. Each unit manager (at Level 2 in Figure 8) meets with his/her immediate subordinates (sub-unit managers at level 3 in Figure 8) to review the original analyses and analyze the guideline goals, plans, budgets, and policies/procedures/rules formulated for their particular unit. They modify, refine, and reformulate them in more unit-specific detail.
 5. Next, each unit manager runs his/her unit's initial outputs by other major units in order to (a) make sure that all units are formulating mutually compatible goals/plans, and (b) obtain additional information and ideas that could lead to making further revisions.
 6. Next, based on inputs provided by other units, each unit manager and his/her immediate subordinates revise their unit's goals and plans.
 7. Next, they translate their outputs into guideline goals, plans, budgets, and policies/procedures/rules for each of the unit's sub-units.
 8. Then, they pass their analyses and guidelines down to the sub-units, asking the same questions mentioned above.
-
9. Together, each sub-unit manager (at Level 3) and his/her immediate subordinates (at Level 4) review the analyses, review the (alternative sets of) guideline goals/plans passed to them, and revise them based on their more detailed knowledge of sub-unit operations.
 10. Next, each sub-unit manager runs his/her sub-unit's revised set of outputs by other sub-units at the same level in order to assure compatibility and to obtain additional inputs.
 11. Next, based on inputs from the other sub-units, each sub-unit manager and his/her immediate subordinates revise their (alternative sets of) goals, plans, budgets, and policies/procedures/rules.
 12. If a sub-unit has sub-units at the next lower level (as in the case of the manufacturing department in Figure 8), the sub-unit manager and his/her immediate subordinates (e.g., the two supervisors at Level 4 in Figure 8) translate their outputs into guideline goals, plans, budgets, and policies/procedures/rules for each of the lower-level sub-units.
- If a sub-unit does not have lower-level sub-units, but instead has individual personnel at the next lower level (as do most of the sub-units in Figure 8), the sub-unit manager and his/her personnel work together to translate sub-unit goals/plans into guideline goals, plans, budgets (if any), and policies/procedures/rules for those individual personnel.
13. If a sub-unit has sub-units at the next lower level, the guideline goal-setting and planning inputs are passed down to those lower-level sub-units—with the same questions as above being asked).
- * Note that Steps 9, 10, 11, 12, and 13 are the same as Steps 4, 5, 6, 7, and 8, but are performed at a lower level in its turn.
-
14. The supervisors of the lowest level sub-units (Level 4 in Figure 8) meet with their immediate subordinates (individuals/workers at Level 5) to analyze and revise the guideline goals and plans formulated for their section or work group.
 15. Next, each sub-unit supervisor runs his/her sub-unit's revised outputs by the supervisors of any sub-units with which his/her sub-unit's activities must be coordinated.
 16. Next, based on inputs from other sub-units, each (lowest-level) sub-unit supervisor and his/her immediate subordinates work together to revise their (alternative sets of) goals, plans, budgets (if any), and policies/procedures/rules.
 17. Next, each sub-unit supervisor works together with his/her immediate subordinates to translate sub-unit goals/plans into guideline goals/plans for those individual (worker) personnel.
- * Note that Steps 14, 15, 16, and 17 are the same as Steps 4, 5, 6, and 7 and Steps 9, 10, 11, and 12, but are performed at a lower level in its turn.
-
18. Sub-unit managers (at Level 3) and sub-unit supervisors (at Level 4) meet one-on-one with each of their immediate subordinates to formulate revised ("smooth") individual goals and plans (based

on the guideline inputs formulated in Steps 12 and 17).

- * This is the point at which an organization's annual MBO Process (top-down/bottom-up goal-setting and planning process) should "turn around" and head upward.

-
19. Each sub-unit supervisor (at Level 4) meets with his/her immediate subordinates (at Level 5) to revise sub-unit goals, plans, budgets (if any), and policies/procedures/rules (based on individual goals/ plans and on previously formulated sub-unit guidelines and revisions).
 20. Next, each sub-unit supervisor runs his/her sub-unit's outputs by other (lowest level) sub-units for final coordination and input.
 21. Next, based on any inputs from other sub-units, each sub-unit supervisor works together with his/her immediate subordinates to revise and smooth the sub-unit's' goals, plans, budgets (if any), and policies/procedures/rules.
 22. Then, the sub-unit supervisors pass their refined/smoothed sets of sub-unit outputs—complete with justification for any revisions to initial guidelines—up to their superiors at the next higher level (Level 3) for review, (possible) revision, and consolidation.

-
23. Each sub-unit m(at Level 3) meets with his/her immediate subordinates (his/her sub-unit supervisors or individual staff members at Level 4) to revise sub-unit goals, plans, budgets, and policies/procedures/rules (based on sub-units' goals/plans or on individual personnel's goals/ plans).
 24. Next, each sub-unit manager runs his/her sub-unit's outputs by other sub-units for final coordination and input.
 25. Next, based on inputs from other sub-units, each Sub-Unit Managers works with his/her immediate subordinates to revise and smooth his/her units' goals, plans, budgets, and policies/procedures/ rules.
 26. Then, the sub-unit managers pass their smoothed outputs—complete with sub-units' (subsidiary

goals/plans and with justification for any revisions to initial guidelines—up to their superiors at the next higher level (the unit managers at Level 2) for review, (possible) revision, and consolidation.

- * Note that Steps 23, 24, 25, and 26 are basically the same as Steps 19, 20, 21, and 22, but are performed at a higher level in its turn.

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27. Each unit manager (at Level 2) meets with his/her sub-unit managers (at Level 3) to develop a revised set of unit goals, plans, budgets, and policies/procedures/rules (based on the sub-units' smoothed goals/plans and previously formulated unit guidelines and revisions).
 28. Next, each unit manager runs his/her unit's revised set of goals/plans by the other major units/ departments for one last check for compatibility and synergy.
 29. Next, based on other units' feedback, each unit manager works with his/her sub-unit managers to smooth or finalize unit (and sub-units') goals/ plans.
 30. Then, unit managers submit their smoothed unit outputs—complete with sub-units' (subsidiary) goals/plans and with justification for any revisions to initial guidelines—up to the highest-level group (composed of themselves and the top executive) for final review, (possible) revision, and consolidation.

- * Note that Steps 27, 28, 29, and 30 are basically the same as Steps 23, 24, 25, and 26, but are performed at a higher level in its turn.

-
31. Together, the chief executive and the major unit managers . . .
 - a. review the units' (and their sub-units') smoothed goals/plans;
 - b. revise unit and sub-unit goals/plans as appropriate (in order to take account of details, compatibility, and synergy); and
 - c. approve revised versions of unit and sub-unit goals/plans.

Note: Making any significant revisions in units' and/or sub-units' goals/plans at this point generates a ripple of changes in goals/plans down through an organization. Therefore, so as to avoid having to make these time-consuming changes, organizations generally encourage informal vertical and horizontal communication, coordination, and negotiation before final inputs reach top management.

32. Together, the chief executive and the major unit managers consolidate units' goals/plans into a finalized set of organizational goals and associated plans.

Important Perspectives on the Top-Down/Bottom-Up Process Outlined Above

- a. Vertical and Horizontal Integration: Note that this process involves not only vertical integration of goals and planned activities [coordination of goals and planned activities both downward and upward within units], but also horizontal integration of goals and planned activities [coordination of goals and planned activities between or across (a) sub-units within a particular unit, (b) sub-units of different units, and (c) major units].
- b. Variations on the Process: In practice, organizations actually use innumerable variations on the basic steps mentioned here. For example:
 1. Alternative Sets of Goals/Plans — Although it is advisable to formulate, evaluate, and compare several alternative sets of goals and associated plans, many organizations do not. This is largely because dealing with alternative sets at any level can be very complicated and time-consuming. Therefore, in many organizations, top management formulates alternative sets, chooses a particular set, and then subjects that set to the top-down/bottom-up process described above. In other organizations, alternative sets are passed downward, but single, recommended sets are passed upward.
 2. Lower-Level Participation in the Process — Note that the process described here turned around and headed back up following goal-setting and planning activities at the individual (worker) level. This is the level at

which many organizations “turn the process upward” when they are conducting an annual goal-setting and planning (MBO) process. However, when they are conducting a strategic/long-range planning process, many organizations turn the process upward following goal-setting and planning activities at the major unit level. In fact, even though they should, many organizations do not conduct strategic/long-range planning processes below the top management level.

The following are some advantages (+) and disadvantages (-) of involving lower levels of an organization in the analytic/goal-setting/planning/decision-making process:

- + Participation of lower levels facilitates initial horizontal and vertical integration of organizational activities.
- + It increases personnel's awareness of the need to coordinate their activities with other units and individuals on an on-going, day-to-day basis.
- + It enables top-level planners and decision-makers to get a better grasp of what must be accomplished at lower levels if overall organizational goals are to be achieved.
- + Participation provides lower-level personnel with an idea as to what top management is thinking about doing. This helps reduce rumors and gossip.
- + It enables lower-level personnel to contribute necessary or useful information and insights (concerning their jobs and problems) to the Planning Process.
- + It enables lower-level personnel to influence organizational, unit, and individual goals and plans in a manner that enhances attainment of their own personal goals. This helps to improve their job satisfaction, morale, and performance.
- + Participation in these think-work processes helps develop the analytic, planning, and decision-making skills of lower-level managers and their personnel.
- + Participation in recognizing the need for changes or improvements—and in actually planning changes or improvements—enhances the effectiveness and efficiency with which an organization can influence or deal with change.

- An organization must design an effective, efficient, and understandable system (and schedule) for conducting this type of process—otherwise confusion and problems are certain to arise.
 - Conducting a participative, top-down/bottom-up process can be time-consuming and costly—especially when it is being conducted for the first time.
 - Involving lower-level managers and their personnel may increase the chances that competitors will hear about an organization's goals, strategies/tactics, programs/projects, plans of action, strengths, and weaknesses.
3. Some organizations have more steps involving intra- and inter-unit coordination, while others have fewer.
 4. In many if not most organizations, unit- and sub-unit managers request initial planning inputs from lower levels before beginning to conduct the planning process.
 5. In many organizations, lower levels informally run their tentative outputs by superiors before (a) running them by other units/sub-units, and (b) forwarding them either upwards or downwards.
- c. **Decision-Making Aspects of a Goal-Setting and Planning Process:** Since decision-making concepts, principles, methods, tools, and steps are not discussed in detail until the last section of this entire book, we have avoided complicating our description of organizational goal-setting and planning steps by minimizing references to decision-making. However, since decision-making does take place during many of the steps outlined above, it should be put into perspective before we conclude this section.

Figure 1 on page I-2 of the Introduction illustrates the basic relationship between decision-making and goal-setting and planning. It shows that, regardless of the organizational level at which goal-setting and planning functions are being performed, the people involved (a) initially make tentative decisions (choices) concerning any alternative goals and plans they have formulated, and (b) eventually make final decisions.

The first three examples below relate to the top-down steps of the organizational process shown in **Figure 8**. In general, these steps involve “tentative decisions.” Note that we qualify the phrase “tentative decisions” using the words “initial,” “revised,” and “guideline.”

- * “Initial tentative decisions” concerning either organizational, unit, or sub-unit goals and plans are made at the end of each of these steps (after alternative goals and plans have been formulated at a particular level): Steps 1, 4, 9, and 14.
- * “Revised tentative decisions” concerning unit or sub-unit goals and plans are made at the end of each of these steps (based on inputs from other units/sub-units): Steps 6, 11, and 16.
- * “Guideline tentative decisions” concerning (guideline) goals and plans for the next lower level are made at the end of each of these steps (after alternative guideline goals and plans have been formulated for the next lower level): Steps 7, 12, and 17.

The next three examples relate to the bottom-up steps of the organizational process. In general, these steps involve making “increasingly final decisions” at successively higher levels. Note that we qualify the phrase “final decisions” using the words “initial,” “revised,” “lower-level,” and “top-level.”

- * “Initial, lower-level final decisions” concerning unit or sub-unit goals and plans are made at the end of each of these steps (after goals and plans have been revised based on the next lower level's inputs): Steps 19, 23, and 27.
- * “Revised, lower-level final decisions” concerning unit or sub-unit goals and plans are made at the end of each of these steps (after inputs have been obtained from other units or sub-units): Steps 21, 25, and 29. (These steps involve deciding what detailed, unit- or sub-unit-specific goals and plans are to be forwarded upward as recommended inputs to the next higher level's revision and decision-making process.)

- * “Top-level final decisions” concerning unit/sub-unit and organizational goals and plans are made at the end of each of these steps (based on lower levels’ inputs and recommendations): Steps 32 and 33.

Basic Perspectives on Strategic/Long-Range Planning

Figure 1 on page PP-14 is a simplified model of a strategic/long-term planning (and implementation) process. Note that the entire process involves an analysis phase (which was outlined in the previous booklet), a planning phase, a decision-making phase, and an implementation phase.

Purposes/Benefits of Long-Range Planning (LRP)

1. To accomplish the basic purposes of planning (1 through 11 mentioned on pages PP-1 and PP-2).
2. To counteract short-term thinking, which all too often results in short-term actions that jeopardize longer-term results.
3. To extend the time horizon for management thinking, thereby providing a better context for establishing short-term (annual/operational) goals and plans, for solving day-to-day problems, and for making decisions that influence short-term activities and results.
4. To prompt managers to anticipate problems further out in time, and to plan courses of action in sufficient time to solve or otherwise deal with them effectively.
5. To provide a longer-term context for evaluating organizational, unit, and sub-unit operating plans and anticipated results for the coming year.

The Two Basic Approaches

In the past, two different approaches to long-range planning have been used:

1. LRP as an extension of operational planning: This approach involves translating present strategies into (extrapolated) forecasts of operational results over a specified time period (“planning horizon”).
2. Strategic Planning: This approach involves developing new strategies or modifying the existing strategies. It focuses on anticipating important changes, both in the external environment and within the organization, that constitute either opportunities or threats.

Today, however, differences between these two approaches are less clear cut, because LRP and strategic planning processes are more integrated in current practice. Figure 1 reflects the integration of the two approaches and several earlier long-term/strategic planning models.¹⁸

Current Strategic/Long-Range Planning Practices

1. Methodologies and Processes Used:

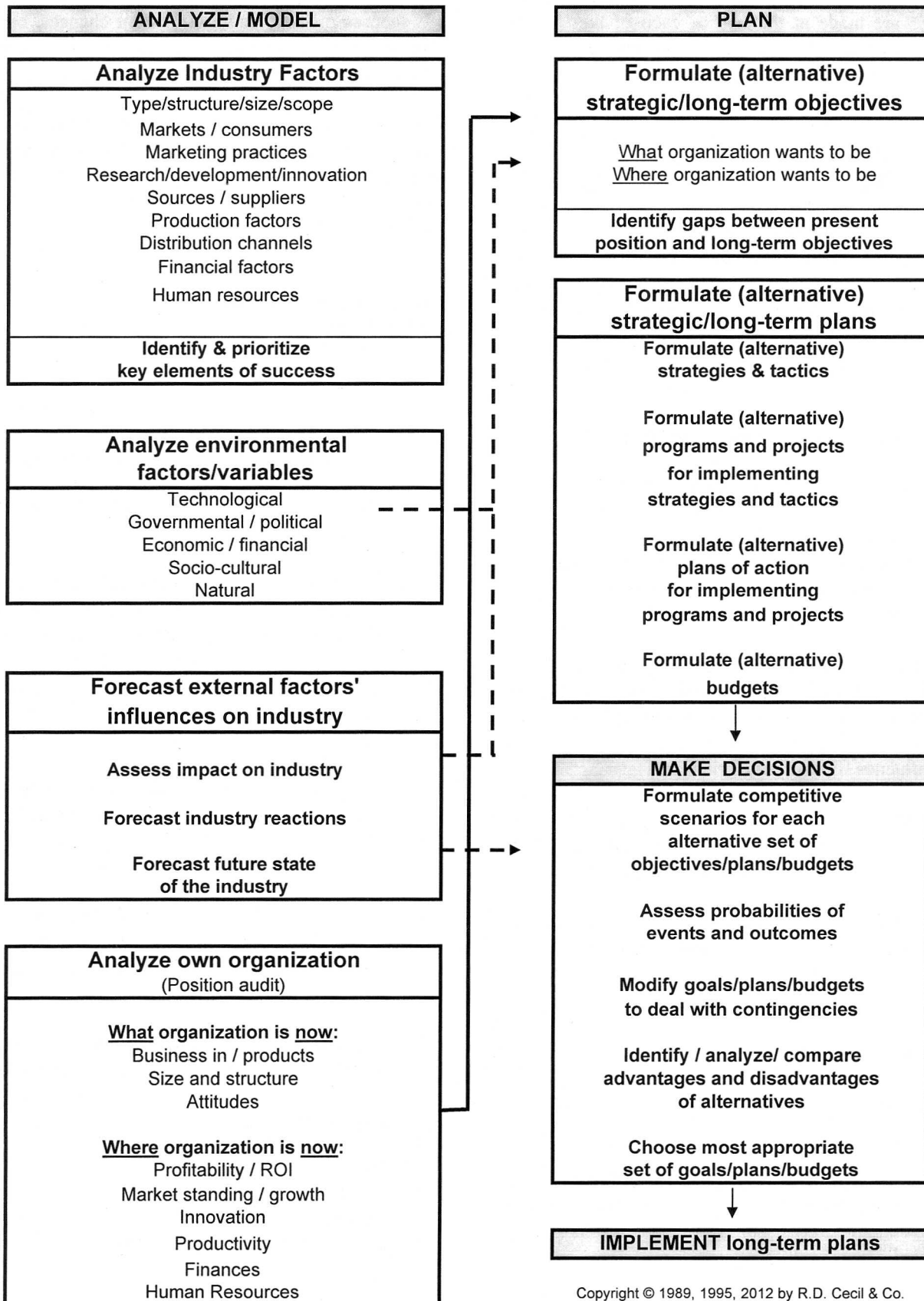
- a. Commonly accepted analytic methodology was discussed in the section on the analysis phase. The left side of Figure 1 summarizes the basic steps of the analytic process (as it applies to the strategic/long-term planning process).
- b. Commonly accepted strategic/long-term (and short-term) planning methodology was briefly described on pages PP-3 and PP-7. **Figures 7a and 7b** illustrate this methodology. Major steps of the (“top-down/bottom-up, participative”) planning process were described on pages PP-8 to PP-11. **Figure 8** illustrates this process.

Strategic/long-range planning methodology and steps will be discussed in detail in the individual sections on goal setting, planning, budgeting, and formulating policies/procedures/rules.

- c. Commonly accepted decision-making methodology and the decision-making process will be discussed in detail in the section on the decision-making phase.

Again, while the methodologies are rather widely accepted and used, organizations can practice many variations in the processes they use (steps they take).

Figure 9: Strategic/Long-Range Planning (At the Organizational Level)



2. Point in Time at Which Performed:

If an organization has never performed long-range/strategic planning, it should stop at some point in time to do so. In general, the best time is several months prior to the organization's next annual goal-setting/planning effort.

It is advisable to update strategic/long-range goals and plans each year—prior to conducting that year's annual goal-setting, planning, and budgeting activities.

3. Time Period for Which Performed:

When they do strategic/long-range planning, most organizations tend to plan five years into the future.

In general, organizations should formulate strategic/long-range goals and plans for at least five years into the future. For most, ten to fifteen years is more advisable.

In industries that are highly capital intensive and/or experience significant technological advances, it is not unusual to plan ahead for twenty, thirty, forty, or even more years. (As mentioned earlier, one Japanese conglomerate plans two hundred and fifty years ahead. This is largely because it is involved in a number of high technology businesses, wherein technological advances are both frequent and significant.)

Major factors that influence the time period of strategic/long-range planning include:

- a. how far into the future the organization's commitments extend;
- b. the degree of uncertainty and risk associated with the future; and
- c. the amount of time required to deal with market, technological, economic, political, and socio-cultural changes that may significantly affect the organization's long-term success.

4. By Whom Performed:

Although they should, most small organizations do not do any long-range/strategic planning. In those that do, the process is usually performed by outside consultants or top management.

are doing LRP. In those that do, the process is generally performed by top levels of management—often with assistance and input from consultants. Some involve lower-level managers in the process—if only to provide information and ideas.

In large organizations, LRP has become the rule rather than the exception. As previously discussed, however, the processes they use vary. Some utilize inputs from outside sources or consultants, and others do not. Some establish long-range goals and plans for the organization only, some establish them for the organization and its major units, and some establish them for sub-units as well. Some involve personnel at the levels for which goals and plans are being established, but others do not.

Basic Perspectives on Annual Planning

In general, all that has been said and illustrated above also applies to annual goal setting and planning. The most obvious difference is that, in annual goal setting and planning, the time frame is but one year—the coming year.

Purposes/Benefits of Annual Planning (Short-Term/Operational Planning)

1. To accomplish the basic purposes of planning (1 through 11 mentioned on *N-GMD* pages 67 and 68).
2. To accomplish the same long-range purposes mentioned above, but with respect to the coming year.

The Two Basic Approaches

Here, two different approaches are both widely used today.

1. Annual Budgeting (Budget Updating): This very common approach does not begin with formalized goal-setting and planning. It simply involves updating the prior year's budgets to take account of increasing costs (inflation) and either increasing or decreasing levels of sales, operations, and resources requirements. This ap-

proach is often taken by smaller, less sophisticated organizations.

2. **Formal Goal Setting, Planning, and Budgeting:** This more systematic and effective approach is formalized and includes analyzing, goal setting, and planning—prior to budgeting.

In either case, organizations may use either the top-down, the bottom-up, or the top-down/bottom-up (MBO or participative) approach. (See *N-GMD* pages 72 and 73.)

Summary of the Natures of Strategic/Long-Range and Annual Planning

- A. Strategic/long-range planning, in addition to being oriented to the longer term, is essentially a more “macro” or “big picture” approach to planning.
- B. Annual planning, in addition to being oriented to the short term, is essentially a more “micro” and operations-oriented approach to planning.
- C. Effective management requires performing both types of planning.

Psychological Phenomena Involved in Planning (and in Formulating Solutions to Problems)

Resistance to Planning

Many individuals resist planning for a number of reasons:

1. Since planning involves thinking, people in general tend to resist planning for all the reasons they resist thinking. (See the book’s Introduction.)
2. Managers often assume that comprehensive planning is separate from other integrative functions and responsibilities.
3. Because the future is uncertain, many managers feel

that goals and plans lock them into certain courses of action.

4. Many managers feel anxious about being held responsible for and evaluated on specific performance goals, plans, and budgets.

Common Planning Problems and Pitfalls

1. Top managements often fail to . . .
 - a. develop a “mission statement” as a basis for formulating goals and plans;
 - b. involve subordinate managers in planning;
 - c. establish a planning system that is flexible and understandable and promotes creativity and innovation;
 - d. establish a conducive, supportive atmosphere for planning; and
 - e. review and evaluate goals/plans developed at lower levels.
2. Managers at all levels often . . .
 - a. assume that they can delegate planning responsibilities;
 - b. make gut-level decisions that conflict with formal plans;
 - c. set goals too high or too low;
 - d. fail to set common goals (organizational/unit goals) before setting individual goals;
 - e. fail to communicate goals to lower levels;
 - f. hold individuals responsible for variables (and results) beyond their control;
 - g. give more than one person the overall responsibility for a particular goal/plan;
 - h. formulate goals that are not results-oriented, but instead, either are activity-oriented or stress work methods;
 - i. consider the goals and plans they establish to be “cut in stone”;
 - j. fail to write goals having the three necessary elements;
 - k. write goals using meaningless, arbitrary, or absurd numbers;
 - l. fail to set milestones on the way to ultimate attainment of goals;
 - m. write goals/plans that conflict with laws, regulations, or existing goals, plans, policies, procedures, or rules;

- n. formulate goals/plans with which subordinates disagree;
- o. fail to get commitments from subordinates;
- p. cling to goals/plans proven to be unfeasible, irrelevant, impossible, or outmoded; and/or
- q. fail to monitor, measure, and evaluate results.

Mental/Psychological Inputs

Just as in the analysis phase, knowledge, experience, mental abilities, motive/attitudinal traits, and personality traits all influence the effectiveness and efficiency with which individuals formulate either (a) goals, plans, budgets, and policies/procedures/rules, or (b) solutions to problems. An individual's levels of these inputs influence how insightfully and creatively he or she formulates ways to improve systems of variables and/or solve problems.

1. Knowledge and Experience

- a. Knowledge of, and experience using, goal-setting, planning, and budgeting methods and tools: These inputs influence how well an individual structures and performs planning processes.
- b. Knowledge/experience concerning how to influence and improve factors/variables involved in the systems being analyzed: Having experienced different ways to bring about changes or improvements in many of the factors involved increases planning effectiveness. Thus, it is better to have had many experiences than to have had a single experience many times. However, simply proposing to take some course of action that has seemed to work before is not necessarily the best plan. What worked before (a) may not have been the best alternative at the time, and (b) may not work well now because even a few very important variables have changed.
- c. Knowledge/experience concerning systems of factors, concepts, principles, and approaches associated with other fields of knowledge or endeavor: Being able to apply knowledge and experience relating to other fields usually broadens, deepens, and increases insights into what might be done to improve a situation or solve a problem.

2. Mental (Logical) Abilities

- a. Ability for class (deductive) logic: An individ-

ual's level of the ability to define/describe, compare/contrast, and identify similarities/differences between objects and activities influences his or her ability to (a) identify and distinguish between causes and effects, and (b) relate other concepts/principles/approaches to a situation.

- b. Ability for propositional (inductive) logic: An individual's level of the ability to apply knowledge and experience in a propositional or conjectural manner (a "what if" or "how about" manner) influences (a) his or her ability to identify causes and effects, and (b) the number and quality of alternative goals and plans (or solutions) that he or she formulates for dealing with causal/influential factors.

3. Motive/Attitudinal and Personality Traits

Individuals' levels of these traits significantly influence (a) the causal or influential factors around which they will tend to formulate goals and plans (or solutions), and (b) how well they will plan to bring about changes or improvements in those factors.

- a. Individuals who are relatively high in the economic, practical-mindedness, and political values (and therefore tend to focus on the task-related and organizational/political factors affecting a situation) are inclined to formulate alternative goals and plans (or solutions) that revolve around task-related and organizational factors. By tending to overlook or ignore the individual and social aspects of a situation, they (a) seldom formulate goals and plans (or solutions) for dealing with or improving these factors, and (b) usually fail to incorporate people-related considerations into their plans.
- b. Individuals who are relatively high in the more people-oriented values and personality traits (and therefore tend to focus on the individual and social factors affecting a situation), are inclined to formulate alternative goals and plans (or solutions) that revolve around these factors. By tending to overlook or ignore the task-related and organizational/power-related aspects of a situation, they (a) seldom formulate goals and plans (or solutions) for dealing with or improving these factors, and (b) usually fail to incorporate task-related and organizational matters into their plans.

- c. Individuals whose values and personality traits are more “balanced” have a greater tendency to formulate goals and plans (or solutions) aimed at improving all aspects of a situation.
- d. Individuals who are relatively high in traits such as the intellectual or theoretical value, original thinking, goal-orientedness, and orderliness tend to formulate goals and plans (or solutions) in a highly insightful and organized manner. However, these traits by themselves do not necessarily make them exceptionally creative.

4. **Creativity**

Creativity actually begins during the analysis phase, where insights into causes and effects are initially developed. During the planning phase, these insights help generate ideas. They even make many alternatives rather obvious.

Creativity during the planning phase is also largely a function of several personal characteristics. In general, the higher the levels of these characteristics, the greater an individual’s creative potential:

- a. knowledge and experience concerning causal/influential factors and how to bring about changes or improvements in them;
- b. knowledge and experience concerning concepts, principles, and approaches associated with other fields of knowledge or endeavor;
- c. ability for class (deductive) logic;
- d. ability for propositional (inductive) logic;
- e. “original thinking” (a personality trait); and
- f. tendencies to (a) be interested, inquisitive, and enthusiastic; (b) think intuitively and spontaneously as well as logically; (c) not be constrained by formal methodologies and procedures; (d) “think outside” a situation; (e) risk originating novel ideas; (f) seek challenges and opportunities; and (g) take feelings into account.

Together, these and other inputs¹⁹ enable an individual to integrate knowledge/experience and insights in a manner that generates a number of alternative goals, plans, or solutions.

Techniques for Stimulating Creativity and Innovation

Three widely used techniques are brainstorming, synectics, and nominal grouping. After describing these techniques, we will describe a synthesized or “hybrid” approach.

Brainstorming

When Alexander F. Osborn first used this term in the late 1950s,²⁰ he meant using the brain to “storm” a problem. He used the term to refer to a “groupthink” process in which six to eight individuals “put their heads together” in an unrestrained and spontaneous manner in order to generate creative ideas.

- * The principal concern of brainstorming is to generate ideas—not to evaluate them.
- * The main objective of brainstorming is to generate as many ideas (potential alternative solutions) as possible.
- * Several major premises underlie this technique:
 - a. Although one individual can brainstorm a situation, “two heads are better than one.”
 - b. The greater the number of ideas generated, the greater the chance of generating some number of exceptionally good ideas that merit serious consideration.
 - c. Individuals will generate more creative ideas when they interact in an unrestrained setting. One person’s idea—whether it seems good or bad, feasible or unfeasible—may act as a trigger, stimulating another person to either (a) build on the original idea, (b) modify the original idea, or (c) conceive another idea.
 - d. Exchanging and building on ideas promotes an atmosphere of spontaneous thought and free, open discussion.
 - e. Evaluating (judging/criticizing) ideas while they are being generated stifles free-wheeling creativity.
- * Session Preparation: At least several days prior to a brainstorming session, group participants are given a brief summary of the problem, which usually includes background information and exam-

ples of the types of ideas being sought. (Summaries do not normally include a thorough analysis of the situation.) Participants are expected to analyze the situation and prepare basic ideas for presentation during the session.

* Rules Governing a Session:

- a. The session should be limited to about one hour.
- b. Criticism and evaluation of ideas is prohibited. Ideas must not be evaluated until they have all been generated.
- c. Freewheeling, spontaneous generation of novel or exotic ideas is encouraged. (It is more difficult to think up ideas than to develop them into feasible alternatives.)
- d. Quantity is encouraged. (50 to as many as 150 ideas may result.)
- e. Improving on, building on, modifying, and synthesizing ideas is encouraged.

* Evaluation and Decision Making: Once all the possible solutions have been generated, they can then be subjected to the evaluation/comparison/selection process—the decision-making phase of the analytic approach to problem solving (or of the planning process). This phase may be conducted by the same group, or by a higher-level individual or group.

* Brainstorming has this main advantage: It works. Its use has generated many ideas that are presently being applied in many fields.

* It also has these disadvantages:

- a. It may not be based upon a thorough, in-depth analysis of a situation.
- b. It can be time-consuming and costly. (But it can save time and money in the long run.)

Synectics

This more formalized “groupthink” approach for generating creative alternatives was developed at about the same time by William J.J. Gordon.²¹ The word “synectics” comes from the Greek word meaning “the fitting together of diverse elements.”

* The main objective of this group approach is to

identify novel or exotic alternatives by integrating (relating) different ideas, concepts, principles, or phenomena that may initially seem to be unrelated or irrelevant.

* The participants in a synectic process include:

- a. group members, who have been selected for their varied backgrounds and training;
- b. an experienced group process facilitator, who (a) guides the team think-work process, and (b) helps keep participants from thinking in traditionally constrained ways; and
- c. a technical expert in the problem area.

* The Synectic Process: This process differs from the brainstorming process in three major respects, two of which are: (a) a thorough analysis is performed by the group (working together); and (b) alternative ideas are each evaluated upon their formulation (instead of after they are all generated).

1. The analytic phase: The facilitator outlines the problem, and members restate it as they understand it. Then, the facilitator guides a thorough analysis of the situation and the causal or influential factors involved.

2. Identification and evaluation of alternative solutions: The facilitator leads the identification of alternative solutions (using the methodology discussed below), and the technical expert assists the group in evaluating the alternatives. [Here, too, the group may or may not actually make the decision as to which alternative(s) to implement.]

* The methodology used to identify alternatives is the third major difference between the two approaches. The synectic approach involves using three types of analogies (direct, personal, and symbolic) to keep participants from thinking in traditional ways and help stimulate their creativity. Indeed, this approach is an excellent example of our earlier discussion about “thinking outside a situation” and using logical abilities to relate knowledge, concepts, principles, and phenomena involved in other fields or endeavors to a situation.

For example, groups could use—and have used—the synectic approach (rather than a traditional en-

gineering approach) to determine how to detect an unseen military threat:

- a. Direct analogies: The analogy of a bat transmitting high frequency sound waves and detecting objects by receiving the reflected waves led to the development of radar (microwave transmissions) and sonar (sound transmissions). The analogy of an owl's night vision could have contributed to the development of night vision (infra-red) goggles for pilots and rifle scopes for soldiers.
- b. Personal analogies: Imagining that one were listening in the dark for unusual or ominous noises could have helped lead to the development of deep-water sonic devices for detecting submarines. Imagining that one were a flashlight could have led to the development of laser detection and targeting systems.
- c. Symbolic analogies: Using the analogy of infantry reconnaissance patrols could have helped stimulate the practice of sending ships and aircraft beyond the horizon to spot enemy forces. Using the analogy of observation balloons could have helped contribute to the development of spy satellites.

Many if not most analogies revolve around "how other things work," and, therefore, have been applied to technical problems involving natural principles and phenomena. Other examples: Cargo doors have been designed to open much like a clamshell. Packages with weak seams have been designed to open much like pea hulls.

A number of analogies from fields such as psychology and sociology have been used to help solve organizational problems.

- * Synectics has these advantages (compared to brainstorming):
 - a. It, too, works.
 - b. It is more sophisticated and better adapted to complex technical problems.
 - c. It involves more thorough analysis of a situation.
- * However, it also has the same disadvantages: It, too, can be time-consuming and costly.

Nominal Grouping Technique (NGT)

Nominal grouping was developed by Andre Delbecq and Andrew Van de Ven in the early 1970s.²²

- * NGT differs from both brainstorming and synectics in two ways:
 - a. The group does not meet together to generate ideas—which is why it is called a "nominal group" (a group "in name only").
 - b. Verbal interaction is actually restricted (until after ideas have been generated).
- * The main objective is to generate ideas (alternatives). A secondary objective is to obtain group consensus regarding which alternative(s) to implement.
- * The participants in a nominal group include:
 - a. group members, who have been selected for their varied backgrounds and expertise; and
 - b. an experienced group process facilitator.
- * The highly structured process involves the following steps:
 1. The seven to ten group members meet to be familiarized with the problem.
 2. Silently and alone, members prepare a personal list of ideas.
 3. After ten to fifteen minutes, members take turns presenting their ideas. The facilitator records all ideas on a chalkboard or flipchart.
 4. Group members discuss and evaluate each idea in its turn. Ideas may be reworded, added, deleted, or integrated.
 5. Group members vote on the final alternatives by ranking them (privately) in their personally-assessed order of preference (from, say, a high of "10" to a low of "1"). After the results are tallied, they are fully discussed. A second and final vote is then taken. The group's choice simply becomes the alternative having the highest arithmetic total of members' final rankings.

Here, too, (a) the group's decision may constitute the final decision, or (b) the final decision may be made by a higher-level individual or group.

* NGT has several advantages:

- a. It minimizes inhibiting interactions that often undermine group processes when individuals (a) do not know and trust each other, (b) do not have equal authority or influence, (c) are not accustomed to working with each other, and/or (d) are not experienced at participating in group processes. For example, it (partially) protects those who may feel threatened by others' knowledge, authority/influence, and/or personalities.
- b. It encourages individual generation of ideas, thereby preventing individuals from simply "hitchhiking" on others' ideas.
- c. It enables group members to present their most novel, exotic, or otherwise risky ideas at the most propitious moment during the round-robin presentation of ideas.

* It also has disadvantages:

- a. Like brainstorming and synectics, it, too, can be time-consuming and costly.
- b. It does not always stimulate ideas that are as creative (novel/exotic) as those generated through the brainstorming and synectic approaches.

A Hybrid Team Process Approach

Today, the three separate approaches are often practiced in a more integrated fashion that synthesizes their advantages and minimizes their disadvantages. These are the basic steps associated with one such integrated team think-work approach:

A. Initial/On-going Team Process Training

1. Personnel—especially managerial and supervisory personnel, but also worker-level personnel—are trained in how to guide and participate in group problem-solving, planning, and decision-making processes.

2. So that they develop their team think-work skills and more team-oriented attitudes and behavior patterns, personnel are encouraged to participate in team processes whenever appropriate.

B. Session Preparation Steps:

1. Given a problem-solving or planning situation, group participants are selected based on (a) their expertise and potential contributions to the process, and (b) the extent to which resulting decisions will affect their jobs, activities, interactions, performance, and personal lives.
2. Participants are provided with a summary of the situation. This can include (a) a background scenario of events leading to the situation, (b) the symptoms of a need to solve a problem or make an improvement, (c) a checklist of factors that may be involved, (d) pertinent data, (e) guidelines concerning solutions, and (f) decision-making criteria.
3. Participants do their homework. Working by themselves, they (a) prepare an in-depth analysis of the situation, (b) identify specific causal/influential factors to be explored and analyzed, (c) prepare a situation model, (d) collect and add information to their model, (e) formulate tentative alternatives, (f) evaluate them, and (g) arrive at a personal recommendation.

C. Group Process Steps:

- * Each phase of this process is performed in its turn, with jumping back and forth between phases being discouraged.
- * Participants arrive at the meeting fully prepared. They bring their analyses, all pertinent data, their alternatives, their analyses of alternatives, and their (tentative) recommendations.

1. Analysis phase: The group thoroughly explores and analyzes the situation, integrating their qualitative and quantitative analyses into a single model (on a chalkboard, for all to see). They identify and prioritize the causal/influential variables to be changed or improved.

- * If additional information is needed, one or more team members may be assigned to research and collect it. The meeting may be suspended during this step, and then may be reconvened upon its completion.
 - * If alternatives surface during this phase, the group leader/facilitator writes them down to the side (perhaps on a flipchart) for discussion during the next phase.
2. Identification/formulation of alternatives: Together, group members (a) list all their prepared alternatives; (b) brainstorm additional alternatives (using the techniques described above); (c) add, delete, modify, or combine alternatives; and (d) prepare a smooth list of final alternatives.
- * The group does not evaluate and compare alternatives during this phase.
 - * The group leader/facilitator guides this process, playing several roles: (a) gatekeeper of ideas, (b) protector of ideas, (c) protector of individuals, and (d) synthesizer of ideas.
3. Evaluation (decision-making) phase: Together, group members (a) evaluate each alternative in its turn; (b) further modify and/or combine alternatives; (c) compare alternatives in terms of their advantages, disadvantages, and any other criteria; and (d) choose which alternative(s) to implement (make a decision, or make a recommendation to a higher-level individual or group).
- * The group leader/facilitator guides this process, also.

Planning Issues to Be Resolved by Organizations

Each organization must resolve the following issues for itself:

1. How much time and money should be spent on developing a goal-setting and planning system?
2. How sophisticated and complex should the system be?
3. What approach will it take? Top-down, bottom-up, or top-down/bottom-up (participative)?
4. If the organization has a planning staff, what should its role be?
5. How much time and effort should be involved in actually conducting the goal-setting and planning process?
6. How far into the future should the organization set goals and plan?
7. How much detail will suffice?
8. To what extent should individuals feel committed to goals and plans—especially those that extend more than, say, two to five years into the future?

REFERENCES

PLANNING PHASE

15. Drucker, Peter F., *The Practice of Management* (New York: Harper & Row, 1954).
Drucker, Peter F., "What Results Should You Expect? A User's Guide to MBO," *Public Administration Review*, January-February 1976, pp. 12-17.
Drucker, Peter F., *Managing for Results* (New York: Harper & Row, 1964).
16. Odiorne, George S., *MBO II: A System of Managerial Leadership for the 80s* (Belmont, CA: Fearon Pittman, 1979)
17. Likert, Rensis, *New Patterns of Management* (New York: McGraw-Hill, 1961).
18. For several other Long-Range/Strategic Planning Models/Flowcharts, see:
Guth, William D., ed., *Handbook of Business Strategy* (Boston: Warren, Gorham & Lamont, 1985).
Linneman, Robert E. and Kennell, John D., "Shirt-Sleeve Approach to Long-Range Plans," *Harvard Business Review*, March-April 1977, pp. 141-150.
Smalter, Donald J. and Ruggles, Rudy L., Jr., "Six Lessons from the Pentagon," *Harvard Business Review*, March-April 1966, pp. 64-75.
The MBA, December 1967, p. 26.
Vancil, Richard F. and Lorange, Peter, "Strategic Planning in Diversified Companies," *Harvard Business Review*, January-February 1975, pp. 81-90.
19. Howard, Niles, "Business Probes the Creative Spark," *Dun's Review*, January 1980, pp. 34-35, 140.
Smith, Emily T., "Are You Creative?" *Business Week*, September 30, 1985, pp. 80-84.
von Oech, Roger, *A Whack on the Side of the Head* (New York: Warner Books, 1983).
20. Osborn, Alexander F., *Applied Imagination: Principles and Procedures for Creative Problem-Solving* (New York: Scribner, 1963).
21. Gordon, William J.J., *Synectics: The Development of Creative Capacity* (New York: Harper, 1961).
Gordon, William J.J. and Poze, Tony, *The New Art of the Possible: The Basic Course in Synectics* (Cambridge, MA: Porpoise, 1980).
22. Delbecq Andre L. and Van de Ven, Andrew H., "A Group Process Model for Problem Identification and

Program Planning," *Journal of Applied Behavioral Science*, July 1971, pp. 466-492.

Other (Strategic Planning – General)

- Gilmore, Frank F., "Formulating Strategy in Smaller Companies," *Harvard Business Review*, May-June 1971, 71- 81.
- Gluck, Frederick; Kaufman, Stephen; and Walleck, A. Steven, "Strategic Management for Competitive Advantage," *Harvard Business Review*, July-August 1980, p. 155.
- Gray, Daniel H., "Uses and Misuses of Strategic Planning," *Harvard Business Review*, January-February 1986, pp. 89-97.
- Hamilton, W.F. and Moses, M.A., "A Computer-Based Corporate Planning System," *Management Science*, October 1974, pp. 148-159.
- Hobbs, John M. and Heany, Donald F., "Coupling Strategy to Operating Plans," *Harvard Business Review*, May-June 1977, pp. 119-126.
- Hounshell, David A. and Smith, John Kenly, Jr., *Science and Corporate Strategy* (New York: Cambridge University Press, 1988).
- Lorange, Peter and Vancil, Richard F., "How to Design a Strategic Planning System," *Harvard Business Review*, September-October 1976, pp. 75-81.
- Naisbitt, John, *Megatrends: New Directions Transforming Our Lives* (New York: Warren Books, 1982).
- Paul, Ronald N., Donovan, Neil B., and Taylor, James W., "The Reality Gap in Strategic Planning," *Harvard Business Review*, May-June 1978, pp. 124-130.
- Porter, Michael E., *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980).
- Steiner, George A., *Strategic Planning: What Every Manager Must Know* (New York: Free Press, 1979).
- Steiner, George A., "Strategic Managerial Planning," *Encyclopedia of Professional Management*, ed., Bittel, Lester R. (New York: McGraw-Hill, 1978).