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Abstract

This report provides some basic guidelines for planning and establishing a consortium. Systems analysis was used to study 5 consortia, determine their objectives, identify applicable system variables, and ascertain the contribution each variable must make to achieve organizational objectives. The consortia were the Central States College Association; Dayton Miami Valley Consortium; Five Colleges, Incorporated; Great Lakes College Association; and the Union for Research and Experimentation in Higher Education. Data collected during personal interviews and from analyses of selected documents at each of the 5 consortia were summarized, and planning areas and activities were extracted or developed for utilization as elements of a model. Specific elements were determined in terms of their contribution to 1 or more of 19 proposed objectives. These objectives, along with 9 assumptions, served to guide the selection of the model's activity components and to provide a framework for time estimates and for a sequence of activities. The activities were arranged in a precedence diagram which was later converted to a 25-foot long PERT Network that graphically illustrates the 292-step model. The report contains 4 diagrams of the Network, and lists the 19 objectives, 9 assumptions, and 14 subsystems of activities that were developed for the attainment of network objectives. (WM)

AN ANALYSIS OF THE PROCESSES OF DEVELOPING A CONSORTIUM

by

Edgar L. Sagan

A Paper Delivered

at

The Academic Consortia Seminar

October 8, 1969
Washington, D. C.

My professional purpose in being here is to report briefly on the outcomes of my dissertation project recently completed at Ohio State University. What I hoped to accomplish--and may have partially succeeded in doing--was to provide some basic guidelines on how to plan and establish a consortium. Some assumptions inherent in the study were (1) that additional consortiums would continue to be formed, (2) that most of the local planners had little experience in establishing such organizations, and (3) therefore, the local planners would welcome some systematized guidelines to assist them with the organizational task.

The glorious output of these academic efforts was a model of 292 steps--encompassing a broad range in level of detail--graphically illustrated by a 25 foot long PERT Network. Background chapters on the historical development of inter-institutional cooperation and descriptions of planning methodology allow the total product to be used as a handbook for the uninitiated.

At this point, the clarification of two items seem to be in order. You are all undoubtedly familiar with the work Fritz Grupe has done in model development for consortium planning. Many of you probably heard his presentation last spring at Corning, New York. Fritz and I became aware of the similarity of our project last winter, and as a result, we met in March and determined that our approaches and the final illustration of our models were different enough to warrant continuation of our individual studies. This decision was supported by each of our doctoral committees at Albany and Ohio State. If some of our results are similar--arrived at independently--

it adds that much more credence to what each of us produced. It is conceivable that local planners might wish to consult both documents for the most thorough approach to consortium planning.

A second item may be a question in your minds concerning the audacity of a novice in the field to pretend expertise in matters he has never experienced personally. My answer is simply that I have attempted to analyze and systematize the actual and/or desirable planning processes. I do not attempt to specify organizational structure or program offerings.

A survey of the various methodologies of studying organizations and their processes suggested that the systems approach would be applicable in this situation. By perceiving organizations as systems --that is, a set of variables defined by the relationships that exist among them--the organization is seen as an interrelationship of functions, processes, machines, etc. Rather than seeing only the hierarchical structure, the organization chart, or the official channels of communication, we now study the tasks performed, the jobs done, decision processes, inputs, outputs, and movement toward behavioral objectives. Kaufman and Corrigan describe a system as ". . . nothing more or less than the identification of all parts, working independently and in interaction to accomplish previously specified objectives."

Therefore, to analyze an organization perceived as a system, one uses system analysis. Essentially, the process involves the determination of objectives, the identification of the applicable system variables, and the ascertaining of the contribution each variable must make to achieve the objectives. System analysis is the process of evaluating these alternative courses of action in relation to available resources

and their allocation. Cook divides system analysis into two basic stages--analysis and synthesis. The analysis process involves division, dissection, disassembly into parts, activities, or tasks. The synthesis phase involves integration, unification, assembly, etc., into operational wholes or system illustrations. Translated into operational terms for consortium planning, the system approach dissects the consortium processes into basic elements, and these elements in turn become objectives for planning processes. The planning processes are then integrated--or synthesized--into a unified planning system, formed into a logical pattern, and illustrated by means of flow charts, networks, or sequenced descriptive steps.

An example of this is the process of selecting some of the initial programs that a proposed consortium may wish to offer. Once the personnel or program committees have been selected and activated, the steps required to select programs may be: (1) develop preliminary outlines, (2) develop criteria for identifying beneficial programs, (3) rank programs according to previously determined criteria in order of benefits to be derived, (4) accomplish cost estimates of programs, and (5) compare costs and benefits received and select the most feasible programs. Although the steps are listed in sequence, several can occur simultaneously, and it is here that a flow chart or network diagram can be extremely helpful in depicting the most likely course of events and the relationships that exist among them. More about networks in a few minutes.

Another important factor relating to the selection of planning and control techniques is the designation of consortium planning and establishment as a project. Your reactions to this might be to say that you have known all along that starting up a consortium

is a project--in fact, it is one helluva project!! But technically speaking, any undertaking is not necessarily a project. Stewart's criteria for identifying a project are:

1. Scope--a one-time undertaking that is (a) definable in terms of a single, specific end result, and (b) more comprehensive than the organization has ever undertaken successfully.

2. Unfamiliarity--the project must be unique or infrequent.

3. Complexity--there is usually a high degree of interaction and interdependence among tasks, with assignments overlapping into several functional areas or departments.

4. Stake--the organization must have an interest (often financial) in the outcome.

In addition, a project typically ends at a specified point in time.

Cook describes projects as being finite, complex, homogeneous (that is, one project can be differentiated from another project or from the environment), and nonrepetitive. This homogeneity allows a project to be treated as a system. This interlocking of concepts--project and system--permits the application of both project management and system techniques to consortium planning.

Cook's general steps in planning and controlling a project are:

1. Establish the goal or objective.

2. Project definition--disassemble the tasks that must be accomplished to attain the objective (system analysis). This usually results in a hierarchical plan or chart featuring several levels of tasks which lead to goal accomplishment.

3. Develop a project plan--utilize a graphic representation (i.e., flow chart) of the hierarchical plan, illustrating sequence and relationships encountered in progressing through the project.

4. Establish a schedule--assign time estimates and eventually calendar dates to each task.

These steps formed a general outline for developing the methodology of this study.

The first step in the total process of developing a model for consortium establishment was to determine what subsystems or planning areas needed to be included. As one begins to search the literature for information regarding the initial organization of business firms or educational institutions, the scarcity of useful material becomes immediately apparent. As a result, the decision was made to survey several consortiums and study their establishing processes. It was realized from the outset that each situation was unique, that different approaches had been used, and that some of the sequences of activities and their timing may have fallen short of the ideal. However, from surveying several groups it was hoped to identify areas of concern and activities which tended to be common to most establishing projects.

The five consortiums participating in the study were the Central States College Association; Dayton Miami Valley Consortium; Five Colleges, Incorporated; Great Lakes Colleges Association; and the Union for Research and Experimentation in Higher Education. A personal, one-day visit was made to each consortium office. Interviews were held with one or more administrators at each consortium. Selected documents were analyzed, and in some cases information from important documents was obtained indirectly through the interpretation of the directors. The data was then summarized.

The next step was to extract or develop those planning areas and activities which would become the elements of the model. Analysis of the collected data and a number of related publications suggested nineteen objectives which the model should help to achieve, and the specific planning elements would be determined in terms of their contribution to one or more of these objectives:

1) An incorporated formal organization.

2) A consortium governing board to establish the general direction and policies of the organization.

3) A committee structure of the governing board to develop and supervise various policies and functions requiring their level of attention.

4) Development of a set of basic operational policies to guide the on-going functions of the consortium.

5) Provision for the availability of legal services for incorporation procedures and other ongoing legal needs.

6) The employment of an executive officer who would direct and supervise the ongoing operations of the consortium.

7) The provision of permanent office facilities for the administrative staff of the consortium.

8) The employment of a supporting staff for the executive officer.

9) Establishment of a Faculty Council to promote interinstitutional communication, screen program proposals, and recommend policies to the governing board.

10) Establishment of - a Student Advisory Committee to promote consortium - student communication and recommend program/service and administrative improvements.

11) Establishment of a Long Range Planning Group to study, recommend, and help implement future directions and activities the consortium should eventually pursue.

12) Establishment of an information/communication/publicity system.

13) Designation of a treasurer or financial officer.

14) Establishment of a permanent consortium financial accounting system.

15) Collection of dues from each member institution, signifying the expression of commitment to the consortium.

16) Determination of faculty resources and competencies to facilitate the evaluation of strengths and weaknesses for potential program areas.

17) Implementation of basic statistical studies to facilitate the development and evaluation of program/service systems.

18) Development of externally and locally funded operational cooperative programs or services.

19) Initiation of plans for the evaluation of program efficiency and effectiveness.

In addition to these objectives, a group of nine assumptions emerged which, along with the objectives, served to guide the selection of the activity components of the model and to provide a framework for the sequencing of activities and the time estimations. The assumptions were that:

1) The institutions utilizing the network model will wish to organize the consortium and inaugurate some programs as quickly as possible.

2) The planners from the individual institutions will have some sophistication in general planning and organizing. (This factor has implications for the amount of detail incorporated into the model.)

3) The consortium should be incorporated.

4) The executive officer should be on duty before major programs or services are attempted, before central office facilities are selected, and before clerical personnel are appointed. These

areas will require greater management and supervisory attention than the individual presidents or their deputies will be able to effectively contribute. The executive officer's opinions on these matters are also desirable.

5) Assignments of personnel and committees to specific planning activities should be local decisions depending upon individual competencies.

6) Program/ services may be internally or externally funded.

7) A planning team or committee should be formed early in the planning process to handle the management of the project and relieve the presidents of many details.

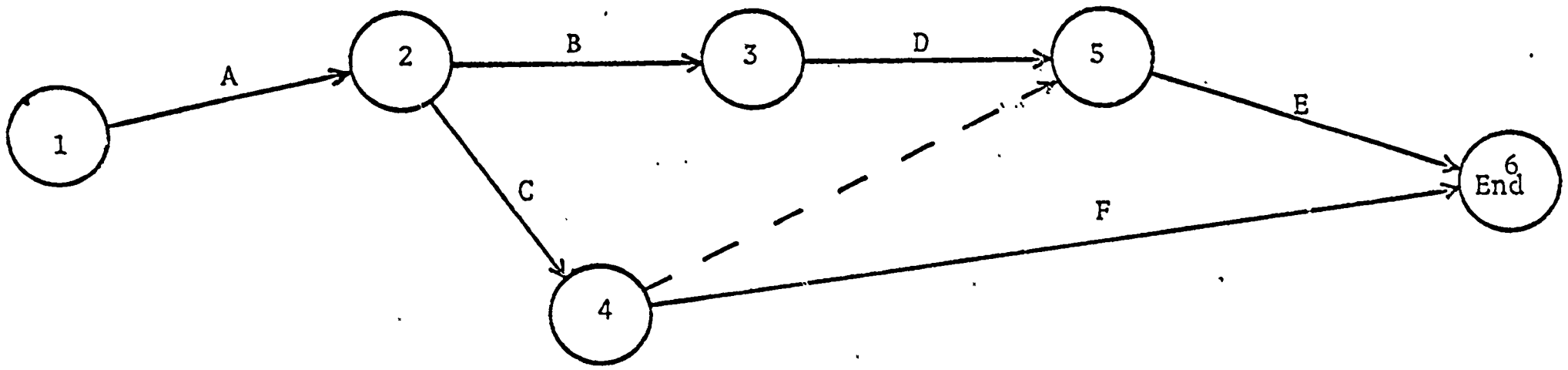
8) There should be somewhat more detail in the early parts of the network than in the latter sections. As project planners gain experience with the project, they will not require as much specific guidance from the model.

9) Variations among projects--such as number of institutions involved, their geographic dispersion, etc. --should be partially accounted for by the time estimates.

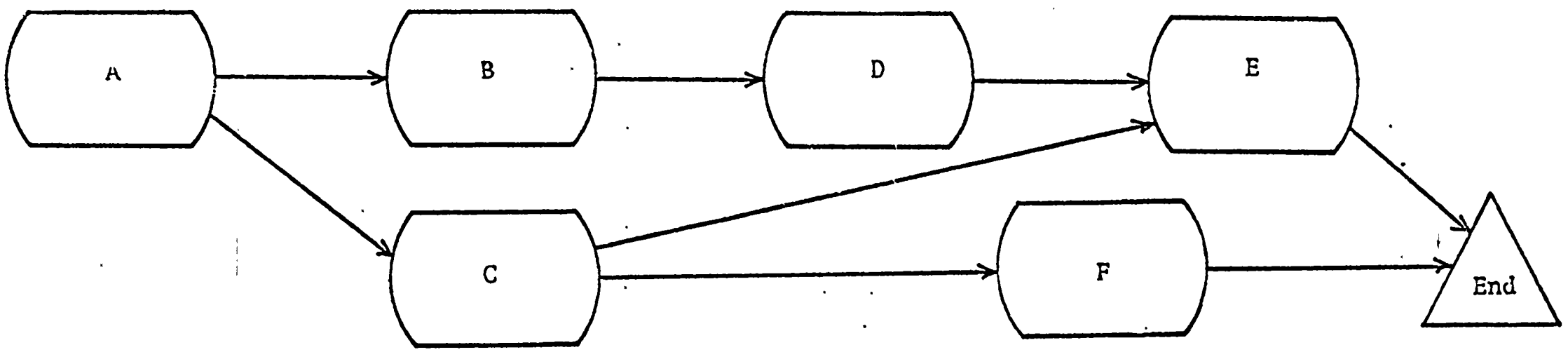
With the data, objectives, and assumptions now available, the next step was the actual development of the network model. Although size prohibits the effective display of the detailed network at this time, a brief overview of network analysis may be helpful.

A planning network is a graphic representation of the desired progression of activities toward a certain objective. These networks are usually constructed with arrows connected at nodes, and the activities to be accomplished can be represented by either the arrows (an activity-on-arrow network) or by the nodes (activity-on-node or precedence diagram). Progression of the project is illustrated by the various paths the arrows designate through the network. Time estimates are usually assigned to the activities, so that through simple addition from the start of the project and subraction of activity times from the end of the project, the earliest possible starting

a. Activity-on-Arrow Network



b. Precedence Diagram



times, latest allowable starting times, and slack times can be calculated for each activity. These calculations can be accomplished fairly quickly by computer. The calculations can also be updated as a result of actual experience with the project activities and as more knowledge is gained concerning activities still to be accomplished.

A major advantage of illustrating a project by network is that the relationship of each step or activity to the others is clearly shown. It demands a logical and interlocking approach to planning--forcing planners to designate the precise dependencies and relationships for each activity. In using the network as a tool for project management and control, managers are able to determine which steps must be completed before others can begin, which steps are most crucial to maintaining the project schedule, which steps may require less management attention or resources, and when each step may be expected to occur.

For this project the attainment of the objectives was analyzed and the activities were developed. These activities became the elements of fourteen subsystems and could be divided into two broad categories--early planning and advanced planning.

Sub-areas under early planning were:

1. General movement from informal beginnings to some organization of the planning effort. This includes such activites as the earliest informal discussions, preparing a broad preliminary proposal, determining broad guidelines for participation in planning, determining institutional representation for planning, establishing a planning board, organizing a project planning team, designation of a project manager, and obtaining literature and information from other consortiums.

2. Identification of program/services which might be offered by the potential consortium. This area includes the identification of institutional needs, organization of program/services committees, determination of constraints on potential programs and comparison of program benefits with costs.

3. Development of financial arrangements for both planning and eventual consortium operation. This includes deciding on a method of sharing planning costs, identifying operational areas that may require expenditures, establishing guideline budgets, identifying possible sources and amounts of income, and obtaining funds from participating institutions.

4. Survey of institutional resources--conducting a thorough survey of the specific needs and resources of each participating institution.

5. Information/communication/publicity--involves the determination of the type of information to be disseminated, both inter-institutionally and externally, designating sources of official information, and designating recipients of information.

6. Utilization of consultants--involves the development of objectives for the consultant, selecting a consultant, and providing for information flow between the consultant and the planners.

7. Processing the approval to proceed with consortium planning. This involves the analyzation of reports from the several areas mentioned previously, preparing a master plan for the consortium, obtaining approval of the plan, and formalizing the agreement to proceed with the establishment of a consortium.

Sub-areas under advanced planning were:

1. Development of the formal organization--includes devising operational policies, goals, and structure, accomplishing the incorporation process, and organizing a Faculty Council, Student Advisory Committee, and a Long Range Planning Group.

2. The employment of the executive officer involves the designation of a search committee, accomplishment of job and salary analyses, development of a job description, screening of candidates, selection of an executive director, and the assumption of duties by the executive director.

3. The provision of central office facilities--involves the determination of site, space needs, equipment needs, and cost.

4. The employment of clerical personnel--includes analyzing clerical needs, accomplishing job and salary analyses, developing job

descriptions, and termination of former employment and assumption of new duties.

5. Program/services development---involves reactivation of the program committees, development of program and funding proposal procedures, accomplishing cost-benefit analysis of potential programs, selection of initial program/services, arranging for outside agencies to provide certain services, arranging for program staffing, and developing a system of program evaluation.

6. The consortium financial system--should grow out of the needs suggested by the consortium structure and proposed program plans. A system for comparing the costs and contributed services, facilities, and personnel among the member institutions is developed here, as well as policies for short-term investments, investments of reserve funds, and disposition of interest. Consortium budgets, insurance, and accounting system are established, and a reappraisal of the membership dues becomes a periodic activity.

7. Consortium information/communication/publicity systems--involve decisions concerning kinds of interconnection, publicity, and publications. Liaison with campus newspapers is also established.

The activities were at first arranged in a precedence diagram and presented for review to three persons knowledgeable in educational administration, financial planning, and system analysis respectively. Revisions and additions were made as a result of their suggestions.

A set of time estimates was obtained for each activity in the network from two consortium administrators. Each estimator was asked to give three estimates--Optimistic Time, Most Likely Time, and Pessimistic Time.

The precedence diagram was converted to a PERT Network, and activities were identified by their preceding and succeeding event numbers.

Computer runs processed the three time estimates for each activity into a single estimate--Expected Elapsed Time (t_e). Another computer run averaged the two sets of Expected Elapsed Times into one set. The synthesized time estimates resulted

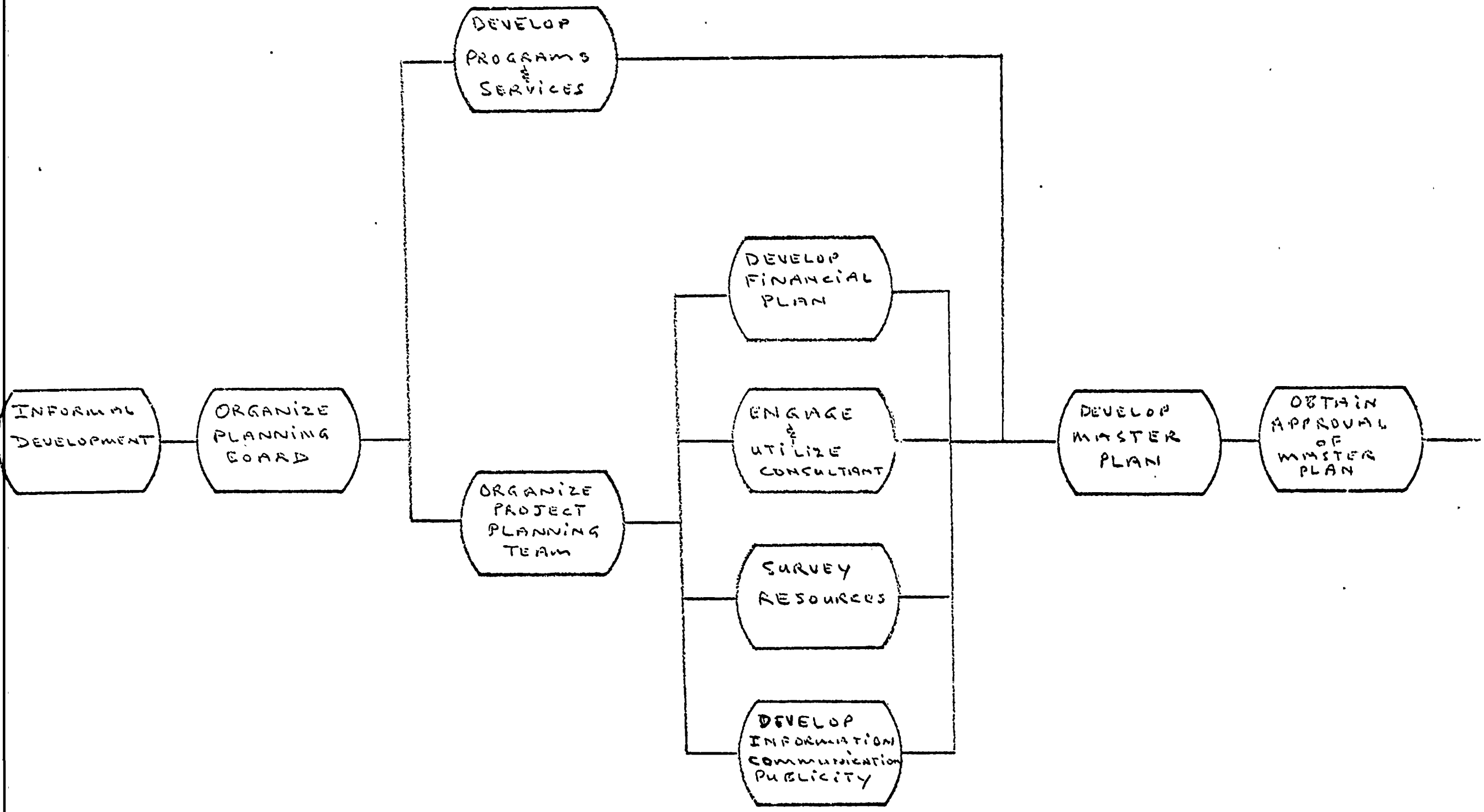
in a total project completion time of 264.7 weeks. However, this seemingly long period of time includes the earliest informal discussions through to operational programs being managed by a full-fledged consortium organization. Other milestones in the project suggest that: formalization of the agreement to establish a consortium can occur in 120 weeks. Using that as a base point, incorporation can be achieved in 39 more weeks, a Faculty Council could be organized by the 54th week, a Student Advisory Committee could be organized by the 51st week, an executive officer could be employed by the 53rd week (although he might not be able to assume his duties for quite some time, depending on prior commitments), a permanent accounting system could be phased in by the 68th week, a move to renovated, equipped central office facilities could be accomplished by the 102nd week, and major, locally-funded programs could begin operation by the 95th week.

Relative to implementation of the model, an important factor to keep in mind is its flexibility. The realities of any particular local situation may dictate a relocation of certain activities within the project, the addition or deletion of some activities, re-estimation of activity times, or the assignment of certain calendar starting or completion dates which place new constraints upon the project. By replanning, applicable portions of the network can be redesigned to reflect the local qualifications. By scheduling or rescheduling, calendar dates are assigned to certain key events. By updating, future scheduling can be adjusted to reflect experience gained from past progress.

In addition to these points, a great deal of flexibility is available in the level of utilization. The most sophisticated use of the model would be to its fullest potential as a PERT project management technique. However, at lesser levels

of sophistication are (1) the identification of the Critical Path--designating those activities which require the greatest amount of management attention, and (2) simply using the model as a checklist of progress through the project.

At the beginning of this paper, I expressed the hope that this network model and the supporting material would serve as a handbook for those planners embarking upon a consortium establishing project. Any model by its detail fails to accommodate the uniqueness found at each local setting, and any model by its generality fails to guide properly the efforts of its users. It is through its flexibility and through the intelligent judgment of its users that a model can eventually fulfill its destiny.



EARLY PLANNING

ADVANCED PLANNING