

CHAPTER 5 RESEARCH ORGANIZATION MANAGEMENT

This chapter was written primarily for senior staff members or managers of the Economic Unit in order to assist them in planning and controlling the research activities of the Economic Unit. Nevertheless, the rest of the members might also find the explanation given in this chapter useful to gain a proper understanding of what will be expected of them. In this chapter some of the essential principles, rules and procedures will be explained on how to manage the Economic Unit as a research organization within the SCA.

5.1 The Management System of Research

As is the case with any other managerial functions of the SCA, the management of the Economic Unit will be classified into the following functional areas.

- 1) Planning
- 2) Organizing
- 3) Leadership
- 4) Administration
- 5) Coordination and evaluation

These functions are to be performed by senior members of the Economic Unit who will occupy responsible managerial positions. The higher the staff members go up within the research organization the larger their managerial responsibility will be. This increasing managerial responsibility of the higher echelon position is nothing special to the research organization.

For the purpose of performing the expected managerial functions of the Economic Unit, it is strongly recommended that those who will become senior staff will acquire the management techniques which are commonly called "management by objectives." Some of the fundamental principles are shown in Table 5.1.

Table 5.1 Research Management Policy by Objectives

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1. State the assumptions, tasks and functions of the research organization. Why does this particular organization exist?
 2. On the basis of clarification of the assumptions, tasks and functions of the organization, formulate a general philosophy and policy to guide and direct the organization, incorporating the principles of management by objectives.
 3. Translate the broad philosophy and policy into rules and procedures for the organization, incorporating the methods of attainment of the objectives.
 4. Set priorities upon the attainment of specific objectives in specific time frames.
 5. Develop the programs of the research activities in accordance with the objectives.
 6. Select the research projects according to the program framework and decide all methods of how they should be carried out, and of how they should be controlled.
 - 7.] Select, assign and train staff members in the light of the specific research objectives to be accomplished.
 8. Allocate budget and other organizational resources on the basis of specific objectives and priorities. Acquire additional resources if those objectives cannot be pursued with available resources.
 9. Evaluate programs, projects and individual performance with reference to the accomplishment of objectives.
 10. Make necessary changes in the organization and research management system to improve performance.
 11. Draw up long term and short term plans in respect to the research programs and projects, organizational development and research manpower resources and training.
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5.2 Types of the Management Functions Required

It must be understood that the quality of the Economic Unit's work will likely be determined by how well it is managed.

Management of any organization is a dynamic process, a continuing development, an evolving system with feedbacks and linkings of various functions. Some of the major management functions are listed in the Table 5.2. Brief explanations will be made on each of them in the following paragraphs.

(1) Planning of Research

Planning is the preliminary or advance thinking of the research process. It is the outlining or projection of what is to be done, how it is to be done, when it is to be done, who is to do it, and why it is to be done, before it is actually performed. More specifically, planning is the formulation and statement of the purpose and objectives of research and its management; the determination of the methods of approach, the development and selection of projects and programs and the plans for carrying them out.

The "research program" and "research project" should be clearly differentiated from each other; A research "project" is best distinguished from "a program" in terms of scale. Programs are generally larger and more directly related to the basic objectives of the Economic Unit than are projects. Any one program of the Economic Unit might be composed of many different projects which in sum will aid in achieving a specific output-oriented objective of the Economic Unit. On the other hand the research projects have specific objectives and will be independently executed.

(2) Organization

The total coordination of the group effort, including a description of the tasks and functions to be performed by individual research staff members of the Economic Unit, the arrangement of jobs into projects, projects into groups of the Economic Research and Systems Analysis, groups into sections and Departments.

Table 5.2 Elements of Research Management Process and Functions of the Economic Unit

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1. Planning
 - 1) Proper purposes and objectives to meet the information and research requirements of the SCA
 - 2) Use of the scientific method of approach
 - 3) Formulation of programs and projects and simplification of the research management
 - 4) Long and short term objectives
 2. Organization
 - 1) Basic and efficient concept of the research organization
 - 2) Functionalization of the research tasks into positions and their description
 - 3) Grouping and sectioning of the research and supporting staff
 - 4) Formation of a project team and task force
 - 5) Development of organizational manual, research procedures, rules and regulations, work manual, management guide etc.
 3. Leadership
 - 1) Understanding and developing leadership and creativity and good human relationships
 - 2) Initiatives, idea generation, skills in persuasion
 - 3) Orientation to progress
 - 4) Written and verbal skills in communicating with others the merits of the output of the Economic Unit, the objectives, nature, needs of the research that is conducted by the Economic Unit
 - 5) Selection and placement of researchers in proper research tasks and projects
 - 6) Enhance element of the motivation of research staff
 4. Proper Performance Control
 - 1) Delegation by decentralization
 - 2) Productivity and high rate of achievement and performance
 - 3) Progress, cost and quality control
 - 4) Prompt information retrieval and punctual delivery of the research results
 - 5) Monitoring and evaluation of the research activities; selection of research methods, strategies, procedures and other related problems
 5. Administration
 - 1) Personnel administration
 - 2) Recruiting and training
 - 3) Budgeting, accounting, and financing of the research programs, projects and other operating expenses of the Economic Unit
 6. Coordination and Evaluation
 - 1) Coordination and balancing workload of the research staff
 - 2) Contract administration
 - 3) Evaluation of results
 - 4) Research management audit
 - 5) Feedback of the research to the SCA's management
 - 6) Promotional activities of the Economic Unit
 - 7) Coordination with other Department of the SCA
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A careful consideration must be given to a proper level of the research workload of the individual research staff that are commensurate with their capabilities.

(3) Leadership

Leadership is guidance, training and understanding of research staff members of the Economic Unit. Leadership must be based upon sincere understanding of the human problems of researchers, assistants, clerks and secretaries. It involves the selection and placement of the staff members, the improvement of their research and management skills, the maintenance of good interpersonal relationships, the rewarding of effort by merit raises and promotions, maintenance of morale, etc. In the initial several years the role of leadership played by managers of the Economic Unit should be regarded with considerable importance in establishing the Economic Unit as a research unit within the SCA.

(4) Performance

Managers of the Economic Unit must see to it that every research program and project will be carried out according to its specifications, time and cost schedule. This should be regarded as one of the major management functions of the Economic Unit. This is particularly so when it is at the inception stage of the development. Constant supervision, guidance and corrective action might be necessary for the Economic Unit to facilitate the accomplishment of the research objectives of the current years. The following rules and procedures are strongly recommended:

- 1) Weekly discussion meetings should be held with the research staff members participating in specific projects.
- 2) Progress reports must be submitted to the Chief of the Economic Unit every month.
- 3) Review and evaluation of research proposals and the research reports.

(5) Administration

The administrative side of the research management, as distinguished from carrying out of the actual research, involves annual budgeting of the Economic Unit, accounting control of operating expenditures, procurement of necessary materials and supplies, cost control of the research programs and projects, improvement of working conditions, etc. The administrative tasks should be routinely handled by the administrative staff members who will be attached to the Chief of the Economic Unit.

(6) Coordination and Evaluation

The coordination will fall into two groups of functions; one is the internal coordination of the research jobs and workload of individuals, groups, project teams, research programs within the Economic Unit, and the other is the coordination with other Department of the SCA in the matters relating to research and information requests placed to the Unit by other Department managers, incoming and outgoing information flow that is indispensable for the Economic Unit's activities, distribution of the research output of the Economic Unit within the SCA. The managerial skills and tactics employed by the Economic Unit will be of considerable importance for gaining the acceptance of the Economic Unit within the SCA's organizational structure.

The evaluation is the determination of whether the purposes of research programs and projects have been accomplished to meet the information requirements of the decision making process of the SCA management. For this purpose deviations from the established standards of the research quality or budgets should be determined, and if various types of difficulties, delays, cost overruns and others are discovered, corrective actions must be promptly made.

5.3 Research Program Plan and Budgetary Control

It is needless to say that the Economic Unit needs a budget plan and expense control to assure efficient operations of the research activities. A Chief of the Economic Unit should be, assisted by his administrative staff, in charge of this function. Although he must abide by the rules and procedures established by the Financial Department of the SCA for budgeting and cost control, he should take into consideration the following:

- a) The Economic Unit's activities will be composed of research programs and projects, and in view of this, program and project oriented budgeting and control methods must be adopted.
- b) The methods should be adopted to assure the cost-effectiveness and performance of its research activities.
- c) The budgeting and cost data of the Economic Unit will be used as the control data for the managerial account accounting of the SCA.

A budgeting plan plays an important role in managing the Economic Unit, for the Chief must plan the research programs and projects according to priorities, allocate the funds and resources among them and come up with ideas about how the funds and resources shall be most effectively mobilized to achieve the objectives of the Economic Unit. In planning the research budget, the manager will be forced to blueprint his thinking for at least several months in advance as to what the Economic Unit must do in the next year.

(1) Centralized Budgeting and Control

Responsibility for planning and controlling of the research budget can be either centralized or decentralized. Under centralized budget planning and control, the Chief manager of the Economic Unit will be in charge of all necessary administrative actions. On the contrary, with a decentralized system, budget planning and control is carried out by the group or section managers of the Economic Research and Systems Analysis groups. In the initial several years of operations it is advised that the former system be used due to the following factors:

- 1) The Chief of the Economic Unit must exercise a supervisory role over every aspect of the research program and project execution.
- 2) The groups division of the Economic Research and System Analysis should be considered as a working model of the organization building of the Economic Unit.
- 3) In the actual operation research program and project it will be carried out jointly by research staff members of both groups.
- 4) Leaders or chiefs of both groups should concentrate on the execution of the research programs and projects rather than on the administrative problems.

(2) Preparations and Approval of Budget

The research manager should never forget that the main underlying philosophy in setting up his budget is to create programs which are aimed primarily at helping to achieve overall objectives of the Economic Unit.

In preparing the budget the following considerations must be made:

- 1) The manager must carefully evaluate priorities of the research programs and projects that are planned to be carried out in the coming fiscal year of the SCA.
- 2) Estimates should be made on various cost categories, such as fixed, overhead, variable, program and project costs and other types of costs.
- 3) If possible, procurement schedules must be indicated when and how the necessary research materials, supplies, publications, equipment must be purchased and kept in stock.
- 4) If the past years records of budget and spending are available, they should be reviewed and analyzed for they will provide a good yard-stick or ground upon which the new budget shall be prepared.
- 5) When preparing the budget a discussion meeting should be held with senior research staff of the Economic Unit, i.e., section managers of the Economic Research and Systems Analysis.
- 6) Prior to the meeting, draft planning documents should be written by the section managers with respect to estimates of man-hours, procurement of publications, research materials and supplies, and other operating expenses for carrying out each of the proposed research programs and projects.
- 7) The tentative budget plan should be submitted to the director of planning & Research Department for his review and approval. If it is approved by him, it should be passed along to the Financial Department for its official decision.

It must be understood that senior managers of the SCA would only be interested in the total amount of the budget, broken down into some of the major spending categories. Although they will be less interested in the technical details of the expenditure items, the research budget planning document should include enough supporting data, logic and reasoning and other planning information. It must be remembered that to gain an approval, the manager of the Economic Unit may have to exercise salesmanship and argue forcibly why and how specific research programs and projects must be undertaken by the Economic Unit.

(3) The Research Budget Control

Without budgetary control there is no use for a budget. Only a continuing check on the spending in each category permits research cost control.

Without it there is no way to keep costs in line with the budget.

The research manager should draw his attention to the following points:

- 1) He will be supplied by the Financial Department with a monthly or quarterly statement of spending in each category shown on the budget. However, it may be months before he will discover how well costs were controlled against the budget plan. In light of this, it is required that his own system of financial recordkeeping should be established for the Economic Unit.
- 2) It is strongly recommended that man-hours, and accounting records of operating costs should be kept on each of the research programs and projects that are being carried out by the Economic Unit.
- 3) When the Economic Unit maintains its own system of expense records, they should be summarized for the respective programs and projects at least quarterly to permit comparisons against their budgetary plans.

ANNEXES

- 1. PROBLEM EXERCISES**
- 2. ASSIGNMENTS**
- 3. RECOMMENDED READING LIST**

ANNEX 1 PROBLEM EXERCISES

(1) You have been given a research report written by a consulting firm for the Suez Canal Authority. You are asked to judge the quality of the study and evaluate the research findings. What do you think you should do?

(2) You are asked by a manager of the Economic Unit to write a research proposal on the current trends of the oil market in the world which might affect the transit volume of the Suez Canal. Write a short research proposal and explain what kinds of problems and points should be included in your outline of the research project.

(3) Using the stages and process of the general management process for reference, suggest some management questions for research which might be of value to the following SCA management:

- a) SCA's various management committees
- b) Director of Project Department
- c) Financial Department
- d) Procurement Department
- e) Transit Department
- f) Works Department
- g) Administrative Department
- h) Senior Managers of Follow-up and Public Relations, Chairmans Office.

(4) What are the major criteria by which the research and information service of the Economic Unit will be evaluated by the SCA management?

(5) In the initial few years, the Economic Unit's research output may not be positively evaluated by those who receive them. Why? Explain what kinds of efforts must be made by the manager of the Economic Unit and its research staff.

- (6) It is often said that there is a lack of cooperation between managers and researchers. Explain the reasons and indicate possible methods and strategies that should be adopted to promote better understanding between them.
- (7) Are there any major differences existing in public administration systems in Egyptian society and in Western society? If so, enumerate them. Explain the reasons why there is such a difference and suggest some possible methods through which the Egyptian administrative systems can be improved in the future?
- (8) (For those who have been working for the SCA in the past several years) In your observation are there any problems or points to be improved in the SCA's planning, decision making and other management functions? If so, please explain them and make some recommendations as to how they could be improved.
- (9) The type of research and information services required for the Economic Unit greatly differs depending upon specific demands or needs of the SCA's management and those who receive them. Classify and explain the types of the studies that must be made by the Economic Unit.
- (10) The major functions of the Economic Unit are to study the following problems of the SCA. Explain what kinds of technical knowledge and skills are required for doing research work on each of the problems:
- a) Analysis and forecast of environmental trends of the SCA
 - b) Studies of transit volume and revenues of the SCA
 - c) Financial and economic analysis of the SCA's operations
 - d) Project evaluation
- (11) There are differences found among the following questions. Explain them.
- a) Management questions
 - b) Research questions
 - c) Analysis questions

(12) Explain the major differences of the studies of the SCA's problems, internal and/or external, on the following:

- a) Economic studies
- b) System analysis
- c) Financial analysis
- d) Problem solving studies
- e) Feasibility studies of projects

(13) Explain the research procedure that must be followed in your research work for the Economic Unit, starting from "problem definition" to write a research report on a topic.

(14) Explain the differences between:

- a) Information and research reports
- b) Technical and popular reports
- c) Fact finding and policy research reports

(15) Explain how the research program or project is to be planned, managed and controlled?

(16) What are the major characteristics which differentiate the Economic Unit from other organizations within the SCA?

ANNEX 2 ASSIGNMENT

(1) Quantitative Approaches to Management, by R. I. Levin and C.A. Kirkpatrick, McGraw-Hill, 1978, should be read by those who wish to specialize in the technical fields systems analysis. A written examination may be given to them during on-the-job training.

(2) Problem Exercises

All of the trainees are required to write short analysis reports on the two topics chosen from the list of questions which are included in the problem exercises. The reports should be typewritten and submitted to Dr. Inaba when he arrives in Ismailia. It is suggested that the reports not be longer than ten pages.

ANNEX 3 RECOMMENDED READING LIST

(1) On Business Research Methodologies

There are a large number of standard textbooks published on specific research methods such as marketing, social survey and behavioral study, forecasting and other specific technical fields. However, there is only a limited number of textbooks dealing with business research methods that could be useful to all of the members of the Economic Unit. Nonetheless, the books listed below will be considered very useful as a guide:

- 1) R.G. Murdrick, Business Research: Concept and Practice, Scranton, Pa., International Textbook Company, 1969.
- 2) P.H. Rigby, Conceptual Foundations of Business Research, New York, John Wiley and Sons, Inc., 1965.
- 3) H.M. Blalock, Theory Construction, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1969.
- 4) B.S. Phillips, Social Research, New York, The Macmillan Company, 1971.
- 5) F.N. Kerlinger, Foundation of Behavioral Research, New York, Holt, Rinehart and Winston, 1973.
- 6) L. Rosen and R. West, A reader for Research Methods, New York, Random House, 1973.
- 7) J. Barzun and H.F. Graff, The Modern Researcher, New York, Harcourt, Brace & World, Inc., 1970.
- 8) C.E. Helppie, J.M. Gibbons, et al., Research Guide in Economics, Morristown, N.J., General Learning Press, 1974.

(2) On the Research Management

The following books will be found highly useful for the research managers of the Economic Unit, though many of them are primarily concerned about research and development management:

- 1) C. Heyel ed., Handbook of Industrial Research Management, New York, Reinhold Book Corporation, 1968.
- 2) J.E. Walter, Research Management: Principles and Practice, Spartan Books, Washington, D.C., 1965.
- 3) Industrial Research Institute, Research Management, a monthly periodical, 100 Park Avenue, New York, N.Y.

(3) On the Research Report Writing

- 1) C. Berenson, Research and Report Writing for Business and Economics, New York, Random House, 1971.
- 2) J.H. Hains, The Business Research Paper, New York, Hobbs, Dorman & Company, Inc., 1978.
- 3) M.L. Spear, Practical Charting Techniques, New York, McGraw Hill Book Company, 1969.
- 4) K.L. Turabian, A Manual for Writers of Term Papers, Theses, and Dissertations, Chicago, Univ. of Chicago Press, 1971.

(4) On Management Science

A supplementary reading list is attached to each chapter of the textbook; Quantitative Approaches to Management by R.I. Levin and C.A. Kirkpatrick, McGraw-Hill, 1978.

It must be noted that any of the management science series published by John Wiley & Sons, McGraw-Hill, and Richard D. Irwin, Inc., will be considered appropriate for the staff members of the Economic Unit.





