MANAGERIAL EFFECTIVENESS OF STATE-OWNED FIRMS:

AN EMPIRICAL STUDY OF STATE-OWNED FIRMS

IN LIBYA

By

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CHAPTER I

INTRODUCTION

In this introductory chapter the nature of the problem, the purpose of the study, and the hypotheses of the study are summarized. An overview of the organization of the study, its significance and limitations are also spelled out. This chapter is concluded with definition of terms used in this study.

Nature of the Problem

This study is an analysis and evaluation of the problems faced by the state-owned firms in Libya. It also explores the managerial effectiveness of these firms based on five variables, namely: the use of planning--short run as well as long run; the production technology--labor intensive or capital intensive; the education of top management personnel which is divided for the purposes of this study into Western education and non-Western education; the size of the firm where firms are divided into relatively large firms and relatively small firms; and the goal or goals which each firm is pursuing.

The firms included in the study are owned and controlled by the Libyan government. They were formed to assist the weak private sector in the country to carry out the state economic development plan and to achieve a higher rate of economic growth. Other reasons for

establishing these firms are listed and discussed in the following chapter (pp. 11-13).

Purpose of Study

The central purpose of this study is to analyze the problems of state-owned firms in Libya and to develop an acceptable framework for suggesting improvements in the managerial effectiveness of this type of firms. To accomplish this purpose other objectives were formulated. These objectives include: the determination of goals that are acceptable in Libya, the analysis of management principles and managerial practices used there, the identification of the difficulties in the environment that seem to hinder management effectiveness, and the suggestion of certain policy and management guidelines to overcome the problems with which the state-owned firms are confronted.

The Hypotheses

For the purpose of this study, the firms were divided into two main groups (X_i and Y_i) utilizing variables such as the use of planning, production technology, education of managers and the size of the firm. The hypotheses stated in the null form are the following:

1. No significant difference in managerial effectiveness exists between firms that use planning and firms that do not use planning (hypothesis I).

2. No significant difference in managerial effectiveness exists between firms that are labor intensive in their production technology and firms that are capital intensive (hypothesis II).

3. No significant difference in managerial effectiveness exists

between firms that are managed by Western educated managers and firms that are managed by non-Western educated managers (hypothesis III).

4. No significant difference in managerial effectiveness exists between relatively small firms and relatively large firms (hypothesis IV).

5. Using a list of seven goals that seem relevant to this type of firms and ranking only three of them (according to their desirability, where rank one represents the most desirable goal, rank two the second desirable goal, and rank three the least favorable one), the managers of the state-owned firms see no goal to be more dominant than others.

To test the above hypotheses, a sample of 14 state-owned firms was selected randomly from the population of the 76 state-owned firms in Libya. Data were collected from personal interviews with top executives and key personnel in these firms.

The techniques of non-parametric statistics were used to test the hypotheses of the study. Specifically, two main tests, the Mann-Whitney U Test and the Durbin Test, were applied.

Organization of Study

The present chapter, as previously stated, outlines the nature of the problem undertaken in this study, its purpose and objectives, and the hypohteses of the study. It proceeds to give an overview of the organization of the study, its significance, limitations, and finally definition of terms used in the study.

Chapter II presents in more detail the definition of the problem, the reasons for establishing the state-owned firms, and the reasons for conducting this type of study. It also explores the structure of the

Libyan economy, the economic system, and planning premises in Libya where these firms operate. The economic structure and the prevailing economic philosophy in Libya raise unique problems to the firms operating in that environment. These problems are listed and discussed in Chapter VI.

Chapter III provides a review of the literature on this problem. In this chapter three main models dealing with comparative management and the transferability of management know-how are explored. Other studies dealing with managerial effectiveness in different countries are also discussed.

In Chapter IV, the statement of the hypotheses and the nonparametric statistics tests used to analyze the five hypotheses of the study are discussed.

Chapter V contains the research methodology which is divided into three sections. The first section concerns itself with the population of the 76 state-owned firms in Libya and the sample of 14 state-owned firms which was drawn from it; the second section discusses the methods of gathering data; and the final section is an overview of the research design.

In Chapter VI, the problems which seem to hinder the managerial effectiveness of some of the state-owned firms are discussed and analyzed. From the discussion in Chapter VI it is apparent that the problems arise from two different sources. First, the governmental policy which in a country like Libya has a great deal of influence on the economic system, the economic structure, the income redistribution policy, and the labor market. Second, the lack of the use of modern

management practices to serve as guidelines to increase managerial effectiveness of the state-owned firms. For these reasons Chapter VII is included in the study to suggest certain policy and management guidelines.

Analysis of data and evaluation of hypotheses are discussed in Chapter VIII. In this chapter the statistical tools were applied to test the hypotheses of the study. The results of the statistical analysis were presented and discussed.

Chapter IX, the final chapter in this study, begins with a summary of the problem, the purpose of the study, the problems of the state-owned firms, the hypotheses, and the results of the study. A second section is devoted to important recommendations and strategies to overcome the problems of the state-owned firms and to improve their managerial effectiveness. The final section presents an overview which includes the limitations of the study, and the need for more research.

Significance of the Study

This study is undertaken to identify and analyze the problems of state-owned firms in Libya, and to develop an acceptable framework from which suggestions for improvements in managerial effectiveness of this type of firms can be made. This study is of significance for the following reasons:

1. An intensive review of the related literature reveals that this study is the first to be undertaken in the area of managerial effectiveness as it relates to state-owned firms in Libya.

2. It points out the problems which this type of firms are faced with. It also suggests certain policy and management guidelines to

improve the managerial effectiveness of these firms.

3. Finally, it is felt that this study is significant because it points to the need for further research. Specifically, it suggests the types of research, the types of data, and the information systems which would be helpful in extending knowledge of the problems of state-owned firms in a developing economy. Such knowledge would be helpful in overcoming these problems in the real world.

Limitations of the Study

There are major limitations to the study, most of them related to the data. Among these limitations are the following:

1. The bias that might have been introduced because interviewed personnel were asked to evaluate the managerial effectiveness of their own firms.

2. Most of the firms studied are still new and do not have enough data on managerial effectiveness as measured by such factors as employee morale, worker turnover and absenteeism, ability of a firm to retain highly trained manpower, and productivity.

3. Some of the managers interviewed did not have long experience with the firms they are heading. Most of the managers were elected to their current positions subsequent to the proclamation of the Cultural Revolution on April 15, 1973, and the emergence of the People's Committees.

These limitations dictated the research design used in this study. This study should be viewed only as a step toward more studies in the area of managerial effectiveness as it relates to the state-owned firms in general and to Libya in particular.

Definition of Terms

1. Management Philosophy. Management philosophy as defined by Negandhi and Prasad is ". . . the expressed and implied attitude of the managers of an organization toward its external and internal agents such as consumers, employees, suppliers, the government, the community, and the worker's organizations."[1]

2. Management Process. Management process is identified in the generally accepted sense of the traditional functions of management as planning, organizing, staffing, directing, and controlling.[2]

3. Managerial Effectiveness. Managerial effectiveness as used in this study is defined as the degree of goal attainment of the firm.[3]

4. Management "Know-How". Management "know-how" means the various techniques used successfully by managers in a large scale firm in the United States, to help them carry out their basic functions of planning, organizing, and controlling.[4]

5. Cost-Benefit Analysis. A method of comparing the relative costs and benefits of different alternative courses of action or investments, reduced to common units (usually Dinars).[5]

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[1]Anant R. Negandhi and S. Benjamin Prasad, Comparative Management (New York, 1971), p. 22.

[2]Ibid., p. 22.

[3]James L. Price, Organizational Effectiveness: An Inventory of Propositions (Homewood, Illinois, 1968), p. 3.

[4]Anant R. Negandhi and Bernard D. Estafen, "A Research Model to Determine the Applicability of American Management Know-How in Differing Cultures and/or Environments," Academy of Management Journal, Vol. 8, No. 4 (December, 1965), pp. 309-318.

[5]Robert U. Ayres, Technological Forecasting and Long-Range Planning (New York, 1969), p. xi.

6. L. D. Libyan Dinar which is approximately equal to 3.5 United States dollars.

7. Western Educated Managers. Western educated managers include all managers who gained their degrees from the United States or Europe. It also includes all other managers who have been trained (in management disciplines) for a year or more in these countries regardless of the place from which they received their original degrees.

8. Non-Western Educated Managers. Included in this term are all other managers who received their degrees or training in management fields outside the United States and Europe.

9. Planning. Planning is defined as anticipating probable future events and the strategies needed to cope with them. This term includes short-run planning and long-run planning. Planning also includes policy planning, strategic (or entrepreneurial) planning, and tactical (or operational) planning whenever these terms are used.[6]

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[6]Ibid., pp. 162-163.

CHAPTER II

DEFINITION OF THE PROBLEM

The issue under consideration is to analyze the problems and managerial practices of the state-owned firms in Libya and to evaluate their managerial effectiveness and the actual performance of this type of firm. This study includes an analysis and an explanation of the management functions of these firms and their outcomes in an environment very different from that prevailing in the United States, and in the light of traditional functions of management, namely planning, organizing, staffing, directing and controlling.[1] This difference is a reflection of the stages of the economic growth which each applies to every country. While the United States has already reached the stage of high mass-consumption, Libya is only approaching the take-off stage.[2]

Management philosophy and managerial practices are analyzed to see whether and how environmental factors and the community value systems determine managerial effectiveness. Managerial effectiveness, as used here, is defined as the degree of goal achievement. The goals here include only firm goals and not personal goals. It can be measured by

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[1] Harold Koontz and Cyril O'Donnell, Principles of Management: An Analysis of Managerial Functions (New York, 1968), pp. 47-50.

[2] W. W. Rostow, The Stages of Economic Growth: A Non-Communist Manifesto (New York, 1971), pp. 7-10.

using such factors as employee morale, worker turnover and absenteeism, interpersonal relations among employees, ability of a firm to attract and retain highly trained manpower, productivity, and organizational ability to adapt to changing external conditions.

The present study is also an attempt to investigate the management practices in a sample of 14 state-owned firms in the Libyan Arab Republic in order to test the managerial effectiveness of these firms. This investigation is conducted to identify the constraints that hinder the managerial effectiveness of these state-owned firms. These constraints, according to Farmer and Richman, can be divided into economic, cultural, and/or political constraints.[3]

The climate in which management practices and principles are carried out plays an important role in the development and the establishment of firm goals. These goals can be one or more of the following: increasing industrial efficiency, prestige, worker satisfaction, reducing costs, increasing public good will and social benefits to the community, sales maximization which includes the growth and development of the firms, and achieving a satisfactory level of profit.

Some of the above-mentioned goals are official goals while others are operative goals.[4] Official goals can be defined as the general purposes of the firm as put forth by key executives and top government officials in the decree creating the firm. Operative goals specify the

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[3]Richard Farmer and Barry Richman, Comparative Management and Economic Progress (Bloomington, Indiana, 1970), pp. 74-311.

[4]James L. Price, Organizational Effectiveness: An Inventory of Propositions (Homewood, Illinois, 1968), pp. 3-4.

ends sought through the actual operating policies of the firm. These latter types of goals are more concerned with the actual performance of the firm than with official goals sought by top executives and key figures in the government.

Regardless of the distinction between official and operative goals, some goals which are normal in Western countries are not acceptable to the Libyan Arab Republic, e.g., maximizing profits through earning interest from money deposited in banks or on loans to other borrowers. This practice violates the Islamic laws and is unacceptable in Libya.

Regardless of the apparent universality of some of the management practices and principles some of the management philosophies used in the United States are not used in Libya, e.g., the system for control of absenteeism and staffing. The Libyan worker does not accept the control system as readily as the American worker. In addition, staffing and firing procedures follow either the civil service law or the labor law of Libya and this is different from what American firms face in the United States.

These differences are consequences of religious, political, and ideological practices. As a result of such differences in the environment one would predict that organizing business within the Libyan Arab Republic would require a different setting of goals, strategies, operations, and probably different measures of effectiveness.

Since September, 1969, when the revolution overthrew and abolished the old regime in Libya, everything has been changing rapidly. The government of Libya, which is composed at the executive level of mainly active, young, eager men with strong desires to achieve economic development as rapidly as possible, has established the state-owned firms to

achieve this goal. As a result of this situation some goals of the policy makers cannot be operational as seen by managers of these firms.

The government has established these firms because it feels that dependence on the weak private sector will not accomplish its economic development goals. Of course, this situation creates problems different than those which the strong private sector usually faces in the United States.

In the United States and many other advanced countries the private sector is by far the largest employer. In 1966, for example, more than 70 percent of the United States technicians, engineers, and scientists were employed by private industry; government employed almost 16 percent, and education and other non-profit organizations the balance of nearly 14 percent.[5]

In most of the developing countries the public sector is the dominant employer. In the case of Libya, the government is the largest single employer of human resources. For example, during the period from 1964-69, it was estimated that the public sector employed about 64 percent of the manpower resources of the country.[6]

There are other reasons for the government to assume this responsibility for creating and operating this type of firm. In addition to the built-in weakness of the private sector mentioned above, one can present some other problems. In the first place, the Libyan market, in terms of population, is very small and widely dispersed in a huge area.

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[5]Charles A. Myers, The Role of the Private Sector in Manpower Development (Baltimore, 1971), p. 62.

[6]Bank of Libya, Monthly Economic Bulletin, Vol. 5, No. 12 (December, 1965), p. 110.

This situation creates problems for private-owned firms to produce at an optimal scale. Secondly, the lack of capital available in the private sector is still a handicap. It is true that the country is rich, but this is due to oil income, most of which goes to the government. This problem is coupled with the absence of private financial institutions to finance privately-owned firms. The government has realized this situation and established its own financial institutions to assist the private sector to grow. But, since these governmental or semi-governmental institutions (i.e., the commercial banks in which the government owns 51 percent) give loans on a selective basis and on a small scale, the lack of capital is still a central problem facing private firms. Finally, the lack of entrepreneurship is a universal problem facing the less developed countries and Libya is no exception.

There are special reasons for one to select this topic and deal with the state-owned firms. First, the author has been in the United States for quite some time and most of his educational experience has been concentrated on the American free enterprise market system and the role of the private sector in economic life. This educational experience is advantageous since it allows comparisons between the two environments. Second, the state-owned firms dominate the economic life of Libya, the country where the author plans to return and work. This type of study will also help him to investigate the management philosophy and managerial practices being used there. Finally, through this study it is hoped that most of the problems of the state-owned firms will become apparent and a solution or set of solutions to them can be developed. The policy and management suggestions will serve as guidelines for policy makers and for managers of these firms. Other

recommendations and suggestions will be spelled out at the end of this study.

The central purpose of this study is, then, to analyze the problems of the state-owned firms and to develop an acceptable framework for suggesting improvements in management practices and managerial effectiveness of the state-owned firms in Libya. For this central purpose to be accomplished, the following specific objectives were formulated:

1. To determine the corporate goals that are acceptable in Libya, taking into account the religion, political attitudes, and ideology that prevail today.

2. To analyze the management principles and managerial practices used there. Which of these principles and practices are acceptable there and which of them are not acceptable?

3. To identify the difficulties that exist in the environment that seem to block management effectiveness.

4. To suggest certain policy and management guidelines to overcome the problems that the state-owned firms are now facing. To put the problem in perspective, it may be necessary to provide the reader with background information regarding Libya's economic structure, economic system, and planning premises.

The Structure of the Libyan Economy

Before the discovery of oil, the Libyan economy was predominantly agricultural with about 70 percent of the population depending on agriculture. Most of the other 30 percent was involved in the manufacturing, marketing, or transporting of agricultural products. Because

of the seasonal nature of agriculture, the Libyan economy suffered from periods of high unemployment. Moreover, 90 percent of the country is still a desert, and only a small part of the remaining fertile land is actually used in agriculture. The United States Department of Commerce in its Overseas Business Reports gives a succinct but accurate description of the economic condition of the country:

> Prior to the discovery of oil, the Libyan economy exhibited many characteristics typical of nations at comparable stages of development: a low level of domestic production and consumption, a chronic trade deficit overcome only by infusions of foreign aid, a high illiteracy rate and poor health and sanitary conditions and inadequately exploited natural resources. For more than 11 centuries Libya was an area of almost unrelieved desolation, except for a slender strip along the Mediterranean and a few oases where semiprimitive agricultural techniques and organizations produced only surplus for local markets.[7]

The chronic problem in Libya is the shortage of water resources which can be used in irrigation for large scale production. This problem may be overcome by a subterranean lake discovered in 1969 by Occidental Petroleum in the middle of the Libyan desert at the oasis of Kufrah, about 550 miles south of Benghazi. This is the most important event in Libya since the discovery of oil in the late 1950's, but it will be quite a while before this water can be used effectively in irrigation, since even with adequate irrigation, the problem of transporting the agricultural produce across the vast desert to the urban areas still remains.

As an agricultural economy, which depends on the vagaries of the climate, Libya faces variations in its production from one year to another. In 1947, for example, the production of barley was less than

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[7]U. S. Department of Commerce, Overseas Business Reports, OBR70-25, Basic Data on the Basic Economy of Libya (July, 1970), p. 5.

1,000 tons, whereas it jumped to 22,000 tons in 1948 and to 141,000 tons in 1949.[8] Then in 1965, owing to a drought, it fell back to 10,800 tons.[9]

After agriculture and oil production, construction is one of the most important economic activities in Libya. Today there is a construction boom in Libya produced by a rapidly rising standard of living, of which a central aspect is the widespread demand for improved housing, thus giving investors the incentive to earn high profits from high rents.

The reader would notice here that the oil discoveries changed the labor situation by bringing most of the agriculture labor force into the oil industry through the inducement of higher wages. The country today depends on oil rather than agriculture, and Libyan oil revenues were estimated in 1971 at about LD 780 million a year.[10] Libya no longer has any kind of unemployment, but, on the contrary, there is an overall shortage of labor, the need for skilled workers being especially acute.

Until recently the industrial sector of the Libyan economy was not an important one, simply because it was more profitable for private capital to invest in real estate, petroleum contracts, and in foreign trade rather than manufacturing. The current policy of the Libyan government is to encourage the industrial sector to overcome some of the obstacles preventing large scale manufacturing.

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[8]Abdul Amir Kassem Kubbah, The Kingdom of Libya: Its Petroleum Industry and Economic System (Beirut, 1963), p. 32.

[9]U. S. Department of Commerce, p. 7.

[10]"An Oil Rich Country with Uncertain Future," U. S. News and World Report, Vol. 70, No. 23 (June 7, 1971), p. 86.

The Economic System

The revolutionary government pledged itself from the first day it controlled the country to adopt socialism as the only economic system in Libya. Certainly, the terms "capitalism" and "communism" are almost always less equivocal in meaning than the term "socialism."[11] This must especially be true in Libya where any very leftist variety of socialism would tend to run counter to such concepts as respect for private property and profit incentives, which are embodied in the Islamic religion.

The definition and scope of socialism in Libya can be inferred from the Revolutionary Command Council's (R. C. C.) declaration on September 1, 1969, and from the speeches of Colonel Mu' ammer El-Quaddafi, Chairman of the R. C. C. Point three of the five-point declaration of the R. C. C. follows:

> The Revolutionary Command Council wishes to make it clear to all citizens that it is striving with firm determination and stiff resolve to build the Libya of revolution, the Libya of a socialism which springs from the heart of our nation, avoids ideological expectation, and believes in the inevitability of irrevocable historical development which will transform Libya from a backward country with a sick administration and policy into a progressive country opposing colonialism and racism and striving to liberate oppressed peoples affected by the same problems of backwardness and social oppression.[12]

A few days later in a speech in Benghazi, Colonel El-Quaddafi defined more precisely what the new regime meant by socialism:

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[11] Carl Landauer, Contemporary Economic Systems: A Comparative Analysis (Philadelphia and New York, 1964), p. 231.

[12] "The Libyan Revolution in the Words of Its Leaders," The Middle East Journal, Vol. 24, No. 2 (Spring, 1970), p. 207.

> As for the socialism in which we have announced our belief ..., it is the participation of all in production. It is the participation of each individual in producing what he consumes. Socialism is untiring collective work ... leading us to the society of equality and justice. The solidarity of the working forces of the people--workers, farmers, non-exploitative capitalists, intellectuals, and soldiers--will build socialism.... Our socialism is the socialism of Islam. It is the socialism of true faith. It is the socialism which springs from the heritage and beliefs of the people.[13]

Socialism in Libya is still a newcomer, and it will be quite a while before one can really evaluate how successful the Libyan experience has been or is likely to be.

Planning Premises

Before discussing the planning premises and their importance, the author would like to explain the composition and the role of the Supreme Planning Council in Libya.

The Supreme Planning Council consists of:

1. the President of Revolutionary Command Council, as its President;
2. the Prime Minister, as Vice President;
3. the Revolutionary Command Council Members, as members; and
4. the membership of the following Ministers:
    a. the Minister of Planning,
    b. the Minister of the Treasury,
    c. the Minister of Economy,
    d. the Minister of Agriculture,
    e. the Minister of State for Agricultural Development,
    f. the Minister of Communications,

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[13] Ibid.

g. the Minister of Industry and Mineral Resources,

h. the Minister of Labor,

i. the Minister of Education and National Guidance,

j. the Minister of Housing,

k. the Minister of Petroleum,

l. the Minister of Health, and

m. the Minister of Youth and Social Welfare.

The Supreme Planning Council has the following responsibilities:

1. Determining the goals and the policies of the economic and social life in the country. These goals and policies can be achieved through economic planning and estimates of financial resources to carry out plans.

2. Determining the rate of economic growth that the country desires to achieve given a fixed amount of financial and human resources. The Supreme Planning Council also determines the order of priorities at the time of preparing and executing development plan projects.

3. Studying the financial and technical aid programs which are the result of agreements between the Libyan government and foreign governments and international organizations.

4. Issuing the necessary information and the required decisions for economic development plans and their execution in all the Ministries, General Corporations (Public Corporations) and the state-owned companies.[14]

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[14]General corporations are regulated by the civil service law for an unlimited period of time. By contrast the companies are under the labor and commercial laws and usually established for a period of 25 years. However, both of them are entirely owned by the state.

5. Establishing a reviewing system to determine whether the work or the projects in progress are proceeding in accordance with the economic development plan and in order to determine whether there is need for change. This reviewing system is applied to short-run as well as long-run plans.

6. Evaluating and studying the achieved development and progress from carrying out the economic plan. This evaluation process is done each year. The Supreme Planning Council prepares annually a report about the development activities and sends it to the Revolutionary Command Council after it is endorsed by the Council of Ministers.

Planning premises have been defined by Professor George A. Steiner as follows:

> Planning premises are major parts of the planning process. Premises mean literally that which goes before, previously set forth, or stated as inductory, postulated, or implied. They are basic assumptions for and upon which the planning process proceeds.[15]

In discussing the type of planning premises Professor Steiner stated:

> There are many possible ways to classify planning premises. They may, for example, be grouped in terms of certainty versus uncertainty, procedural versus substantive, environmental versus internal, important versus unimportant, controllable versus uncontrollable, or personal versus impersonal. One of the major purposes of premises is to facilitate the planning process by guiding, directing, simplifying, and reducing the degree of uncertainty in it. These purposes can be illustrated, and the network of premises clearly defined, by a five-fold classification: implied, high impact, low impact, analytical, and procedural.[16]

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[15] George A. Steiner, Top Management Planning (Toronto, Ontario, 1969), p. 199.

[16] Ibid., pp. 199-200.

Two of the five types of premises presented above seem to be very important to the state-owned firms--namely, implied premises and high impact premises. Only these two types are discussed here.

Implied Premises

In the planning process implied premises far outnumber the expressed premises.[17] According to Professor Steiner the sources of these premises are: the implication and inferences derived from business philosophies, the actions of former top management, the way in which the business is perceived by top planners, and the way in which the environment is perceived.

In the case of the state-owned firms, the government policy, ideology, and political attitudes are other sources of implied premises.

High Impact Premises

These are the premises that have a major impact on planning. They include any number of possible changes in the environment where the firm is operating. Of great importance are the religious values, ideas, and policies which the government has expressed.[18] For example, all state-owned firms in Libya are not permitted to engage in some lines of business which are against the Islamic laws. As Muslims, Libyans are not allowed to eat pork including all of its derivatives as ham, bacon, etc.; they also, are not allowed to drink beer, wine, or any other type of liquor. These religious constraints are critical premises to firms

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[17] Ibid., p. 200.

[18] Ibid.

which consider going into meat production and packing and to firms which produce beverages.

The goals for which the state-owned firms are established and the environment within which these firms perform their functions are very critical planning premises. As discussed earlier, goals can be divided into official goals and operative goals. The official goals include all the goals listed in Al-Jaridah Arrasmiah "the official Gazette" at the time of creating the firm, the goals set for all state-owned firms by the Supreme Planning Council, and the goals of the policy makers at the highest level in the country. Operative goals specify the ends sought through the actual operating policies of the firms. In other words, the top managerial personnel have to make a compromise between what they ought to do and what they actually can do, given limited resources of money, time, and qualified personnel.

The environment within which the state-owned firms operate can be classified as an environment of sudden, complex, and rapid change. The four "ideal types" of environments postulated by Emery and Trest are:

1. a "placid, randomized" environment,
2. a "placid, clustered" environment,
3. a "disturbed-reactive" environment, and
4. a "turbulent field" environment.[19]

The managerial environment of state-owned firms in Libya corresponds to the fourth category, the "turbulent field." Management thus faces high

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[19]Shirley Terreberry, "The Evolution of Organizational Environments," in Fremont E. Kast and James E. Rosenzweig (eds.), Contingency Views of Organizational Management (Chicago, 1973), p. 83.

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CHAPTER III

REVIEW OF RELATED LITERATURE

The purpose of this study is to analyze the problems that hinder the managerial effectiveness of state-owned firms in Libya and to develop an acceptable framework for suggesting improvements in management effectiveness of the state-owned firms in this emerging nation.

A review of the related literature is undertaken to show how the concept of managerial effectiveness has been used in the literature and to determine whether the American style of management is appropriate for use by other countries.

An intensive review of the relevant literature reveals that:

1. No scholar has conducted any type of research or written about Libyan firms, whether private or state-owned.

2. Some comparative studies have been made, but in most cases the comparisons were between American private-owned firms and private-owned firms of other countries.

3. There are two main schools of thought regarding management philosophy and the transferability of management know-how from one environment to another. The proponents of the first school, on the one hand, propose that management is the same regardless of the environment or culture in which the managerial functions are to be performed. The proponents of the second school of thought, on the other hand, advocate a completely opposing view. Their conclusions, drawn after empirical

investigations, show that management is culture-bound.

In the rest of this section, a summary of the three main models in comparative management and a more recent empirical work concerning managerial effectiveness will be presented.

The Farmer-Richman Model

This model starts with identifying the critical elements and external constraints in the management process and attempts to evaluate the impact of these critical elements and external constraints on individual firms in different countries. The second step is to identify the various environmental factors that can have a significant impact on the effectiveness of managers.[1]

According to the Farmer and Richman analysis, the environmental factors are four: (1) educational variables, (2) sociological-cultural variables, (3) political-legal variables, and (4) economic variables. The model which is shown graphically below (Figure 1) indicates that some of the external constraints, such as lack of education among the population or the unfavorable view of scientific method among them, might pose staffing difficulties for the firm. From this, one can see that the external variables affect the elements of the management process which in affect managerial effectiveness. Managerial effectiveness here is defined by Farmer and Richman as the degree or level of efficiency, from the society's point of view, with which the overall management

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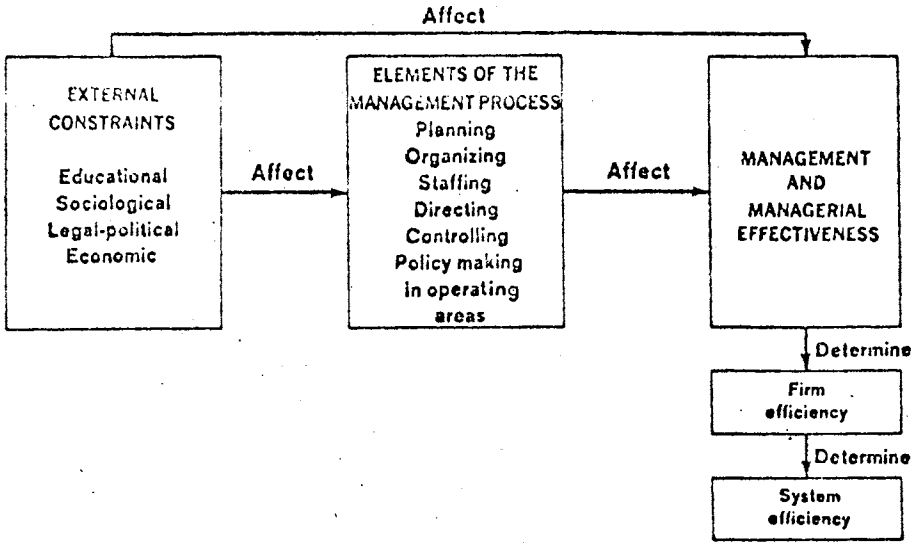
[1]Richard Farmer and Barry Richman, Comparative Management and Economic Progress (Bloomington, Indiana, 1970), pp. 35-38.

process is performed in a given firm.[2]



Source: Adapted from Harold Koontz and Cyril O'Donnell, Principles of Management: An Analysis of Managerial Functions (New York: McGraw-Hill Book Company, 1968), p. 778.

Figure 1. The Farmer-Richman Model

The Farmer and Richman model was criticized by Koontz in the following manner:

> By including actual policies with the basics of the managerial functions, the authors have, unfortunately, not made their model as useful as it might have been for distilling from different environments the universals of management.[3]

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[2]Ibid., p. 36.

[3]Harold Koontz, "A Model for Analyzing the Universality and Transferability of Management," Academy of Management Journal, Vol. 12, No. 4 (December, 1969), p. 424.

The Negandhi-Estafen Model

The distinctive difference between this model and the Farmer-Richman model is the introduction of management philosophy as an independent variable. This model was developed to show the applicability of United States management know-how to developing countries with different cultural patterns. As it can be seen from the graphical illustration of the model, there are three variables that can affect management effectiveness. These are: management philosophy, management practices, and environmental factors.[4] The relationship among these variables is shown in Figure 2.

Like the Farmer-Richman model, the Negandhi-Estafen model was also criticized by Harold Koontz:

> . . . the Negandhi-Estafen model does not make the error, from the standpoint of separating management universals, that the Richman-Farmer model does. However, one does have difficulty in seeing the area of management philosophy (attitudes and beliefs) as being independent of environmental factors. Also, the model itself does not make sure that management techniques or approaches can be separated between basics and environmentally influenced practices.[5]

The Koontz Model

According to Koontz, the effectiveness of a firm depends not only upon management but also upon other factors. One of these additional factors he suggested is the availability of human and material resources. The degree of access to and the availability of such resources will vary

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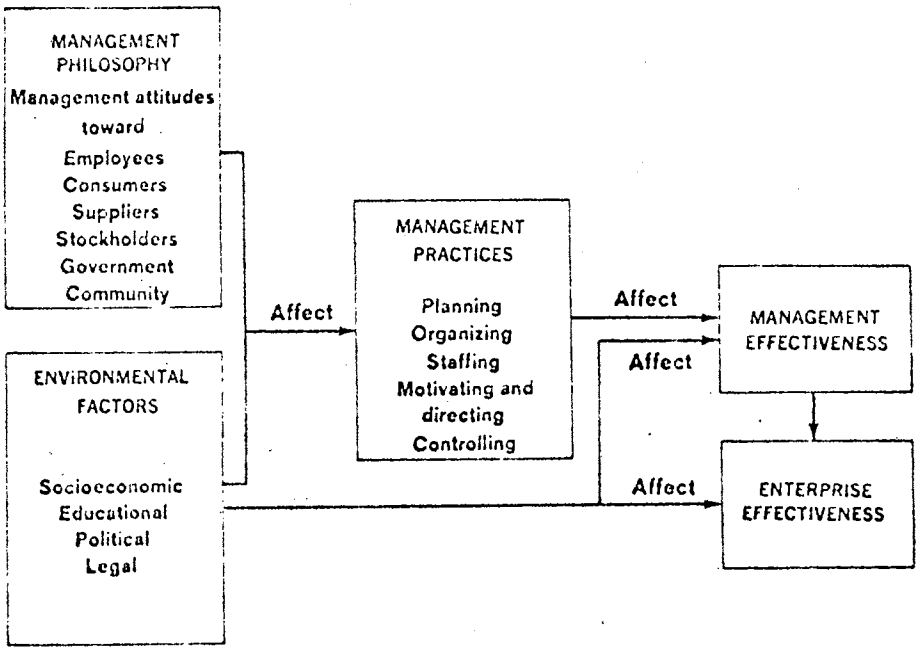
[4]A. R. Negandhi and B. D. Estafen, "A Research Model to Determine the Applicability of American Know-How in Differing Cultures and/or Environments," Academy of Management Journal, Vol. 8, No. 4 (December, 1965), pp. 309-318.

[5]Koontz, p. 425.

from one firm to another.[6]



Source: Adapted from Harold Koontz and Cyril O'Donnell, Principles of Management: An Analysis of Managerial Functions (New York: McGraw-Hill Book Company, 1968), p. 781.

Figure 2. The Negandhi-Estafen Model

The Koontz model is an attempt to determine the universality and transferability of the basics of management by separating the science of management from the art of management. The science of management is the basic principles of management and its fundamentals while the art of management is the practice of management. This model is graphically

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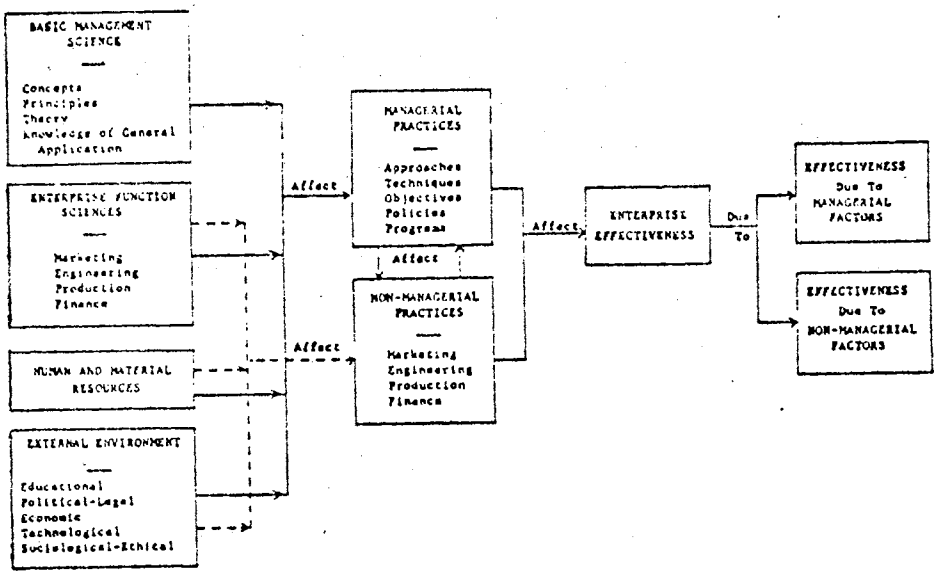
[6]Ibid., p. 426.

shown in Figure 3 below.[7]



Source: Adapted from Harold Koontz, "A Model for Applying the Universality and Transferability of Management," Academy of Management Journal, Vol. 12, No. 4 (December, 1969), p. 427.

Figure 3. The Koontz Model

Professor Koontz concluded that his model is far more complex than the Farmer-Richman and the Negandhi-Estafen models presented above, and that his model is far more accurate and realistic.[8]

Shetty, in criticizing Professor Koontz's model, raised two interrelated questions on the issue of distinguishing between "science" and

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[7]Ibid., p. 427.

[8]Ibid.

"art" and the question of transferability.[9] According to Shetty, management know-how is composed of at least three elements: knowledge, skill, and attitudes. He criticized Koontz for neglecting the third component of management know-how, namely attitudes, which is as important as the other two. In defining the three components Shetty gave an answer to his first question, "What are the components of management?"[10] Shetty's second question was about the relationships between these components and the external environment. His answer to this last question was that "a transfer of all the three components is necessary if the recipient is to be totally effective, even though transferring a set of attitidues is most difficult."[11]

Harbison and Myers, who believe in the universality of management knowledge, in a study of management in a number of different countries of the world, found that there is a logic of management development which can be applied to advanced and industrializing countries in the world.[12]

Other conclusions drawn from the work of Fayerweather on Mexico,[13] the work of Abegglen on Japan,[14] and the study of Prasad on

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[9]Y. K. Shetty, "A Model for Analyzing the Universality and Transferability of Management," Academy of Management Journal, Vol. 13, No. 2 (June, 1970), pp. 220-224.

[10]Ibid., p. 221.

[11]Ibid., p. 224.

[12]F. Harbison and C. A. Myers, Management in the Industrial World: An International Analysis (New York, 1959), p. 117.

[13]J. Fayerweather, The Executive Overseas (Syracuse, 1959).

[14]J. C. Abegglen, The Japanese Factory (New York, 1958).

Czechoslovakia and the Soviet Union[15] support the evidence of universality of management know-how.

Gonzalez and McMillan conducted a two-year study in Brazil. They concluded that American management experience abroad presents evidence that the American philosophy of management is not universally applicable but is a rather special case. But, on the other hand, they admit that the application of American management knowledge in other countries has been successful.[16]

On the basis of similar research, W. Oberg seems to support the conclusion of Gonzalez and McMillan.[17] Oberg does not believe that the role of management in Brazil, being so different from that played in the United States, would permit the application in Brazil of management principles successfully employed in the United States.

Megginson and McCann in their study of the application of management principles in developing countries found that the principles and foundations of management are universal; but the process of management is culture-bound. They concluded that culture is significant as a determinant of managerial effectiveness.[18]

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[15] S. B. Prasad, "New Managerialism in Czechoslovakia and the Soviet Union," Academy of Management Journal, Vol. 9, No. 4 (December, 1966), pp. 328-336.

[16] R. F. Gonzalez and C. McMillan, Jr., "The Universality of American Management Philosophy," Academy of Management Journal, Vol. 4, No. 1 (April, 1961), pp. 33-41.

[17] W. Oberg, "Cross Cultural Perspectives on Management Principles," Academy of Management Journal, Vol. 6, No. 2 (June, 1963), pp. 129-143.

[18] Leon C. Megginson and Eugene C. McCann, "Applicability of Management Principles in Underdeveloped Economics," International Handbook of Management, Karl Ettinger (ed.), (New York, 1965).

In a study of managerial behavior, attitudes and satisfactions by Mason Haire, Edwin Ghiselli, and Lyman Porter, questionnaire replies were obtained from more than 3,600 managers in 14 countries. From these questionnaire replies, they concluded that there is a high degree of similarity in managerial behavior in the various countries, but that there also exists substantial national and cultural differences which account for about 25 percent of the motivations in managerial attitudes.[19]

As a conclusion to the concept of the universal applicability of management philosophy for other countries versus its inapplicability to many cultures, the following is an excerpt taken from The Pattern of Management by Urwick who does not believe that the concept of management universality can be applied.

> It is widely held, this idea that there is some technique or system waiting round the corner and all the busy executive has got to do is to buy a yard or two of it and slap it on the affected part. It is of course, nonsense. Every business enterprise is a living organism, with its own traditions, its own climate of opinion, its own special make-up. Every situation is different. And every kind of system has to be custom-built to the individual business. A method that is a gold mine for corporation A will be pure poison in corporation B.[20]

Managerial Effectiveness

The literature review now turns to the concept of managerial effectiveness in the most recent literature.

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[19]Maison Haire, Edwin E. Ghiselli, and Lyman W. Porter, Managerial Thinking: An International Study (New York, 1966).

[20]Lyndall F. Urwick, The Pattern of Management (Minneapolis, Minnesota, 1956), p. 13.

Managerial effectiveness has been defined by Campbell and his co-authors as:

> We define effective managerial job behavior as any set of managerial actions believed to be optimal for identifying, assimilating and utilizing both internal and external resources toward sustaining, over the long term, the functioning of the organizational unit for which a manager has some degree of responsibility.[21]

Price, in a book dealing entirely with organizational effectiveness, defined it as "effectiveness, ..., may be defined as the degree of goal-achievement."[22]

Managerial effectiveness in Reddin's terms is:

> Effectiveness is the extent to which a manager achieves the output requirements of his position.... It is the manager's job to be effective. It is his only job. Managerial effectiveness has to be defined in terms of output rather than input, by what a manager achieves rather than by what he does.[23]

The final definition of the concept of managerial effectiveness that one needs to cite is by Katz and Kahn and it is as follows: "We can define organizational effectiveness, then, as the maximization of return to the organization, by economic and technical means (efficiency), and by political means."[24]

All of the above definitions lead one to ask this question: What are the basic determinants of managerial effectiveness? From this

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[21] Campbell, et al., Managerial Behavior, Performance, and Effectiveness (New York, 1970), p. 105.

[22] James L. Price, Organizational Effectiveness: An Inventory of Propositions (Homewood, Illinois, 1968), p. 3.

[23] W. J. Reddin, Managerial Effectiveness (New York, 1970), p. 3.

[24] Daniel Katz and Robert L. Kahn, The Concept of Organizational Effectiveness: Issues, Analysis, and Readings (Pacific Palisades, California, 1971), p. 67.

general survey of the recent literature the following conclusions about the determinants of managerial effectiveness and its measurement are obtained:

1. There is a lack of a standardized measure of effectiveness.[25] This creates some problems with respect to the acceptance of diverse measures of effectiveness, and the use of objective measures.

2. The determinants of effectiveness as explained by Price are:

> The economic system, the political system (internal), the political system (external), the control system, and population and ecology. These variables will affect the productivity, conformity, morale, adaptiveness, and institutionalization which will influence effectiveness.[26]

Campbell and his co-authors postulate that effectiveness is a function of complex interactions between personal characteristics; the demands and expectations placed upon individuals by the physical, administrative, and social environments of their organizations; and reward systems, developed by organizational politics and practices.[27]

Reddin sees effectiveness as a function of the manager's style, followers, co-workers, superiors, and organizational technology.[28]

There is one more point that should be made clear before one leaves this review of the related literature. To be more specific, since all the firms included in this study are state-owned, one might assume that the Soviet model would work well in Libya. This assumption is not correct, because in the Soviet model the government makes the decision

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[25]Price, p. 5.

[26]Ibid., p. 205.

[27]Campbell, p. 12.

[28]Reddin, p. 193.

on what will be produced, when, and how.[29] In this model the consumer's role is very limited and unimportant. In the case of Libya, the state-owned firms are created to satisfy the wants of the consumers. For this reason the Soviet model was not considered in this study.

[29] B. Richman and R. Farmer, "Ownership and Management, the Real Issues," Management International, Vol. 5, No. 1 (1965), pp. 31-43.

CHAPTER IV

HYPOTHESES

The central purpose of this study, as explained above, is an attempt to analyze the problems and the managerial effectiveness of state-owned firms. To accomplish this central purpose, this study seeks to develop an acceptable framework for suggesting improvements in management effectiveness of the state-owned firms in Libya. This chapter contains the statement of the hypotheses of the study; it also gives a brief discussion of the nonparametric statistical tests which are used to test the hypotheses. The analysis and evaluation of these hypotheses will be discussed in Chapter VIII of this study.

The following hypotheses, stated in the null form, were formulated:

1. There is no significant difference in managerial effectiveness (defined as the degree of goal attainment) of firms that use planning (defined as anticipating probable future events and the strategies needed to cope with them), as compared with those firms that use no planning.

Planning, as it is used in many firms, can be of two types--short-run planning which is defined arbitrarily to cover a period of time less than a year and long-run planning which is defined for the purpose of this paper to cover a year or more.

2. Organizational effectiveness is not significantly different between firms that are capital intensive in their technology of

production as compared to labor intensive firms.

To differentiate between capital intensive firms and labor intensive firms the following factors are used as guidelines:

a. The type of industry. For example, the oil industry is known as a capital intensive industry while the construction industry is a labor intensive one.

b. The ratio of the investment of the firm in fixed and current assets to its investment in human assets.

c. The opinion of the management of the firm.

3. The effectiveness of firms with Western educated managers is not significantly different from the effectiveness of firms with non-Western educated managers.

Western educated managers include all persons in the management staff who had degrees or educational experience either in the United States or in Europe. Persons with a training experience in management fields of over one year in these countries are included under the term Western educated managers regardless of the place of their original education or degrees.

Non-Western educated managers consist of all managers who received their degrees or educational experience outside the United States or Europe.

4. The effectiveness of relatively large firms is not significantly different from that of relatively small firms.

To differentiate between relatively large firms and relatively small firms, the capital allocated to each firm at the time of its establishment by the government, the number of employees each is using, the product each firm has to produce, the area each firm has to cover,

and its share of the market are used as guidelines for determining the size of the firm.[1]

5. Given that all these firms are state-owned firms, and given that no competition exists between these firms, one would hypothesize that all firms will seek to accomplish the same goals and achieve the desired targets set for them by the government.

To understand the meaning of this final hypothesis, one should keep in mind that there is a master plan for the development of the whole country and most of these firms are established to carry out this master plan of development.

Two tests of nonparametric statistics are used to test the above five hypotheses. They are the Mann-Whitney U Test and the Durbin Test.

The Mann-Whitney U Test which is used to test the first four hypotheses is a two-sample test. This test is more appropriate for testing the type of data collected because it has some advantages over the two-sample t-test, the usual parametric counterpart.

According to W. J. Conover, in explaining the procedures of using the Mann-Whitney U Test, there are three advantages to this test:

> An intuitive approach to the two-sample problem is to combine both samples into a single ordered sample and then assign ranks to the sample values from the smallest value to the largest, without regard to which population each value came from. Then the test statistic might be the sum of the ranks assigned to those values from one of the populations. ... the null hypothesis of no difference between populations may be rejected if the ranks associated with one sample tend to be larger than those of the other.
>
> Ranks may be considered preferable to the actual data for several reasons. First, if the numbers assigned to the

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[1]The share of market concept is used here because some of the firms in the study, e.g., the Libyan Arab Airlines, the National Oil Corporation, have to compete with foreign firms for a bigger market share.

> observations have no meaning by themselves, but rather attain meaning only in an ordinal comparison with the other observations, then the numbers contain no more information than the ranks contain. Such is the nature of ordinal data. Second, even if the numbers have meaning but the distribution function is not a normal distribution function, the probability theory is usually beyond our reach when the test statistics are based on the actual data. The probability theory of statistics based on rank is relatively simple and does not depend on the distribution in many cases. A third reason for preferring ranks is that the A.R.E. (asymptotic relative efficiency) of the Mann-Whitney U Test is never too bad when compared with the two-sample t-test, the usual parametric counterpart. And yet the contrary is not true; .... So the Mann-Whitney U Test is a safer test to use.[2]

The Durbin Test is used to test the fifth and final hypothesis. According to W. J. Conover:

> The Durbin Test may be preferred over the parametric test if the normality assumptions are not met, if an easier method of analysis is desired, or if the observations consist merely of ranks.[3]

All the above hypotheses were tested at the .05 level of significance which means that there is less than five percent probability that a true null hypothesis being tested could occur.

The research design contemplated rigorous testing of these hypotheses. Unfortunately, the lack of data available in organizations in developing countries presented a problem. Similarly, the initial test of the study made it clear that it would not be possible to utilize a well-developed, standardized, and tested data-gathering instrument. An interview technique employing semi-structured guidelines was employed. A more specific description of the technique is offered in the following chapter. At this point it is sufficient to state that the data yielded

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[2]W. J. Conover, Practical Nonparametric Statistics (New York, 1971), pp. 223-224.

[3]Ibid., p. 276.

by the interviews is subjective and subject to severe limitations.

An attempt is made to analyze the data using techniques of non-parametric statistics, but the fact remains that the original data does not lend itself well to statistical analysis. Therefore, the conclusions developed with respect to the hypotheses must be regarded as tentative and open to question. They point the way to further research. It is regretable that these problems arise, but that is part of the challenge involved in conducting a scientific inquiry in a developing country.

CHAPTER V

DATA COLLECTION PROCEDURES AND THE RESEARCH DESIGN

This chapter is divided into three sections. The first section concerns the population and the sample which was drawn from it; the second discusses the methods of gathering data; and the final section is an overview of the research design.

The Population and the Sample

The population of this study is all the 76 state-owned firms of Libya. The names of these firms are listed in Table I. Other state-owned firms are not included in this table because they are branches of the firms in this table. From this population a random sample of 14 state-owned firms was taken for investigation and the data collected came only from this random sample.

The population, in this case, is a finite population and in total it has N elements; and since each of the possible samples can equally be obtained without replacement, there are $\binom{N}{n}$ possible samples of size n.[1] In other words, there are $\binom{76}{14} = 687259244541600$ ways by which a sample size of 14 may be selected.

The criteria for selecting these firms are:

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[1] W. J. Conover, Practical Nonparametric Statistics (New York, 1971), pp. 61-65.

TABLE I

LIST OF THE NAMES OF STATE-OWNED FIRMS IN LIBYA

1. The General Corporation for Maritime Transportation
2. The General Commission for Tourism and Fairs
3. The General Organization for Agrarian Reform and Land Reclamation
4. The General Agricultural Company
5. The General Company for Road Construction and Maintenance
6. The General Company for Civil Works
7. The General Company for Buildings
8. The General Company for Drilling Water Wells
9. The National Pharmaceutical Company
10. The General Company for Importing and Marketing Agriculture Tools and Equipment
11. The Military and Civil Construction Company
12. The National Food Commodities Corporation
13. The General National Company for Mills and Fodders
14. The National Oil Corporation
15. The National Company for Roads and Airports
16. The General Corporation for Harbors and Lighthouses
17. The General Company for Constructions and Educational Buildings
18. The General Land Reclamation Company
19. Braiga Petroleum Marketing Company
20. The General Corporation for Post Office and Communications
21. The Arabian Gulf Oil Exploration Company
22. Electricity Corporation of Tripoli
23. Electricity Corporation of Benghazi
24. General Press Corporation
25. Kuffra Agricultural Company
26. Sebha General Company for Constructions and Roads
27. The National Contracting Company
28. Social Insurance Commission
29. National Social Insurance Institution
30. The Libyan Arab Airlines Corporation
31. The General Housing Corporation
32. The Agricultural Development Affairs Council
33. The General National Organization for Industrialization
34. The General Passenger Transport Corporation
35. The General Company for Agricultural Production and Marketing
36. The General Company for Agricultural Projects
37. The Libyan Cement Company
38. The National Investments Company
39. General Tobacco Company
40. The Libyan Company for Sea Fishing
41. The General Company for Cleaning Services
42. The National Drilling Company
43. The National Company for Storing and Freezing

TABLE I (Continued)

44.	The National Company for Trade and Equipment
45.	The National Company for Architecture and Construction
46.	The Insurance Company of Libya
47.	The Mukhtar Insurance Company
48.	The National Petroleum Company
49.	The National Cement and Building Materials Company
50.	The Libyan Mills Company
51.	Oia Company for Beverages
52.	The General National Company for Mills and Fodders in Tripoli
53.	El-Shaheed El-Hajjaji Factory
54.	El-Abyar Fodder Plant
55.	Essawani Flour Mill
56.	The United Factories
57.	Uqba Ben Naf'i Dairy Plant
58.	The Ben Ghashir Factory
59.	The Dry Batteries Factory
60.	Gharian Company for Constructions
61.	Musorata Company for Roads
62.	El-Khalij Company for Constructions
63.	Homs Cement Factory
64.	Janzour Sardine Canning Factory
65.	Sabrata Sardine Canning Factory
66.	Burga Flour and Macaroni Factory
67.	The Agricultural Bank
68.	The Industrial and Real Estate Bank
69.	The Central Bank of Libya
70.	The Intranite Factory
71.	The Governmental Fruits Factory
72.	The Government Tanning Factory in Tripoli
73.	The Government Tanning Factory in Benghazi
74.	The Dates Factory
75.	The Tomatoes Factory
76.	The January Shohada Factory for Furnitures

1. The ownership: each one of these firms is a state-owned firm. The government appoints the chairman of the board of directors and the members of that board and the general managers.

2. The independence from the government routine: although each firm is owned by the government, it is allowed to have a separate

independent entity. For example, the National Pharmaceutical Company, the General Company for Civil Works, and the General Company for Road Construction and Maintenance are under the supervision of the Minister of Health, the Minister of Housing, and the Minister of Communications, respectively. However, each one of the cited companies is independent from the government in its decision making process.

3. The main offices, but not the branches, were included in the study. This point should be made clear since Table I mentions only the main offices. Most of the firms listed in this table have at least two to three branches in the main cities of the country.

As mentioned above, the sample includes 14 state-owned firms. Although the author has the names, no names will be provided in this study since all the information given was confidential. These firms can be classified according to the type of industry as follows: construction, petroleum, manufacturing, transportation,[2] health services, and public utilities.

From the construction industry, four firms were included in the sample used to test the hypotheses outlined in the previous section of the paper. These firms build houses, schools, hospitals, roads, airports, and all types of operations that the government wants them to perform in the construction industry. For example, if the Ministry of Education and National Guidance plans to have a certain number of schools in the next fall, then the companies in this type of industry would try to accomplish this job. If the Ministry of Youth and Social Welfare needs to build a new stadium in one of the major cities, then

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[2]There are no railroad or river navigation systems in Libya.

the companies in the construction industry would compete with the privately-owned firms to do the job.

From the manufacturing industry, three firms were included in the study. These firms produce goods for consumption in local markets. They do not export but they might look into this possibility once they satisfy the needs of the local market.

The petroleum industry is the industry upon which the whole economy of Libya is still heavily dependent, as more than 90 percent of the government revenue comes from this sector.[3] Several foreign firms are operating in Libya. For example, there are Mobil Oil (Libya) Ltd., Occidental Petroleum of California, American Exxon Oil Company, Shell for Exploration and Production, Esso Standard (Libya), Inc., American Oil Company, Esso Sirte and others. Only two firms (state-owned) from this sector are included in the sample. These two Libyan firms are responsible for the exploration of oil, its marketing locally and abroad, and its transportation from the well until it reaches the consumer.

From the transportation industry, two firms are included in the study.

Two of the last three firms in the sample are classified under the health services industry, while the last one is from the sector of public utilities.

Methods of Gathering Data

The field work to collect data for this study lasted from December, 1973 to February, 1974. The period might seem short for someone who

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[3]Aaron Segal, "Libya's Economic Potential," The World Today, Vol. 28, No. 10 (October, 1972), p. 445.

does not know that much about the circumstances and the environment in which these firms are located. All the 14 firms in the sample are located in the two main cities of Libya; Benghazi, in the east, and Tripoli, in the west, with less than 700 miles separating them. Transportation between these two cities was provided by the University of Benghazi in Libya, while transportation inside Tripoli, the largest city in Libya, was provided by the Ministry of Labor.[4]

The preliminary stage of the study to secure cooperation and acceptance of the staff members of these firms took place in the summer of 1973. This was necessary to estimate the time and resources required to complete the research. The author succeeded in getting the Libyan government to authorize him to study its firms and promised that all relevant information available to the organizational members and/or in government documents would be made available to him. This stage of the study revealed that the best way to conduct research of this nature in a developing nation like Libya was to use the personal interview rather than a mailed questionnaire or any similar type of data gathering method such as government statistics and publications. This is because in using the mailed questionnaire method not many firms are expected to send replies; and even if a reply is provided there is no guarantee that the questionnaire was completed or filled by the person in the firm who is requested to do so by the questionnaire. The method of using government statistics and publications was excluded because these

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[4]The Minister of Labor, Mr. Abdul Ati El-Ibeidi, personally contacted the top personnel in these state-owned firms and asked them to assist the author in getting personal interviews with them and with other important figures in these firms. This effort resulted in appreciable time savings.

statistics and publications do not contain the information needed for this study. For these reasons the author concluded that it was essential to gather first-hand data, data which did not exist in printed form.

The managerial effectiveness of state-owned firms can be analyzed only by obtaining enough data to test the hypotheses outlined in the previous section. It was also discovered that data about high-level manpower utilization, production increase, profit achieved, accomplishment of the firm's main goals, worker turnover rate, absenteeism, etc., are not always available from the records of the firms and can only be obtained through person-to-person contact.

In addition, the person-to-person contact or the personal interview has other advantages over all other data collection methods. First, it has a higher percentage of returns; second, one can get almost a perfect sample; third, in general the information obtained through personal interview is likely to be more accurate; and finally, it gives the interviewer a chance to collect supplementary information about the informant's personal traits and environment which can be valuable in interpreting and evaluating the results of the research.

More details concerning managerial effectiveness estimates and the scale which was applied will follow in the next section of the paper which is devoted to the research design.

Throughout most of this study the firms are mainly divided into pairs (X and Y) on the following bases:

1. Planning versus no planning. This was done after the organizational members were asked about the use of planning as a tool to help them solve the uncertainty of the future and the risk of unknown events.

2. Technology of production. All firms are classified as either capital intensive or labor intensive. Here, as mentioned before, the type of industry, the investment of the firm in fixed and current assets as compared to its investment in human assets, and the opinion of the management of the firm were used as guidelines to classify the firms.

3. Education of top managers. Firms with Western educated managers versus firms with non-Western educated managers.

4. The size. Large firms versus small firms. This type of categorization was done according to the capital of each firm, the number of employees, the type of production, and its share of the market. In addition to these factors, the opinion of experts in that type of industry was also taken into consideration.

The methods of gathering data to test the first four hypotheses were, as described above, similar. For testing the fifth and the last hypothesis the procedures were a little different. Data were collected in the first case for use in the Mann-Whitney U Test,[5] while data collected in the last case were for use in the Durbin Test.[6]

The Durbin Test is used to test the preferences of several managers for seven goals or targets that are considered important for other firms. These goals are:

1. achieving satisfying profits,
2. maximization of sales,
3. social benefits maximization,

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[5]Conover, p. 224.

[6]Ibid., p. 276.

4. growth and development of the firm,
5. increasing the market share of the firm,
6. increasing employees' satisfaction, and
7. increasing consumers' satisfaction.

Seven firms were selected from the sample used in this study. From each of these seven firms one top executive or a group of his representatives were orally informed about the required function they had to do, then each representative or group of representatives was given three goals and asked to rank them one, two, and three, with one being given to his (their) favorite goal or target.

An Overview of the Research Design

In this section of the paper the main features of the research design are presented. These features are mentioned in other parts of the study but they are summarized here to give the reader a quick but complete picture of the research design including the methods of gathering data, the analysis of the data, and a sample of the questions used in the personal interviews.

As noted earlier, the managerial effectiveness concept was defined, for the purposes of this study, as the degree of goal achievement. This definition was accepted in preference to others because of the lack of accurate and complete data about the firms of the study which can be used as a measure of the managerial effectiveness. Of course, one has to keep in mind that the state-owned firm was established to assume the responsibility and to achieve the goals which the private sector had failed to accomplish due to the lack of profitability in some of the industry involved.

The Managerial Effectiveness Estimates

The managerial effectiveness estimates of firms in the sample were obtained from interviews conducted in Arabic with top executives and managers of each of the firms surveyed. These interviews, for the most part, were group rather than individual interviews. The firm personnel interviewed included firm chairmen; general managers; directors of production, sales, finance, and personnel; chief accountants; controllers; and some members of the boards of directors. Each manager or head of department in the firm estimated the managerial effectiveness of his department in the presence of the firm chairman or its general manager. From these estimates the overall figure of the managerial effectiveness of the firm was obtained.

The respondents were asked to evaluate the managerial effectiveness of their firms based on the lines defined above. They were also asked to quantify managerial effectiveness on the nine-point scale used in this study.

Measurement

A nine-point scale was used to help managers estimate the managerial effectiveness of their firms. Point nine, on the extreme end of the scale, represents the maximum managerial effectiveness of a firm while point one, on the other end of the scale, represents the minimum managerial effectiveness of a firm. Between these two extremes, the numbers from eight to two are scores of managerial effectiveness, the higher the point on the scale the higher the managerial effectiveness of the firms.

Other questions relating to the profitability of the firm, the labor turnover rate, absenteeism among employees, and the firm's ability to attract and retain high-level manpower were also put to the respondents. However, very few of them succeeded in quantifying their responses. The only answer they gave (which could be used in this study) was to the question of the degree of goal achievement (managerial effectiveness).

One central question put to the personnel of the firms was one that required them to compare their goals with goals that seemed important to other firms. Each manager or group of managers representing a firm was given three of the following goals for comparison and ranking purposes:

1. achieving satisfying profits,
2. sales maximization,
3. social benefits maximization,
4. growth and development of the firm,
5. increasing the market share of the firm,
6. increasing the employees' satisfaction, and
7. increasing the satisfaction of consumers.

They were then asked to rank these goals or targets as one, two, three, with rank one given to their most desirable target, rank two to their second desirable one, and rank three to their least favorable target.

The purpose of this question was to determine whether these state-owned firms were striving to achieve a dominant goal or if the goals were equally likely as seen by each manager.

Methods of Data Collection

The information on managerial effectiveness, the use of planning, the type of top managerial personnel education, and the size of the firm were obtained through personal interviews. For most firms in the study interviewing time was a maximum of two working days and a minimum of one working day. Independent checks on the managerial effectiveness estimates, and the ranking of goals by managers were used. As an example, when a manager was asked to classify his firm as either small or large, he was also asked to specify the capital allocated to it by the government at the time of its establishment, the number of its employees and the number of consumers it served or the area in which its product is used. Also, in ranking of goals, the respondents were reminded of the goals of the firms specified at the time the firm was established.

The investigation stage to secure cooperation and acceptance of the staff members of these firms took place in the summer of 1973. The field interviews were conducted during the period from December, 1973 to February, 1974.

Analysis of Data

The techniques of nonparametric statistics were used. Specifically, the Mann-Whitney U Test and the Durbin Test were utilized to test the hypotheses of the study. A more detailed analysis and evaluation of the hypotheses are given in Chapter VIII of this study.

Sample of the Questions

The techniques of semi-structured questionnaires and nonstructured interview guidelines were utilized rather than fully structured

interviews. The respondents were asked to answer the following questions and to be as accurate as they could:

1. Keeping in mind the definition of managerial effectiveness as the degree of goal achievement of the firm, and utilizing a nine-point scale, with nine representing the maximum effectiveness and one the minimum, how do you rank the managerial effectiveness of your firm?

2. Please specify those goals of the firm which you consider most important to your firm, taking into consideration that the general goals of state-owned firms, as given in Al-Jaridah Arrasmiah[7] (the official Gazette) are one or more of the following:

a. achieving satisfying profits,

b. sales maximization,

c. social benefits maximization,

d. growth and development of the firm,

e. increasing the market share of the firm,

f. increasing the employees' satisfaction, and

g. increasing the consumers' satisfaction.

3. Now, here are three goals from the list of seven I have already referred to. Please rank them in the order of their importance or desirability, so that goal one stands for top priority or the most

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[7]Libya, Ministry of Justice, Al-Jaridah Arrasmiah, Vol. 8, No. 23 (May 6, 1970), No. 46 (August 6, 1970), No. 47 (August 12, 1970), and No. 52 (September 6, 1970); Vol. 9, No. 34 (July 17, 1971), No. 60 (November 28, 1971), No. 61 (December 2, 1971), and No. 62 (December 6, 1971; Vol. 10, No. 3 (January 15, 1972), No. 4 (January 23, 1972), No. 9 (March 5, 1972), No. 12 (March 22, 1972), No. 14 (April 5, 1972), No. 29 (July 3, 1972), No. 42 (August 29, 1972), and No. 54 (November 22, 1972); and Vol. 11, No. 4 (February 7, 1973), No. 15 (April 16, 1973), No. 16 (April 21, 1973), No. 26 (June 12, 1973), and No. 27 (June 17, 1973).

desirable goal, goal two shows the next priority or desirability, and goal three shows the one with the least priority.

4. Who established the goals of the firm?

a. The chairman of the board of directors alone,

b. the board of directors, or

c. the government on the basis of special staff studies and with the advice of consultants.

5. Is there a formal periodic review of the overall goals of the firm? If so, how often is it done? (Every three months, every six months, every year, other--please specify.)

6. Are there any goals which you feel are desirable and which have not been set? If so, please indicate what they are.

7. What is the labor turnover rate among workers of your firm? The labor turnover rate is defined for the purposes of this study as: $T = \frac{R}{F}$, where T = the turnover rate, R = replacements per unit of time, and F = average working force.

8. What is the unjustified and/or unexcused absenteeism rate among workers in your firm? The unjustified and/or unexcused absenteeism rate is defined for the purposes of this study as: $A = \frac{S}{W}$, where A = the unjustified and/or unexcused absenteeism rate, S = the average unjustified and/or unexcused absence per unit of time, and W = the average working time per unit of time--approximately in Libyan firms W = 300 working days per year (Libyans work six days per week).

9. What problems, if any, does your firm face?

a. Economical and financial problems (specify)

b. Political and legal problems (specify)

c. Lack of education among workers (explain)

d. Lack of qualified personnel (explain)

e. Others (specify)

10. What solutions, if any, do you suggest to overcome these problems?

11. Do you have any incentive system to motivate and attract workers? If so, specify.

12. If technology of production is divided into labor intensive and capital intensive technology, and taking into account the type of industry your firm is engaged in and the ratio of its fixed and current investment to human assets investment, how would you classify your firm?

a. Labor intensive (< LD 30,000 per employee)

b. Capital intensive ($\geq$ LD 30,000 per employee)

13. If firms are classified into large firms and small firms, and using the following factors as guidelines: the capital allocated to your firm at the time of its establishment, the number of employees it is using, the product it is producing, the area it is covering and its share of the market, how would you classify your firm?

a. Large

b. Small

14. If we classify firms on the basis of those which use planning (short- and long-run) and firms which use no planning (planning is defined as anticipating probable future events and the strategies needed to cope with them), how would you classify your firm?

a. Use planning

b. Use no planning

15. Classifying firms into firms that are managed by Western educated managers and firms that are managed by non-Western educated

managers (Western educated managers include all persons in the management staff who received their educational degrees from the United States or Europe. Persons with a training experience in management fields of over one year in these countries are included under the term Western educated managers. All others are considered as non-Western educated managers), how would you classify your firm?

a. It is managed by Western educated managers.

b. It is managed by non-Western educated managers.

CHAPTER VI

PROBLEMS OF THE STATE-OWNED FIRMS

In other sections of this paper some of the problems of the state-owned firms presented themselves as other subjects were being discussed. In this chapter these problems, which were gathered by personal interviews with top personnel and key figures in these firms, will be presented and discussed in some detail. They are:

1. The lack of highly educated people.
2. The high illiteracy rate among workers.
3. The inability of many firms to attract highly qualified people due to financial and legal restrictions.
4. The dependence on foreign expertise.
5. The lack of participation by women in the labor force.
6. The problem of a small population widely dispersed in a huge area.
7. The habits and customs of a people who prefer to use foreign produced goods rather than the locally produced ones.
8. The lack of raw materials (excluding petroleum) and their higher prices.
9. The high rates of unjustified absenteeism and labor turnover rate among workers.
10. The emphasis by the government on some sectors of the economy and the consequent lack of emphasis on other sectors.

11. The lack of social overhead capital which imposes high costs on some firms.

12. The lack of motivation among workers to accept training on new jobs.

13. The lack of appropriate incentive systems to encourage and motivate people to be productive.

14. The low productivity of Libyan workers.

15. The transportation problems inside the country.

16. The inefficiency of the means of communications.

17. The instability of top management people due to transfer or resignation.

These are the major problems that seem to hinder the effectiveness of the state-owned firms. More details about each of them will now be given.

1. Lack of highly educated people. The population of the country according to the 1973 census was 2,257,037. The population of Libya, in other words is less than three percent of the labor force of the United States. The small population which Libya has, coupled with the strong demand for labor as a consequence of the oil boom, resulted in shortage in the manpower resources of the country at all levels. There are no figures available to estimate demand for and supply of highly educated people in 1973. In the late 1960's the demand for professional personnel in Libya was estimated at 33,220, against an estimated supply of 11,222, the overall shortage of professional personnel was put at 21,998.[1] Since this estimate was made many changes have taken place in

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[1]Rawle Farley, Planning for Development in Libya: The Exceptional Economy in the Developing World (New York, 1971), p. 95.

Libya and many new state-owned firms were established. This situation has increased the demand for highly educated people more rapidly than the increase in the supply. For this reason it is believed that the gap between this demand for and the supply of professional personnel is now wider.

2. High illiteracy rate among workers. The second problem is somewhat related to the first one. It deals with the high illiteracy rate among workers. The term illiteracy is used here to imply the lack of the ability to read and write with reasonable accuracy. In a developing country like Libya where the rate of literacy was officially estimated in 1972 at less than 27 percent,[2] most of the firms must recruit from many barely literate or illiterate people, as they must hire them first before they are allowed to import other workers from neighboring countries.

Richard N. Farmer and Barry M. Richman, in their book, Comparative Management and Economic Progress, discussed in some detail the impact of the environmental constraints on the managerial effectiveness of a firm. From their discussion of the illiteracy level and the difficulties that might result from it, the following excerpt is taken:

> . . . it is difficult to organize large enterprises at all in an illiterate society. The cement which holds a big organization together is usually the tremendous mass of horizontal, upward, and downward communication in the organization. Much of this communication must necessarily be written, particularly if the firm is scattered geographically; but who performs this communication function if few can read or write? The familiar, depressing examples of incompetence and inefficiency in large government enterprises and departments of the underdeveloped nations stems in part from this problem. If the workers,

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[2]Richard F. Nyrap, John Duke Anthony, Bery Lieff Benderly, William W. Cover, Newton B. Parker and Suzanne Teleki, Area Handbook for Libya (Washington, D. C., 1973), p. 125.

> foremen, and supervisors are illiterate, they must be instructed orally--which is an extremely difficult and time consuming job for senior men. While illiterates may have more keenly developed memories than literates, no instructions, particularly complex ones, can be remembered completely, which means that errors and inefficiencies crop up all over the enterprise.[3]

There are other problems stemming from the low rate of literacy. One is a high rate of labor turnover among workers. The second is the lack of motivation to accept training. Finally, a low rate of literacy makes training more expensive and time consuming.

3. The third problem that many of the state-owned firms are facing is the inability of many firms to attract highly qualified people because of the inflexibility of the salary limits which the firm can offer qualified personnel, and the government intervention to distribute university graduates among different firms.

In Libya, as in other countries, there are two sectors in the economy--a public sector and a private sector. Most of the time there is competition between these two sectors to hire the best qualified people. The private firms have flexibility to fix the salary according to the qualification of the candidate, but in some of the state-owned firms the situation is reversed. The civil service law classifies the grades and determines the lower and the upper salary limits that any of these firms can offer. As a result, the state-owned firms are faced with difficulties in staffing.

In addition to the above problem which may be classified as a financial problem, the government distribution system of university

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[3]Richard N. Farmer and Barry M. Richman, Comparative Management and Economic Progress (Bloomington, Indiana, 1970), p. 78.

graduates poses another problem for the state-owned firms. Each year the university graduates (and they are much fewer in number than what the country needs) are distributed by the Ministry of Education and National Guidance through the Ministry of Civil Service. In the academic year 1970-71, 595 graduated from the Libyan universities. The number of university graduates is expected to increase annually.[4]

In most cases there is no proper assignment of the right man to the right job. The distribution is done randomly, and quite often the state-owned firms which happen to have a strong staff will get the number of personnel they need while others will not get any. For this reason the ineffective firms tend to stay so and the effective ones tend to keep themselves in a good position. Also, it is clear that not many graduates like to join those firms that seem to be ineffective. Unless proper action is taken this will not change.

4. The fourth problem is the dependence on foreign expertise. Many of the state-owned firms are given permission by the Ministry of Labor to bring to the country the qualified personnel they need. Naturally, without the help of the high-level manpower that the country imported and used in the 1950's and early 1960's, Libya might not have reached the economic growth it enjoys today, as at the time of independence in 1951, the country had only 14 Libyans with university degrees.[5]

This dependence on foreign expertise by the Libyan state-owned firms led to problems:

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[4]The Libyan Arab Republic, The Statistical Bulletin (Annual), University of Benghazi, Libya (May, 1972).

[5]Farley, p. 93.

a. It is hard to find the suitable and qualified personnel that the firm needs and some of the state-owned firms have access only to the neighboring countries which themselves do not have enough qualified personnel.

b. If these firms manage somehow to import some high-level manpower they need to pay them very high salaries compared to what a national with the same qualifications and experience is paid. The reason for this is the term of employment. The foreign expert comes to the country for a specific period of time, while the Libyan citizen is employed within the framework of the labor and civil service employment regulations and not on a contract basis.

c. The foreign expert leaves the country after the termination of his contract, thus leaving a vacancy in the position he previously occupied. Naturally, this position cannot be filled by nationals in a short period of time which results in a discontinuity of specific functions of the firm.

5. The lack of female labor force participation is the fifth problem to be discussed here. Libya is among those countries that have a very low labor force participation rate. This rate was, according to the population census of 1964, only 25.9 percent. The present labor force participation rate is presumed to be not higher than 26 percent. One of the reasons for this low rate is the low participation rate of women in the labor force. In 1965, for example, the male participation rate in the labor force was 46.5 while it was only 2.5 percent for females making the overall labor force participation rate only 25.4

percent.[6]

There are many suitable employment positions for females that are still occupied by males. Such occupations as nursing, office secretaries, telephone operators, and teaching are among the traditional occupations open to women in Libya. It is hoped that the increase in the educational level of women and their strong desire for a better living standard will motivate them to explore the labor market and capture a bigger share of it. Until this hope materializes the state-owned firms will continue to face a shortage in manpower.

6. The sixth problem of the state-owned firms is the distribution of population. Libya is among the very few countries of the world that have small populations compared to the area. In 1973, for example, the overall population density was approximately three persons per square mile. This situation creates problems to state-owned firms if they are to operate effectively. In other words, if these firms establish the scale of plant that can produce at optimal quantities then they have to face the problem of transportation to reach the consumers. The alternative policy is to have smaller size plants which might not produce at an optimal level. In either case the problem of too small population dispersed over a huge area is a handicap to the managerial effectiveness of the state-owned firms.

A solution to this problem may be found in encouraging the population to gather and concentrate in areas where it would be possible to locate a suitable firm to produce for them. This can be done through

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[6]Maya Prasad and Aiad Tayari, Integrated Manpower Planning and Organization Project: Population and Labor Force Participation for Libya, 1965-85. (August, 1970, mimeographed).

government action. The government can, in certain areas, give free land to the people, it can build schools, hospitals, shopping centers and recreational areas to attract people to live there. A second solution is the improvement of the transportation system. If a cheap and effective transportation system can exist then the state-owned firms will not face the problem they are now facing.

7. Among the problems that many of the top executives of the state-owned firms mentioned is the role that habits and customs play in Libya. Many of the consumers, if not all of them, are used to buying foreign produced goods, so when a new commodity is locally produced not many consumers are willing to try it. The government is then forced to restrict the importation of that commodity through higher taxes and customs or use a quota system for importing those goods that are being produced in Libya.

The state-owned firms can play an important role here. They can concentrate on advertising in the local newspapers and on radio and television. They also should not ignore the quality of their product. Good quality products will find their way to the market by one way or another and competition with foreign produced goods will not succeed in eliminating them from the market.

8. The lack of raw materials (excluding crude petroleum) that can serve as the cornerstone of the industrialization of the country is among the serious problems that state-owned firms need to cope with. Of course, the only way to secure these raw materials is to import them from other countries. There are two drawbacks to this policy. First, the price will not be stable, as it depends on the price policy of the country from which the Libyan firms import these raw materials. This

policy will always lead to higher prices and higher priced goods of state-owned firms will weaken their competitive position. The second drawback for importing raw materials is the possibility of cutting off the supply. The energy crisis that the Western world faced in 1973-1974 is an example. There are always political and ideological conflicts that might influence the supply of the raw materials and the best advice one can give to the state-owned firms is to try to promote those industries which depend on the crude petroleum and its derivation as their raw materials.

9. The state-owned firms have very high rates of unjustified absenteeism and labor turnover among workers as will be discussed on pages 125-129. The variations in the rate of unjustified absenteeism from firm to firm might be a reflection of their effectiveness in providing a good working atmosphere. The most effective firms in the study seem to be more concerned with the environment of the workers. They seek to provide them with a pleasant atmosphere.

A high rate of labor turnover can be attributed to the lack of skill among workers. They shift from one firm to another because the unskilled worker can do only jobs that need no prior skill or knowledge. Although this shift might cause some confusion in the number of employees which the firm needs to keep for its production operation, the cost of losing unskilled workers is minimum because the firm did not lose a trained employee. Trained employees are assets which the firm should develop and keep.

Another reason for the high labor turnover rates among workers is the custom of many workers to withdraw from the labor market once they make enough money to last them for some period of time. They will not

look for another job until they are out of money. In other words, they work only to survive. They are not concerned about the future and as such have no incentives to continue working for the same firm.

The best way to solve this problem is to train the workers on the job. This training will increase their productivity and will reduce their turnover rates because they can get higher wages and more benefits. This training will also increase their aspiration levels and motivate them to stay in the labor market and be more effective and more important than an ordinary worker with no experience.

10. One of the other problems that some of the state-owned firms have to face is the government emphasis on some sectors of the economy rather than others. Each year the government through both the ordinary and the economic development budgets decides how much it is going to spend over the following 12 months. This spending plan is formulated in accordance with the goals and the line of emphasis set by the Supreme Planning Council. An example may make this point more clear. In 1965, the government decided to spend 400 million dinars on housing.[7] Each firm in that sector of the economy was naturally in a very good financial condition, but considering that government resources are limited this meant that other firms had to suffer. The government was obliged to amend the budget by including agricultural and industrial projects in the 400 million dinars original budget allocation.

Today, although the government aim is the development of each sector in the economy, one can point out some sectors that did not receive the attention of the top planners in the country. One of these

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[7]Each Libyan dinar is equal to approximately 3.5 United States dollars. This amounted to about $1.4 billion.

sectors is the transportation sector. Before building a new house or even a whole village the government should think of the means of transportation to that place. Many of the rural villages were deserted because of inefficiency of transportation to these places. Passenger transportation services, even in the main two cities of Libya, Benghazi and Tripoli, is not efficient or sufficient. This situation affects many firms because workers cannot arrive at work on time. The inadequate means of communication has also been responsible for the lack of effectiveness of many firms. The telephone service is almost impossible to obtain, and if a firm is lucky enough to secure a telephone line, that line is out of order most of the time. Managers of the firms complain that they cannot depend on the mail service and would like to see a major improvement in this type of service.

The communication problem is serious for the state-owned firms in Libya. The transportation and the communication sectors of the Libyan economy must, therefore, receive greater attention from the government. They should be among the government priorities in order to achieve a higher rate of economic growth and a reasonable measure of managerial effectiveness for the state-owned firms.

11. The next problem that many firms are faced with is the inadequacy and inefficiency of the few social overhead capital facilities that exist in the country. Farmer and Richman defined social overhead capital as:

> . . . the supply and quality of public utility type services available to consumers and firms. Such services are: the transportation systems, including airports, harbors, highways, railroads, inland waterways, and similar facilities, plus the necessary capital equipment needed to operate on them; the telephone and telegraph systems, including the number of phones, miles of lines, quality of interconnections, and similar factors; the development and extent of electric and

> gas transmission systems; postal facilities, including the extent of parcel post operations, post offices, and so on; worker housing; and such factors as the quality and availability of public warehousing.[8]

Some of these social overhead capital facilities have been discussed above. Specifically the transportation and communication problems have been mentioned as obstacles to managerial effectiveness.

The electric power supply is another problem for many of the state-owned firms. Some of the firms that are major users of electricity suffer from time to time from power failures. This raises their costs as the workers wait idly for the power to be restored. It might seem reasonable for some firms to build their own power generators to overcome the problem of unexpected power shortages, but this solution is not feasible at this time because many of these firms have only limited resources and they also have a limited supply of technical personnel to operate their own generators.

12. The lack of motivation among workers is among the problems that many of the firms in the study faced. Many workers are satisfied with the jobs they are now performing and they do not accept easily training to do more complicated jobs. As suggested earlier on-the-job-training might be the only solution to this problem. In other words, the firm might promote the worker to the job first and then start training him on that job. This policy will reduce the worker's fear of the unknown and make him better acquainted with his new job and its requirements. The lack of education among workers is among the factors which prevent them from accepting training. This problem might disappear in in the future as a result of the government emphasis on education at all

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[8]Farmer and Richman, p. 321.

levels and especially adult education programs.

13. It is believed that the failure to develop an appropriate incentive system is responsible for the lack of motivation among workers. At the present time the compensation system, in addition to wages, provides all employees and their dependents with unemployment insurance, old age and disability pensions, maternity and illness payments, compensation for job-related injuries, and widows' and orphans' benefits.[9] The labor law requires that a worker cannot be fired from any firm working in Libya unless that firm proves that he was careless in performing his job, or he has been absent from work without valid reasons, for more than 20 days in one year.[10] Articles 49 and 50 of the Labor Law explain the procedures for either cancelling the unjustified dismissal of a worker or the compensation which the court considers appropriate for him.[11]

The following is an excerpt showing the type of compensation a worker may receive:

> Every worker who has completed one year's service with the employer shall be entitled to sixteen days' annual leave with full pay; .... The worker shall be entitled to receive payment of wages for any days of leave entitlement accrued to him for which he has not used up prior to the termination, ... A worker suffering from duly certificated sickness or disability shall be entitled to sick leave or half pay during the first 60 days, followed by 120 days at 60 percent of his wages in any one year.[12]

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[9]Nyrop, et al., p. 75.

[10]Other acceptable reasons for terminating the employment of a worker are specified in article 51 in the Libyan Labor Law. "Legislative Series 1970-Libya 1," International Labor Office (March-April, 1971), p. 13.

[11]Ibid., p. 12.

[12]Ibid., p. 10.

Most of the compensation system explained above applies only when the worker is already out of the firm. What is really needed then is a system that can be applied while the worker is still with the firm. It is, therefore, necessary to have incentive systems to motivate workers to work harder in order to receive more benefits from the firm they are working with. The profit-sharing concept which the government introduced should be modified to serve as a basis for the incentive systems.

14. The lack of motivation, the lack of incentive systems, and the reluctance of many workers to accept training resulted in the low rate of productivity of the Libyan workers and in the high rate of labor turnover and absenteeism.

15. The transportation problems have been discussed earlier with the discussion of the government emphasis on some sectors of the economy rather than others, and was also discussed under number 10, above.

16. The inefficiency of the means of communication was also discussed under number 10, above.

17. The last problem one needs to discuss here is the instability of top management personnel. Many executives need three to four years before a judgment on their achievement can be made. It takes time for the manager to know his firm and to plan its future operations yet many top management personnel did not have enough time to develop their plans. Some were forced to resign in response to the demand of People's Committees. These committees are elected by all the employees in the firm, and have the authority to act as the board of directors. The president of the People's Committee is the chairman of the board of directors and the People's Committee members are the members of that board. The People's Committees have functioned for a year now since the

proclamation of the Cultural Revolution in Libya on April 15, 1973. An administrative revolution is one of the main goals of the People's Committees.

It is still too early to evaluate this experience. While elections are free and no one is allowed to interfere with the people's desire to elect the most qualified persons to the People's Committees, many qualified persons have unfortunately hesitated to join these committees leaving them to less qualified people. This hesitation of many talented people and the reluctance of many employees to help the committees to be more effective are among the problems which the committees should try to resolve. It is hoped that the experience of the People's Committees in Libya will in the future be more effective than it was in its first year of existence. This hope is justified because it is felt that many effective and qualified personnel will now join these committees and the mistakes of the first year will be avoided in the future.

A Simplified Model of Management in the State-Owned Firms

A simplified model of management in the state-owned firms is graphically presented in Figure 4. In this model the discussion and analysis of the problems of these firms presented in this chapter is related to the following chapter which contains the policy and management guidelines. As seen in Figure 4 the problems of the state-owned firms are grouped under four external variables, namely the education variables, the population, the economical, and the political and legal variables. These external variables seem to have negative effect on managerial effectiveness of these firms.

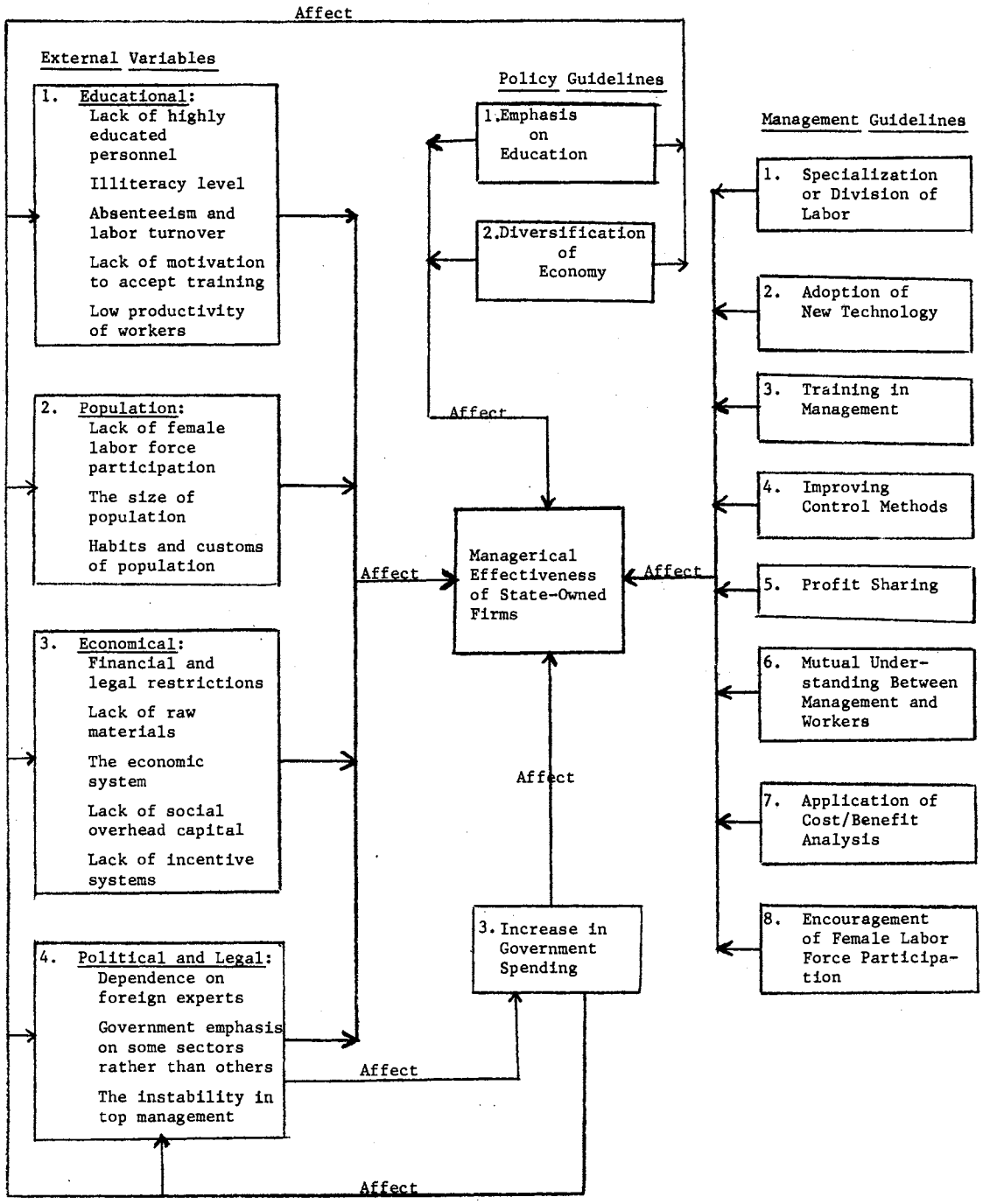

Figure 4. A Simplified Model of Management in the State-Owned Firms

The suggested management guidelines (Chapter VII), as Figure 4 shows, have positive effects on managerial effectiveness of these firms as will be explained in more detail in the following chapter.

The policy guidelines and the suggested priorities for the government is believed to increase managerial effectiveness of these firms and at the same time these policies seem to block the negative effects of the external variables. The suggested governmental emphasis on education, especially technical education, will reduce the negative effects of the educational variables, the population, the economical, and political and legal variables. The increase in government spending will also have a positive effect on some of the external variables, especially the economical variables. At the same time the government spending policy is a political question and it depends on the attitude of politicians and their economic philosophy.

This concludes the discussion of the problems of the state-owned firms. Solutions to some of these problems and some other strategies of action will be given in more detail in the following chapter.

CHAPTER VII

POLICY AND MANAGEMENT GUIDELINES

This chapter of the study is divided into two sections. The first of which is devoted to policy guidelines which the author suggests that the government should follow to improve the managerial effectiveness of the state-owned firms. The second section adds management guidelines that the state-owned firms should observe to accomplish their goals more effectively.

Policy Guidelines

Throughout this study the problems of the illiterate or barely literate workers, and the shortage of highly-educated personnel and technicians were mentioned more frequently than any other problem. It was also pointed out that the Libyan economy is not yet a balanced economy, as it depends on one sector, namely the petroleum sector, which contributes directly and indirectly to the country's economic development and social welfare. Another fact the reader should be aware of is that the wealth from oil goes to the government--not to the owners of the land where oil is discovered. This is in accordance with the first article of the Mineral Wealth Law of 1953 which states that all minerals are state property.

For all these reasons it is proposed that the government priorities should be: (1) more emphasis on education, especially technical

education; (2) diversification of the economy; and (3) more government spending on local projects.

The first priority for the Libyan government should be more emphasis on education. This does not mean that the government policy now is ignoring this important factor in the development of the country. In fact, the government has done a lot. In the academic year 1951-52, there were only 216 students in the whole country at all levels excluding the university level which did not exist at that time. In 1965-66, there were 217,822 students at all levels prior to the university level. The student number increased in 1968-69 to 313,397 students. This year (1973-74) there are 597,717 students at all levels of the schools of the country.[1]

The increase in the number of students at the university level was also impressive. In the year 1965-66, there were only 1,938 students. This number increased to 3,663 students in 1969-70, and 5,196 students in 1970-71.[2] The number of university students is estimated for the year 1973-74 to be more than 6,000 students.

Other factors contributed to the growing number of students in the country. One of these factors is the population growth. In 1962, the population estimate was 1,495,000 and this increased to 1,543,000 in 1963. From 1966 to 1967 the population grew from 1,730,000 to 1,800,500. These figures show that the annual compounded rate of growth (1962-1967) was 3.8 percent. This yearly rate of growth is one of the highest in the world. The latest figures on the population released early this

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[1]Jardit Al-Jehad of April 13, 1974 (Benghazi, Libya).

[2]Libya. Ministry of Planning, Statistical Abstract 1970 (Tripoli, Libya, 1970), p. 90.

year show that the population of Libya is 2,257,037, as compared to 1,089,000 in 1954 census. The percentage ratio of students to population in 1965-66 was approximately 12.7 percent as compared to approximately 22.3 percent in 1973-74. This ratio is still low given the rapid changes that took place in Libya after September 1, 1969 when Libya was declared a new Republic in North Africa.

A second factor which contributed to the growth in the number of students is the improvement in the standard of living in the country. The per capita GNP increased from 97.8 Libyan Dinar in 1962 to 352.6 Dinar in 1967 at an annual compounded rate of growth of about 30 percent. The higher the standard of living as measured by the per capita GNP, the more people will seek to be educated. The Farmer and Richman studies of ten countries showed that there is a correlation between the country's per capita GNP and its educational score (the total of the country's score on literacy level, higher education, and specialized technical training).[3] In other words, the higher the per capita GNP the higher the educational level.

The increase in the standard of living helped raise the number of students in another way. Many parents used to live on agricultural outputs and needed the help of their children when agriculture was the main source of income. These parents do not now need the help of their children to make a living.

Another factor that assisted in the growth of the number of students is the age distribution of the population. In 1970, for example, 62.4 percent of the Libyan population was under 25 years; of this number

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[3]Richard N. Farmer and Barry N. Richman, Comparative Management and Economic Progress (Bloomington, Indiana, 1970), pp. 336-338.

44.4 percent of the population was of school age (age group from 5 years to 24 years).[4] The growth of women's education was also responsible for the growing number of students.

From the above discussion it appears that the government still needs to put more emphasis on education, especially technical education. The problem that the country will soon face is the lack of coordination between the educational needs of the country and the type of educated people it will receive. In other words, Libya will have too many people in the traditional education group and very few or none at all in technical education.

The two types of classification of education leads one to relate it to the discussion of Frederick H. Harbison in his book of Human Resources as the Wealth of Nations.[5] Professor Harbison looked at education as an industry. He, then, divided the learning system of any country into two component parts or subsystems: (1) formal education, and (2) nonformal education and training.[6] The following two quotations are taken from Professor Harbison's book mentioned above:

> By any standard, formal education is a big industry in any nation; in some developing countries it is the largest. Formal education is one of the greatest consumers of public revenues. It is, in most developing countries, the largest employer of the outputs from secondary schools and institutions of higher education. Education also spawns the demand for more education; the more it grows the more people want of it. Politicians are pressed to promise more of it; parents look upon it as the principal 'avenue' of opportunity for

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[4]Maya Prasad and Aiad Tayari, Integrated Manpower Planning and Organization Project: Population and Labor Force Projections for Libya, 1965-85 (Mimeographed), August, 1970, Appendix IV.

[5]Frederick Harbison, Human Resources as the Wealth of Nations (New York, 1973).

[6]Ibid., p. 52.

> their children, ... and economists look upon it as a process of human capital formation. The examination of the 'education sector' of any country is thus central to any analysis of economic, social, political, and cultural development.[7]
>
> Nonformal education and training encompasses the entire range of learning processes and experiences outside the regular, graded school system. It thus includes everything from learning from parents, communication with others, and learning from experience to formal training on the job, apprenticeship, adult education, and participation in organized out-of-school programs .... But in the aggregate, probably more people are exposed to nonformal learning activities than to formal schooling. And as a continuing process of development of skills, knowledge, and capacities of the labor force, nonformal learning and training are certainly as important as formal education.[8]

The most appropriate policy for the Libyan government is, then, to spend more of its resources on the development of human capital by providing more training. This policy can be achieved by increasing the number of experts by emphasizing specialization in education rather than general education. The government must also provide a strong relationship and coordination between technical education and the actual needs and requirements of the Libyan economy.

The second priority for the Libyan government is the diversification of the national economy. The Libyan economy is based on the oil industry which contributes more than any other industry to the GNP. In fact, the oil industry contribution to the GNP exceeds the contributions of all other sectors and industries to the Libyan economy.

Petroleum exports began early in the 1960's and the revenue of the government from oil has been rising since then. For example, in 1961, the government obtained more than LD 1.1 million as royalties and taxes.

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[7] Ibid., p. 53.

[8] Ibid., p. 80.

By 1969, this increased to about LD 393 million, and in 1973 it is estimated to be twice that amount.[9]

The diversification of the Libyan economy is recommended not for the sake of diversification itself, but because the oil industry is dependent on the oil reserve of the country and, these reserves sooner or later will be depleted. The most that one might expect oil to flow from these given reserves will not exceed 25 to 30 years. The current conservative oil policy the government is now pursuing might make the petroleum resources of the country last longer than the policies of other countries that want to produce as much as they can.

Even if more oil reserves were discovered, the dependence on oil alone would be dangerous, because the industrialized nations in the world are at present seeking alternative sources of energy. These efforts were stepped up when the Arab oil embargo in late 1973 and early 1974 was imposed against the United States, many European countries, and Japan. These concentrated efforts to develop alternative sources of energy are still economically not feasible and oil will remain the cheapest and the largest source of energy in the world for at least the immediate years to come.

To achieve the diversification of the economy, Libya should start with agricultural development. Prior to the discovery of oil, agriculture was the largest single contributor to the gross domestic product (GDP). In 1958, for example, more than one quarter of GDP was produced by agriculture, but since the discovery of oil the share of agriculture

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[9]Richard F. Nyrop, John Duke Anthony, Bery Lieff Benderly, William W. Cover, Newton B. Parker, and Suzanne Teleki, Area Handbook for Libya (Washington, D. C., 1973), p. 199.

in GDP has declined year after year while the oil sector took the leading role.

The decline in the agricultural sector was due to the shift of many workers to the petroleum sector which pays them higher wages and more benefits. It seems possible now that agriculture will start to play again an important role in the Libyan economy for two reasons:

1. The shortage of water resources which can be used in irrigation for large scale production was solved. This solution came when a subterranean lake was discovered by Occidental Petroleum in 1969, at the oasis of Kufrah, about 550 miles south of Benghazi. In this subterranean lake there is "as much water . . . as there is in the River Nile flowing for the next 200 years."[10]

2. The revenues which the government has accumulated can be used to improve efficiency in agriculture through the use of more sophisticated production equipment. The government is also now more able than before to buy the technology to build agricultural industries on more solid bases.

In spite of the active role which the government is now playing in agricultural development the growth of agriculture in Libya is still handicapped by a system of tribal ownership that prevails over much of the Eastern part of Libya and the Jefara plain and the Jebel Nefusa in the Western part of the country.

Industry emerges as the next sector following agricultural development. The Libyan government is at present trying to encourage the industrial sector by giving tax exemptions to many industries, by

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[10]"Libya Adds Water to Its Riches," Business Week (February 22, 1969), p. 168.

reducing the price of electricity and by giving loans to some industries in the private sector.

There are, nonetheless, a few obstacles preventing the development of industry on a large scale, some of which are the following:

1. The Libyan market is much too small and widely dispersed to permit an extensive development of industry.[11]

2. The typical Libyan businessman is a small entrepreneur, thus lacking in the managerial and technical training required by complex industries.

3. Nor is he able to hire such skilled labor, since this is not available locally.

4. The rise in wages and the decrease in productivity makes it hard for the Libyan industries to compete with foreign goods which are produced and sold at a lower cost.

5. Apart from petroleum there is a lack of natural sources of power in Libya such as coal and the water supplies to create a hydro-electrical system.

It seems that the most appropriate policy for the Libyan government to pursue is, then, to develop light industries as a starting point for more complex ones. This can be achieved through the use of the oil revenues to import foreign technology and expertise to overcome some of the obstacles to industrialization, mentioned above.

Among the industries that can be developed in Libya is tourism. The mild nature of the Mediterranean climate, the golden coast that Libya occupies in the central part of North Africa, the ever green

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[11]The International Bank for Reconstruction and Development, The Economic Development of Libya (Baltimore, 1960), p. 33.

mountains, and the Roman and Greek antiquities make Libya a nice place for tourists to see and enjoy. To attract more tourists the government should build more motels, have more information centers scattered throughout the country, and arrange for group trips with coutries in Europe and the United States and other parts of the world.

Among other priorities that the government should concentrate on is to spend more on local projects as a means of income redistribution. In Libya the government is the sole recipient of the oil revenues, and, unless the government spends the oil wealth will not reach the vast majority of the population. Spending on local projects is the best way for the government to increase the standard of living for all Libyans and to enhance social justice, nonexploitation, and an equitable distribution of wealth. The latter three goals are among the top goals which the Revolutionary Command Council pledged itself to achieve when it took over in 1969.

The government spending on local projects will increase the consumption of many goods and services in the country. Increasing consumption, in turn, will motivate investment to produce more goods and services to achieve profits. Government can spend more on hospitals to improve their services, on educational facilities, on transportation in many cities in the Republic, and on social welfare payments to the elderly and the poor.[12]

The preceding discussion of policy guidelines is necessary for this study because of the enormous influence the government has on the economic system, the economic structure, the income redistribution

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[12]Hospital services and medical expenses are provided to all Libyans at no charge.

policy, and the labor market in the country. Since government is the only owner of all the firms in this study it was helpful, therefore, to suggest and discuss the three priorities listed at the outset of this section.

Management Guidelines

Before the management guidelines proposed for Libya are discussed the various schools of management theory will be briefly presented. The classification and most of the ideas here are adopted from an article by Professor Koontz, published in 1964, in a book edited by him. This article was entitled "Making Sense of Management Theory."[13] According to Professor Koontz the schools of management theory are divided into six main groups.

The Management Process School

> This approach to management theory perceives management as a process of getting things done by people who operate in organized groups. By analyzing the process, establishing a conceptual framework for it, and identifying the principles underlying the process, this approach builds a theory of management. It regards management as a process that is essentially the same whether in business, government, or any other enterprise, ... It does, however, recognize that the environment of management differs widely between enterprises and levels. According to this school, management theory is seen as a way of summarizing and organizing experience so that practice can be improved.[14]

The approach of this school of management thought is, then, based on the similarity of the main functions of managers--for example, planning,

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[13]Harold Koontz, Toward a Unified Theory of Management (New York, 1964), pp. 1-17.

[14]Ibid., p. 3.

organizing, staffing, directing, and controlling. Since these functions are similar, a number of fundamental principles and techniques can be used to serve as guidelines for carrying out the managerial functions more effectively anywhere.[15]

The Empirical School

The second approach to management theory is the empirical school. This school looks at management as a study of experience. The premise upon which the empirical school is founded seems to be a study of the experience of successful management, or its mistakes, and learn the application of the most effective management techniques.[16]

There is a danger here that one would rely too much on past experience. There are many changes in the environment that make techniques or solutions found to be right in the past less appropriate in the present and probably far from complete in the future.

The Human Behavior School

This approach to management theory centers around persons in a given firm, and in a given environment, to find out how the firm might function better. The objective of this school is to explain human motivation and behavior in organized groups. It assumes that people should understand people to accomplish the desired goals. Therefore, it requires that managers should understand and motivate their subordinates to achieve a greater degree of managerial effectiveness.

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[15]Ibid., p. 4.

[16]Ibid., p. 5.

The Social System School

> Closely related to the human behavior school (and often confused with it) is the school which includes those researchers who look upon management as a social system, that is, as a system of cultural interrelations ....
>
> Heavily sociological in nature, this approach to management does essentially what any study of sociology does: identifies the nature of the cultural relationships of various social groups and attempts to show these as a related, and usually integrated, system.[17]

Sometimes the social system can be limited to formal organizations, as in the case of March and Simon.[18] In other cases the system is not limited to formal organizations, but rather includes any kind of a system of human relationships.

The Decision Theory School

This school of management theory is based on the rationality concept. It deals with the selection of the optimal decision from various possible alternatives. But there are some complications that make it hard to arrive at the optimal decision. In the decision theory approach there are many variables that might complicate the process. As an example:

> . . . this school may deal with the decision itself, or with the persons or organizational group who make the decision, or with an analysis of the decision process .... The result is that decision theory tends to become a broad view of the enterprise as a social system, rather than merely a neat and narrow concentration on decision.[19]

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[17] Ibid., p. 7.

[18] James G. March and Herbert A. Simon, Organizations (New York, 1958).

[19] Koontz, pp. 8-9.

The Mathematical School

Under this school Professor Koontz groups the theorists who see management as a system of mathematical models and processes. Professor Koontz recognizes that:

1. mathematicians have made a great contribution to orderly thinking,

2. they have pressed on scholars the need for establishing goals and measures of effectiveness, and

3. they have been helpful in viewing the management area as a logical system of relationships.

But even with this meaningful contribution, he considers mathematics as a tool, rather than a school.[20]

What school of management thought is prevailing in Libya? No definitive answer can be given to this question. The reason for that is the lack of qualified personnel who really have background in management. Most of the top executives in these firms are not management or administrative sciences graduates. The majority of the chairmen of board of directors of the state-owned firms are engineers with very little administrative experience. For example, a graduate from a United States university with a masters degree in engineering (fall, 1971) is now a chairman of the board of directors of one of the state-owned firms in the study.

The management thought in Libya, if related to the above classification of schools of management thought at all, should be closer to the

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[20]Ibid., pp. 9-10.

management process school or as sometimes called the "traditional" or "universalist" school. Yet, one should always keep in mind that in Libya, as one of the Libyan executives explained, "we manage by compromise not by management principles."

There are many changes in the environment which put the top executives in a weak position and the most they can do is to compromise to survive and maintain their positions. One of these "sudden" changes was the proclamation of a Cultural Revolution on April 15, 1973, against bureaucratic and administrative routine. As a result many firms are now under the control of the People's Committees which act as the board of directors in these firms. Each committee elects its own president who takes over the responsibilities and the privileges of the chairman of the board of directors, and he can be changed anytime by the People's Committee. These committees are chosen by free elections in which all groups in the firm--regardless of their job, education, or background--participate.

The following guidelines are proposed to enhance managerial effectiveness in the state-owned firms in Libya. These guidelines are:

1. Specialization or division of labor.
2. Adoption of new technology, especially capital intensive technology.
3. Training in management fields.
4. Improving control methods.
5. Application of the profit-sharing concept.
6. Increasing cooperation between management and workers.
7. Separation of the economic development plan at the national level from the plan or plans that each firm is using.

8. The application of cost-benefit analysis tools to evaluate projects.

9. Encouragement of women's participation in the economic life of the country.

These proposed guidelines are introduced here to help the state-owned firms to be more effective in their operations. These guidelines are very close to the ideas of Frederick W. Taylor, Henri Fayol, and all other pioneers in the scientific management movement in Europe and America.[21] This should not be a surprise to the reader because Libya is only now entering the industrialization stage that the advanced countries have already passed. Libyan firms can learn and apply the experience of other firms in other countries but they cannot change the environment in which they operate. It is not an easy task to change a whole society from a traditional society to an industrialized one. It will take time to accomplish this goal given the resources now available to do so. Societies are just like human beings--they need time to grow.

Specialization or Division of Labor

This concept once applied will increase efficiency and productivity of workers, employees, and managers. Henri Fayol applies this principle to all kinds of work, managerial as well as technical.[22]

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[21]See, for example, Frederick W. Taylor, The Principles of Scientific Management (New York, 1911); Henri Fayol, General and Industrial Administartion (London, 1949); and Harrington Emmerson, The Twelve Principles of Efficiency (New York, 1911).

[22]Harold Koontz and Cyril O'Donnell, Principles of Management: An Analysis of Managerial Functions (New York, 1968), p. 23.

This concept can be applied by dividing the work to smaller elements so that each worker will devote all his attention to that element. In other words, he specializes in that part of the work and, therefore, will do it faster and better. This specialization is done according to qualifications and abilities so that men with certain expertise should be placed where their talents would be best utilized.[23]

In applying division of labor at the executive level, one can see the vertical growth of a firm through the subdivision of management jobs as a case of specialization in the line functions. The horizontal growth of a firm by the addition of staff is an example of specialization through advisory services for line firms.[24]

Adoption of the New Technology

For all Libyan firms the best way to increase their managerial effectiveness is to borrow (or even buy) the technology that other efficient firms in the world are now using. The state-owned firms are lucky because (1) there is enough capital available to them than to other comparable firms, (2) there is enough technology available at reasonable cost. The state-owned firms do not have to bother with spending money on research and development in this field at this stage of economic development.

Among the severe problems that state-owned firms in Libya encounter is the shortage of skilled manpower. This problem was mentioned by top executives in the firms studied more often than all other problems. To

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[23]William G. Scott, Organizational Theory: A Behavioral Analysis for Management (Homewood, Illinois, 1967), p. 26.

[24]Ibid., p. 49.

overcome this problem it is suggested that they should employ more capital intensive technology in their operations. The use of capital intensive technology will result in savings in manpower requirements. It might also result in more spending by these firms but this can be justified by the increase in the managerial effectiveness of these firms. The reader should keep in mind that capital does not constitute a major problem to the state-owned firms in Libya, thanks to the revenues of the petroleum industry to the country which gives impetus to the economic growth of all sectors of the economy.

Training in Management Fields

In Libya there is an urgent need for a policy that can overcome the shortage of "good" managers. To accomplish this goal persons in top management positions must:

> . . . seek increasingly to perpetuate their succession by programmes of development designed to ensure that selected persons of promise secure experience that will fit them for senior responsibilities as soon as the need and opportunity arise. It is now widely believed that it is economic to identify prospective top managers as early as possible and to give them as much experience as possible of different sides of business while they are still young. Such policies conserve the resources of business and help to attract and recruit an adequate level of staff. In today's sellers' market for labour the potential manager is free to chose the employer most likely to make full use of his talents.[25]

William G. Scott, in his book of Organizational Theory: A Behavioral Analysis for Management, devoted a whole chapter to management development in which he discussed the philosophy and scope of training. Scott defined training as, "an activity which has as its goal individual

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[25]Cyril Sofer and Geoffrey Hutton, New Ways in Management Training London, 1958), p. 6.

achievement of greater job effectiveness, improved interpersonal relationships in the organization, and better adjustment of an executive to his total environment."[26]

Thus, the goals of training are the increase in the individual accomplishment, the creation of a better atmosphere in the interpersonal relationships, and enabling executives to adjust more easily to their environment. Training must always be oriented towards the objectives and goals of the firm.

It is, therefore, recommended that training in management fields should be considered as one of the main objectives that the government of Libya should pursue to increase the managerial effectiveness of the state-owned firms.

There are several programs that can be used for training managers.[27] The University of Libya can and must develop short training programs and seminars in management fields to help the managers of state-owned firms to increase the managerial effectiveness of their firms. Some key personnel can be sent abroad for training purposes--possibly to the United States and Europe. The concept of "on-the-job" training should also be utilized as much as possible.

Improving Control Methods

Professors Koontz and O'Donnell discussed in their book, Principles of Management: An Analysis of Managerial Functions, the main functions of the manager--planning, organizing, staffing, directing and

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[26]Scott, p. 325.

[27]See, for example, Nancy G. McNulty, Training Managers: The International Guide (New York, 1968).

controlling.[28] According to them this managerial function "is the measurement and correction of the performance of subordinates in order to make sure that enterprise objectives and the plans devised to attain them are accomplished."[29] Koontz and O'Donnell also described basic control process as (1) establishing standards, (2) measuring performance against these standards, and (3) correcting deviations from standards and plans.[30]

Thus, controlling is an evaluation of the results of performing specific functions and operations. These results are then compared with standards to see how much deviation exists. This last step is usually followed by a corrective action to increase efficiency and to prevent waste in the resources of the firm.

From discussions with top managers of the state-owned firms the writer gathered that most Libyan workers do not like to see the methods of control applied against their performance. They consider control methods exist only because management does not have enough confidence in them.

It should be a main function of management in Libya today to make the workers and even some managers more acquainted with control process and explain to them that control systems exist not to hurt them but to increase managerial effectiveness of their firms.

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[28] Koontz and O'Donnell, p. 5.

[29] Ibid., p. 639.

[30] Ibid., p. 640.

Application of the Profit-Sharing Concept as a Basis for a Better Incentive System

In Libya the control process is not welcomed by employees because most of them believe that control exists for punishment and not for reward. This belief might be justified in some cases but as a matter of principles, the control systems should exist to improve the performance of the firm and to achieve the desired goals or plans.

It is, therefore, necessary for top management executives in the state-owned firms to make a close connection between the control process and the rewards that the employees might receive. Most effective workers should receive more rewards than the less effective ones.

According to the Libyan law, workers (employees and management) must receive at least 10 percent of the firm's annual profits. But this does not mean much as most workers know very little about their privileges and rights. To make the profit-sharing concept more effective as an incentive system the government should select a committee of experts in the field of management, some key executives from the state-owned firms, and representatives of workers to study the optimum ways in which the profit-sharing concept can be used to maximize the welfare of workers and to increase effectiveness of the state-owned firms.

Among other incentive systems the state-owned firms can use are:

1. More frequent promotions and raises in salaries of most effective employees.

2. Longer vacations to be given to outstanding workers.

3. More fringe benefits can be given to those who show special interest in increasing their abilities to raise the effectiveness of their firms. Free airplane tickets to visit a country of their choice

can be used as an example of fringe benefits to employees.

Increasing Cooperation Between Management and Workers

Cooperation and mutual understanding between management and workers should always exist. Through this mutual understanding the basic needs of both management and workers can be achieved at a lesser cost.

Productivity is affected by job satisfaction. According to Herzberg, "hygiene" factors are essential for job satisfaction. Among the "hygiene" factors Herzberg lists policies and administration, supervision, working conditions, and interpersonal relations.[31] Improving these "hygiene" factors, together with job motivators, would improve productivity.

To keep an atmosphere of mutual understanding and cooperation between management and workers, a good strategy according to Likert is to let workers participate in the discussion of the overall objectives of the firm.[32] This helps achieve worker satisfaction with the goals of their firm. This satisfaction, in addition to their feelings that they have actually participated in setting the overall goals of the firm, will increase the managerial effectiveness of the firm.

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[31] Frederick Herzberg, Bernard Mausner, and Barbara Block Snyderman, The Motivation to Work (New York, 1959), pp. 59-83.

[32] Reneis Likert, New Pattern of Management (New York, 1961), pp. 224-234.

A Need for Separation of the Economic Plan of the Country from the Plan or Plans that Each Firm is Using

On the macro level the government has its own economic development plan. This plan is a three-year plan and it is revised and evaluated annually. The overall objective of this plan is to achieve a higher economic growth for all sectors of the economy and to enhance economic development in the country as rapidly as possible.

The weaknesses of the private sector in Libya made the state-owned firms the only way to achieve economic progress. In each sector of the Libyan economy there are a few state-owned firms. Their purpose is to implement the government policy and to carry out economic development projects.

In those state-owned firms that use planning to achieve their goals, the economic development plan at the macro level should be separated from planning at the micro level of the firm. In other words, some managers confuse the concept of planning at the level of the firm with the economic plan of the country. The plan of each firm must be as detailed as possible and must be reviewed more frequently than at present to correct deviations. It is hoped that if planning is used and applied appropriately the effectiveness of most of the state-owned firms will be raised.

The Application of Cost-Benefit Analysis Tools to Evaluate Projects

The author recommends that cost-benefit analysis system be

introduced to maximize "the present value of all benefits less that of all costs, subject to specified restraints."[33]

The first and most difficult step in this type of analysis is to compute costs (C) that each project will need, and the benefits (B) that the project will generate. The next step is to evaluate projects. There are two methods for ranking projects. Projects whose benefits are greater than costs (B > C) may be accepted, or the cost-benefit ratio (B/C) may, with allowance for relative size, be used to rank projects in order of desirability.

The following are some of the characteristics of cost-benefit analysis:

1. The systematic examination of alternative courses of action to achieve specified objectives.

2. The two critical variables are costs and benefits.

3. The time contest is the future.

4. Uncertainty prevails. This implies that simple expected value models are of little value.[34]

Examples of the projects where cost-benefit analysis can be an appropriate tool are public housing in areas where income is low; transportation in some cities of the country; and flood control systems and dam construction.

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[33]A. R. Prest and Turvey, "Cost-Benefit Analysis: A Survey," The Economic Journal, Vol. LXXV (December, 1965), p. 686.

[34]Gene H. Fisher, "The Role of Cost-Utility Analysis in Program Building," in Fremont J. Lyden and Ernest G. Miller (eds.), Planning Programming Budgeting: A Systems Approach to Management (Chicago, 1969), p. 185.

Encouragment of Women Labor Force Participation

This is the last item in these management guidelines. As discussed above, female participation in the labor force in Libya is very low. In 1970, for example, only 2.8 percent of women in Libya were among the labor force while women constitute 45.5 percent of the total population.[35] The social system in the country is responsible for this low rate of women participation in the labor force. It is hoped that through education women in Libya will find their way to the labor market to help men build that nation.

There are many jobs that women could do at least as well as men. Examples of these jobs are: nurses, teachers, office secretaries, telephone operators, tellers, stewardesses, etc.

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[35]Maya Prasad, Population and Labor Force Projections for Libya: 1965-1985 (mimeographed).

CHAPTER VIII

ANALYSIS OF DATA AND EVALUATION OF HYPOTHESES

As discussed in Chapter IV, the design of the study includes the testing of five hypotheses. Problems encountered in obtaining data for statistical analysis made this part of the study more difficult than anticipated. These problems were created by the lack of economic and managerial data available in a developing country. The need to use a semi-structured technique of interviewing executives, rather than more rigorous data gathering techniques, was a second contributing factor. Therefore, the data derived from this part of the study are useful but disappointing, in that they do not permit a rigorous testing of the hypotheses.

The hypotheses are now presented and tested using nonparametric statistical methods. It is not possible to develop firm conclusions from the tests because of the "softness" of the data. However, the data and tests do provide useful, if limited, information. The results can be used to determine the types of future studies which are needed and the types of information systems required.

The present chapter is concerned with the statistical analysis which is applied to test the hypotheses of the study. First, this chapter shows the nonparametric statistical tests used in the study, their assumptions, and manipulation of the data; second, it reveals the

statement of each hypothesis and the calculations used for its testing; and finally, in the case of the hypotheses which were rejected, it tests if there is a relationship between the managerial effectiveness of the firm, on the one hand, and the use of planning, education of managers, and the size of the firm, on the other hand.

For each firm in the random sample of the first group (X_1), the scale scores defining managerial effectiveness of any firm from the group that is capital intensive in its technology of production were obtained, as explained in Chapter V, through the use of personal interviews.

For each firm in the random sample of the second group (Y_1), the scale scores defining managerial effectiveness of any firm from the group that is labor intensive in its technology of production were also obtained by using personal interviews.

To test all the hypotheses outlined in Chapter IV, the techniques of nonparametric statistical analysis are used.[1] Specifically, the Mann-Whitney U Test is utilized to test hypotheses one through four.[2] The fifth and last hypothesis is tested using the technique of the Durbin Test.[3]

Assumptions

There are some assumptions that need to be spelled out upon which the Mann-Whitney U Test is based. These assumptions are:

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[1]W. J. Conover, Practical Nonparametric Statistics (New York, 1971).

[2]Ibid., p. 224.

[3]Ibid., p. 276.

1. A random sample from each of two continuous populations.

2. The two samples are independent. This implies the independence within each sample and the mutual independence between the two samples.

3. The measurement scale is at least ordinal.[4] The ordinal scale of measurement is used where only the comparisons "greater," "less," or "equal" between measurements are relevant.[5]

In addition to the above assumptions, the notations that are used need to be explained.

Manipulations of the Data

1. Rank the n + m observations in ascending algebraic order from 1 to n + m; in the case of ties, use mid-ranks.

2. Let $R(X_i)$ = the rank assigned to X_i.

$R(Y_j)$ = the rank assigned to Y_j.

S_x = the sum of ranks assigned to the X's.

S_y = the sum of ranks assigned to the Y's.

3. Calculate:

$$S_x = \sum_{i=1}^{n} R(X_i) \text{ and } S_y = \sum_{j=1}^{m} R(Y_j)$$

$$S_x + S_y = \sum_{i=1}^{n+m} i = \frac{1}{2}(n + m)(n + m + 1)$$

$$T_x = S_x - \frac{1}{2} n(n + 1)$$

$$T_y = S_y - \frac{1}{2} m(m + 1)$$

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[4] Ibid., p. 224.

[5] Ibid., p. 66.

$$T_x + T_y = nm.$$

Given that α, the level of significance, is known, each of the first four hypotheses, outlined above, can be restated as:

H_o: $P(X < Y) = \frac{1}{2}$

H_a: $P(X < Y) \neq \frac{1}{2}$

$T = \min (T_x, T_y)$.

Reject the null hypothesis, H_o, at the level of significance α if T is less than the $\alpha/2$ quantile $W_{\alpha/2}$ or if T is greater than the $1 - \alpha/2$ quantile $W_{1-\alpha/2}$. Accept H_o if T is between or equal to the two quantiles.[6]

For the purposes of testing the fifth hypothesis, mentioned above, the Durbin Test is used. This test, like the Mann-Whitney U Test, is based on some assumptions. These assumpsions are:

1. The blocks (in this study, persons or managers) are mutually independent of each other.

2. Within each block the observations (targets or goals) may be arranged in increasing order according to some criterion of interest.[7]

3. The measurement scale is at least ordinal.

The following notations are used:

t = the number of treatments under investigation. The treatments here are the goals or the targets that the firms pursue to achieve. Seven goals that might be of interest to many firms in the world were chosen. They include satisfying profits,

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[6]Ibid., p. 226.

[7]Ibid., p. 277.

sales maximization, social benefits maximization, growth of the firm and its development, increasing the market share of the firm, achieving employees' satisfaction, and increasing consumers' satisfaction.

k = the number of treatments or targets compared at one time by one manager ($k < t$). In testing this hypothesis, each manager was given three targets or goals to rank them one, two, and three according to his preference, with rank one being assigned to his desirable target or goal.

b = the number of blocks. In this study it means the number of managers or top executives who rank the targets or goals.

r = the number of times each treatment or target is tested ($r < b$).

λ = the number of items any two treatments or targets occur within the same block.

Let X_{ij} denote the result of target j in the $i^{\underline{th}}$ block, if target j appears in the $i^{\underline{th}}$ block. Rank the Y_{ij} within each block by assigning the rank one to the most desirable target, the rank two to the second desirable target, and so on to the rank k which is assigned to the least desirable target or goal. Let $R(X_{ij})$ represent the rank of X_{ij} where X_{ij} appears.

Calculate the sum of the ranks assigned to the r observed values under the $j^{\underline{th}}$ target and denote the sum of R_j as:

$$R_j = \sum_{i=1}^{b} R(X_{ij}).$$

The final hypothesis may be restated as follows:

H_o: Each ranking of the different targets by each manager is equally alike (i.e., the targets are the same as seen by each manager).

H_a: At least one target tends to be more attractive than at least one other target.

The Durbin Test statistic T is defined as:

$$T = \frac{12(t - 1)}{rt(k - 1)(k + 1)} \sum_{j=1}^{t} \left[R_j - \frac{r(k + 1)}{2} \right]^2$$

Reject H_o, the null hypothesis, at the approximate level of significance α if T exceeds the $(1 - \alpha)$ quantile of a chi-square random variable with $(1 - t)$ degrees of freedom.[8]

Hypothesis V

Since the first group of hypotheses require the same techniques of statistical analysis, one would prefer to start with the evaluation of the last hypothesis. For the purposes of testing this hypothesis, seven managers represenging seven firms were chosen. Each was given three targets or goals to evaluate, and the resulting ranks are as follows:

Targets:*		1	2	3	4	5	6	7
Managers	1	3	1		2			
	2		3	1		2		
	3			1	2		3	
	4				1	3		2
	5	1				2	3	
	6		3				2	1
	7	3		2				1
R_j =		7	7	4	5	7	8	4

[8] Ibid., pp. 276-277.

*Targets or goals are the following:

1. achieving satisfying profits,
2. sales maximiation,
3. social benefits maximization,
4. growth and development of the firm,
5. increasing the market share of the firm,
6. increasing the employees' satisfaction,
7. increasing the satisfaction of the consumers.

In this case:

$t = 7$ = the total number of targets,

$k = 3$ = the number of goals compared at one time,

$b = 7$ = the number of managers interviewed,

$r = 3$ = the number of times each target is used,

$\lambda = 1$ = the number of times any pair of treatments occur within the same block.

This design is known in the nonparametric statistics as a balanced incomplete block design.[9] The Durbin Test, as discussed earlier, is used to test the null hypothesis that each ranking of the different goals or targets by each manager is equally likely. The alternative hypothesis in this case is: at least one goal or target tends to be more attractive than at least one other goal or target.

Analysis

The Durbin Test statistic, as defined, is:

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[9]Ibid., p. 275.

$$T = \frac{12(t-1)}{rt(k-1)(k+1)} \sum_{j=1}^{t} \left[R_j - \frac{r(k+1)}{2}\right]^2$$

$$= \frac{12(6)}{(3)(7)(2)(4)} \left[(7-6)^2 + (7-6)^2 + (4-6)^2 + (5-6)^2 + (7-6)^2 + (8-6)^2 + (4-6)^2\right]$$

$$= \frac{3}{7}(1 + 1 + 4 + 1 + 1 + 4 + 4)$$

$$T = \frac{3}{7}(16)$$

$$= \frac{48}{7} = 6.857$$

The critical region of approximate size $\alpha = .05$ corresponds to all values of T greater than 12.59 (obtained from the Chi-Square Distribution Table),[10] the $(1 - \alpha)$ quantile of a chi-square random variable with $(t - 1) = 6$ degrees of freedom.

The Durbin Test statistics T as computed above is equal to 6.857 which is not in the critical region, so the null hypothesis is accepted. However, the critical level (observed significance level) is quite large and is estimated by interpolation to be about .31.

From this hypothesis one can see that though the state-owned firms were established to achieve different goals, the empirical evidence shows that the targets or goals are likely to be the same as seen by each manager. A little more will be said about this hypothesis and the ones that will follow at the end of the chapter. It is more appropriate now to start testing the rest of the hypotheses and then turn to their evaluation since all of them require the same procedures of analysis. As mentioned before, the Mann-Whitney U Test will be applied. The data

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[10] Ibid., p. 367.

in Table II are the data collected from the sample used in this study.

Hypothesis I

The next hypothesis to be tested concerns the use of planning and the managerial effectiveness of the firm.

Planning was defined as anticipating probable future events and the strategies needed to cope with them. Some differences in nature and scope of planning, as used in the United States compared to the state-owned firms in Libya, need to be spelled out.

1. Planning in the state-owned firms is less sophisticated and less comprehensive than planning as used in the United States firms.[11]

2. Planning in many firms in the United States covers a longer period of time[12] than planning as used in the state-owned firms.

3. The frequency of reviewing planning is different. While most of the United States firms review their plans quarterly,[13] the majority of the state-owned firms review theirs annually.

4. The availability of data. Effective planning must be built on accurate data which firms accumulate over a longer period of time. This was not the case of the state-owned firms in Libya. Accurate data were lacking and most of the firms were established only after 1969, when the revolutionary regime took over. In analyzing the connection between the managerial effectiveness of the firm and the use of planning, Professor George A. Steiner concluded that comprehensive corporate planning is

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[11] Anant R. Negandhi and S. Benjamin Prasad, Comparative Management (New York, 1971), p. 45.

[12] Ibid., p. 41.

[13] Ibid.

TABLE II

CLASSIFICATION OF DATA COLLECTED FROM FOURTEEN STATE-OWNED FIRMS

Firm	Managerial Staff	Production Technology	Size	Planning vs No Planning	Estimate of Managerial Effectiveness on a Scale From 1 to 9	Type of Industry
1	Non-Western	Capital Intensive	Large	Planning	6.5	Transportation
2	Western	Capital Intensive	Small	Planning	9.0	Manufacturing
3	Non-Western	Labor Intensive	Small	No Planning	6.0	Construction
4	Non-Western	Capital Intensive	Small	Planning	7.5	Manufacturing
5	Western	Labor Intensive	Large	Planning	5.9	Construction
6	Non-Western	Labor Intensive	Large	No Planning	7.0	Health Services
7	Western	Capital Intensive	Large	Planning	5.5	Public Utility
8	Non-Western	Capital Intensive	Large	Planning	8.0	Petroleum
9	Western	Capital Intensive	Large	Planning	7.5	Petroleum
10	Western	Labor Intensive	Small	No Planning	5.3	Health Services
11	Non-Western	Labor Intensive	Small	No Planning	5.4	Construction
12	Non-Western	Labor Intensive	Small	No Planning	5.6	Construction

TABLE II (Continued)

Firm	Managerial Staff	Production Technology	Size	Planning vs No Planning	Estimate of Managerial Effectiveness on a Scale From 1 to 9	Type of Industry
13	Non-Western	Labor Intensive	Large	No Planning	6.9	Manufacturing
14	Non-Western	Labor Intensive	Large	Planning	4.5	Transportation
Total	9 Non-Western 5 Western	6 Capital Intensive 8 Labor Intensive	8 Large 6 Small	8 Planning 6 No Planning		14

very important in improving and assuring effective management of business enterprises (private as well as public).[14]

One major conclusion of a study by the Stanford Research Institution devoted to the question "Why do Companies Grow?", was that: In the cases of both high-growth and low-growth companies those that now support planning programs have shown a superior growth in recent years."[15]

This hypothesis can be restated as follows:

H_o: $P(X < Y) = \frac{1}{2}$, the managerial effectiveness of firms that use planning is not significantly different from the managerial effectiveness of rims that use no planning.

H_a: $P(X < Y) \neq \frac{1}{2}$, the managerial effectiveness of firms that use planning is the same as the managerial effectiveness of firms that use no planning.

Analysis

Firm's No.	X = No Planning	Y = Planning	Rank
3	6.0		7
6	7.0		10
10	5.3		2
11	5.4		3
12	5.6		4
13	6.9		9

[14]George A. Steiner, Top Management Planning (Toronto, Ontario, 1969), p. 84.

[15]George A. Steiner, "Making Long-Range Company Planning Pay Off," California Management Review, Vol. 4 (Winter, 1962), p. 38.

Firm's No.	X = No Planning	Y = Planning	Rank
1		6.5	8
3		9.0	14
4		7.5	11.5
5		5.9	6
7		5.5	4
8		8.0	13
9		7.5	11.5
14		4.5	1

$n = 6,\ m = 8$

$$S_x = \sum_{i=1}^{n} R(X_i) = 36$$

$$T_x = S_x - \frac{1}{2} n(n + 1)$$

$$= 36 - \frac{1}{2}(6)(7)$$

$$= 36 - 21$$

$$= 15$$

$$S_y = \sum_{j=1}^{m} R(Y_j) = 69$$

$$T_y = S_y - \frac{1}{2} m(m + 1)$$

$$= 69 - \frac{1}{2}(8)(9)$$

$$= 69 - 36$$

$$= 33$$

$$T = \min(T_x, T_y)$$

$$= 15$$

Reject H_o if $T < W_{\frac{\alpha}{2}}$, given that $\alpha = .05$

$15 \nless 9$

Do not reject H_o. This implies that there is no difference in managerial effectiveness of firms that use planning and firms that use no planning.

The Use of Planning and the Managerial Effectiveness

The above conclusion leads one to try to find if there is any relationship between planning and managerial effectiveness. To accomplish this goal the data in Table II and the Chi-Square Test for Difference, 2 x 2, are applied. The firms here are arbitrarily divided into two groups: (1) effective firms with score of 6.0 or more, (2) ineffective firms with score less than 6.0. For this purpose, Table III is established.

TABLE III

THE EFFECTIVENESS OF THE FIRM AND ITS USE OF PLANNING

	Planning	No Planning	Total
Effective firms	5	3	8
Ineffective firms	3	3	6
	8	6	14

The hypothesis to be tested is:

H_o: $P_1 = P_2$, there is no relationship between the use of planning and the firm effectiveness.

H_a: $P_1 \neq P_2$, there is a relationship between managerial effectiveness of the firm and its use of planning.

The test statistic T is computed as:

$$T = \frac{N(O_{11}O_{22} - O_{12}O_{21})^2}{n_1 n_2 (O_{11} + O_{21})(O_{12} + O_{22})}$$

By substitution, one gets

$$T = \frac{14(5 \cdot 3 - 3 \cdot 3)^2}{(8)(6)(5 + 3)(3 + 3)}$$

$$= \frac{14(15 - 9)^2}{(48)(8)(6)}$$

$$= \frac{14(6)^2}{(48)(48)}$$

$$= \frac{14(36)}{(48)(48)}$$

$$= \frac{504}{2304}$$

$$= .219$$

Reject H_o at the significant level $\alpha = .05$, if T exceeds $X_{1-\alpha}$, the $(1 - \alpha)$ quantile of the chi-square random variable with one degree of freedom.

$X_{.950} = 3.841$ obtained from the chi-square table. Therefore, $.219 < 3.841$ and the null hypothesis, H_o, is accepted. This implies no relationship exists between the use of planning and the managerial effectiveness of the firm.

Hypothesis II

To test the managerial effectiveness of capital intensive firms against labor intensive firms, one needs to restate the hypothesis as:

H_o: $P(X < Y) = \frac{1}{2}$, the managerial effectiveness of firms that are capital intensive in their production operation is not significantly different from the managerial effectiveness of firms that are labor intensive in their production operation.

H_a: $P(X < Y) \neq \frac{1}{2}$, the managerial effectiveness of these two types of firms is different.

Analysis

Firm's No.	X = Capital Intensive	Y = Labor Intensive	Rank
1	6.5		8
2	9.0		14
3	7.5		11.5
7	5.5		4
8	8.0		13
9	7.5		11.5
3		6.0	7
5		5.9	6
6		7.0	10
10		5.3	2
11		5.4	3
12		5.6	5
13		6.9	9

Firm's No.	X = Capital Intensive	Y = Labor Intensive	Rank
14		4.5	1

$n = 6,\ m = 8$

$$S_x = \sum_{i=1}^{n} R(X_i) = 62$$

$$T_x = S_x - \frac{1}{2} n(n + 1)$$

$$= 62 - \frac{1}{2}(6)(7)$$

$$= 62 - 21$$

$$= 41$$

$$S_y = \sum_{j=1}^{m} R(Y_j) = 43$$

$$T_y = S_y - \frac{1}{2} m(m + 1)$$

$$= 43 - \frac{1}{2}(8)(9)$$

$$= 43 - 36$$

$$= 7$$

$$T = \min(T_x, T_y)$$

$$= 7$$

Reject H_o if $T < W_{\frac{\alpha}{2}}$, given $\alpha = .05$

$$7 < 9$$

H_o is rejected. This implies that the firms described as capital intensive are more effective than the firms that are labor intensive in their operation of production.

Hypothesis III

One needs to restate the hypothesis to be tested using the Mann-Whitney U Test; namely the hypothesis that deals with the education of top management in the state-owned firms.

H_o: $P(X < Y) = \frac{1}{2}$, the effectiveness of firms with Western educated managers is not significantly different from the effectiveness of firms with non-Western educated managers.

H_a: $P(X < Y) \neq \frac{1}{2}$, the effectiveness of these two types of firms is different.

Analysis

Firm's No.	X = Western Educated Managers	Y = Non-Western Educated Managers	Rank
2	9.0		14
5	5.9		6
7	5.5		4
9	7.5		11.5
10	5.3		2
1		6.5	8
3		6.0	7
4		7.5	11.5
6		7.0	10
8		8.0	13
11		5.4	3
12		5.6	5
13		6.9	9

Firm's No.	X = Western Educated Managers	Y = Non-Western Educated Managers	Rank
14		4.5	1

$n = 5,\ m = 9$

$$S_x = \sum_{i=1}^{n} R(X_i) = 37.5$$

$$T_x = S_x - \frac{1}{2} n(n + 1)$$

$$= 37.5 - \frac{1}{2}(5)(6)$$

$$= 37.5 - 15$$

$$= 22.5$$

$$S_y = \sum_{j=1}^{m} R(Y_j) = 67.5$$

$$T_y = S_y - \frac{1}{2} m(m + 1)$$

$$= 67.5 - \frac{1}{2}(9)(10)$$

$$= 67.5 - 45$$

$$= 22.5$$

$$T = \min(T_x, T_y)$$

Reject H_o if $T < W_{\frac{\alpha}{2}}$, given $\alpha = .05$

$22.5 \nless 8$

Do not reject H_o. This implies that the effectiveness of firms with Western educated managers is not significantly different from the effectiveness of firms with non-Western educated managers at the level of significance $\alpha = .05$.

Top Management Education and the Managerial Effectiveness

As before, the above conclusion leads one to ask if there is any relationship between the type of education the top management has and the managerial effectiveness of the firm.

To answer this question the Chi-Square Test for Differences in probabilities, 2 x 2, is used.[16] To do this the data in Table II are applied with classification of firms to two types (1) those that have a managerial effectiveness estimate score of 6.0 or more and are arbitrarily called effective; and (2) those that have a score of managerial effectiveness of less than 6.0 and are called ineffective. This type of classification is summarized in Table IV.

TABLE IV

THE EFFECTIVENESS OF THE FIRM AND THE TYPE OF TOP MANAGEMENT EDUCATION

	Western Educated Managers	Non-Western Educated Managers	Total
Effective firms	2	6	8
Ineffective firms	3	3	6
	5	9	14

[16] Ibid., p. 141.

One can restate this hypothesis as follows:

H_o: $P_1 = P_2$, there is no relationship between the type of top management education and managerial effectiveness of the firms.

H_a: $P_1 \neq P_2$, there is a relationship between the two.

The test statistic T is given by:[17]

$$T = \frac{N(O_{11}O_{22} - O_{12}O_{21})^2}{n_1 n_2 (O_{11} + O_{21})(O_{12} + O_{22})}$$

By substitution, one has:

$$T = \frac{14(2 \cdot 3 - 6 \cdot 3)^2}{8 \cdot 6(2 + 3)(6 + 3)}$$

$$T = \frac{14(6 - 18)^2}{48(5)(9)}$$

$$T = \frac{14(-12)^2}{48(45)}$$

$$T = \frac{14(144)}{48(45)}$$

$$T = \frac{2016}{2160}$$

$$T = .933$$

Reject H_o at the approximate level $\alpha = .05$, if T exceeds $X_{1-\alpha}$, the $(1 - \alpha)$ quantile of the chi-square random variable with one degree of freedom.

From the chi-square table $X_{.950} = 3.841$. $.933 < 3.842$, so H_o is not rejected. This means that there is no relationship between the type of education that top management personnel have and the managerial effectiveness of state-owned firms.

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[17] Ibid., p. 142.

Hypothesis IV

The last hypothesis to be tested concerns the size of the firm, and it can be restated as:

H_o: $P(X < Y) = \frac{1}{2}$, the managerial effectiveness of relatively large firms is not significantly different than that of the relatively small firms.

H_a: $P(X < Y) \neq \frac{1}{2}$, there is a difference in managerial effectiveness of large firms as compared to the managerial effectiveness of small firms.

Analysis

Firm's No.	X = Small	Y = Large	Rank
2	9.0		14
3	6.0		7
4	7.5		11.5
10	5.3		2
11	5.4		3
12	5.6		5
1		6.5	8
4		5.9	6
6		7.0	10
7		5.5	4
8		8.0	13
9		7.5	11.5
13		6.9	9
14		4.5	1

$n = 6$, $m = 8$

$$S_x = \sum_{i=1}^{n} R(X_i) = 42.5$$

$$T_x = S_x - \frac{1}{2} n(n + 1)$$

$$= 42.5 - \frac{1}{2}(6)(7)$$

$$= 42.5 - 21$$

$$= 21.5$$

$$S_y = \sum_{j=1}^{m} R(Y_j) = 62.5$$

$$T_y = S_y - \frac{1}{2} m(m + 1)$$

$$= 62.5 - \frac{1}{2}(8)(9)$$

$$= 62.5 - 36$$

$$= 26.5$$

$$T = \min(T_x, T_y)$$

$$= 21.5$$

Reject H_o if $T < W_{\frac{\alpha}{2}}$, given $\alpha = .05$.

$$21.5 \nless 9$$

Do not reject H_o. This means that the null hypothesis is accepted. In other words, the managerial effectiveness of large firms is not significantly different from the managerial effectiveness of small firms.

The Size of the Firm and the Managerial Effectiveness

This conclusion, as before, leads one to ask about the relationship between the size of the firm and its managerial effectiveness.

To determine the relationship or the lack of it, the Chi-Square Test for Differences, 2 x 2, will be applied again. Also, the same scale will be used: (1) effective firms, with score of 6.0 or more, (2) ineffective firms, with score of less than 6.0. This relationship and the size of the firm are shown in Table V.

TABLE V

THE EFFECTIVENESS OF THE FIRM AND ITS SIZE

	Large Firms	Small Firms	Total
Effective firms	3	3	8
Ineffective firms	5	3	6
	8	6	14

The hypothesis to be tested is:

H_o: $P_1 = P_2$, there is no relationship between the size of the firm and its effectiveness.

H_a: $P_1 \neq P_2$, there is a relationship between the size of the firm and its effectiveness.

The test statistic T is calculated as:

$$T = \frac{N(O_{11}O_{22} - O_{12}O_{21})^2}{n_1 n_2 (O_{11} + O_{21})(O_{12} + O_{22})}$$

By substitution, one obtains:

$$T = \frac{14(5 \cdot 3 - 3 \cdot 3)^2}{(8)(6)(5 + 3)(3 + 3)}$$

$$= \frac{14(15 - 9)^2}{48(8)(6)}$$

$$= \frac{14(6)^2}{48(48)}$$

$$= \frac{504}{2304}$$

$$= .219$$

Reject H_o at the approximate level $\alpha = .05$, it T exceeds $X_{1-\alpha}$, the $(1 - \alpha)$ quantile of the chi-square random variable with one degree of freedom.

From the chi-square table $X_{.950} = 3.841$. $.219 < 3.841$, so H_o is not rejected, which indicates the lack of relationship between the size of the firm and its managerial effectiveness.

Discussion of the Results

This chapter tested the hypotheses outlined in Chapter IV. The key results of the analysis will be briefly summarized before turning to the concluding remarks which will be presented in the next chapter.

Hypothesis I, stating that the managerial effectiveness of firms that use planning is not significantly different from the managerial effectiveness of firms that use no planning, received support and was accepted. In most cases one would expect to find the managerial effectiveness of firms that use planning to be higher than those which do not use planning. However, planning is used to help the organization to cope with the uncertainty of the future and to find alternative ways to uncover the unknown events. This situation becomes necessary in an

environment where there is stiff competition between firms and there are alternative products that consumers can choose from. In the case of the firms in this study there is, in the very short run, no uncertainty and no competition. In longer term periods, there must be some uncertainty. However, there is no fear of government regulations because the government, in this case, is the owner and the sole owner.

It was revealed from this analysis that there is no relationship between the use of planning and the managerial effectiveness of the state-owned firms in Libya.

Hypothesis II is concerned with the managerial effectiveness of firms that are capital intensive in their technology of production as compared with labor intensive firms. This hypothesis did not receive any support and it was rejected. In other words, there is a difference in the managerial effectiveness of these two types of firms. In justifying this difference in managerial effectiveness one can find three reasons:

1. Capital intensive firms have the advantage of importing the technology with the equipment they import. Mainly this equipment is used in the advanced countries and there are standards for their production and utilization. In the labor intensive firms, the labor force is imported from traditional societies where there are no standards for production so there is an urgent need for control systems. This leads one to the second reason.

2. In capital intensive firms there are only a few workers operating the machines, while in the labor intensive firms most of the work is done by people. More supervisors are needed in the second type of firms and an improved control system is required. Workers frequently do

not accept and adjust to control systems as the management thinks they should. This situation may account for the difference in the effectiveness of these two types of firms.

3. Capital intensive firms are firms that operate in a type of industry known for its high efficiency, e.g., the oil industry. Labor intensive firms are still using primitive techniques of production.

Hypothesis III states that the managerial effectiveness of firms with Western educated managers are not different from the managerial effectiveness of non-Western educated managers.

This hypothesis was accepted. It is clear from this hypothesis that the place of the original education of managers does not have a great effect on the operation of the state-owned firms and it does not influence the effectiveness as compared with other types of firms.

It is of interest as a corollary to look for a relationship between the managerial effectiveness of the firm and the type of education that top management has. It was revealed in the test case that no relationship exists between these two variables.

Hypothesis IV dealt with the size of the firm and its managerial effectiveness. It was expected that small firms would be more effective than large ones because of the effectiveness of the control system in small firms, the speed of decision-making on matters that cannot wait, and the better relationships between management and workers.

These expectations were not substantiated and hypothesis IV was accepted, i.e., the managerial effectiveness of small firms was found to be not different from the managerial effectiveness of large firms. No relationship was found between the size of the firm and its managerial effectiveness.

Hypothesis V, the final hypothesis, stated that each ranking of the different targets or goals by each manager is equally likely (i.e., the targets are the same as seen by each manager). This hypothesis was accepted. It was expected that some goals of the state-owned firms might be more preferable over other goals. As an example, one might expect that the state-owned firms would be more concerned with social benefits maximization rather than achieving satisfying profits or increasing their share of the market. However, this was not true and all the goals or targets (see page 104) that the state-owned firms might pursue have been found to have the same chance of being achieved. One might, then, conclude from the data that there is no tendency for some goals to be preferred over others.

From the review of the related literature, it was found that managerial effectiveness can be measured by using worker turnover rate, absenteeism, ability of the firm to attract and retain high-level managerial manpower, the organizational ability to adapt to changing external conditions, and achievement of the firm's overall objectives.[18] The type of figures produced in Table VI and the lack of other sources of data were the main reasons that forced the author to define managerial effectiveness as the degree of goal attainment.

From the entries in Table VI, it seems that state-owned firms have a high rate of labor turnover (defined as $T = \frac{R}{F}$, where T = the turnover rate, R = replacements per unit of time, and F = average working force.[19] Out of the 14 state-owned firms in this study, the author (in

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[18] Negandhi and Prasad, p. 97.

[19] Ibid., p. 112.

TABLE VI

MANAGERIAL EFFECTIVENESS INDICATORS IN SOME STATE-OWNED FIRMS

Firm No.	Goal Achievement	Profit	Labor Turnover Rate	Absenteeism	Attracting High-Level Manpower
1	6.5	(Loss)	N.A.	N.A.	N.A.
2	9.0	120%	Very Low	1.5%	N.A.
3	6.0	Reasonable	30%	No Absenteeism	Unable
4	7.5	N.A.	3%	8%	N.A.
5	5.9	N.A.	N.A.	N.A.	Able
6	7.0	N.A.	Reasonable	Reasonable	N.A.
7	5.5	N.A.	5%	2%	Able
8	8.0	N.A.	10%	Low	Able to Attract Non-Libyan
9	7.5	N.A.	N.A.	N.A.	N.A.
10	5.3	10%	Very Low	15%	Able
11	5.4	N.A.	Very Low	N.A.	N.A.
12	5.6	N.A.	30%	Very Low	N.A.
13	6.9	N.A.	N.A.	N.A.	N.A.
14	4.5	Reasonable	25%	7%	Unable

N.A. = Not available.

the presence of the managers of these firms who provided him with the required data) has calculated the labor turnover rate as defined above for the six firms that are shown in Table VI. Verbal responses were ignored by the author for two reasons. First, he has more confidence in the rates which he has calculated himself than in the verbal responses. Second, the verbal responses are difficult to classify on a quantitative basis. Four out of these six firms, or about 67 percent of the six, have a high rate of labor turnover of 10 percent, 25 percent, 30 percent and 30 percent. The other two firms have a three percent and a five percent labor turnover rate which is, according to Libyan industries, not high. Though there are no known acceptable standards or norms for labor turnover rate in Libya, it seems that a labor turnover rate of less than 10 percent would be acceptable.

Three reasons seem to keep this rate down. They are: (1) the wages that are paid by all state-owned firms are the same; (2) the workers, according to law, receive at least 10 percent of the profits in profit sharing; and (3) the workers participate in the decisions of the boards of directors of their firms.

The employees' unjustified and/or unexcused absenteeism rate is also high. This rate is defined as $A = \frac{S}{W}$, where A = the unjustified and/or unexcused absenteeism rate, S = the average unjustified and/or unexcused absence per unit of time, and W = the average working time per unit of time--approximately in Libyan firms W = 300 working days per year and Libyans work six days per week. As Table VI has shown the unjustified and/or unexcused absenteeism rate (which was also calculated by the author in the presence of the managers of these firms) is very high and significant.

The ability of the firm to attract and retain high-level manpower is limited because of the government practice each year to distribute the university graduates among the firms. Some firms might be lucky enough to get three or four graduates while others might not even get one graduate. They might every now and then be allowed to get highly-educated personnel from other countries. This situation reveals that the lack of highly trained Libyan workers is acute.

The last item in Table VI is profit. All the firms in the study must maintain accounting records because they are subject to inspection by different governmental agencies. For this reason the internal auditor of each firm is required by law to submit an annual report to the board of directors, the appropriate Minister, and the General Controller of the Libyan government. This report should be submitted not later than three months from the end of the financial year of the firm. Because of this all of the top executives of the firms should know their financial situation very well. In spite of this, only two firms agreed to give the exact figure of their profitability.[20] One of these two firms obtained 120 percent as a rate of return on its investment. The other firm achieved a 10 percent rate of return on investment. The author had the impression that the rest of the firms: (a) are achieving a low rate of return on their investments, or (b) they are operating with losses but their top managers do not have the courage to present the facts. But one should always keep in mind that the lack of the profitability of certain types of industry is the main reason for

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[20]Financial records of the state-owned firms are not made public. However, they are subject to inspection by the General Controller Office and other governmental agencies.

establishing a state-owned firm to provide the required goods or services.

In this chapter the hypotheses have been tested using the statistical tools of nonparametric statistics. The outcomes of these tests were shown. As mentioned at the outset of this chapter it is not possible to develop firm conclusions from these tests because of the "softness" of the data. However, the data and tests do provide useful, if limited, information. The next chapter is the final chapter of this paper and is devoted to conclusions, final remarks, and a few recommendations.

CHAPTER IX

CONCLUDING REMARKS

This final chapter is divided into three parts. The first is a summary of the problem, the purpose, the hypotheses, the results, and the problems of the state-owned firms. The second is devoted to some important recommendations and strategies to improve the managerial effectiveness of state-owned firms. The third and final part is reserved for the final comment, the limitations of the study and the need for more research.

Summary

Management philosophy and managerial practices influence the traditional functions of management: planning, organizing, staffing, directing and controlling. These functions in turn determine, at least in part, the managerial effectiveness of the firm.

In this study 14 state-owned firms in Libya are randomly selected from the population of the 76 state-owned firms. Two distinctive features make this study unique. The first is ownership. The government is the sole owner of all these firms, yet most of the literature on managerial effectiveness deals with privately-owned firms. The second is the environment. The available literature shows that this study is the first one to deal with the Libyan environment and managerial effectiveness.

Usually managerial effectiveness is measured by employee morale, worker turnover, absenteeism, interpersonal relations among employees, ability of a firm to attract and retain highly trained manpower, productivity of the firm, and organizational ability to adapt to changing external conditions. But in the case of state-owned firms in Libya the above variables seem to be of very little help in evaluating the managerial effectiveness because the data concerning these variables are not available. These firms simply do not maintain the data base or information system typical of Western firms. Managerial effectiveness is, therefore, defined as the degree of goal achievement, with the goals being primarily set by the government.

The lack of objective data caused the author to utilize an estimate of effectiveness. Managerial effectiveness was estimated by top executives for each firm on a nine-point scale with one representing the least degree of effectiveness a firm might receive and nine representing the highest degree of effectiveness any firm might receive.

The purpose of this study is to analyze the problems of state-owned firms in Libya and to develop an acceptable framework for suggesting improvements in the management effectiveness of this type of firm. To achieve this purpose, the following specific objectives were formulated.

1. To determine the corporate goals that are acceptable in Libya, taking into account the religion, political attitudes, and ideology.

2. To analyze management principles and managerial practices used in Libya.

3. To identify the difficulties that exist in the environment that seem to block management effectiveness.

4. To suggest certain policy and management guidelines to overcome the problems that the state-owned firms are now facing.

Data used to test the hypotheses in this study were collected through personal interviews with top executives and key figures in these firms. Five hypotheses concerning managerial effectiveness were tested. These hypotheses deal with the use of planning, the size of the firm, the technology of production, the education of management, and the goals that these firms are pursuing.

The techniques of nonparametric statistics are used to test the above five hypotheses. The Mann-Whitney U Test is used to evaluate the first four hypotheses. The Durbin Test is used to test the fifth and final hypothesis.

From the analysis of the hypotheses, it is found that there is no significant difference in managerial effectiveness of firms that use planning as compared to firms that use no planning (hypothesis I). In comparing managerial effectiveness of capital intensive firms in production technology and labor intensive ones it is found that there is a significant difference in the managerial effectiveness of these two types of firms (hypothesis II). Capital intensive firms are found to be more effective than labor intensive firms.

The education of managers does not have a significant bearing on managerial effectiveness when firms with Western educated managers are compared to firms with non-Western educated managers (hypothesis III). The size of the firm does not have a significant effect on managerial effectiveness of the relatively small firms as compared to the relatively large firms (hypothesis IV).

The final hypothesis (hypothesis V) is more concerned with the goals that the state-owned firms were created to accomplish. From the testing of this hypothesis, it is revealed that, though these firms are controlled by one owner (the government), they do not seem to have a dominant goal to achieve. All the goals which these firms were established to achieve are equally likely.

In hypotheses I, III, and IV no relationships are found to exist between the type of education the management has, the size of the firm, and the use of planning on the one hand, and the managerial effectiveness on the other.

The testing of the five hypotheses provided results which are useful and interesting but not conclusive. The "softness" of the data precluded firm generalizations.

From interviewing top management personnel in the state-owned firms it became apparent to the author that this type of firm is confronted with a considerable number of problems. Chapter VI is devoted entirely to the discussion of these problems. In a broad sense they are as follows: the shortage in manpower resources, especially highly trained personnel; high rates of unjustified absenteeism and labor turnover in the labor force; and the lack of motivation among workers as a result of the deficiencies in the incentive system.

A number of policy and management guidelines to help overcome the above problems are spelled out in Chapter VII. Priorities are listed for an effective government policy. They are:

1. more emphasis on education, especially technical education;

2. development of a balanced national economy through diversification rather than the dependence on the petroleum sector; and

3. more government spending on local projects should be encouraged as a means for income redistribution.

Among the management guidelines the following are stressed as ways for improving the managerial effectiveness of the state-owned firms: the need for specialization, training in management fields, improvement in control systems, creation of good incentive systems, the adoption of new technology, and the use of cost-benefit analysis tools.

Some Recommended Strategies

1. Since there is a severe shortage of technicians and highly educated personnel in Libya, the most appropriate strategy for the government now is to put more emphasis on education, especially technical education as a means of developing of the human capital--the source of wealth which will not be depleted. This policy can be enhanced by giving technical degree holders some advantages in public sector jobs to encourage them and to induce more young people to pursue technical studies.

2. Since the petroleum resources will not last forever, the government should emphasize the development of a balanced economy through the encouragement of industry, agriculture, and tourism to increase their contribution to the GNP. The pay-off of this policy will be more appreciated when the contribution of the petroleum sector to the GNP starts to decline.

3. Since technology is very important and since it is very expensive it is irrational to try to develop a technology that is already in existence. The appropriate strategy for Libya (where the price of labor is relatively high) is, then, to adopt the new technology, especially

the capital intensive one. Such technology can be imported when necessary. This adoption of the new technology will result in reducing the gap between the more advanced countries and Libya. Technology might prove to be a very expensive item to buy but, in the long run, the gains will certainly exceed the costs.

4. Encouragement of research and development in some technical areas is extremely important to Libya. In the long run this will make the country less dependent on imported technology. Also, if Libyan firms start the development of their own technology, they would gain the necessary experience, proceed to improve it, and ultimately compete with other firms in exporting technology. As an example, Libyan firms could start with the development of technology in the field of agriculture where it is really needed at present and where it would be more suitable to develop technology than to import it. This is true because Libyan firms know their environment better than non-Libyan firms. Research and development can be encouraged by giving special treatment and more incentives to high level talents to join Libya in developing its own technical personnel and manpower experts. The idea of the Universal City of Scientists which the government is now trying to build can be very effective in this respect; that is, it can be effective if the proper personnel with the required qualifications can be secured. Otherwise, this idea will be a waste of resources.

5. Placement of university graduates and trainees in the jobs that fit their specialty and training (specialization) will be an important factor in increasing the managerial effectiveness of the state-owned firms. This recommendation follows the principle of comparative advantage.

6. Libya should establish a special committee of experts in management fields, top executives, and representatives of workers to study and recommend an optimum policy that would produce an appropriate incentive system. This policy can use the profit-sharing concept as a point of departure. This committee must also study ways to motivate workers to accept training and methods to increase mutual understanding between management and workers.

7. Libya should encourage women to participate more actively in the labor force. Here, one cannot ignore the social system values which separate to some degree men from women in the labor market. There are many jobs that are more appropriate for women to participate in without sacrificing their social values.

8. There are serious limitations in the data available for study and for management information systems. Libyan firms do not have a strong data base to use in decision-making. Steps should be taken to correct this problem.

9. Finally, the use of cost-benefit analysis tools in evaluating government projects must be increased. The state-owned firms will also be required to use this technique to increase their managerial effectiveness.

Final Comment

As a conclusion to this study of the problems of state-owned firms and their managerial effectiveness, the limitations of this study can be stated as follows:

1. The bias that might have been introduced because interviewed personnel were asked to evaluate the managerial effectiveness of their

own firms is an important limitation.

2. Most of the firms studied are still new and do not have enough data concerning managerial effectiveness as measured by such factors as employee morale, worker turnover and absenteeism, interpersonal relations among employees, ability of a firm to retain highly trained manpower, productivity and the ability of a firm to adapt to changing external conditions.[1]

3. Some of the managers interviewed did not have long experience with the firms they are heading. Most of the managers were elected to their current positions subsequent to the proclamation of the Cultural Revolution on April 15, 1973, and the emergence of the People's Committees.

Finally, there is a lack of research on managerial effectiveness as it relates to the state-owned firms in Libya. Also, there is a lack of research in managerial effectiveness as it relates to such variables as the use of planning, the type of education which management personnel have, the technology of production in labor intensive and capital intensive industries, and the size of the firm. It is hoped that this study will induce more research and investigation in the area of management effectiveness and in the area of guidelines to government and managers of state-owned firms.

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[1] Anant R. Negandhi and S. Benjamin Prasad, Comparative Management (New York, 1971), p. 97.

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