

IRAQI PRODUCTION MANAGERS:
AN ANALYSIS OF THE CHARACTERISTICS AND
DEMANDS OF THEIR JOB

By

ISAAM J. DAWOOD

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DEDICATION

TO: My Mother,
My Father,
My Wife Raika,
My Son Fadi,
and My Daughter Massarah

DECLARATION

No portion of the work referred to in this study has been submitted in support of an application for another degree or qualification to this or any other university or institution of learning.

ABSTRACT

The main objective of this study is to develop an understanding of the nature of the Iraqi production manager's job. Within the framework of this general objective, the study attempts to investigate several aspects. The first is the characteristics of the job of the Iraqi production manager. This aspect covers (1) work activities (talking, paperwork, reading, travelling and other activities), (2) managerial contacts (internal and external) and (3) work pattern. The nature of the difficulties and the demands imposed upon a manager by his contacts with his subordinates, boss, peers and external contacts is the second aspect. The third aspect is major causes of variation in the job of an Iraqi production manager. Finally, this study aims to compare and contrast its results with those discussed in previous research.

In order to achieve the main objective of the study, a questionnaire originally developed by Rosemary Stewart (1976) and modified for the purpose of Feldman's (1983) study, was adapted to serve as the main research tool. It was used as a guide for structured interview with a sample of production managers. In addition, a structured observation technique is used to collect information on both characteristics and demands.

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The analysis of the sample production managers' work characteristics showed that they were busy, and that their jobs are fragmented. Their working day was fragmented and varied. It was dominated by talking with subordinates. In addition, their jobs included 'unexpected' and 'urgent' work. Their jobs were also described as 'responding' rather than 'self-generating' because the managers spend a large amount of time reacting to their bosses.

The analysis of difficulties and demands imposed upon the production managers by their contacts, showed that external contacts were highly demanding. The contacts with subordinates and bosses caused medium demand, while contact with peers and other seniors caused low demand.

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Isaam J. Dawood

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Chapter One

Introduction

1.1. Background:

"Industrialization is the main hope of most developing countries to increase their level of income"⁽¹⁾. This view, expressed over a quarter of a century ago, is still widely accepted among development economists and policy makers in the developing countries⁽²⁾. In this context the term "Industry" means

"factory activities in which materials are processed or transformed by mechanical or chemical means into more valuable products."⁽³⁾

The organisations responsible for these activities are industrial organisations, which means any administrative-managerial structure responsible for planning, policy-making, administering and operating one or more industrial units⁽⁴⁾. The sub-system which is directly responsible for manufacturing activities in any industrial organisation is production management. The director of this department is the production manager.

"In most manufacturing companies, the manufacturing function itself is responsible for employing around 70% of the labour, spending some 70-80% of all current cash flow and controlling around 80% of the capital assets of the business. It is therefore somewhat

surprising that relatively little research has been carried out on the management of the manufacturing function, whereas the techniques of manufacturing management have been extensively studied."⁽⁵⁾

Accordingly, the necessity for an improved understanding of the production management function is being recognized by academics and practitioners in the production/operations management area⁽⁶⁾. Skinner's (1978) book on manufacturing management, illustrates the need to study managers' responsibilities for the firm's manufacturing function:

"The emphasis on analytical techniques and tools has tended to crowd out some of the critical aspects of manufacturing management.... experience and discussion with manufacturing managers indicate that there is much more to this functional area than can be adequately addressed by quantitative models and methods, no matter how useful those may be.... materials about the function of manufacturing management in the context of their role in the organization, and their interrelationship to other parts of the company are urgently needed. Only then can major manufacturing management tasks effectively designed and carried out so as to complement the effectiveness of other functional areas and better aid the organization in meeting its objectives and goals."⁽⁷⁾

The study of production managers within the context of

a developing country such as Iraq, has additional importance due to the fact that production managers in a developing country have to handle directly two factors that are equally important; (1) personnel within the cultural context of the given developing nation, (2) the sophistication of a technology, more often than not imported from a developed country. Upon production managers rests the task of reconciling these two factors, and thus, shouldering the tedious responsibility for organisational development in their respective organisations.

1.2. Objective of the Study:

The main objective of this study is to develop an understanding of the nature of the job of Iraqi production managers who are responsible for the production function in their organisations.

Within the framework of the general objective, this study tries to investigate several aspects. The first is the characteristics of the job of an Iraqi production manager. This aspect deals with (1) work activities, and how they were distributed in terms of time spent on each. Five activities were suggested for this purpose; they are: talking, paperwork, reading, travelling, and other activities. (2) managerial contacts (internal and external), and (3) work pattern.

The nature of the difficulties and the demands imposed

upon a manager by his contacts with his subordinates, boss, peers, and external contacts, is the second aspect. This study adapted Stewart's (1976) meaning of the difficulties and demands, i.e. the things that the production manager must do and the pressure that he cannot escape.⁽⁸⁾

The third aspect to be investigated is major causes of variation in the job of senior Iraqi production managers.

Finally, this study aims to compare and contrast the results found with those discussed in previous research.

1.3. Research Methods:

In order to achieve the main objective of the study, a questionnaire originally developed by Rosemary Stewart (1976)⁽⁹⁾, and modified for the purpose of Feldman's (1983)⁽¹⁰⁾ study, was adapted to serve as the main research tool. It has been used as a guide for structured interviews. It enables the researcher to gain insight into the production manager's job in terms of work characteristics and job demands. In addition, structured observation techniques are used to collect information on both characteristics and demands.

1.4. Significance of the Study:

Understanding the job of the manager responsible for his organisation's production function is the primary

objective of this study . In a developing country like Iraq, which is witnessing expansion in its economy and growth in industry, the need for this kind of study is very great. Furthermore, it should contribute to the literature on the theory of managerial work in the following areas:

(1) Gaining an initial insight into the nature of the managerial work of the senior production manager, which will help in explaining the nature of this function.

Generally, research on the nature of managerial work has focused on similarities and excluded differences. While useful, this tends to give an over-simplified view of what the manager does. This study will avoid such a limitation and look at the differences as well as similarities within the jobs of senior production managers in Iraq.

(2) The research will add new case material from the Arab World to the existing literature, which will enrich knowledge in the area.

In addition, this study is an attempt to provide information about Iraqi production managers for the first time. It could be used by the Ministry of Industry for several purposes, such as selection processes, education and training programmes and career decisions. One reason for examining differences in work patterns is their subsequent relevance to selection and training. A manager

may be comfortable in a certain work pattern while uncomfortable in another. The analysis of a manager's relationships has implications for training, job description, and job evaluation.

1.5. Limitations of the Study:

The present study represents the first of its kind in Iraq, and is not without certain limitations. For example:

(1) the study took place exclusively in manufacturing companies, thus limiting the applicability of any conclusions to service-oriented organisations. At the same time the sample is drawn from the senior production manager level, therefore the results cannot be easily generalised to low level production supervisors or other manufacturing management positions.

(2) the study had to depend quite often on subjective assessments by the respondents themselves, of the nature of a production managers' job. This is due to the lack of objective measurements for this type of research.

(3) Statistical information is limited according to availability from the various ministries, Industry, Planning, and other national and international agencies.

1.6. Organisation of the Study:

It is important to give a brief account of the organisation of the present study. As we have seen, the first chapter provides an introduction, which includes the background of the study, its main objectives, methodology used, its significance, and organisation.

The second chapter gives a general overview of the production management function. It discusses the historical background, the main approaches to production management, and the nature of this function.

The third chapter deals, in three sections, with the nature of managerial work in the manufacturing sector, by presenting some related empirical studies in the area. The first section deals with the nature of managerial work in the Arab World. The second concerns some empirical studies of managerial work in the manufacturing sector, and the third reviews empirical studies of the production manager's job. These studies could help to explain some results of the present study, as well as establishing its objectives and methodology.

The fourth chapter highlights some environmental aspects in relation to the Iraqi production manager's job. These aspects are discussed in three main sections. The first attempts to give a brief general background about the country, its history, geography, and population. The second deals with the development and

status of the economy, with special reference to the industrial sector. The third deals with the present structure of the economy

The fifth chapter provides the methodology of the study. It defines its objectives, research design, methods of data collection, and the stages of the survey.

The sixth describes certain characteristics of the Iraqi production managers interviewed, as well as certain characteristics of their companies. Such description intends to provide a rich background for use in later discussion and analysis.

The seventh chapter was added to discuss production managers' work activities, and to explain how these activities were distributed in terms of time spent on each. In this respect, five activities were chosen to cover the bulk of the managers' work. They are: talking, reading, paperwork, travelling and others. It also analyses differences between the sampled production managers in terms of time distribution over these activities.

Chapter eight attempts to study production managers' contacts with other people. Six contact types were eventually suggested for this purpose. These types are divided into two groups. The first group consists of internal contacts, including time spent with subordinates, bosses, colleagues, and other seniors

(reporting to the same line boss). The second group consists of external contacts, including time spent with suppliers and customers. In addition, the chapter investigates differences between the managers in terms of time spent with each contact type.

Chapter nine deals with the work pattern of Iraqi production managers. Work patterns examined include, duration of activities, time span of problems or decisions, periodicity and other recurrent work, expected compared with unexpected work, incidence of urgent work and crises, the extent to which work has to be done to meet time deadlines that are not self-imposed, and the origin of activities. This chapter also investigates the differences between the sampled managers in these contexts.

Chapter ten, examines the key demands associated with an Iraqi production manager's job. It focuses on demands imposed upon the managers by their relations with their subordinates, bosses, peers, and other external contacts.

A brief summary of the study, arguments and conclusions described in chapters two to ten is given in chapter eleven. An attempt is made in this chapter to evaluate the success of this study in meeting its stated objectives.

Notes:

- (1) H.B. Chenery, 'The Role of Industrialization in Development Programmes', American Economic Review, May 1955, p. 40.
- (2) United Nations Industrial Development Organization (UNIDO), Industry and Development, No.7, New York: United Nations, 1983.
- (3) F. E. Ian Hamilton, and G. J. R. Linge, Spatial Analysis, Industry and the Industrial Environment Progress in Research and Application, Vol.1, Chichester: Wiley, 1979, p.2.
- (4) Ibid.
- (5) C. C. New and A. Myers, Managing Manufacturing Operations in the U.K. 1975-1985, British Institute of Management., 1986, P.V.
- (6) Howard Feldman, An Exploratory Study of the Senior Production Manager's Job: Through an Assessment of Demands, Choices, and Constraints, Unpublished Ph.D. Thesis, Georgia State University, 1983.
- (7) Wickham Skinner, Manufacturing in the Corporate Strategy, New York, John Wiley and Sons, 1978, PP. VII-VIII.
- (8) Rosemary Stewart, Contrasts in Management, London: McGraw-Hill, 1976.
- (9) Ibid.
- (10) Howard Feldman, Op., Cit.

Chapter Two

Overview of Production Management Function

2.1. Introduction:

This study aims to examine the nature of a production manager's job in Iraq. This chapter consists of a literature review in an attempt to explain how production management should operate. It is in three sections. The first deals with the historical background, the second provides a brief overview of the typical prescriptive approaches taken by production operation authors in explaining how production management should operate, and the third section deals with the nature of this function and the factors influencing it.

2.2. Historical Background:

The year 1776 is often quoted as the year in which the Industrial Revolution began in Britain. Certainly this was an important date, as it was in this year that James Watt was able to produce a practical, working version of the steam engine. At the same time, the great Scottish economist Adam Smith was the first to pay attention to production economics. He wrote 'The Wealth of Nations', in which he observed three basic economic advantages that resulted from the division of labour. These were: (1) the development of a skill or dexterity when a single task was performed repetitively; (2) a saving of time normally

lost in changing from one activity to the next; and (3) the invention of machines or tools that seemed normally to follow when workers performed specialized tasks of restricted scope. Smith did not deduce these ideas in a theoretical way. Instead, he observed the cooperative approach of workers in the factory system.⁽¹⁾

Charles Babbage, an Englishman, argued Smith's observations and raised a number of provocative questions about production organisation and economics. His thoughts were summarized in the book, "On the Economy of Machinery and Manufactures" (1832). Babbage agreed with Smith on the economic advantages resulting from the division of labour.

In the years after Smith's and Babbage's observations, the principle of division of labour continued to be considered. It was increasingly applied during the first half of the twentieth century. The design of new production lines represent the principle of division of labour carried to its extreme. In fact, it has come so far that some people are questioning the present level of application. Cost reductions based on broadening the scope of jobs are being reported in the literature. A name has even been coined for this new trend 'job enlargement'. Perhaps the optimal level of dividing tasks has been passed in some industries.⁽²⁾

Fredrick W. Taylor was the outstanding historical

figure in the development of the field of production management. His central theme was the systematic analysis and measurement of tasks to find the one best way. His focus was on the shop floor where specialization of labour was coupled with economic incentives to increase productivity.⁽³⁾

Taylor's ideas developed and later gave rise to the field of method engineering and work measurement. In more recent years, this area has expanded greatly with the help of research in experimental psychology and physiology. Now the field known as human engineering has general application in production management.

The other rapid development of concepts, theories, and techniques in production/operations management began shortly after World War II, through developments in quantifying management problems by using new analytical techniques. Therefore production management research and application became centered on such things as inventory control, mathematical programming, PERT/CPM, scheduling techniques, simulation, and waiting line theory.

2.3. Approaches to Production Management:

Contemporary production management authors have explained through several approaches how production management should operate. Approaches found in the literature include: (1) management science; (2) managerial processes; (3) systems approach; (4) life

cycle; (5) decisional issues; (6) manufacturing strategy.⁽⁴⁾

2.3.1. The Management Science Approach:

The emergence of management science techniques as an approach to production management occurred during the 1960's and 1970's. Advances in operations research and computer technology allowed the transfer of decision-making models into the corporate environment. Virtually all aspects of the productive system were found to be appropriate for this approach, due to their data-rich environment and the abundance of complex rational processes which lend themselves to modelling. Production management stressed problem resolution through analytical techniques and tools. Technical expertise became the nominal view, reinforcing a production management paradigm detailing a series of independent subfunctions⁽⁵⁾. Examples of the management science are found in Starr (1972)⁽⁶⁾ and Wagner (1975)⁽⁷⁾.

2.3.2 Managerial Process Approach:

The managerial process approach has been used by several authors in the discussion of production management. This approach emphasises on the transformation of a set of inputs into desired products and services. Buffa (1983) described this perspective:

"...as the production/operations management

field has matured, its technical content has stabilized and the emphasis has returned to production and operations management as a functional field of management. As such, there is reemphasis on management."⁽⁸⁾

According to this approach, Buffa (1977) stated that it is possible to distinguish two categories of decision by production managers. They are:

"Long-run decisions related to the design of production and operations systems. (1) Long-range forecasting and planning for capacities and location. (2) Selection of equipment and processes. Usually alternative equipment and processes are available for a given need. (3) Production design of items processed. Production costs interact strongly with the design of parts, products paper work forms, and so on. (4) Job design and the measurement of work. (5) Location of the system . Location decisions can in some cases be important where the balance of cost factors determined by nearness to markets and to raw material supply are critical.(6) Physical facility . Decisions must be made related to design capacity, basic modes of production ,number of shifts, use of overtime, and subcontracting.

Decisions related to the design of operation and control system: (1) Forecasting in order to make decisions for day-to-day operations and for a reasonable planning time horizon. (2) Inventory control. Policies, procedures and decisions designed to maintain inventories at levels which

will provide the necessary service at reasonable cost. (3) Aggregate planning and scheduling decisions which set basic production rates and employment levels in the short run and for a reasonable time horizon in the future. (3) Scheduling and production control. (4) Maintenance and reliability of the system. (5) Quality control. (6) labor and cost control."⁽⁹⁾

In spite of some differences between authors in the labels applied, it is generally suggested that the traditional activities of planning, organizing, staffing, directing, and controlling are the basic functions accomplished by managers of the productive system. Garrett and Silver (1973)⁽¹⁰⁾, and Riggs (1976)⁽¹¹⁾ discussed the classical functions of manufacturing management listed above, however they substituted 'assembling resources' for the staffing function.

Empirical research has criticized this approach. The main criticism is of their lack of correspondence with the actual activities found in the managerial world. Words such as planning, controlling, organizing, staffing, and directing do not describe the actual work of managers but only provide the managers with ambiguous objectives. In this context, Carlson (1951) writes

"If we ask a managing director when he is coordinating, or how much coordination he has been doing during a day he would not know, and even the most highly skilled observer would not

know either. The same holds true of the concepts of planning, command, organizing and control"⁽¹²⁾.

2.3.3. The Systems Approach:

Synthesis of the various sub-functions occurred in texts written with a systems view point. Focus was on the management of the production system and provided a conceptual approach for analyzing the discipline. Tersine (1981), as a systems-oriented author, identified the production responsibilities embodied in five decisions. These are:

"(1) Policy Decisions: These begin with the statement of the broad, long-range objectives of the organization.... These broad objectives are modified to account for internal and external restraints.... The redefinition of broad long-range objectives to a near time frame in line with the capabilities of the organization results in strategies. Then specific tactics or plans are developed to realize the strategies. The tactics are inputs to market analysis, which helps to determine what goods or services the public wants that are within the organization's capabilities.

(2) Product Decision: Product decisions determine the goods and services an organization will provide to society. Product decisions begin with general specifications from market analysis, which indicate customer requirements.

(3) Process Decisions: process decisions

determine how to best produce the product. They begin with product analysis, which utilize assembly and flow charts for analyzing each component of the product in detail.

(4) Plant Decisions: plant decisions begin with a decision to utilize unused capacity, expand existing plant, or build a new plant to accommodate the product. After this decision, the layout of physical facilities is decided, including work station design and the selection of materials handling equipment.

(5) Operation Decisions: Operation decisions are concerned with when and how many units to provide. They begin with production planning and scheduling decisions on the acquisition of men, materials, plant, and equipment. Demand forecasts are translated into production plans, which determine material, personnel, and capital requirements. Activation and organization are achieved during this phase."⁽¹³⁾

In addition, Tersine (1981) argued that the system theory requires a coordinated interface between manufacturing and other functional areas, as well as manufacturing and the micro and macro environment.⁽¹⁴⁾

2.3.4. The Life-Cycle Approach:

Chase and Aquilano (1981) provided a logical approach to the field. Their approach was based on the life-cycle of the production system. This approach follows the progress of a production system from its inception to its termination. A system is born of an idea, passes through

a growth stage and continuously changes to meet the new demands. Sometimes, of course, it is deliberately terminated.

The writers determined the key decision areas at the various stages in a system as a life-cycle. These stages and the questions that should be answered are:⁽¹⁵⁾

(1) the birth of the system. What are the goals of the firm? and what product or service will be offered?

(2) the product design. What is the form and appearance of the product? and technologically how should the product be made?

(3) the design of the system. Where should the facility be located? what physical arrangement is best to use? how do you maintain desired quality? and how do you determine demand for the product or service?

(4) manning the system. What job is each worker to perform? and how will the job be performed and measured? how will the workers be compensated?

(5) the start-up of the system. How do you get the system into operation? and how long will it take to reach the desired rate of output?

(6) the system in a steady state. How do you run the system? how can you improve the system? and how do you deal with day-to-day problems?

(7) revision of the system. How do you revise the system in the light of external changes?

(8) termination of the system. How does a system die? and what can be done to salvage resources?

In the context of this approach, Chase and Aquilano (1981) noted the following:

"It must be emphasized that this is a dynamic process, one in which a number of phases in the life cycle may be occurring concurrently. Indeed many firms allocate a large portion of their resources to foster a continuous rebirth or rejuvenation program through the medium of research and development staffs"⁽¹⁶⁾.

2.3.5. The Decisional Issues Approach:

Several authors have taken an approach to production management that incorporates elements from the various view-points previously mentioned. Feldman (1983) recommended that this approach be called the Decisional Issues prospect.⁽¹⁷⁾ Borrowing from the systems, managerial process, and managerial science approaches, the authors Schmenner (1981)⁽¹⁸⁾ and Schroeder (1981)⁽¹⁹⁾ organized their texts around decision-making frameworks, but these were much broader in perspective than those previously discussed. Emphasis on analytical techniques and tools was lessened, and effectiveness and improvement of production performance was highlighted.

Operation management was defined by Schroeder(1981) as

"the study of decision-making in the operations function"⁽²⁰⁾.

He recognized that the domain of an operations manager included the manufacturing manager at both the corporate and divisional levels. He mentioned that an operations manager is responsible for decisions in five areas: process, capacity, inventory, work force, and quality⁽²¹⁾.

2.3.6. The Manufacturing Strategy:

A sixth approach to production operations management has developed through the work of several writers such as Skinner (1978)⁽²²⁾, and several of his Harvard contemporaries and former students, stressing concepts like facilities focus, manufacturing organisation, and operations strategy. This approach moved away from emphasis on tools and techniques and attempted to discuss manufacturing within the context of effectiveness.

Skinner's approach to manufacturing is top-down and explicitly recognizes the role of senior manufacturing management in translating the firm's competitive strategy into the variety of choices defining the production system. Arguing that production management's traditional over-emphasis on productivity or efficiency is detrimental to the company's overall competitive capabilities, Skinner proposes a different paradigm for production operation

management. Emphasis is given to the definition of the business strategy and the manufacturing task or mission. Recognition of the alternatives available to the firm and their potential impact on competitive strategy is an essential function of the senior manufacturing manager, and necessitates his involvement in the design of the productive system through the development and implementation of manufacturing policies. Although Skinner's approach does not involve manufacturing management in the key corporate policy-making decisions of the firm, he does see the role of senior manufacturing management as formulating the task of the manufacturing function and the manufacturing policies of the firm. The development of a manufacturing system and procedures, manufacturing control, and manufacturing operations is left up to the manufacturing vice-president and his subordinates still deal on a prescriptive level. Their work marks the first real departure from treating production/operation management as strictly operational in nature. The importance of senior manufacturing management is recognized within the context of their roles in manufacturing strategy and decision-making.⁽²³⁾

Generally speaking, the above discussion of the production management approaches leads to the following conclusions:

1. They were prescriptive approaches, explaining how production management should operate, emphasising

(directly or indirectly) the production manager's role.

2. Basic content was similar, but differences were found in the structure of the content. Therefore it is possible to borrow more than one approach for the purpose of empirical studies.

3. No one approach visualized the broad view of the subject. Chase and Aquilano (1981) Stated that "the texts lack continuity, jumping from topic to topic"⁽²⁴⁾. Accordingly, much has to be done to achieve an improved understanding of the production function.

2.4. The Nature of the Production

Management Function:

The foregoing review provides an overall picture of the approaches of production management, the following discussion deals with the nature of this function in manufacturing organisations.

Industrial organisations as man-made systems have functional sub-systems, variously named procurement, finance, marketing and production. Since they are man-made systems, it is the manager's responsibility to establish and operate their sub-systems. As a result, the manager's activities directly affect the behavior of these sub-systems .

The production manager's job is to be responsible for establishing and operating the production sub-system,

which is integrated into a total system for the accomplishment of objectives. From this point of view, it is important to study this job, both in order to understand it and to use it as a starting point for further development.

The design and operation of manufacture requires two major activities: (1) production technology, (2) production management. Oakland (1986) explained them as follow:

"Production technology is that aspect which is largely concerned with the technological details of the design, manufacture, and use of equipment and machinery. In contrast, production management is concerned with the organization of work and productive resources and covers the planning and control of work."⁽²⁵⁾

The most important facet of a production manager's job, which distinguishes it from other areas of management, is its involvement with the technological factor as well as the human factor.

It is important to mention that there are many factors influencing a production manager's job. These factors can be divided into two main groups; the first is environmental factors, and the second is personal factors.

The environmental group includes the factors which

surround production managers, affecting their job. They are external and internal factors.

The external environment represents everything outside and beyond the control of the industrial organisation⁽²⁶⁾. This aspect is obviously so complex, that there is a danger that it will lead to the discussion of everything in the world, and a detailed study of even a few aspects could take a lifetime⁽²⁷⁾. However, if only the portion directly influencing managerial work is considered, the task becomes somewhat simpler.

Farmer and Richman (1965), suggested four environmental categories affecting the managerial work. These are: (1) the educational category, which includes literacy level, higher education, specialized technical training, attitudes toward education, and educational match with requirements of jobs, (2) the sociological category, which includes how managers as an elite group, scientific method, wealth, rational risk taking, and achievement are viewed, (3) the political and legal category, including relevant legal rules of the game, defense policy, foreign policy, political stability, political organisation, flexibility of law and legal changes, (4) the economic category, which includes the general economic framework economic stability, fiscal policy, social overhead capital, and inter-organisational cooperation.⁽²⁸⁾

The internal environment includes the organisation and

its internal affairs. Writers in the field mentioned several variables in this context such as, organisational size, technological type, number of products produced by the organisation, number of components, organisational structure, etc.

In addition to the environmental factors which we mentioned above, the production manager's background has an important affect on the job itself. Many writers, such as Gill and Lockyer (1978)⁽²⁹⁾, New (1976)⁽³⁰⁾, Feldman (1983)⁽³¹⁾ and others, put an emphasis on this factor. Some have stated that if any manufacturing industry is to survive let alone succeed, much needs to be done to improve the education, training, and status of production managers.

The important question is, what are the main factors which define the production manager's background? Many writers have suggested answers to this question. For example Feldman (1983) determined three factors, i.e. age, career, and education. He named these factors 'managers' characteristics'. New's (1976) study put its emphasis on similar factors. Gill and Lockyer (1978) studied the same factors, plus the addition of training and sex.

3.5. Summary:

The material presented in this chapter gives a brief review of production management function. As for the historical background, the beginning of the Industrial Revolution in (1776) was an important event which stimulated the development of production function principles. Since that time the field has witnessed several rapid developments in concepts, theories, and techniques.

Recently, production management authors have explained how production management should operate through several approaches. Approaches found in the literature include, (1) management science, (2) managerial process, (3) systems approach, (4) life-cycle, (5) decisional issues, and, (6) manufacturing strategy.

The discussion revealed that the important facet of a production manager's job which distinguishes it from other areas of management, is the involvement with technological factors, in addition to the human factor. There are many variables influencing a production manager's job. These variables can be divided into two main groups. The first is the environmental group, and the second is the personal group.

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Chapter Three
Nature of Managerial Work in the Manufacturing
Sector

3.1. Introduction:

This chapter attempts to gain an insight into the position of senior production managers by its reviewing empirical studies concerning the nature of managerial work in the production field.

Research into the nature of managerial work has taken many forms. In order to take advantage of the variety of objectives pursued and the methodologies used in past research, discussions have typically been structured on one of several frameworks. Stewart (1972) mentioned that there have been four main approaches to the problem of analysing managers' jobs. These are represented by four questions: ⁽¹⁾

1. What is management? The traditional approach of managerial processes- planning , organizing, motivating and controlling, were viewed as the tasks that all managers performed.

2. What are the responsibilities associated with all the supervisory and managerial jobs in an organisation? This described responsibilities through the preparation of individual job descriptions.

3. How can management jobs be compared and evaluated?

4. How do managers spend their time?

People who ask these questions think that we need to know more about management in practice in order to try to improve our theories of management .

A revision of her earlier work was briefly described by Stewart (1976). Her objective was to review the different ways in which people have attempted to describe the nature of managerial work. She divided the studies of managerial jobs into three groups. The first of these is concerned with the job as a whole. This group examined common characteristics of all managerial work, including studies of (1) the process of management which was described by Fayol through five elements: planning, organizing, commanding, coordinating, and controlling. These elements, with various changes of wording, (commanding has become motivating), have continued to be used by writers to the present day; (2) job description, which described the content of a particular job in attempts of its responsibilities, sometimes called tasks, duties, or functions; (3) managerial behavior, which sought to understand the nature of managerial work by studying what managers do. The second group focuses on studies which have been interested in a particular aspect of managerial work, but which have sought to generalize for all managerial jobs. Included in this category were the subtopics of leadership behaviour, problem

portfolios, and the manager as decision-maker. Stewart's last group was concerned with the characteristics of different types of managerial jobs.⁽²⁾

Mintzberg (1973) presented another approach to the subject. He discussed the empirical research along four dimensions: (1) the identification of eight major schools of thought on the manager's job, (2) a description and evaluation of the major studies of managerial work, (3) an evaluation of the strengths and weaknesses of the various research methodologies used in previous studies, and (4) a discussion of the distinguishing characteristics of managerial work and the studies which support these positions.⁽³⁾

Other researchers, such as Argyris (1964), provided another framework. The distinction between levels of management was suggested through this framework. In the light of this framework, it is possible to organize the study on three organisational levels, foreman level, middle management, and executive level, to allow for general conclusions to be drawn relative to the appropriate position in the hierarchy.⁽⁴⁾

For the purpose of this study, a framework has been developed to provide a view of the nature of managerial work in the production field. Since the purpose of the study is to gain insight into the position of senior Iraqi production managers, the review will be divided into

three categories of empirical studies in the field. These categories will be discussed in three sections. The first category includes studies of managerial work in the Arab World. The second includes studies which consider the work in the manufacturing sector from the structural point of view. The third considers empirical studies of the production manager's job.

3.2. Nature of Managerial Work in the Arab World:

In an attempt to gain insight into the position of senior production managers in Iraq, the study needed to review previous research concerned with the subject. In addition, it was felt that the research had to include information regarding the nature of managerial work in the Arab World, in order to take advantage of the variety of objectives pursued, as well as the methodologies used. Thus this section will discuss the general background of the Arab World, then it will focus on some of the empirical studies which investigate the nature of managerial work.

3.2.1 General Background:

The Arab World today extends from the Arabian Gulf in Asia to the Atlantic coast in Africa, covering 14 million square kilometers, an area half as large as that of the United States. The Arab population, consisting of 21

independent states and the people of Palestine, numbered close to 200 million in 1986 and is expected to reach 300 million in the year 2000.

The Arab population, of which 70 per cent resides in Africa and 30 per cent in Asia, is located in four major areas. The North African Region includes Morocco, Mauritania, Algeria, Tunisia, and Libya. The Nile Valley and the African Horn include Egypt, the Sudan, and Somalia. The Arab Peninsula and the Gulf Region include Saudi Arabia, the two Yemens, Oman, the United Arab Emirates, Qatar, Bahrain and Kuwait. In addition to the people of Palestine, the Fertile Crescent includes Iraq, Jordan, Lebanon, and Syria.

3.2.2, Similarities and Differences influencing Managerial Work:

One of the aims of this section is to discuss the similarities and the differences between Arab countries, which influence some aspects of managerial work.

In the context of the aspects which have similar influence, Omeran (1980) mentioned:

"Despite living in independent political entities or states, the Arabs people like to be considered as one nation. They take great pride in their history and heritage. The Arab share a common culture and speak the same language.

Islam is the predominant religion with Christianity being the second most popular. Most Muslims and Christians share similar national aspirations and community living."⁽⁵⁾

Therefore, history, religion and language constitute the main aspects which have an influence on managerial work. Historically, the Arab countries had for centuries, after the emergence of Islam, carved for themselves a prominent political position in the world, and had made notable scientific and cultural contributions to the heritage of man. That was under the leadership of the Prophet Muhammad and his immediate successors during the seventh century. The three centuries to follow were to see the Arabs reach their Golden Age under the Umayyad and the Abbasid Caliphates.

The year 1258 is often quoted as the year in which the slow disintegration of the Abbasid Empire began. For the next 300 years, Arabs were ruled by a succession of empires, one of which was the Ottoman Empire. The first World War put an end to Ottoman rule, but in the aftermath of the War the Arabs were still divided and ruled, this time mainly by France and Britain.

Islam is the second common factor in the Arab World. This religion is the main religion in all of the Arab countries. In this context, Muna (1980) stated:

"Islam is the basis for a feeling of identity and commonality. Even if the executive is not a

Muslim, he is living in an Islamic environment which has been influenced by Islamic traditions for 1400 years."⁽⁶⁾

The Arabic language is the official state language and the medium of expression in daily and business life in the Arab countries, and governmental, commercial and labour laws are issued in Arabic.⁽⁷⁾

Despite these similarities, there are many differences between Arab countries, which have major effects on managerial work. The impact of Ottoman rule, and after that of the Western occupation, created most of these differences. In this context Sayigh (1982) stated:

"...the protracted state of political submission to external power left deep marks on the cultural life of the Arab region and on its economic performance alike. Both were subdued and conditioned in order to serve the interests of the ruling powers. But, while under the Ottomans there was relatively intensive intra-regional trade and easy movement of persons, under modern European rule both production and trade were directed in such a way that they became closely linked with Western Europe, and the erection of political frontiers restricted the movement of goods and travellers. The same reorientation occurred also in the cultural field."⁽⁸⁾

Accordingly, the observer today can notice many differences between Arab countries, first, between the

educational systems. By 1930, most of these countries were beginning to establish their own educational systems. These were based on either French or British ideologies, which caused different educational orientations and outputs. Second, there are many differences between their managerial systems. By 1930, most of the Arab countries were beginning to establish modern organisations in the different sectors, as well as issuing commercial, managerial and labour laws. What happened with the educational systems happened with the managerial systems which were also based on French or British ideologies. This created different managerial orientations. Third, there are differences between the economic systems. Some have a socialist orientation, some a capitalist orientation. On the other hand, it is possible to categorise them as rich, oil-producing countries versus poor, non oil-producing countries.

3.2.3. Empirical Studies of Managerial

Work in the Arab World:

A number of works researching some aspects of managerial work in the Arab World were carried out during the last twenty years. It is possible to classify them according to two main categories:

(1) the researchers' cultural backgrounds. This category includes two main groups:

(a) studies conducted by non-Arab researchers.

Generally speaking, there are a number of reservations about the majority of this group of studies. The main reservation is that the researchers have grown-up in an environment alien to the countries of the Arab World, therefore their perceptions are hampered by their own cultural backgrounds, causing a lack of understanding of the Arab environment. In contrast, their main advantage is that outsiders may be more objective in their observations.

(b) studies conducted by Arab researchers. Most of these studies have been done for the sake of achieving a qualification, especially a Ph.D. degree in United States, or United Kingdom universities. The researchers in this category have more understanding of the research environment, which has an important influence on management achievements in any society.

(2) the scope of the studies. This category includes two main groups.

(a) studies concerned with the influences of Arab culture and the Islamic religion on management in general.

(b) studies concerned with Arab managers. The emphasis of these studies was on the attitudes of Arab managers towards some management practices.

The aim of this study is to investigate the production

manager's job in Iraq, and the focus here will be on the studies conducted by Arab researchers into the nature of managerial work, in order to take advantage of the objectives, applicable methodologies, and main findings of these studies. Some researchers included a sample of managers from one country, for example Kassem (1967)⁽⁹⁾, Askar (1976)⁽¹⁰⁾, Khalil (1979)⁽¹¹⁾, AL-Shaibi (1979)⁽¹²⁾, Ali (1982)⁽¹³⁾ and Suleman (1983)⁽¹⁴⁾. The others included a sample of managers from more than one country for example Muna (1980)⁽¹⁵⁾, AL-Jafary and Hollingsworth (1983).⁽¹⁶⁾

Kassem (1967) provided some of the earliest information about Egyptian managers. She conducted a study of the managerial elite in Egypt, their backgrounds and careers with significant international comparisons. She tried to answer the question, who are the managerial elite? What are their backgrounds, their orientations? How did they acquire their leadership positions? What routes did they take? What career lines were formed by their movement to the top? How do they compare in these respects with their counterparts in India and the United States. To provide answers to the basic questions posed above, the study reported and analysed data gathered in two ways: historical research, and the replies that 180 executive board members gave to an intensive questionnaire about their socio-economic and geographical background, their education, careers and orientations.

The study found that the typical manager's family

socio-economic status was middle-class. His parents, in keeping with Egyptian traditions, managed to put him through college. Upon graduation, he took a full-time job in either the civil or military services. He was forty-two by time he achieved his present executive position. Although he is technically a trained professional, he has never run a business of his own. Like his father, he is a bureaucrat, with little managerial experience in the business world, in his present corporation, or outside his own line of work. In orientation he is more a politician than a professional. When compared with his counterparts abroad, the Egyptian executive is much more like an Indian executive than an American executive.⁽¹⁷⁾

Askar (1979) looked at Egyptian managers through another dimension. He studied the personal value systems of Egyptian managers. His objective was to measure, describe, and analyse the personal value systems of Egyptian managers, and show how these values influence their behavior. To achieve this objective, he studied a sample of 236 managers, and used the research methodology developed by Professor George England of the Industrial Relations Center and the Psychology Department at the University of Minnesota. The three instrumental techniques were used: (1) a personal value questionnaire (PVQ); (2) a behavioral measures questionnaire (BMQ); (3) personal and organisational information.

The study classified the managers according to one of the four categories of primary value orientation

(pragmatic, moralistic, affect, and mixed). They appeared in general to be more moralistic (49%) than pragmatic (36%) or affect (3%). In addition, the study presented a behavioural analysis of values. For example, with respect to goals of business organisation, managers placed the highest behavioural relevance scores on high productivity, organisational stability, and organisational efficiency. With regard to the personal goals of individuals, Egyptian managers placed a higher value on dignity, prestige, influence and power. The study found their pattern of value structure had its roots in the traditional society in which the interplay of Islamic religion, class and family tradition was, and to a considerable extent still is, the most distinctive behaviour trait.⁽¹⁸⁾

Khalil (1979) analysed and evaluated the economic, educational, sociological, and cultural constraints of the Farmer and Richman model in relation to Egypt. His results are different from Askar's (1979). He ranked the different constraints according to their impact on management. The educational constraint was found to be the highest, followed by sociological and cultural in the second place, and economic in the third place.⁽¹⁹⁾

Ali (1982) conducted another study. He investigated the work value systems in Iraq. One of his aims was to explore the value system patterns of Iraqi managers. Six value systems: tribalistic, egocentric, conformist,

manipulative, sociocentric, and existential, were used as dependent variables. The data was collected through a questionnaire which was distributed to 232 managers. The study's central findings indicated that the work value system of Iraqi managers differed according to the level of education, age, length of service, size of organisation, father's occupation, income, sex, region of childhood, type of industry, managerial function, sector of enterprise, managerial level and relative success as a manager. The results indicated further that managers in small organisations were more tribalistic than managers in bigger organisations. Older managers were more tribalistic than younger managers. Managers at the lowest income level were more tribalistic than managers at the highest income level. Managers with longer managerial experience were more conformist than managers with shorter service. The lower the level of education the more conformist the managers tended to be. Managers in the private and mixed sectors were found to be more manipulative than managers in the public sector. The older the managers, the more manipulative they tended to be. Managers with worker or peasant origins were found to be more manipulative than other managers. The higher the managers in the organisational hierarchy, the more sociocentric they tended to be. The lower the level of education, the more sociocentric managers tended to be. Female managers were found to be more existential than male managers. Older managers were less existential than

the younger managers. The results of this study indicated that a high proportion of Iraqi managers are sociocentric.⁽²⁰⁾

Al-Shaibi (1979) has given his attention to functional orientation. He conducted a study of the perception of personnel directors in the public sector in Iraq, focusing on the importance of their managerial and organisational functions. The study objectives were designed to determine whether significant differences exist between the participants concerning (1) the degree of importance that is currently given to their functions and subfunctions, compared to the degree of importance that should currently be given; (2) the degree of importance given currently to their managerial and organisational functions and subfunctions, compared to the degree of importance that should be given during the next 3-5 years; (3) the degree of importance that should currently be given to their managerial and organisational functions and subfunctions, compared to the degree of importance that should be given during the next 3-5 years. A questionnaire was used for the purpose of data collection. It was distributed to 65 selected personnel directors.

The conclusions reached from this study indicated that the participants were apparently not currently assigning a sufficient degree of importance to each of their functions and subfunctions. Increasing the degree of

importance of each of these functions and subfunctions immediately and for the future, was considered important to the group.⁽²¹⁾

As mentioned before, some studies have drawn their samples of managers from more than one country. They aimed to end with some sort of generalisations for particular regions, or for all the Arab countries. This was based on the argument that similarities exist between the Arab countries, which allow for these generalisations.

One of these studies was conducted by Muna (1980). He investigated 52 Arab executives from six Arab countries: Egypt, Jordan, Lebanon, Kuwait, Saudi Arabia and the United Arab Emirates. The focus of the study was on managers' thinking, the social pressures placed upon them and their decision-making styles. He also tried to explore to what extent these managers permit subordinates to participate in decision-making. He used semi-structured interviews as a research method to achieve his objectives.

Muna (1980) found that Arab managers are under strong social pressures from their families, relatives, friends, and from society as a whole. These pressures have a great negative influence on the manager's thinking and performance. He found that such variables as the age of the manager and his level of education have a significant effect on a manager's decision-making approach. The older

an Arab manager is, the more autocratic. He tends to share less of his decision-making power with his subordinates. Muna's study indicated that Arab managers tend to be more person-oriented than role- or task-oriented.⁽²²⁾

The Al-Jafary and Hollingsworth (1983) study aimed to explore the managerial styles currently being employed in the Arabian Gulf region and to compare these styles of operating to those in the United States. Their sample consisted of 381 managers from four countries; Saudi Arabia, Bahrain, Qatar, and the United Arab Emirates. Data were collected through a questionnaire.

The findings of the study demonstrate the strong influence of external variables in the Arabian Gulf region. The study also found that both the managers in the region and the American managers were operating in the consultative mode.⁽²³⁾

One can conclude the following from this discussion:

(1) The generalisation of any study conducted in one country to other countries will be very difficult, especially in terms of the nature of functional jobs, because the details of a specific job depend heavily on the economic, educational and managerial systems, which, as the previous studies showed, are different within the Arab world.

(2) The previous studies were concerned with the style, attitudes, of Arab managers, as well as the influence of Arab culture and the Islamic religion on managerial work. There is no discussion of the production manager's job, which is the aim of this study. This study will thus be a starting point for research in the area.

(3) As a result of the shortage of information provided by previous studies carried out in the Arab world, this study has to review western literature in the area to seek for a better understanding of a production manager's job, and to be able to take advantage of a variety of approaches to investigate the problem. Thus the next section will examine both the nature of managerial work and the nature of the production manager's job in the manufacturing sector, in the light of western studies.

3.3. Empirical Studies of Managerial

Work in the Manufacturing Sector:

In order to review studies in which writers have attempted to describe the nature of managerial work in the manufacturing sector, a framework based on the three organisational levels will be used. This will allow general conclusions to be drawn relative to their position in the hierarchy.

3.3.1. Foreman Level:

Many of the earliest managerial studies were conducted

at the foreman/supervisory level, for examples by: Jasinski (1956)⁽²⁴⁾, Guest (1956)⁽²⁵⁾, Walker, Guest, and Turner (1956)⁽²⁶⁾, Ponder (1958)⁽²⁷⁾, Kay (1959)⁽²⁸⁾, and Kelly (1964)⁽²⁹⁾.

Jasinski (1956), and Guest (1956) provided some of the earliest information on lower-level management activities through an observational study of 56 foremen in one industrial firm. Jasinski examined the relations of the foreman with others in the organisation. His findings showed that those foremen studied spent more time with contacts outside their own work groups, and that the most successful foremen were those who spent the least time with their own workers.⁽³⁰⁾

Robert Guest (1956) also focused on the work activities of the foreman. The results showed: (1) quality was the topic most discussed by the foreman (18.2% of the time); (2) he spent the greatest amount of his time in talking (46.6% of the time); (3) 57% of the his time was spent with his own operators; (4) he spent 14% of his time outside his own department, and (5) 60% of his contacts were initiated by other foremen.⁽³¹⁾

Another attempt to examine managerial work was made by Ponder (1958). He observed 24 foremen at the General Electric Corporation. The study used superiors and subordinates rated in order to distinguish work differences between effective and ineffective foremen.

The results showed that the effective foremen spent twice as much time on personnel administration and only half as much time on production as the less effective foremen⁽³²⁾.

Kay (1959) used another approach to identify distinctive behaviour differentiating between effective and ineffective foremen. He used the critical incident technique with one organisation to collect 691 incidents of behaviour was from 74 managerial and non-managerial personnel. Sixteen types of behaviour classified into three categories: (1) competence in administrative matters, (2) competence in supervising subordinates, and (3) relations with equals and superiors⁽³⁴⁾.

Kelly (1964) provided another study of four manufacturing-section managers from the Glacier Metal Company. He used activity-sampling procedures to collect data, as opposed to the method of continuous observation. The procedures are similar to that of diary researchers. A picture of the section manager built up from this study shows that:

"He spends two-thirds of his time with other persons; a fifth of his time with his unit manager; a third with his colleagues; and half with his subordinates. The unit manager meets him mostly at the morning meeting. A great deal of informal rearranging takes place, especially at a rather extended tea-break in the morning. He spends half of his time on the shop floor, a quarter in the Production and Engineering Department and the balance in other sections or

outside the unit. His work is mainly programming (a half), followed by technical (a quarter), and only a little personnel work (a tenth)."⁽³⁴⁾

In general, the focus of the above studies was on the foreman's relations with others and his work activities in the organisation. Individual incidents were recorded with regard to time, topic, activities, place of contact, and nature of interaction, distinguishing work differences between effective and ineffective foremen, and time distribution.

3.3.2. Middle-Management:

Much of the information in studies conducted on middle-management work was developed in relation to functions and hierarchical levels. This part will focus on studies dealing specifically with this managerial level, by for example Niles (1949)⁽³⁵⁾, Burns (1954)⁽³⁶⁾, Landsberger (1961)⁽³⁷⁾, Georgopoulos, and Mann (1962)⁽³⁸⁾, and Horne and Lupton (1965).⁽³⁹⁾

One of the earliest studies of middle-management was conducted by Burns (1954). The study reports an experiment in keeping cooperative self-recording diaries in a department of a British Engineering Factory. It was designed to provide information about the way in which managers spent their time, their field of interaction and the distribution of work within the departmental manager group. Some of the findings showed that: (1) the group

overestimated the time it spent on production and underestimated the time it spent on personnel, indicating an unawareness of the extent of its absorption in internal problems of 'human relationships'; (2) there were wide differences in the distribution of activities for individuals occupying the same work-role, pointing to hidden factors in apparently similar situations; (3) as much time was spent with those with whom the executives had staff relationships as with those with whom they had line relationships.⁽⁴⁰⁾

Landsberger (1961) conducted another study focused on the nature and determinants of middle-management interdepartmental relations in three British engineering plants making similar products. He found the proportion of horizontal interactions among the three department heads in each of two plants to vary from 17% to 64%.⁽⁴¹⁾

A study of the work activities of middle-managers was conducted by Horne and Lupton (1965). The authors studied 66 managers in 10 different industrial firms. Their methods of collecting data were self-reporting diaries, as well as daily diaries and communication records kept by secretaries and assistants. The results showed that:

"Middle-managers spent most of their time on technical (production) and commercial (sales) activities..... When the activities of the managers at each level in each company were compared in respect to time distribution by

functional area, no marked differences emerged, but analysis of the functional activities of different types of managers suggests a high degree of specialization.... Much of our managers' time was spent in talking with one other person, mostly face-to-face; or in a small group informally. Some spent time in formal meetings.... spent little time dealing with paper. Managers discuss problems of organizing, regulating, and unifying, i.e. their talk is mainly about how to get things done (mostly technical and commercial things."⁽⁴²⁾

Another study of leadership functions of middle-managers was conducted by Nealey and Fiedler (1968). The study reviewed the available literature on differences by organisational level drawing on three sources of information: expert opinion, training practices and empirical data. In the context of expert opinion, the authors stated the following:

"the distinction between levels of management was suggested by Argyris (1964). He holds that the effectiveness of the first line supervisor is significantly influenced by the technology and control systems, while job objectives and interpersonal factors become more important to the effectiveness of executives at higher organizational levels. From data gathered in a hospital setting, Georgopoulos and Mann (1962) concluded that technical skills become less important and administrative skills become more important as one moves up the managerial

hierarchy, and similar views were expressed by Katz and Kahn (1966).... Thus, while the first-level supervisor deals with the technical aspects of the job and the day-to-day supervision of employees, the second-level manager's job is seen as demanding a broader perspective, greater interpersonal and administrative skill, and the ability to translate broad policy into action in the coordination of different work units."⁽⁴³⁾

In sum, the major emphasis of the above studies was on the middle-managers interaction patterns, their distribution of work and the importance of technical and administrative skills to their work

Some generalisations which can be pieced together from the above studies are: much of the middle-managers' time was spent in talking with one other person, most face-to-face, or informally in a small group . Some was spent time in formal meetings. Technical skills became less important and administrative skills more important as they moved up the managerial hierarchy.

3.3.3. Senior Executives:

Many of the managerial studies were conducted at the senior executive level. Examples include Nealey and Fiedler (1966)⁽⁴⁴⁾, Burns (1957)⁽⁴⁵⁾, Farmer (1978)⁽⁴⁶⁾, and Brewer and Tomlinson (1964)⁽⁴⁷⁾.

Burns (1957) conducted a study aimed to obtain first,

information about the division of work among management groups, and about how each of these individual divisions was related to the others; second, about how individual managers distributed their time between the functions of management; and third, about the paths of communication used by managers. Individuals were asked to keep diaries for the purpose of data collection. The results show that managers spent a majority of their time in horizontal and lateral communication. He also found that top managers in aggressively expanding firms spent comparatively more time in conversation with one another.⁽⁴⁸⁾

More information was provided by Brewer and Tomlinson (1964) about the manager's working day. A self-reporting diary was used over a period of 105 days and the results showed:

"that talking is the most important means of acquiring and systematizing information and the managers spent, on average, 39 per cent of their time in this way. On the other hand, the proportion of time, reported as spent making decisions was relatively small, group average 13 per cent..... The diaries provide information on the way managers spread their effort over a wide field. There was evidently an application of effort to problems of production, sales, personnel and planning, as would be expected in manufacturing plants."⁽⁴⁹⁾

Farmer (1978) investigated the relationship between the manager's job and the growth and development of the

firm. Hypotheses predicted that the amount of time spent in specific ways would increase or decrease with the development level and size of the business. The results showed that:

"as the business grows and develops, the managers tend to spend less time in the plant, more time in contact with managers, less time in contact with workers, more time in scheduled meetings, less time engaged in manual labor, more time gathering information and less time operating the business.

In addition, as the independent business grows and develops, the manager tends to spend more time in his own office, more time away from his establishment, more time in contact with customers, suppliers, and other outsiders, more time transmitting and processing information, and more time on general management."⁽⁵⁰⁾

The most comprehensive and persistent studies of managerial work have been conducted by Mintzberg (1973)⁽⁵¹⁾, and Stewart (1976)⁽⁵²⁾.

By systematically studying the activities of 5 chief executives in a variety of organisations, Mintzberg (1973) put forward a variety of propositions on managerial work characteristics.

A manager is busy, so little time is available and breaks are rare. In general, managerial work is fragmented and interruptions are commonplace. A manager's

contact tools are: mail, telephone, unscheduled and scheduled meetings, and tours. A manager generates more mail than he receives, most of it necessary responses to incoming mail. The informal media (telephone and unscheduled meetings) are used by the manager for brief contacts when the parties are well known to each other, and when information or requests must be transmitted quickly. Scheduled meetings consume more of the manager's time than any other medium. Activities such as ceremony, strategy-making and negotiation take place at scheduled meetings. Tours provide the manager with the opportunity to observe activity informally, without prearrangement.⁽⁵³⁾

In terms of time distribution over managerial contacts, Mintzberg found that external contacts generally consume one-third to one-half of the manager's contact time, most often for the purpose of making requests, of sending or receiving information, and of making strategy. The manager spent about 10% of his time in contact with his superior.⁽⁵⁴⁾

Mintzberg (1973) discussed 'what managers do' through the concept of role. Analysis of 659 pieces of incoming mail, 321 pieces of outgoing mail, and 368 verbal contacts, 1258 total entries in terms of purpose, led to the development of Mintzberg's theory on role. Ten roles, observably accounting for all of the contacts and mail in the study and forming an integrated whole, are described and divided into three groupings.

"Managerial activities may be divided into three groups...those that are concerned primarily with interpersonal relationships, those that deal primarily with the transfer of information, and those that essentially involve decision-making."⁽⁵⁵⁾

It is for this reason that the ten roles are divided into three interpersonal roles (figurehead, leader, liaison), three informational roles (monitor, disseminator, spokesman), and four decisional roles (entrepreneur, disturbance handler, resource allocator, negotiator).

While Mintzberg's study focused on work similarities, he did offer some tentative hypotheses on work differences. Based on an analysis of work differences among his sampled managers and supplemented by previous empirical studies, he suggested that what the manager does at any given time is a function of four sets of variables:

"First, and most broadly, the manager's job is influenced by the organization, its industry, and other factors in the environment. Second, there are work variations caused by the job itself...its level in the organization and the function it oversees. Third, there are variations within a given job stemming from the person in that job.. the effect of his personality and style. Finally, the individual's job caused by the situation."⁽⁵⁶⁾

As mentioned before, one of the most comprehensive and persistent studies of managerial work was conducted by Stewart (1976). Through a structured interview and diaries, she studied similarities and differences in the way managers spent their time. She also focused on the demands and constraints of the job and the choices it offered.

The research was accomplished in three stages, beginning with interviews of 180 managers and pilot tests of the questionnaire in order to identify the non-specialist demands imposed upon managerial behaviour. This produced a questionnaire which was used in the next stage in interviews with 274 managers, selected to cover jobs that were diverse in their function, level, and industry. The aim of this stage was to produce a typology of these jobs. The last stage was an intensive study of sixteen jobs⁽⁵⁷⁾. The main aim here was to produce a classification and evaluation of behavioural demands, by using these jobs to test and expand the ideas developed in earlier stages.

Stewart's (1967) findings were grouped into several areas. They are: contact patterns, work patterns, the assessment of demands, and choices in the manager's jobs.

According to the contact patterns, twelve patterns were eventually suggested. These types are divided into three divisions and four groups. The three divisions are

distinguished by the importance of external contacts in the job. The first division is for internal contact jobs with few or no external contacts. The second is for jobs with more external contacts, but where they do not form a major part of the job. The third division is for jobs where external contacts are essential to success, and are likely to take a fifth or more of the total time.⁽⁵⁸⁾

"The four groups are distinguished by the time spent in contact with other people and with different types of contacts. They are given names to indicate their contact pattern. The first group is called Hub. It is the most common type of managerial job and involves a wide variety of contacts in the organization.... The second is called Peer Department, such as a jobholder spending as much, or more time with people at the same level...The third group is called Man Management; almost all its contacts in the organization are with subordinates or boss. The fourth is called Solo, because it spends less time than others in contact with other people."⁽⁵⁹⁾

Work patterns were used to develop a second typology describing the nature of managerial work. The typology was based on the way work activities were distributed over time, and on the origin of these activities. The pattern of work is made up of several characteristics:

"Duration of activities; time span of problems or decisions; periodicity and other recurrent work; expected, compared with unexpected work;

Incidence of urgent work and crises; extent to which work has to be done to time deadlines that are not self-imposed; and origin of activities, how far these stem from the need to respond to others, or to a system and how far they are self-generated."⁽⁶⁰⁾

Four work patterns are identified.

"The first type of work pattern 1, called Systems Maintenance, is characterized by recurrent activities, a very fragmented day, and more frequent troubleshooting than in other job types. The second, type 2, Systems Administration, has, like the first, much recurrent work, but is distinguished from it by the high proportion of work that has to be done to deadlines. This type is divided into two. In the first, most of the work is predictable both as to its nature and timing; in the second, the incidence of work and its precise character is often unpredictable... The third type of work pattern 3, Project, is characterized by long term, mainly non-recurrent work, needing sustained attention, and much of it generated by the individual. The fourth type 4, Mixed, has no marked characteristics and allows the jobholder more choice in the pattern of his work than the other types."⁽⁶¹⁾

An assessment of the demands made upon the manager was made through an investigation of those placed upon the manager by the set of relationships in which he was involved: managerial relationships with subordinates, the

boss, peers, other seniors, external contacts, conflicting demands, and short-term contacts were assessed for their nature and difficulty.

"The analysis suggested that there are three aspects to be considered in the relationship demands of a job: (1) which relationship/(s) is/are demanding? (2) what characteristics of the relationship make it demanding? (3) how demanding are the overall relationships of the job?"⁽⁶²⁾

In his criticism of Stewart's (1976) work, Feldman (1983) stated:

"while Stewart's research offered excellent insight into areas of managerial behavior that have been seldom addressed, it is important to note that many of her findings were based on the manager's perception of his job, rather than actual observable activities. Thus, it suffers from Mintzberg's (1973) allegations of making the manager the researcher. Nevertheless, perceptions of the job play an important role in laying a foundation for the future identification of observable behaviors placing demands upon a manager; and in this sense, Stewart's work makes an important contribution to theory."⁽⁶³⁾

Generally speaking, the findings of the previous studies showed that the managers spent the majority of their time in horizontal and lateral communication. Hence

top managers in aggressively expanding firms spent comparatively more time in conversation with one another. From another angle, talking was the most important means of acquiring and systematizing information and the managers spent, on average, thirty-nine percent of their time in this way. In addition, the studies showed some relation between organisational growth and development, and the managers' way of spending their time.

The above review focused on the nature of managerial work in the production field. It helps to gain an insight into the position of senior managers of the manufacturing function. In addition, it provides an overview of the variety of objectives pursued and the methodologies used in earlier research, which helps to define appropriate factors which might be used in this study.

In spite of the advantages of the previous research, one should mention its main limitation. The literature on management attitudes and behaviour by organisational level, leads to the overall impression that the similarities outweigh the differences. Nealey and Fiedler (1968) discussed this argument by saying:

"Before this verdict is accepted, two points should be considered. First, information involving management behavior is very scarce. Second, the literature almost certainly contains data which are influenced by response bias and observer bias. Response bias is likely to contaminate information which the manager,

himself, provides. Since the lower managers generally want to move up in the hierarchy, they will tend to feel that they are like higher managers and that, given more experience, they will become higher managers. This is likely to influence the lower managers judgements about the nature of their own positions. Observer bias is likely to be introduced, since the stereotype held by the business community regarding management functions has largely ignored the possibility that different organisational levels might demand markedly different behavior."⁽⁶⁴⁾

According to the above argument, attention should be drawn to the functional orientation, because it may provide a more effective avenue to the study of organisations, as Nealey and Fielder argued.

Another limitation of past research is that it has generally been conducted mainly using the dimension of time for studying managerial work. In addition, it has concentrated upon the common features of managers' jobs (at the same level) rather than on their differences. The above discussion showed that to overcome these weakness, Stewart (1976) developed several typologies to distinguish jobs on different dimensions. She studied similarities as well as differences in managerial jobs. In spite of this, much work still has to be done for a better understanding of managerial work.

3.4. Empirical Studies of a Production Manager's Job:

The aim of this section is to review briefly the empirical studies concerned specifically with the production manager's job. Examples of such studies include: Feldman (1983)⁽⁶⁵⁾, Gill and Lockyer (1978)⁽⁶⁶⁾, Lockyer and Oakland (1983)⁽⁶⁷⁾, New (1976)⁽⁶⁸⁾, New and Myers (1985)⁽⁶⁹⁾.

By adapting Stewart's (1976) approach using structured interviews and observation, Feldman (1983) established a study of 'The Senior Production Manager's Job'. His primary objective was to develop an increased understanding of how senior production managers function. The sample group consisted of 16 senior production managers from different industrial organisations and industries, who utilized different production technologies. The individuals studied were responsible for the overall management of activities involving selecting, designing, operating, controlling and updating productive systems.

Feldman (1983) tried to explain what makes jobs possessing similar responsibilities and functions different from one another. Why is one more difficult than another? He agreed with Kotter and Stewart that one way of answering these questions is to look at the demands imposed by the set of formal and informal responsibilities and relationships that define the

manager's job. Job demands exist in two types: (1) the things that must be done, such as supervisory requirements, and (2) the pressures that cannot be avoided, e.g. the need to meet certain minimum performance criteria.

The results of Feldman's study showed that there are twelve points of high demand : (1) the seriousness of the errors of timing they can make, or the consequences of their units performing poorly; (2) the required bargaining and negotiation with external contexts; (3) dependence on the boss for support for changes and more resources; (4) the need to create a good impression on external contacts; (5) the speed with which a mistake they make can be identified; (6) the need to develop personal relationships and establish good will with external contacts; (7) the required involvement in presentations to the boss and/or other senior executives; (8) the need to supervise the quality of their subordinate's work; (9) the need for discretion in conversation with external contacts; (10) the great variety of external contacts, causing continual shifts of role; (11) the tendency of the manager to make mistakes or to perform poorly and have the behaviour directly identified as his own; (12) the speed with which risky decisions must be made.⁽⁷⁰⁾

Other results show that there are four points of low demand. First, monitoring the performance of their

subordinates was relatively easy, given the preponderance and frequency of operating and performance reports. Second, the need to deal with peers of high professional status was infrequent. Third, providing a service to their peers was generally undemanding because of the need and desire for these services. Fourth, other than special projects, relatively little work was allocated by their bosses.⁽⁷¹⁾

Stewart (1976) showed that there is a broad spectrum of demands on managers. It was equally clear that these came out of day-to-day operations and from the people with whom they had to deal⁽⁷²⁾. Feldman (1983) found a number of other demands generally related to the manager's job responsibilities. He suggested that these indicate other areas needing study. These other demands are: objective setting and policy packing, resource allocation and control, technical consulting and service, advanced financial responsibility, and monitoring production activities and handling disturbance.⁽⁷³⁾

Lockyer and Oakland (1983)⁽⁷⁴⁾ from Bradford University provide information about U.K. production managers (the most senior executives in the field). The study was based on three previous studies carried out between 1976 and 1980, ie : Gill and Lockyer (1978)⁽⁷⁵⁾, which involved a programme of in-depth interviews and a questionnaire which was completed by 365 respondents; Jones and

Lockyer (1980)⁽⁷⁶⁾, in whose study 479 completed questionnaires were returned; Hutton and Lawrence (1980)⁽⁷⁷⁾ in whose study, a questionnaire was distributed to a large sample of I.I.M. membership, and was completed by 1866 respondents.

The study covered the following headings: education and qualifications, career and expectations, the job, knowledge, practices and perceived needs, and American vs. British Ownership of the company. The results showed that:

"the production manager has very many more subordinates than other functional managers... Thus, the production manager is much more likely to be faced with 'people-problems' requiring special judgement and experience, than any other manager."⁽⁷⁸⁾

Lockyer and Oakland (1983) found that the activity on which production managers, on average, spent most of their time was direct production (30% of their time) . They spent 20.6% of their time in improvements to processes and products, 17.9% in labour/ staff relations, 9.2% in production planning, 5.2% in safety, 3.4% in customer complaints, 2.3% in public relations, and 9.29% in other activities.⁽⁷⁹⁾

"When asked for their views on the importance of managerial/technological skills as related to job effectiveness, there was a very interesting difference between American-owned and British-

owned companies. It will be seen that very few managers believe that the technology of the production process is the most important factor in their job, but far more production managers in American-owned firms realized the greater importance of the managerial content of the job. This finding is supported very strongly by the I.I.M. study results"⁽⁸⁰⁾.

In the context of the background of these production managers, the results showed that:

"...in marked contrast to the other functional managers surveyed, many production managers(47%) left school at or before the age of 16 and undertook 'manual 'work in their first full-time employment. Clearly, an exceedingly high proportion of production managers 'work their way up' whilst few finance and marketing managers have experience on the 'shop floor. The production managers' education did not in general, extend as far as that of other functional managers, or production managers in Germany."⁽⁸¹⁾

New conducted a study in 1976 followed by another in 1985. He used a structured questionnaire covering manufacturing operations in 186 plants (in 1975), mainly in engineering industries.

New's (1976) study aimed to investigate the career background of manufacturing managers in industry, to discover the general characteristics of manufacturing

operations across companies and establish differences and similarities, and to determine the relative use of computers and management techniques in manufacturing operations

In terms of managers' backgrounds, the writer stated:

"...the results tend to support the external view of manufacturing management as being dominated by technologists. While only a third of the respondents hold a first degree, those that do, have qualified almost exclusively in engineering or science."⁽⁸²⁾

The results showed as well that:

"..a majority of plants appear to attempt to produce standard items for stock and customer specials to order in the same set of facilities, almost certainly resulting in rather poor cost performance on standard lines, poor delivery performance on customer orders or, more likely, poor performance on both criteria.

Of outstanding importance is the hard evidence on the relative importance of purchasing to overall cost/profit performance. In most plants the amount spent on purchased items is about three times that spent on direct labor, yet nothing like three times the management effort is directed towards purchasing efficiency."⁽⁸³⁾

New (1976) agrees with Lockyer, Oakland and Lane (1983), that the main criticisms of U.K. manufacturing

industry are of the way that a manufacturing system behaves or is organized. They are not, in general, criticisms of manufacturing managers as such. For example, in the discussion of delivery performance, it became clear that a major reason for poor delivery performance was miss-match between load and capacity, often caused by overcommitment of the manufacturing facilities by the marketing function. Thus the symptom of poor operating performance in terms of delivery promises is often the result of poor decisions at a strategic level, in which the manufacturing manager often has little say.⁽⁸⁴⁾

The previous review focused on a production manager's job. It provided an over-view of the variety of objectives pursued and methodologies used. In terms of objectives, past research investigated the production manager's time distribution over work activities, the nature of the relationship between production function and other functions in the organisation and the demands of the job. The methodologies used were similar to those used by studies concerned with other managers.

3.5. Summary:

The present study aims to investigate a production manager's job in Iraq, and recognises the need to review previous research of the subject. In addition, it was felt that the research had to include information regarding the nature of managerial work in the Arab world.

Accordingly, the material presented in this chapter gave a brief review of previous studies through three sections. The first reviewed empirical studies of managerial work in the Arab world. The second was concerned with empirical studies of managerial work in the manufacturing sector, and the third included empirical studies of a production manager's job.

As for the empirical studies conducted in the Arab world, the main concern was with the managerial and style and attitudes, of an Arab manager, as well as with the influence of Arab culture and the Islamic religion on managerial work. There is no discussion of the production manager's job, which is the aim of this study. It will thus be a starting point in the area.

The chapter reviewed studies in which writers have attempted to describe the nature of managerial work in the manufacturing sector. A framework based on the three organisational levels has been used. The first is foreman level, the second is middle-manager and the third is

senior executive level.

For the foreman level, the studies focused on the foreman's relations with the others in the organisation and on the work activities of the foreman. Individual incidents were recorded with regard to time, topic, activities, place of contact, and distinguishing work differences between effective and ineffective foremen, and their time distribution.

The generalisations which proceed from the studies of middle managers are that much of the middle-manager's time is spent in talking with other people, mostly face-to-face or informally in a small group, some time is spent in formal meetings, technical skills become less important and administrative skills more important as they move up the managerial hierarchy.

The results of the managerial studies that were conducted at senior executive level, show that managers spend the majority of their time in horizontal and lateral communication. Hence top managers in aggressively expanding firms spend comparatively more time in conversation with one another. Talking is the most important means of acquiring and systematizing information and a manager spends, on average, 39% of his time in this way. In addition, the studies show a relationship between organisational growth and development and the manager's way of spending his time.

The review of empirical studies of a production manager's job provides an over-view of the variety of objectives pursued and methodologies used. In terms of objectives, past research investigated a production manager's time distribution over work activities, the nature of the relationships between production function and other functions in the organisation and the demands of the job. The methodologies used were similar to those used by studies concerned with other managers.

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Chapter Four

Economic and Managerial Background of Iraq

4.1. Introduction:

The significance of discussing major environmental factors related to research, has long been recognized. Such discussion provides a background which contributes to later analysis. This chapter is divided into three sections. The first attempts to give a brief background description of Iraq. This is to provide the reader with an introduction to the history of the country, its geography and population. The second section deals with the development and status of the Iraqi economy, with special reference to the industrial sector. It emphasises the National Development Plans since 1950. The third deals with the present structure of the economy.

4.2. Iraq: General Background:

4.2.1. Historical Background of Iraq:

The geographical location of Iraq and its history give it a special importance in the Arab World in particular and in the Middle East in general. Historically, it was in Iraq that one of the earliest civilizations flourished. This civilization was born in the land between the two great rivers, the Tigris and Euphrates. In later history, Baghdad, the capital, became the

capital of the Arab Muslim Abbaside State (658-1258) for more than six centuries, and the main land route between Europe and South East Asia.⁽¹⁾

In modern history, the State of Iraq developed from three Ottoman provinces: Baghdad, Basra and Mosul. They were detached from the defeated Ottoman Empire at the end of World War I. By the end of 1918, almost the whole of today's Iraq was held by the British, and in April 1920, Britain was formally given the League of Nations mandate over Iraq. This was followed by a monarchical regime which lasted from 1921 to 1958. In 1932, Iraq became a politically independent country, and was admitted to the League of Nations. Between 1920 and 1958, British involvement in Iraq remained even after the country became independent. Britain's role was of crucial importance in setting the parameters within which Iraq's political system moved.

The character of central government, located in Baghdad, changed considerably and frequently between 1920-58. The firm rule of king Faisal I (1921-33) gave away to the rather weak rule of his son Ghasi (1933-39), and that in turn to the somewhat conspiratorial politics of the Regent Abd-ilah in the 1940s and early 1950s while king Faisal II (1939-58) was an infant.⁽²⁾

In July 1958, the monarchy was overthrown by a military coup which established the Republic of Iraq. During the

period 1958-68, three regimes ruled in succession. A new regime took over power in July 1968. The Arab Ba'ath Socialist Party has been in power since that time.

4.2.2. Location and Geographical Characteristics

Iraq is situated in the fertile crescent of South West Asia, to the North-East of the Arab homeland. It is bounded on the north by Turkey, on the east by Iran, on the west by Syria, Jordan and Saudi Arabia, and on the south by the Arab Gulf, Kuwait and Saudi Arabia. Iraq lies between latitudes $29^{\circ} 5'$ and $37^{\circ} 22'$ north and between longitudes, $38^{\circ} 45'$ and $48^{\circ} 45'$ east. It has an area of 438317 sq. km., and consists of 18 Governorates.

The country can be divided roughly into three regions: mountain, desert and alluvial plain. The mountainous region is situated in the north and north-east of the country and forms one fifth of the total area. The desert (approx. 60% of the whole area) is situated in the west of Iraq. The alluvial plain is in the form of a rectangle, 650 km. long, and 250 km. wide and extends between Balad on the Tigris river and Ramadi on the Euphrates river in the north, the Iranian frontier on the east and the desert plateau on the west. It is divided in the south by marsh land.⁽³⁾

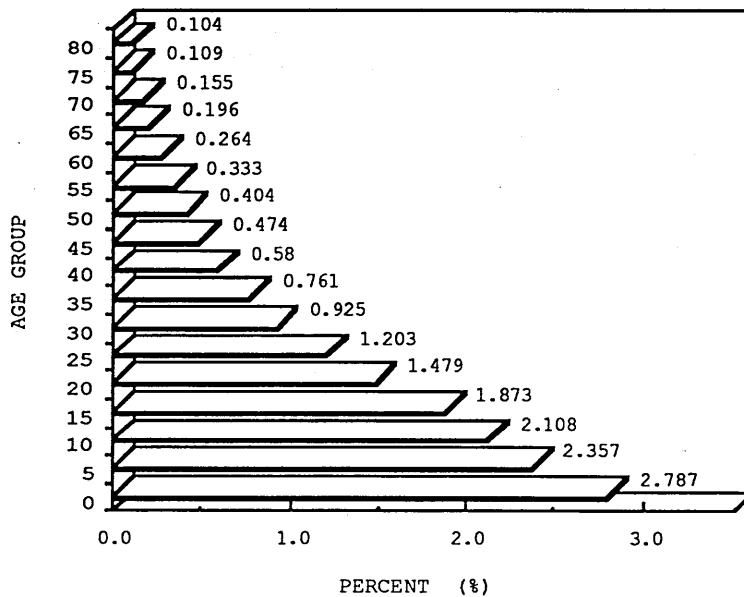
Iraq lies within the moderate northern region. Its climate is continental and subtropical, with a rainfall pattern similar to that of the Mediterranean where rainfall occurs mostly in autumn winter and spring.

4.2.3. Population:

The 1987 census placed the population of the country at 16 million with an annual growth rate of 3.2% per annum. The population, as given in 1987 census, indicates that about one third of the population (32%) is under 9 years of age. Only 11% of the population is above 50 years of age.⁽⁴⁾

In this context, Figure 4.1 shows that the general picture in Iraq is one of a young and rapidly increasing population. Though the country is not immediately threatened by population pressure, the rapid rate of expansion presents the possibility that at some time in the future, over-population may result.⁽⁵⁾

Figure 4.1 Population Pyramid for Iraq



Source: Republic of Iraq, Ministry of Planning, "Annual Abstrac 1987".
Baghdad: 1987, p. 7.

Regarding rural and urban population, Table 4.1 shows comparisons between them for the years 1965, 1970, 1977 and 1986. The Table shows that the urban population sharply increased while the rural population decreased.

Table 4.1 Population of Iraq by Rural/Urban Residence
(1965, 1970, 1977, 1987) (Thousands)

Year	Rural		Urban		Total	
	Number	%	Number	%	Number	%
1965	3.935	49	4.112	51	8.047	100
1970	3.959	43	5.247	57	9.206	100
1977	4.454	37	7.645	63	12.099	100
1986	4.609	29	11.500	71	16.109	100

Source: Republic of Iraq, "Annual Abstract of Statistics for Different Years".

Such a disproportionate increase, in the urban population can be explained in two ways.

First, there is a continuous process of emigration from the villages to the cities. For example, when the annual growth rate was 3.3% per annum,, the urban population grew at 5.3% and the rural population at 0.9% per annum. This means that about 1.9 million villagers emigrated from rural areas to settle in cities.⁽⁶⁾

Second, the current regime, since its establishment in 1968, has announced that Iraq is a homeland for any Arab who wishes to live there. As a result there are now many thousands of Egyptians in Iraq working in both the public

and private sectors.

Suleman (1983), has concluded that the problem of migration not only gave the government an urbanization problem, but also reduced the productivity of both the industrial and agricultural sectors. Despite massive spending in cities on housing and other social welfare, there is still a serious risk that the process of urbanization may proceed at a more rapid rate than the government can cope with, particularly in the short term.⁽⁷⁾

4.3. Economic Development and Status in Iraq with Special Reference to the Industrial Sector:

Having discussed the general background, it is useful now to discuss the economic development of Iraq. While this study is concerned with production managers in manufacturing companies, the initial discussion will focus on the industrial sector, in the context of the other economic sectors.

The earliest evidence of Iraq's economic revival can be found in the middle of the 19th century, during the Ottoman occupation. This was, however, inadequate and put a great burden on the Iraqi kingdom (established in 1921) in dealing with the problem of developing the country's economy and resources.

At that time, there was no industry worth mentioning.

The production of metal and clay utensils, bricks and hand-woven textiles, carpentry and blacksmithing depended on manual skills. Consumer goods other than agricultural products were imported from industrialized nations.⁽⁸⁾

From 1920, the country started simultaneously to build a national administration and to develop its resources. Conditions at that time were such that its economic development required the provision of basic public services, without which productive activity of all kinds could not function properly. These include law and order, education and public health, transportation and communication, power and water supply, irrigation, drainage and flood control. This was necessary because, during the Ottoman rule of Iraq (1534-1917), public services remained meagre and economic activity was handicapped by the lack of social overhead capital.⁽⁹⁾

After the establishment of the royal regime, industries producing food and consumer products such as textiles, detergents (soap), cigarettes, printing, and alcoholic drinks were established. During the thirties when world crisis prevailed (1929-1933), the country was badly affected and suffered a recession in investments. No new industrial projects were initiated during that period. After the establishment of the Industrial Bank in 1947, some industrial projects such as cement manufacture, vegetable oil extraction, spinning, weaving, and brick-making flourished in the private sector.⁽¹⁰⁾

However, in spite of what is mentioned above, very limited economic development was obtained. This led to the slow growth of the economy as a whole, and until the early years of the 1950s, most of the economic facilities were still poor and in need of substantial expansion⁽¹¹⁾. Two of the main factors which caused slow progress were a shortage of Government revenue and political instability.

From 1950 onward, the Government focused more attention on the problem of economic development. One of the main reasons for this was the substantial increase in Government revenues, caused by the increased demand from abroad for Iraqi oil. Another major reason was the need to provide better living standards in the country.

A 'Development Board' was created in 1951, upon the recommendation of the International Bank for Reconstruction and Development. The Board was given the following tasks:

"(1) to prepare a general economic and financial plan for the development of the resources of Iraq designed to raise the standard of living, (2) to undertake a general survey of the resources of Iraq, and (3) with the approval of Parliament to carry out projects mentioned in the programmes in accordance with their decided priority."⁽¹²⁾

The Board began to operate towards the end of 1950, and continued until it was abolished after the 1958

revolution. Three investment programmes were formulated. Jalal (1972) called them the First , Second, and the Third plans.

4.3.1. The First Plan (1950-56):

As Table 4.2 shows, the first plan (1951-56) allocated Iraqi Dinar (I.D.) 155.4 million i.e. I.D. 31.08 million per annum. This was equal to 7.1% of Annual Gross National Product over the same period.

As far as industry is concerned, the first programme did not make any allocation for specific industrial projects, due to the lack of preliminary studies on the basis of which costs could be estimated. The World Bank Mission's (1950) report included a preliminary survey of Iraq's industrial resources, and suggested several industries with development potential. In addition, the Industrial Bank of Iraq had already employed consultants to examine industrial projects⁽¹³⁾. On the basis of these studies, the Board decided to build a number of industrial projects, to undertake mineral and industrial surveys and to increase the country's capacity to supply electricity⁽¹⁴⁾. By the end of the first plan, the Bitumen Refinery of Quiyara was under construction to produce 60,000 tons of bitumen annually, the Cotton Spinning and Weaving Mill of Mosul was under construction to produce one million square yards of cotton textiles, and two cement plants at Sulaimamiya and Mosul were under

constriction to produce 350 tons of cement per day each, all with financial aid from the Board. The Government Oil Refinery Administration completed a refinery at Doura with a total capacity of one million tons per year.⁽¹⁵⁾

In addition, the Board found itself considering many industrial proposals during the first plan period, as a result of which, it decided to undertake a general industrial survey to analyse potential industries that might be built and to provide information on their priority.

4.3.2. The Second Plan (1955-59):

In April 1955, the Ministry of Development presented to the Parliament the other five-year plan (the second plan 1955-59) to supersede the first plan. Table 4.2 shows that this plan proposed a total expenditure of I.D. 304.3 million, which was almost double that of the previous plan. That was because of a sharp increase in oil revenues.

During the first year of this plan, consultants Arthur D. Little Inc., were employed to determine the industrial opportunities in the country. Their report suggested a programme to be implemented in six years and contemplated the creation of a chemical industry, the establishment of a steel rolling mill, a steel furnace, and a date industry, as well as expansion and improvement of the existing industries, at a total cost of I.D. 43 million.

It also suggested a group of other industries for further investigation, such as pharmaceutical products and glassware. It referred to a number of industries including agricultural machinery and fruit and vegetable canning, and argued that for various reasons they would not be suitable for Iraq for some time to come.⁽¹⁶⁾

4.3.3. The Third Plan (1955-60):

In May 1956 the third plan (1955-60) had been drawn up to replace the 1955-59 plan. The main reasons for this replacement were the increased oil revenues, the completion of several studies, especially in the fields of drainage, communications and housing, and the recommendation of Lord Salter for more flexible and diversified economic programmes.⁽¹⁷⁾

This plan was divided into three categories of industrial investment. The first category was the extension and improvement of existing industries. The second was the initiation of new industrial projects, including: sulphur extraction, the manufacture of paper, date syrup, rayon and rayon textiles, animal fodder, a steel rolling mill, and a steel furnace. The third category included industries for which studies had to be completed, such as: fertilizer, plastic materials, caustic soda, and a natural gas pipeline.⁽¹⁸⁾

Table 4.2 shows that the plan allocated an amount of I.D. 500 million, including I.D. 49 million which was in

the 1955 allocation under the previous plan. This left an annual expenditure of I.D. 90.2 million for the following five years.

Table 4.2 Investment Plans of the Development Board
(1951-60) (I.D. Million).

Sector	First Plan (1951-56)		Second Plan (1955-59)		Third Plan (1955-60)	
	I.D.	%	I.D.	%	I.D.	%
Agriculture	66.1	42.5	114.4	37.6	168.1	33.6
Industry	31.1	20.0	43.6	14.3	67.1	13.4
Transport	29.0	18.7	74.2	24.4	124.4	24.9
Buildings	20.6	13.3	60.7	20.0	123.1	24.6
Other	8.6	5.5	11.4	3.7	17.3	3.5
Total	155.4	100.0	304.3	100.0	500.0	100.0

Sources: The Development Board, Compilation of Laws concerning the Development Board pp.8-9; The Development Board and the Ministry of Development, Law No. 43 of 1955 for the General Programme of the Development Board and the Ministry of Development, pp 16-23; Development Board and the Ministry of Development, Law No. 54 of 1956 for the Amendment of Law No.43, 1955, p. 11.

Table 4.3 shows the sectoral distribution of the actual investments for the period 1951-58. It shows that in spite of the total investment in the agricultural sector being higher than in any other sector, the ratio of investment in this sector to the total investment decreased from 51.6% in 1951 to only 24.6% in 1958. The decline in the allocation of funds to agriculture contrasted sharply with the increase in the amount allocated between 1951 and 1958 to housing (29% to 38%)

and to industry (0.0% to 22.7%).

Table 4.3 Actual Sectoral Investments during 1951-58)

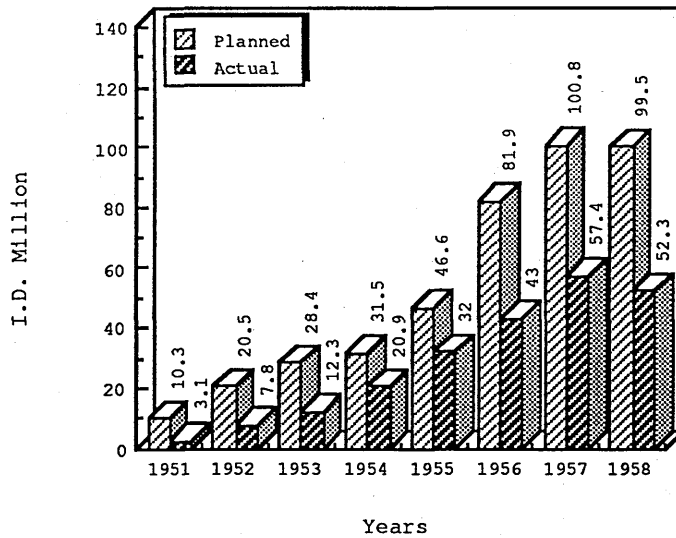
(I.D. Million)

Year	Agriculture		Industry		Communication		Housing		Total
	I.D.	%	I.D.	%	I.D.	%	I.D.	%	
1951	1.6	51.6	0.0	0.0	0.6	19.4	0.9	29.0	3.1
1952	3.5	44.8	0.1	1.2	1.7	21.9	2.5	32.1	7.8
1953	7.1	57.7	0.5	4.1	1.9	15.5	2.8	22.7	12.3
1954	11.6	55.5	2.0	9.6	4.3	20.6	3.0	14.3	20.9
1955	11.6	36.2	0.9	2.8	8.4	26.3	11.1	34.7	32.0
1956	12.3	28.6	5.0	11.6	9.2	21.3	16.5	38.5	43.0
1957	13.2	22.9	8.6	15.0	12.4	21.6	23.2	40.5	57.4
1958	12.6	24.1	11.9	22.7	7.9	15.2	19.9	38.0	52.3
Total	73.5		29.0		46.4		79.9		228.8

Source: Jalal, Farhang, The Role of Government in the Industrialization of Iraq (1950-65), London: Frank Cass and Company Limited, 1972. P.67.

Figure 4.2 shows the planned investment in comparison with the actual investment during the period 1951-58. It is noticeable that expenditure was always less than planned investment, i.e. the plans did not achieve their targets.

Figure 4.2 Planned and Actual Investment during (1951-58).



Al-Moumen stated that until 1958, the Iraqi economy was characterized by the following.

- "(1) It was mainly affected by two primary sectors, the first and most important, crude oil, and the second, agriculture.
- (2) It was heavily dependent on foreign trade, and on export of crude oil in particular.
- (3) The total amount of the investments in the agriculture sector in the economy was increased, whereas that of manufacturing was minimal.
- (4) Imports still occupy an important role in the economy."⁽¹⁹⁾

As mentioned in the historical background, in July 1958 the monarchy was overthrown by a military coup which established the Republic of Iraq. The 1958 Revolution set a new development policy which was mainly aimed at speeding up the industrialisation effort. This was based on two assumptions:(1) Industrialisation will lead to

less dependence on the crude oil sector, and (2) that it will lead to technical and economic progress.

The Planning Board was established in 1959, and up to 1965 it has formulated three national plans which are summarized in Table 4.4. These plans are the fourth, the fifth, and the sixth plans.

4.3.4. The Fourth Plan (1959-62):

The main aim of the fourth plan 1959-62 was as follows:

"to change radically the direction of the plan of the previous regime, in a manner which can serve the interests of the Iraqi people, because the new Government believed that oil revenues have been wasted on matters of no interest to Iraq."⁽²⁰⁾

As Table 4.4 shows, the plan allocated I.D. 38.7 million to the industrial sector, which represented 11.1% of the total allocation. This, however, did not include the amount of funds required for the projects of the Iraqi Soviet Agreement of 1959, which included a steel mill, a fertilizer plant, a sulphur extraction plant, a cotton textile mill, a clothing workshop, a wool textile plant, a stocking and underwear factory, a plant to produce agricultural machinery, an electric bulb factory, a canning factory, a glassware factory, and a plant for the production of pharmaceutical products and electrical equipment. The agreement also provided for technical

assistance in the establishment of plans to produce caustic soda, polyvinyl chloride and polyethylene.⁽²¹⁾

It is important to mention that the amount of funds required for these projects was not mentioned in the plan, because at that time even rough estimates of costs were not available. The plan, however, devoted I.D. 10 million to cover Iraq's share in the cost of all 61 projects covered by the agreement, but this sum was not divided between different sectors.⁽²²⁾

4.3.5. The Fifth Plan (1961-65):

The fifth plan (1961-65) gave the highest priority to the industrial sector as Table 4.4 shows. It devoted I.D. 166.8 million, representing almost 30% of the total allocation. This sum was divided into I.D. 114.1 million for major industrial projects and I.D. 48.4 million for the so-called complementary projects, of which I.D. 4.3 million was devoted to minor electricity projects for the Ministry of Municipalities.

There were 50 projects in the industrial sector of this plan, 12 for the manufacture of electrical products, 10 for chemical products, 4 for mineral surveys and pipelines, 3 for foodstuffs, 3 for metal products, 3 for atomic energy generation 2 for glass and ceramics, 1 for surgical equipment, 1 cigarette factory, 1 oil refinery and 1 vocational training project.⁽²³⁾

The chemical industry of the plan included caustic soda, ethylene, polyethylene, polyvinyl chloride, carbon black, rayon yarn, paper, sulphur extraction, fertilizer, rubber tyres and tube factories. The metal industries included steel, agricultural machinery and geological equipment repair plants. The weaving and clothing industry included clothing workshops, stocking and underwear plants, a shoe factory, and cotton, rayon and woollen textile plants.⁽²⁴⁾

In July 1964, the government nationalised about 30 industrial companies and all private and foreign banks and insurance companies.

"The new laws introduced by the government in July 1964 were argued to be in favour of the development of industry, especially the strengthening of the public sector which the government was in charge of. But the public sector suffered from complex red tape bureaucracies and a lack of qualified staff which weakened its efficiency. The companies became heavily dependent on government financing and while they were expected to contribute to the development of the national economy, they were unable to stand on their own. They became a heavy burden on the state's budget."⁽²⁵⁾

4.3.6. The Sixth Plan (1965-69):

On July 1st. 1965, the Planning Board prepared a new

economic plan, the 1965-1969 Five-Year Economic Plan. Table 4.4 shows that the total allocation for the plan amounted to I.D. 666 million, of which I.D. 604 million was allocated to different economic sectors and the rest for other purposes. This plan, like the previous one, gave first priority to industry, but it raised the share of agriculture of the total funds from fourth to second place.

The novelty in the new plan was the provision of I.D. 46 million for new industrial projects, which included tractor and motor car assembly, a project for the production of salt, a shipboard project, laboratories for specifications and standardisation department, and a woollen textile project in the north ⁽²⁶⁾.

Table 4.4 Investment Programmes of the Planning Board (1959-65)
(I.D.Million)

Sectors	Fourth Plan (1959-62)		Fifth Plan (1961-65)		Sixth Plan (1965-69)	
	I.D.	%	I.D.	%	I.D.	%
Agriculture	4.79	1.4	112.9	20.3	173	26.0
Industry	38.7	11.1	166.8	30.0	187	28.1
Transport	100.8	28.8	136.4	24.5	110	16.5
Buildings	191.5	54.7	140.1	25.2	134	20.1
Other	14.0	4.0	0.0	0.0	62	9.3
Total	349.7	100.0	556.2	100.0	666	100.0

Source: Ministry of Guidance Law No. 181, 1959, p.11; The Five Years Detailed Economic Plan, (1961-65), issued by the Ministry of Guidance, Baghdad, 1962, pp.11,79 and Ministry of Guidance Law No. (87) 1965 of Five Years Economic Plan (1965-69), p.71.

At the end of the 15 years following the 1958

revolution, three Five-Year Plans were prepared. The total allocation which was to be spent over the period 1959-69 was I.D. 1571.9 million. But by the end of the period, only I.D. 666.7 million had actually been spent. Table 4.5 shows the sectoral distribution of the actual investments for the period 1959-69. Figure 4.3 shows the planned investment in comparison with the actual investment during the period 1959-69.

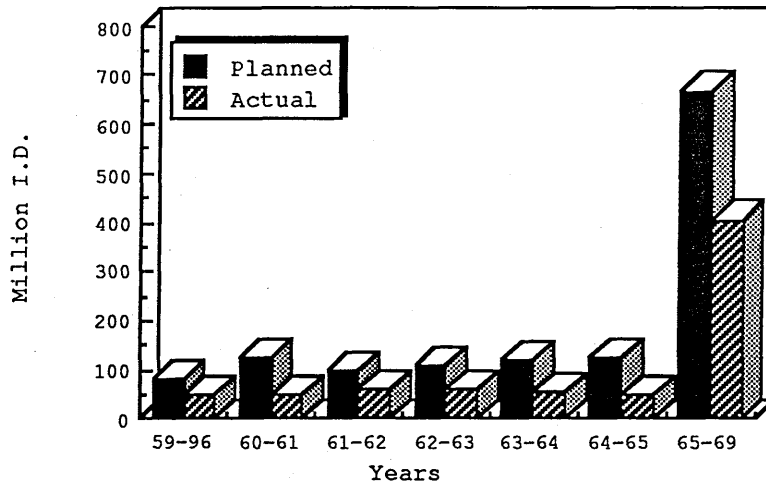
Table 4.5 Actual Sectoral Investment during 1959-69
(I.D.Million)

Year	Agriculture		Industry		Communication		Building		Total
	I.D.	%	I.D.	%	I.D.	%	I.D.	%	
1959-60	10.3	20.5	4.8	10.0	12.6	25.2	22.2	44.3	49.9
1960-61	10.8	22.7	5.7	12.0	7.9	16.6	23.1	48.7	47.5
1961-62	9.6	15.7	7.0	11.6	14.1	23.2	30.1	49.5	60.8
1962-63	6.3	10.7	10.3	17.6	15.8	26.9	26.3	44.8	58.7
1963-64	4.5	8.4	9.5	17.7	18.3	34.3	21.2	39.6	53.5
1964-65	6.7	9.1	16.5	22.2	18.8	25.4	32.0	43.3	74.0
1965-69	54.4	16.9	128.4	39.8	75.9	23.6	63.6	19.7	322.3

Source: Central Bank of Iraq: Annual Report, 1963, p.218; Quarterly Bulletin, No. 59, p.47, Bulletin, New Series, No.3, 1967, p.29 and No.4, 1967, p.29, Iraq Annual Supplement 1981, Quarterly Review of Iraq, p.8.

What happened during the period 1955-58 happened again in this period. Expenditure was always less than planned investment, once again targets were not reached.

Figure 4.3 Planned and Actual Investment during (1959-69)



To summaries, the Iraqi economy was characterised by the following during the period 1959-69:

- "(1) The increase in the domination of the oil sector on the Iraqi economy
- (2) The huge increase in the public sector is scope and activities, without proper policies and plans, as well as a proper administration system to control it effectively and efficiently.
- (3) The low rates of productivity, and inefficiency in the public sector which affected to a great extent the growth rates of the whole economy."⁽²⁷⁾

In addition, the ideology of the plan redirected attention from the agricultural sector to the industrial sector. The government believed that the importance of the industrial sector lay in its capacity to stimulate the development of the whole economy.

A new government was established by the Arab Ba'ath Socialist Party (ABSP), in 1968. It turned the country in a new direction and brought a new economic ideology, which gave rise to the National Development Plan (1970-75). This plan had two targets:

"1. Obtaining an important rise in the standard of living by increasing average economic growth and ensuring at the same time a reasonable degree of economic stability.

2. Restoring the balance of Iraq's economic structure by a diversification of domestic production so as to lessen dependence on oil as a source of foreign currency. This would require an important increase in agricultural and industrial production, thus enabling an increase in non-petroleum exports and also through using the increasing domestic products as replacement for imports."⁽²⁸⁾

4.3.7. The Seventh Plan (1970-75):

As Table 4.6 shows, in the national development plan of 1970-75, industry got the largest share of 41.6%, agriculture came second with 19.3%, building and services came third with 17.5%, and transport and communication got 15.4%. The total investment in this plan amounted to some I.D. 1076 million. As for the revenues for financing the plan, they came mainly from oil which amounted to 65.1%, foreign loans 2.3% and 32.6% from other sources.

Table 4.6 Investment Allocation of the 1970-75 Development Plan.
(I.D.Million)

Sector	I.D.	%
Agriculture	207.5	19.3
Industry	448.0	41.6
Building and Services	188.0	17.5
Transport and communication	166.0	15.4
Planning, follow-up, statistics		
special funds bodies	6.3	0.6
Loans for government enterprise	9.6	0.9
Investment obligations	8.6	0.8
Other investments	42.0	3.9
Total	1076.0	100.0

Source: Republic of Iraq, Ministry of Planning, Progress Under Planning, No.51, 1975, Baghdad, 1976, p. 63.

It is clear that one of the distinguishing features of the 1970-75 plan, was the heavy importance it assigned to industry, particularly oil, gas, petrochemical and other industries which depend primarily on local raw materials. The main aim of the plan was the completion of delayed projects from the previous national development plan (1965-69). On the other hand, it initiated several other small and medium sized industries mainly in the food and textile industries.⁽²⁹⁾

During this plan, Iraq nationalized its oil resources. Incidentally, a year after this nationalization, the world oil market witnessed a sharp increase in oil prices. In this context Al-Horani (1984) stated:

"The increase in oil prices added a greater

amount of income to the state budget, securing further financial income for the plan. In fact much of the growth in national income, which was almost on target 6.7%, was due to the rise in the price of oil towards the end of the plan."⁽³⁰⁾

Japanese, West German and American industries took charge of the development of some Iraqi industries. Petrochemicals was one of them. The most important petrochemical plants are: the urea plant at Khour Al-Zubair, with an exporting capacity of one million ton of fertilizer a year; the Basrah petrochemical complex which has the capacity to produce 150,000 tons of caustic soda a year; Al-Quaim fertilizer plant in the far west, which uses phosphates from the Akashat mines. It has a capacity of 1,100 tons of phosphoric acid a day, 4,500 tons of sulphuric acid and 1.1 million tons of phosphate-based fertilizer a year. Some 85% of production from these plants is meant for export.⁽³¹⁾

4.3.8. The Eighth Plan (1976-80):

The government drew up another national development plan for (1976-80), which was the eighth plan in Iraq (the second after 1970). This new five-year plan was based on the following four points:

"1. Expand the socialist sector (the public sector) of agriculture (state collective and co-operative farms) so that it becomes the

dominant sector, reduce individual types of agricultural production to ensure higher overall production prosperity for the peasants and a rapid transition to socialism.

2. Bring all external trade into the hands of the state and impose central control on internal trade to give the public sector a leading role while taking account of the urgent needs of the development plan and the special measures these involve.

3. Strengthen the public sector's leading position in industry and work with energy and enthusiasm to move it from state capitalist to democratic socialist forms, organizing the private sector under firm state control so that it too may contribute to the development plan.

4. Guide the public services in accordance with objectives and demands of development and transformation."⁽³²⁾

This plan represented a further large increase in the total allocation, resulting in more than a three-fold increase in planned investments in 1970-75. This improvement was mainly due to the increasing oil revenues. Thus, the plan aimed to achieve the following targets:

"1. The creation of an economic surplus to enable the industrial sector and especially manufacturing industries to play an effective role in financing the investment of the development plans.

2. The fulfillment of the needs of agricultural expansion with tools, machines and fertilizers,

and also supply irrigation and drainage projects with their requirements of industrial materials.

3. The development of industries to process raw materials and agricultural products and participation in the diversification of the structure of output and exports.

4. Fulfilling the growing needs of the local market for industrial goods for both production and consumption in all sectors and aiming for the local industrial production to replace goods imported from abroad.

4. The absorption of the surplus of labor in all sectors through the change effected by the development plans in technical standards."⁽³³⁾

The distribution of the allocation of investments for the 1976-80 plan is shown in Table 4.7. This plan gave priority to the industrial sector with I.D. 4.3 billion, that is about 31.9%. Agriculture came second after industry with I.D. 2.554 billion, which represented about 18.7% of the total investment allocation.

Table 4.7 Investment Allocation of the 1976-80 Development Plan
(I.D.Billion)

Sector	I.D.	%
Agriculture	2.554	18.8
Industry	4.300	31.7
Transport and communication	2.380	17.6
Construction and Services	2.310	17.0
Others	2.026	14.9
Total	13.570	100.0

Source: Republic of Iraq, Ministry of Information, The Economy of Iraq, Development and Perspective, 1958-1976-1980, Madrid, 1977, p.133.

It is interesting to notice that large industrial projects dominate the 1976-80 plan. These were grouped into nine sets of projects: petroleum (including oil fields, pipeline, oil and gas plants, petroleum equipment), petrochemical, chemicals and glass, metallurgical and light industries, paper and textiles, electricity, vehicles and auxiliary equipment, foodstuffs, and building materials. These projects increased the proportion of the investment allocated to the industrial sector by about one-third of the total investment for the 1976-80 plan, which was equal to I.D. 2.7 billion.

The Iraqi economy was characterized by the following during the period 1970-80:

1. the extension of the public sector in scope and in activities. Such extension, coupled with the reorganisation of the activities of this sector, and the presentation of more specific plans for these activities, led to major improvements in controlling and supervising public sector activities.⁽³⁴⁾

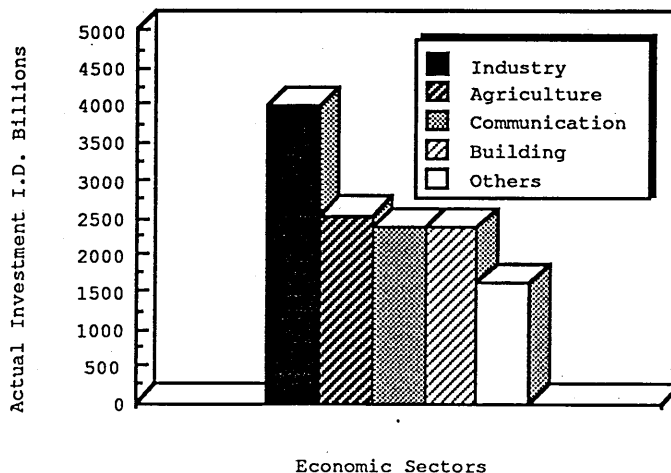
2. The expansion of investment allocation in all of the economic sectors, made possible by the huge increase in oil revenues.

3. The period showed a significant increase in the investment allocation in the industrial sector. For example, the share of this sector was 41.6% of the total

investment allocation for the plan of 1970-75. It can be said that the government believes that the industrial sector can play a major role in the overall development of the national economy.

As a result of nine Five Year Plans (1950-80), the total actual investment for the period was I.D. 12.862 billion. Industry got the largest share of I.D. 3.994 billion (31% of the total expenditure), agriculture came second with I.D. 2.528 billion (19.7% of the total expenditure), transportation and communication got I.D. 2.365 billion (18.4% of the total expenditure), building got I.D. 2.355 billion (18.3% of the total expenditure), and others got I.D. (1.620) billion (12.6% of the total expenditure). Figure 4.4 shows the overall picture⁽³⁶⁾.

Figure 4.4 Total Actual Investment in Iraq during (1950-80)
I.D. Billion



4.3.9. The Logic of Industrial Planning

The previous review gave a brief idea of the development of the Iraqi economy, with special emphasis on the industrial sector. This part aims to focus on the logic of the industrial planning behind that development.

Generally speaking, one can say that the industrial logic of Iraq is primarily based on the raw materials which are available. In this context Townsend (1982) stated:

"In spite of its ancient artisan tradition, Iraq is not a land blessed with abundant raw materials. In ancient Iraq, the basic raw material was clay. Modern Iraq has discovered and exploited hydrocarbons, sulphur, phosphates and limestone and is also using the power source provided by its rivers to supply energy for industry. Although this inventory of raw materials is greater than that of many developing countries, it does not represent a well-endowed raw-material resource base for the establishment of industry. Mineral resources known to exist but not yet exploited include iron ore, chromite, copper, lead and zinc, all situated in the north of the country. The extent of these resources is believed to be modest."⁽³⁷⁾

In addition to providing crude oil for export, hydrocarbons also give fuel for power generation and feedstocks for the petrochemical industries. The

abundance, and hence cheapness, of Iraq's energy resources suggest in principle that industries requiring a large volume of cheap concentrated energy to add significant value to raw materials should be economic.⁽³⁸⁾

"As a feedback for petrochemical industries, it is the natural gas element in the hydrocarbon resources which is most significant. Natural gas consists of a mixture of ethane, methane and the natural gas liquids (propane, butane and pentane), plus some sulphur. The sulphur is extracted and, with natural sulphur, forms the basis of an export industry as well as of sulphuric acid manufacture. The natural-gas liquids are used domestically as fuels and are also exported. Methane is used mostly as a fuel for electric-power generation and for the mineral ore smelters, in addition to constituting a feedstock for nitrogenous fertilizers (ammonia and urea). Ethane is the basic feedstock for the production of ethylene, the building brick of the petrochemical industry. From ethylene, the various polyethylenes are produced."⁽³⁹⁾

The large phosphate deposits at Al-Qaim are being exploited and will complement the chemical industry based on petrochemicals. One pan-Arab industrial plant, financed by the Arab Petroleum Investments Corporation, is to be built near Basra for the production of linear alkylbenzene. Another has already been built near Al-Qaim

for the production of sodium tripolyphosphate, both of the above chemical products being key ingredients in detergent manufacture.

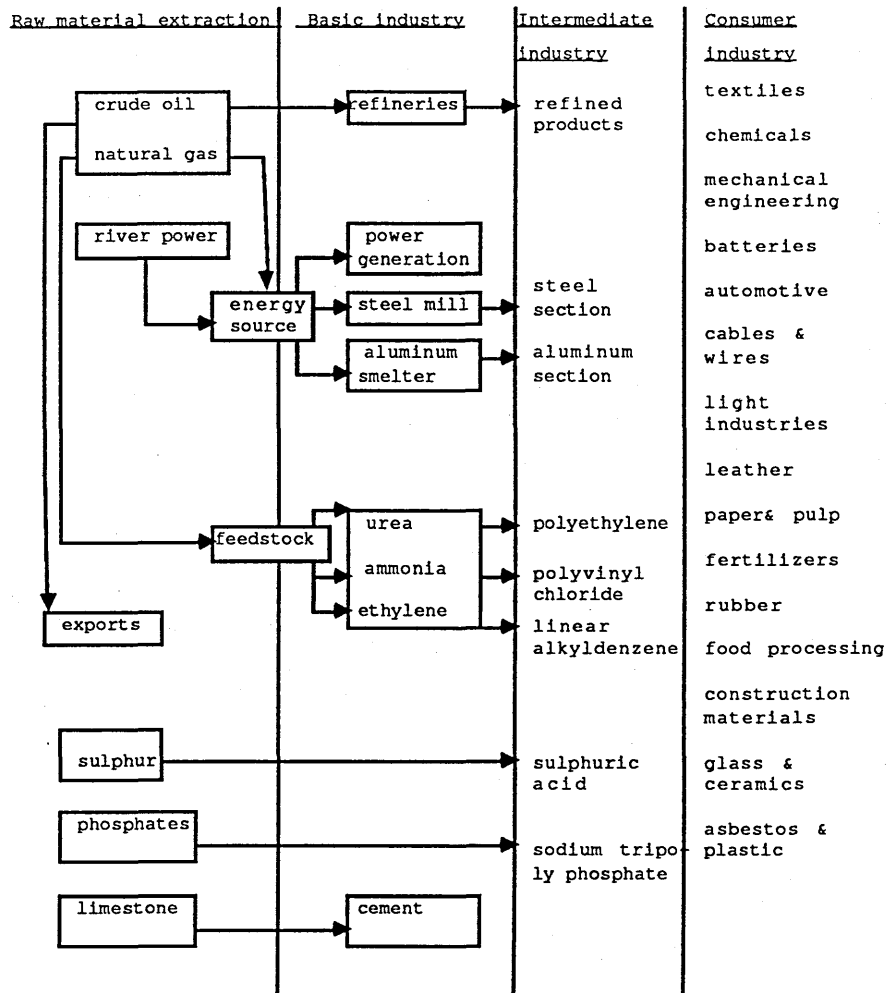
On this foundation of basic and intermediate industry, a range of industries designed initially to provide for the needs of the Iraqi consumer, to manufacture substitutes for goods which would otherwise have to be imported, and ultimately to produce a surplus for export, have been established.

The logic of Iraq's industrial planning is summarized in Figure 4.5. Behind this basic logic there is, of course, the fundamental principle common to all oil-producers i.e. to ensure that the revenues accruing from the nation's depleting hydrocarbon reserves are invested in such a way that the continued prosperity and wellbeing of the community will be guaranteed in the post-oil gas era. Iraq is in this respect fortunate, in that the country's hydrocarbon reserves are substantial, thus giving the government and the people time to develop alternative income-generating projects.

4.4. The Present Structure of the Iraqi Economy:

There are two major criteria which distinguish the structure of the Iraqi economy: ownership, and economic activities.

Figure 4.5 Iraq's Industrial Logic



Source: John Townsend, 'Industrial Development and the Decision Making Process'. in Tim Niblock (ed.), Iraq: The Contemporary State, London: Croom Helm, 1982, P.263.

4.4.1. The Ownership Criterion:

According to this criterion, there are three main types of ownership in the Iraqi economy:

(1) The public sector: The Iraqi public sector consists of all the companies and establishments which are totally owned by the government. This sector maintains a leading

position, and acts as a key propulsive sector in the Iraqi economy. It contains the major and larger companies in various economic sectors (oil, industry, commerce, agriculture, transport, etc).⁽⁴⁰⁾

One of the official documents argued the importance of the public sector as the following:

"A strong and independent economy needed a sound industrial base which in turn needed technological capability, organizational competence and financial resources.

Because of past neglect of the industrial sector and the domination of foreign monopolies in financial and trade sectors, domestic and private entrepreneurial capabilities had not developed enough to meet the challenges of the new situation of industrialization. This provided the need as well as the logic for public sector expansion."⁽⁴¹⁾

Thus, the role of the public sector includes leading and directing mixed and private activities in the Iraqi economy toward the fulfillment of the planning objectives. The public sector contribution to the Gross Domestic Product (GDP) in 1985 was 75.3% of the total GDP in Iraq, as Table 4.8 shows.

(2) The mixed sector: The mixed sector consists mostly of medium sized companies. 67.5% of the shares in this sector are owned by the government, and 32.5% are owned by the public. Most of the mixed sector companies are

manufacturing companies. This sector is gaining more attention in recent years.

(3) The private sector: The private sector consists of the companies which are totally owned by the public. Most of these companies are of small size (less than 50 workers). The contribution of this sector with the mixed sector to the GDP reached 24.7% of the total GDP in 1985 as Table 4.8 shows.

In spite of the fact that this sector is limited, it still plays a major and important role in the Iraqi economy, specially in such activities as retail trade and small industries. The government also encourages the participation of the private sector by providing the skill and the specialized economic and technical knowledge for many projects.

4.4.2. The Economic Activities Criterion:

According to this criterion, the Iraqi economy is structured on three main bases. They are: production activities, public services activities, and planning activities.

(1) Production Activities: These activities are divided into seven sectors according to the international classification of economic activities. These are based exclusively on producing goods and services. The sectors are:

Table 4.8 The Contributions of the Economic and Public Service Sectors to the GDP in Iraq (1985)
(I . D . Million)

Sectors	Contributions		Total	% of importe
	Public	Private & Mixed		
Agricultural	1150.0	115.8	2265.8	8.6
Oil and Mining	3571.3	25.1	3596.4	24.3
Industrial (Manufacturing)	1161.0	427.6	1588.6	10.7
Housing & Construction	100.2	994.4	1094.6	7.5
Transportation & Communication	264.4	518.6	783.0	5.3
Commercial	1768.1	829.5	2597.6	17.5
Banking & Financial	608.2	1.3	609.5	4.1
Public Services Activities	2515.8	732.5	3248.3	22.0
Total	11139.0	3644.8	14783.8	100

Sources: Republic of Iraq, Planning Ministry, Annual Abstract of Statistics, 1985, Baghdad. 1986.

(a) the agricultural sector, (b) the oil and mining sector (c) the industrial (manufacturing) sector, (d) the housing and construction sector, (e) the transportation and communication sector, (f) the commercial sector, and (g) the banking and financial sector. Table 4.8 shows the importance of each of these sectors to the development of the Iraqi economy according to their contributions to the total GDP in 1985.

Within the administrative system in Iraq, seven Ministries are responsible for these activities. Each Ministry is responsible for the planning and the administration of a particular economic sector. These Ministries are: Agriculture and Irrigation, Oil, Industry, Heavy Industries, Transportation, Construction and Housing, and The Ministry of Commerce.

(2) Public Service Activities: These are the public service provided by the government. They include, health, education, justice, and social affairs. The contribution of these sectors to the Iraqi GDP reached 22.% in 1985, as is shown in Table 4.8.

Within the administrative system, 12 Ministries are responsible for these activities. These ministries are classified according to the nature and type of service they provide for the public. Each ministry is responsible for planning and administering its specialized activities. Some of these ministries are: Education, Higher Education and Scientific Research, Health, Justice, Labour and Social Affairs. Information.

(3) Planning Activities: Planning activities are structured on two levels, central level, and sectoral level. On the central level, the planning process is concerned with drawing up the National Five Year Plans for the whole economy. Sectoral planning is concerned with the operational planning of the specialized activities, according to the targets set by the national

plan for each sector.⁽⁴²⁾

In the administrative system, the central level includes the Planning Board and the Ministry of Planning. The Planning Board is the highest planning authority. It consists of the President of the Republic and all government ministers, as well as the Governor of the Iraqi Central Bank. The principal task of this Board is to plan for the economy as a whole. The Ministry of Planning, under the supervision of the Planning Board, studies the subjects and the projects related to the plan, before taking a decision. After that, it submits the plan, together with the adopted decisions, for the Planning Board to authorize it.⁽⁴³⁾

The Sectoral level includes the ministries and the state establishments. Each ministry and state establishment contains a hierarchy of departments, sections, and units of planning and follow-up. These departments, sections, and units are responsible for operational planning and follow-up in the ministries and establishments. Each planned project must be studied at ministerial level before being submitted to the Ministry of Planning. The state establishment is the basic economic unit in the public sector. It is regarded as an entity in its own right. It is an autonomous entity in legal transactions, and works on the profit-and-loss accounting principle. Regarding planning, these units put forward their own proposals for consideration by higher

bodies, which then ratify and/or modify them before returning them to the ministries.⁽⁴⁴⁾

4.5. Summary:

The material presented in this chapter gives a brief review of the general picture in the Iraqi state since 1921. As for the economy, the country has developed through nine National Development Plans. The total actual investment in all sectors was I.D. 12.862 billion. Industry got the largest share of I.D. 3.994 billion (31% of the total expenditure), and agriculture came second with I.D. 2.528 billion (19.7% of the total expenditure). The oil revenues were the main source of funds for all the development plans.

The history of modern industry in Iraq is quite new and the year 1950 can be regarded as the beginning of a new era. The logic of industrial planning depends on the raw materials available in the country.

The present structure of the Iraqi economy is divided into three main sectors, according to ownership: the public, private, and mixed sectors; and according to economic activities: production, public services, and planning activities. The public sector maintains a leading position, and acts as a key propulsive sector in the economy.

Notes:

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- (39) Ibid., P.262.
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Chapter Five

The Methodology

5.1. Introduction

The necessity for an improved understanding of the production management function is being recognized by academics and practitioners in the production operations management area. In this context, Skinner (1978) wrote:

"the emphasis on analytical techniques and tools has tended to crowd out some of the critical aspects of manufacturing management...experience and discussions with manufacturing managers indicate that there is much more to this functional area than can be adequately addressed by quantitative models and method no matter how useful may be...material about the function of manufacturing management in the context of their role in the organization and their interrelationship to other parts of the company are urgently needed. Only then can major manufacturing management tasks be effectively designed and carried out so as to complement the effectiveness of other functional areas and better aid the organization in meeting its objectives and goals."⁽¹⁾

In response, consultants and academics such as Miller and Graham (1981) have called for a back-to-basic philosophy of managing the fundamentals of the

organisation . In order to return to this philosophy and to understand the function of production management, it is first necessary to develop a basic understanding of the nature of a production manager's job.⁽²⁾

This chapter aims to discuss the methodology of the study. It consists of six sections. The first discusses the objectives of the study. The second deals with the research design. The third with the research methods. The fourth provides an explanation of the questionnaire and its scoring. The fourth explains the achieved sample, and the last discusses the survey.

5.2. Objectives of the Study:

The main objective of this study is to develop an understanding of the nature of the job of senior production managers in Iraq. To do this, it is necessary to find answers to the following questions:

I: What are the work characteristics of the production managers' job?

Work characteristics are discussed according to three aspects: (1) the type of activities engaged in and how they are distributed over time, (2) the managerial contact patterns, (3) work patterns.

Five activities were chosen to cover the bulk of the managers' work. They are: talking, reading, paperwork, travelling, and others. These activities were adopted

from Stewart's (1976) study. Most are also used by Feldman (1983). They were chosen because they represent all managers' activities, and using the same activities enables the researcher to make comparisons between the results of the present study and of comparable studies.

Six types of managerial contact patterns were eventually suggested. These types are divided into two groups. The first group comprises internal contacts, including contacts with suppliers, boss, colleagues, and other seniors. The second group comprises external contacts, including contacts with suppliers and customers. In addition, this aspect includes any other contacts which are not included in the first and second groups.

The work pattern, as Stewart suggested, is made up of the following: (1) duration of activities, (2) time span of problems or decisions, (3) periodicity and other recurrent work, (4) expected compared with unexpected work, (5) incidence of urgent work and crises, (6) the extent to which work has to be done to time-deadlines that are not self-imposed, and (7) the origin of activities, how far these stem from the need to respond to others or to a system, and how far they are self-generated.⁽³⁾

II: What is the nature of the difficulties and demands imposed upon a manager by his contacts with his

subordinates, boss, peers, and external contacts?

The study adopted Stewart's (1976) definition of difficulties and demands i.e. the things that the production manager must do, and the pressure that he cannot escape.

In investigating the manager's relationships with his subordinates, Stewart (1976) stated that:

"a manager is someone who gets things done through other people. This is commonly accepted as one way of describing management. Yet too little attention is paid to the demands that are made upon the manager."⁽⁴⁾

For the purpose of this study, Stewart's two categories of reasons for a manager to communicate with subordinates are used. The first category includes exchanging information, and a subordinate's need for the manager's help or advice or emotional support. In a formalized organisation, they may also have to come because they need a decision that is outside their discretion. The second category includes the supervisory aspects: direction, attention, coordination and monitoring. Feldman (1983) noticed that the above reasons for contact are more demanding than contact for emotional support and aid⁽⁵⁾.

A manager's relationship with his boss is typically more burdensome for him than his relationship with his

subordinates, due to his reduced control over the situation. Like Stewart's (1976) study, this study's analysis of the difficulties in the relationship is based upon the extent to which the job is dependent for its character upon the boss or bosses to whom the manager reports. The more dependent it is, the more a good relationship with the boss is essential for success in the job.

There are four different ways in which the dependence of the job upon the boss can be assessed. First is the influence of the boss on the scope of the job, second is dependence upon the boss for authority, third, dependence on the boss for support, changes, and more resources, and fourth, dependence on the boss for work allocation.

An assessment of the difficulty of relations with peers and other seniors encompasses four categories. The first category is the jobholder's need for services or supplies from peers and other seniors. The second category is his need for cooperation, other than services or supplies, to help him to get his job done. Third, some jobholders are called on to provide services in the form of information and advice to peers and/or to other seniors. The last category is rather a limited one: that of making presentations of one's work before senior management.

The five types of demand imposed by external contacts, which are assessed as difficulties by Stewart (1976), are

used in this study. The first is the need to develop personal relationships and to establish goodwill. The second is the importance of the impression that the manager makes. The third is bargaining and negotiation. The fourth is the need for discretion in conversation. The fifth is the variety of external contacts, and the extent to which they mean dealing with people from varying backgrounds who require different approaches.

III: What are the major causes of variation in the jobs of production managers?

Previous research investigated similarities rather than differences between managers' jobs. For the researcher to fully understand the jobs, both the similarities and the differences between them must be examined. This question is thus an attempt to investigate the major causes of variations.

Mintzberg (1973) suggested four sets of variables. These are: (1) the organisation, its industry, and other factors in the environment; (2) the variations caused by the job itself and its level in the organisation; (3) the variations within a given job stemming from the person in that job; (4) the variations caused by the situation.⁽⁶⁾ This study used two sets of variables adapted from Mintzberg's four sets: first, companies' characteristics, including industrial group, employees and complexity of products. Second, personal characteristics, which include managers' age, working history, formal education and

training.

In addition, this study aims to compare and contrast its findings with Stewart's (1976)⁽⁷⁾ and Feldman's (1983)⁽⁸⁾, as well as with those of other previous research in the area.

5.3. Research Design:

Research design is a "programme of work that guides the researcher through the process of collecting, analysing and interpreting data"⁽⁹⁾. It is also a model of pivot that enables the researcher to identify causal relationships and to make general statements about the nature of the world beyond the immediate research project. The methodology literature provides three major types of research design. They are: experiments, case studies and surveys.

Experimental design is defined by Weick (1965) as:

"...a design in which the investigator creates a situation with the exact conditions he wants to have and in which he controls some variables and manipulates others."⁽¹⁰⁾

The starting point for any piece of experimental research is a hypothesis. This usually takes the form of a proposition, or theory about the relationship between two or more different elements of the overall system. The objective of the experiment would be to establish whether

or not the hypothesis is valid.

The case study represents a comprehensive description and explanation of the many components of a given organisational situation. This design differs from the others in terms of scientific objectives. Babbie (1973) stated:

"...most research aims directly at generalized understanding, the case study is directed initially at the comprehensive understanding of a single, idiosyncratic case. Whereas most research attempts to limit the number of variables considered, the case study seeks to maximize them."⁽¹²⁾

Buchanan (1986) stated that this design is useful for unformulated or new fields of research, for stimulating fresh ideas and insights and for suggesting hypotheses for future research.⁽¹³⁾

A survey design is a form of planned collection of data for the purpose of description/prediction as a guide to action, or for the purpose of analysing relationships between certain variables. Surveys are usually conducted on a fairly large scale, unlike experiment design which tends to be more intensive and on a smaller scale.

A broad distinction between two types of survey can be made. They are: (1) the descriptive anumerative census and (2) the cross-sectional design.

The purpose of the descriptive survey is to count a representative sample and to make inferences about the population as a whole. This type aims to tell how many members of a population have a certain characteristic or how often certain events occur. It is not designed to investigate or analyse the relationships between the variables.

Cross-sectional design is predominantly employed in survey research. In this design data are collected at one point in time from a sample selected to describe some large population, and to determine relationships between variables at the time of study. This design is adopted in most survey research, where attempts are made to approximate experimental design using various data analysis techniques. Its procedure broadly involves the following steps:⁽¹⁴⁾

(1) question the sample about their properties and dispositions.

(2) divide the sample into groups, at the analysis stage, according to key properties, such as occupation, salary, age, sex.

(3) tabulate against dispositions, i.e. control for the key variables. Dispositions might include attitudes to inflation, income policy and voting behaviour.

In this way, associations between properties and

dispositions can be explored by examining the various relationships in the categories of the controlled variables.

One of the most important tasks for any researcher is to select the appropriate design for his research. While there is no one best type of research design, the appropriate choice depends largely on the kind of problem being studied and the constraints imposed on the researcher. Campbell and Stanley (1966)⁽¹⁵⁾ discussed four main factors which must be considered in the selection of an appropriate design. These are:

(1) comparison. The comparison which underlies the concept of covariation, is an association between two or more variables. An appropriate design enables the researcher to carry out the covariation in the context of his problem.

(2) manipulation. Establishment of associations is usually not enough, the researcher being more concerned with causality. To establish causality, the time sequence of the events studied must be clear. Where the researcher is able to manipulate the nature and timing of the independent variables (also referred to as the experimental stimulus) there is no problem. While experimental settings permit this kind of manipulation, this can rarely be achieved outside the laboratory.⁽¹⁶⁾

(3) control. It is another feature of causality which

requires that other factors be ruled out as rival explanations of the observed association between the variables under investigation. Such factors could invalidate the inference that the variables are causally related.⁽¹⁷⁾

(4) generalisability. Control is a crucial aspect of social research. An additional significant question concerns the extent to which the research findings can be generalized to a larger population. Most research is concerned not only with the effects of one variable upon another in the particular setting studied, but also with its effect in a natural setting and on a larger population. Campbell and Stanley (1963) have termed this concern the external validity of research design.

Research designs differ in their ability to overcome problems of control and generalization. As a general rule, experiment design is strong on control (internal validity) and weak on generalisation (external validity). The case-study design is weak on both external and internal validity. While the survey design is weak on internal validity and strong in external validity. Thus if the main objective of the research is to establish causal relationships, a design with strong internal validity should be chosen. If the researcher wishes to be able to apply sample findings to some wider population, internal validity may need to be sacrificed in the cause of strengthening external validity.

In the light of the previous discussion, a cross-sectional design has been chosen for the purpose of this study for the following reasons:

(1) it is an exploratory study which aims for a single time description.

(2) it aims to generalize its results for a larger population.

The use of statistical analysis has limited the weakness on internal validity of this design.

5.4. Research Methods:

Research methods are a system of work used by the researcher for the purpose of data collection. Generally speaking, there are three ways of obtaining data in social sciences. One can observe the behaviour of persons, groups, organisations and their products or outcomes, one can ask people questions, and one can utilize existing records or data already gathered for purposes other than one's own research⁽¹⁸⁾. Thus, there are four main methods for data collections. They are:

5.4.1. Questionnaire:

The questionnaire is a list of questions to obtain information or opinions which is mailed to potential respondents who have been chosen in some designated

manner⁽¹⁹⁾. It may range from closed questions, in which the respondent is offered a choice of alternative replies, to open questions, which may be answered freely, and the answers have to be recorded in full.

Section 3.2. shows that this method was used by several researchers, such as Al-Shaibi (1979)⁽²⁰⁾, Ali (1982)⁽²¹⁾, Kassem (1967)⁽²²⁾, and Ali(1967)⁽²³⁾, for the purpose of studying several aspects of managerial work. The use of this method enabled them to gather the data within a reasonable amount of time and, to cover a wider geographical area for large samples. In addition, the data gathered were organized in a form suitable for numerical analysis by the computer.

Oppenheim (1966) criticized this method because it causes loss of information. Those who answer the questionnaire may differ from the non-respondents, thereby biasing the sample. Validity depends on the ability and willingness of the respondents to provide information.⁽²⁴⁾

5.4.2. Interview:

In social research, the term interview is used to describe a wide range of different things. It is best to begin with a simple definition which focuses on the essential meaning of the word. The Shorter Oxford Dictionary defines an interview as a

"meeting of persons face to face especially for the purpose of formal conference on some points."

The interview is basically a form of human interaction. It may range from the most informal chat, to the most carefully systematized set of questions and answers laid out for an interview schedule.⁽²⁵⁾

The structured interview was used by several researchers, such as Stewart (1976)⁽²⁶⁾, Feldman (1983)⁽²⁷⁾, for the purpose of studying managers' jobs. Stewart (1976) used this method to gain insight into areas of managerial work, such as managers' job characteristics and demands.

A modified version of Stewart's (1976) questions was used as a structured interview by Feldman (1983). As mentioned in section 3.4., Feldman's aim was to gain insight into the senior production managers' perception of their jobs.

Interview studies were criticized by Mintzberg (1973). He stated that:

"to ask the manager what he does is to make him the researcher; he is expected to translate complex reality into meaningful abstraction. There is no evidence to suggest that managers can do this effectively; in fact there is ample evidence...that managers are poor estimators of their own activities."⁽²⁸⁾

While this is true with regard to the allocation of the time between activities and contacts, it has not been addressed and proven true for other aspects of the manager's job, such as perceptions of his own job. Mintzberg (1973) agreed with this. He stated that:

"despite their convenience, the interview...should be recognized as useful only in the study of managers' perceptions of their own jobs."⁽²⁹⁾

Stewart (1976) criticized this method. She pointed out:

"A man's description of his job, as shown in the questionnaire, may also be influenced by his personality, so that somebody else in the job might give different answers."⁽³⁰⁾

Her research revealed that the possible personality influences in the subject's answers did not affect the actual contact types, because of their intensive focus on the job rather than on the individual.⁽³¹⁾

In spite of the above limitations of the interview, it has a wide range of advantages. It usually yields a high proportion of returns. It can probe more deeply.

"The researcher can ensure that the respondent completely understands the question...The interviewer can collect supplementary information which is valuable in interpreting results."⁽³²⁾

In addition, the interview may take long enough to allow the information to become oriented to the topic under investigation. Also the quality of the data is high, and the amount of missing data is typically low.

5.4.3. Observation:

Structured observation is another method for data collection without direct questioning on the part of the investigator. This method is very often used in combination with other methods. The interviewer, for example, may be required to make observational ratings on the characteristics of a respondent or his job.

The discussion in section 3.3. shows that some researchers have used a variety of more systematic forms of observation. These included Guest (1956)⁽³³⁾, Jasinski (1956)⁽³⁴⁾, Ponder (1957)⁽³⁵⁾, O'Neill and Kubawy (1959)⁽³⁶⁾, and Mintzberg (1973)⁽³⁷⁾. However, in most of these studies, an approach similar to that of the diary researchers was used, in which the recording categories were predetermined.

Structured observation was criticized by Stewart (1965). The first and most significant disadvantage is inefficiency. The researcher must be present at all times. As a result, the sample size is severely limited. Second, the researcher may be excluded from some confidential work and may have difficulty understanding

some of what he sees.⁽³⁸⁾

In contrast, a structured observation approach is recommended because its strengths appear to be ideally suited to the purposes of the researcher, as set out above.

5.4.4. Documents, Records and Census Materials:

This method differs from the previous ones. Documents, records and census materials characteristically bring data to the researcher in a form over which he has relatively little control. These materials come to the researcher ready-made. Some other persons, either a participant in social situation or the creator of an index, determined the form of the data. These materials frequently have to be recast in terms of the researcher's problem before they are fully usable.⁽³⁹⁾

In the light of this discussion of research methods this study has used the structured interview as a research method to achieve its objectives, because an interview can take long enough to allow the information to become oriented to the topic under investigation. Also the quality of the data is high, and the amount of missing data is typically low.

At the same time, the observation method has been used for data collection especially in the areas where the interview is weak, such as the areas in which the manager

is known to be a poor estimator. In other words according to the advantages of the observation method in terms of collecting information about the time distribution of managers' activities, and because of the weakness of structured interview, this study has used structured observation as an auxiliary method. The main aim of this method was to collect information about job characteristics and time distribution.

Observation was conducted as the second step of the research programme. It began with the collection of raw data in narrative form, describing the patterns of activity throughout the manager's working day. At the end of each day of observation, data were transferred into a diary in a form originally developed by Stewart (1976) for self-reporting purposes, and categorized in a variety of ways i.e. time-duration, places, participants, and so on.

This study is based primarily on the data collected through the interviews and observations carried out by the researcher, with a sample of production managers working in different industrial companies within the Ministry of Industry in Iraq. It depended also on government reports and documents, and on other available published or unpublished material on economic aspects and on the industrial sector in Iraq. Many Ph.D. and Msc. theses were consulted in the relevant fields. The author, with help from Glasgow Library Staff, carried out

computer searches in 1987 and in 1988, in order to determine the most relevant references in this field.

5.5. Explanation of the Questionnaire and Scoring:

The original version of Stewart's (1976)⁽⁴⁰⁾ questionnaire, as well as its modification by Feldman (1983)⁽⁴¹⁾, were used as a structured direct interview to achieve the aims of this study. Although most of the questionnaire was used intact, several questions were added to supplement the background information obtained.

Stewart's (1976) original questionnaire was developed through successive stages and tested on a large sample of managers from different organisations, industries, hierarchical levels, and so on.

Items for use in the questionnaire were formulated on the basis of their relevance to the main concern of the study. In order to fulfill the requirement laid down in the aims of the research, the questionnaire is divided into three sections:

Background information (Q1- Q10).

Work characteristics (Q11 - Q19).

Relationships (Q20 - Q23).

5.5.1. Background Information: (Q1-Q10)

Under this section, factual information was requested concerning two sets of variables influencing managerial work. First, personal factors, which include the manager's age (Q1), working history (Q2-Q4), and educational and training background (Q5-Q6). Second, company factors, which include information about employees (Q7-Q8), the industrial group (Q9), and product complexity (Q16).

5.5.2. Work characteristics: (Q11-Q19)

The purpose of this section was to collect information on the work characteristics of the individual in charge of his organisational unit's production function. Work characteristics include (1) work activities and managerial contacts, and (2) work patterns.

Question 11 addressed four work activities of the managerial job as suggested by Stewart (1976). These are: talking with other people, paperwork, reading external material, travelling, and others⁽⁴²⁾. Data were also gathered on this item through the observation phase.

Question 12 looked at managerial contacts in the internal and external environments. Information was gathered about internal contacts with subordinates, boss, colleagues and other people at about the same organisational level as the production manager. External

contacts included contacts with suppliers and customers. In addition, the question asked about any other contacts not included in the above list. Data were also gathered on this item through structured observation.

This part of the questionnaire asked about the work pattern as follows: the duration of activities, comprising of two elements: the amount of fragmentation, and the application of sustained attention to subject or problem. Question 13 investigated the manager's perception of fragmentation. Question 14 gathered data on sustained attention to a subject or problem. Data were also gathered on these two items through the observations. Question 15 asked if production managers work to deadlines, and if so, what is the nature of these deadlines? Do they deal with operational or strategic situations? By answering question 16, the respondent provided the researcher with some perspective on the time horizons with which their situation deals. The recurrent nature of jobs was explored in Question 17. The concepts of expected compared with unexpected work, crisis, and urgent work, are similar in some respects. Question 18 looked at these using Stewart's (1976) definitions. Responding and self-generating characteristics were typically both incorporated into a job. However, some jobs may be oriented more towards one characteristic than others. In question 19, the researcher asked the production managers to present their perceptions of those work characteristics.

5.5.3. Relationships (Q20-Q23):

In attempting to answer the second question, this section deals with the manager's relationships with others. . In question 20 the demands of subordinate relationships were assessed.

The first category of the question was: the number of immediate subordinates, and subordinates' work interlocks. The first aspect was a useful crude indicator of the demand. If the subordinates' work interlocks, the manager has to consider other interrelationships. Furthermore, if their work interlocks and there is conflict, the relationship demands become potentially more formidable. Together, these aspects provided some preliminary information on the difficulty of the position.

The second category considered the different aspects of work requiring supervision. These are: content, quality, and quantity. Two aspects of the supervision of the content were examined: the allocation of work, and monitoring the nature of the task, exclusive of its quality and quantity. Stewart (1976) stated:

"if the manager has to allocate their work (the subordinates), he will need to take into account their abilities, their work load, and perhaps their temperament, too. In addition to the contact of work, both the quality and quantity of work often require supervision. A high score

is allocated to those managers who must supervise employees work as a preventative measure against making errors or to guard against low quality products"⁽⁴³⁾.

The third and last category dealt with the difficulty of supervision. Two aspects were examined: the extent of compliance and how easy it is to monitor subordinates' activities.

"There are three categories that assess how far the subordinates are likely to agree with what the manager wants done. The first, on the unionization of subordinates, is the crudest of the three guides to the extent of compliance. More important are the next two, which have been given a double weight compared with any of the other categories, as it is thought that they can make the greatest demands upon the manager."⁽⁴⁴⁾

Ease of monitoring the subordinates' activities was the second aspect of the difficulty of supervision. A low rating was awarded to those jobs in which the needed information was readily available from reports, inspections and/or grievances from external contacts. Medium ratings were given to jobs in which the monitoring is easily accomplished, but due to other complicating factors, interpretation are troublesome. When the employees' work was difficult to assess because of the lack of suitable measuring instruments, a high rating was obtained.

In question 21, the extent to which a job is boss-dependent was assessed according to four categories. Stewart argued that the lower the score on boss dependence, the more the job tends to be well defined and formalized, and the more likely the person in the position is to have considerable experience. A boss is more apt to be an influential factor in the scope of a job when the job is poorly defined and/or constantly changes.⁽⁴⁵⁾

The first category of the question is the influence of the boss on the scope of the job. The second category to be examined is dependence upon the boss for authority. The third, is dependence on the boss for support for changes and for more resources and the fourth is dependence on the boss for work allocation.

Question 22 aimed to provide information about demands made by contacts internal to the organisation but outside the typical line structure, by examining the managers' relationships with their peers and other senior managers.

An assessment of the difficulty of relations with peers and other seniors encompasses five categories. The first category assesses the jobholder's need for services or supplies from peers and other seniors. The second assesses the degree to which the jobholder requires cooperation, excluding service or supplies, from his peers or other seniors, in order to get his job done. The third measures the degree to which services in terms of information and

advice are wanted. The fourth covers dealing with peers of higher professional status. The final category deals with the requirement of making presentations to other seniors.

Finally, question 23 asks about four types of demands imposed by external contacts, which were assessed for difficulty. The first two demands are related -the need to develop personal relationships and to establish goodwill- and the importance to the business of the impression the manager conveys. The need for discretion in conversation is the fourth demand made by external contacts.

5.6. The Achieved Sample:

The aim of this study was to investigate the production manager's job rather than the individuals, but we learnt about the job from the individuals. Accordingly, the study of the production manager's job in Iraq should ideally include a sample of production managers drawn from all the industries at a certain point in time. However, this study excluded the Ministry of Oil, the Electricity Corporation and the industrial companies in the private sector, and has obtained a sample drawn from the Ministry of Industry for the following reasons:

(1) The Ministry of Industry includes more than 70% of the large industrial companies in Iraq.

(2) The companies in this Ministry represent a wide range of organisational characteristics in terms of their

size, industrial groups, and complexity of products. This could help in studying the production manager's job in different situations.

(3) In order to carry out some statistical analysis, one needs to hold constant a large number of environmental factors, which might be different if the sample were drawn from more than one ministry.

The study originally intended to base the analysis on all the production managers working in the industrial companies of the Ministry of Industry. However, due to unforeseen difficulties in arranging interviews with all the managers, a final achieved sample of 110 senior production managers was obtained from the total number of 118 managers.

Some basic and important characteristics of the achieved sample can be used as marker variables, in order to assess the extent to which the achieved sample is representative of the population, and the extent to which generalization of the research result is desired. These assessments may be made by using certain statistical tests.

The first of these variables is the industrial groups. The results of Table 5.1 show that no significant differences were found between the sample and the total population. The other variable is the organisational size (when the size is measured by the number of employees).

Table 5.2 shows that no significant differences were found between the sample and the total population. The third important variable is the number of products the company produces. Table 5.3 shows that again, no significant differences between the sample and the total population were found.

Table 5.1. Distribution of the Population and the Sample according to Industrial Groups.

Industrial groups	The population No.of companies	The sample No.of companies
Textile	26	24
Tailoring-clothing	7	7
Food	42	39
Cement	15	14
Construction materials	22	20
Light and electronics	6	6
Total	118	110
	$X^2 = .669$	$P > 0.01$

Table 5.2. Distribution of the Population and the Sample according to organisational Size

organisational size	population No.of companies	sample No.of companies
500 or less	72	68
501-1000	27	25
1001 and more	19	17
Total	118	110
	$X^2 = .631$	P-0.01

Table 5.3. Distribution of the Population and the Sample according to the Number of Products.

No. of products	Population No.of companies	Sample No.of companies
1-5	59	55
6-10	33	31
11-15	11	10
16-20	15	14
Total	118	110
	$X^2 = .591$	P-0.01

Accordingly, the achieved sample does seem to be representative of the total population, in the statistical sense, in respect of industrial groups, size, and number of products.

5.7. The Survey:

For the purpose of the present study, the researcher visited Iraq from October 1987 to January 1988, in order to complete the survey and to collect other relevant data. At the first stage, a list of industrial companies at the Ministry of Industry was prepared according to the Planning Department at the Ministry.

The field work began in October 1987 at the companies included in the study, by interviewing a total of 110 senior production managers. This stage included observations for 7 managers, one from each industrial group, for four working days for each of them. .

Having collected the data from the specific sample, the researcher began work on the next stage which involved the coding of all the responses. A numerical code was constructed and the responses were coded in the column designed for this purpose.

After the coding was finished, the data were processed in the -Computer Center of Glasgow University- using the "Statistical Package for Social Science" (SPSSx: 1988). The data were entered in a specific file in the computer.

At this stage of processing, the computer was used and the results were tabulated according to the different variables of the study.

Proportions, standard deviation, chi-square, one way analysis of variance (ANOVA), Kruskal-Wallis, multiple regression and discriminant analysis tests were the major techniques of the analysis. A conventional level of significance of 0.05 was used in testing the validity of the results achieved by the various techniques of analysis employed.

Notes:

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Chapter Six

Composition of the Sample

6.1. Introduction

This chapter aims to describe selected characteristics of the Iraqi production managers interviewed, as well as selected characteristics of their companies. Such description intends to provide a rich background for use in later discussion and analysis. While the focus of this research is on the job, the individual is the major source of data, and both he and his organisational context require further elucidation.

The chapter consists of two sections. The first discusses the characteristics of the 110 companies included in the study, in terms of industrial groups, number of employees, and product complexity. The second deals with their production managers in terms of age, working history, mobility, formal education, and training.

6.2. Characteristics of the Companies:

6.2.1. Industrial Groups:

The companies included in the sample were classified into seven groups according to the main types of products, which are textiles, ready-made garments, food, cement, construction materials, light industrial products

and electronics. Table 6.1 shows the number and percentage of the companies in each group.

Table 6.1 Distribution of the Companies according to their Industrial Groups.

Industrial Groups	No.of companies	Percent
Textiles	24	21.8
Ready-made garments	7	6.4
Food	39	35.5
Cement	14	12.7
Construction materials	20	18.2
Light industries	3	2.7
Electronic industries	3	2.7
Total	110	100.0

Table 6.1 shows that 24 companies, or 21.8% of the sample, belong to the textile industry group, which includes spinning, and weaving of woollen and cotton fabrics. 7 companies, or 6.4%, belong to the ready-made garment group, producing mainly men's, women's, and babies' wear. Food industries form the largest group, including 39 companies or 35.5%. They specialize in sugar, canned foods, dairy products, vegetable oil, and soft and alcoholic drinks. The fourth group, 14 companies or 12.7%, manufacture cement. The fifth group, 20 companies or 18.2%, produce construction materials such as asbestos, brick, glass and ceramic products. Light industries, 3 companies or 2.7%, is the sixth group. Its companies produce fridges, cookers, coolers

and washing machines. The last group is electronics companies, 3 companies or 2.7%. producing mainly personal computers television sets, radios, and tape recorders.

6.2.2. Employees

In general employees are treated along three different lines: (1) total number of employees in the company, (2) number of subordinates reporting directly to the production manager, and (3) number of subordinates reporting indirectly to him. This is very important because the total number of employees will indicate the size of the company, the number of direct and indirect subordinates will indicate the span of control and the personnel aspect of the responsibility of the individuals included in the sample. It will help further analysis of the nature of the production manager's job.

(1) Total Number of Employees:

The 110 companies have been arranged into three groups according to the total number of employees. These groups are: small companies with 500 employees or less, medium companies with 501-1000 employees, and large companies with 1001 or more employees.

The smallest company in the sample has 170 employees, and the largest has 2130 employees. Table 6.2 shows that the (average) mean of the total number of employees is 617.5, and the standard deviation (S.D.) is 375.6. The

Table shows that 61.8% or 68 companies are small, with 500 employees or less, 22.7% or 25 companies are medium-sized, with 501-1000 employees, and 15.5% or 17 companies are large, with 1001 employees or more.

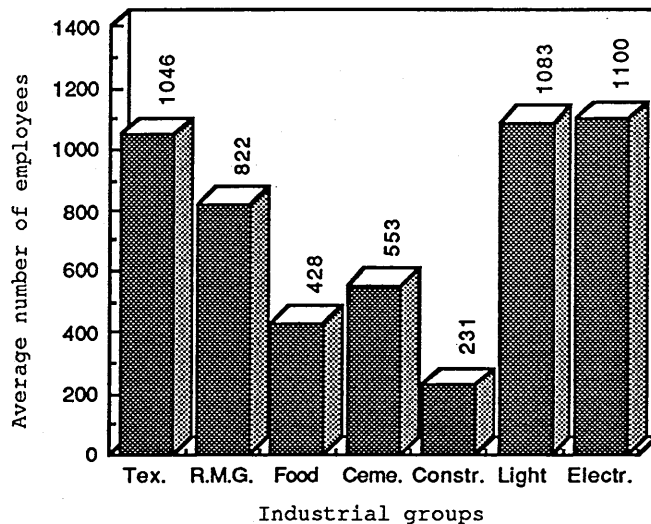
Table 6.2 Distribution of Companies according to the Total Number of Employees.

Indicator	Range (Employees)	No.of companies	Percent
Small	500 or less	68	61.8
Medium	501-1000	25	22.7
Large	1001 and more	17	15.5
Total		110	100.0
Mean		617.5	
(S.D.)		375.6	

Figure 6.1 shows the average total number of employees for each of the seven industrial groups. It can be seen that the electronics companies have the largest average with 1100 employees. The light industrial companies come second with 1083 employees. The textiles companies come third with 1046 employees. Using the indicator shown in Table 6.2, it is possible to say that the companies which make up the industrial groups are large companies. The average of the total number of employees for the companies belonging to the ready-made garment and cement groups indicates that it is possible to classify them as medium sized companies. The average number of employees

for the ready-made garment group is 822 employees, and the average for the cement group is 553 employees. Using the same indicator, the food manufacturing companies with a mean of 428 employees, and construction materials companies with a mean of 231 employees, can be classified as as small companies.

Figure 6.1 Average Number of Employees across the Industrial Groups



To assess whether or not there are significant differences between the industrial groups in terms of the total number of employees, one way analysis of variance (ANOVA), and a Kruskal-Wallis test were used.

The rationale behind analysis of variance might best be explained by studying the data. Several things about these data should be noted. First, the number of employees is not exactly the same in each company. Thus variation exists in the number of employees between the

different companies. This is called the 'total variation'. Second, within any particular group, the number of employees is not equal in all companies. Thus variation exists within groups. This variation is called 'within sample variation'. Finally, the sample means for the seven groups are not all equal. Thus variation exists between the groups. This is called 'between sample variation'. The basic principle of (ANOVA) is:

$$\text{Total sample variation} = \text{Between sample variation} + \text{Within sample variation}$$

However, the more the sample means differ, the larger the sum of the squares between SSB becomes. As SSB increases, the mean square between MSB begins to differ from the mean square within MSW. When this difference gets too large, the conclusion will be that the population means are not all equal.

To determine whether the MSW is too large or not, the ratio of MSB to MSW will be calculated. This ratio is called the F ratio. The exact F ratio could be found from an F table for $P=0.05$. Since the calculated F is larger than the table F, one can conclude that there are significant differences between the sample.

A Kruskal-Wallis one way analysis of variance test was used independently and the results compared with the results of ANOVA to double check for accuracy. It may be relevant to mention at this point, that a Kruskal-Wallis test is the nonparametric counterpart to the analysis of

the variance procedure presented above. It is applicable any time that the variable in question does not have a continuous distribution, the data are least ordinal, and the sample is independent.⁽¹⁾

This test applies if the sample size from each population is at least five⁽²⁾. Accordingly, for the purpose of calculation, the electronic industrial group which included 3 cases, was added to the 3 cases of the light industrial group and treated as one group.

Thus, ANOVA was used, because it does not require to add any group to another. In contrast, a Kruskal-Wallis test was used because it is the nonparametric counterpart to the analysis of variance, which suits such variables as industrial groups. In this context, if ANOVA and Kruskal-Wallis tests show the same results, no further tests are needed. If not, the study should examine the differences carefully.

The results of the ANOVA and Kruskal-Wallis tests show that there are statistically significant differences between the number of employees for the industrial groups: $F = 183.1502$, $P = 0.000$ for ANOVA, and $X^2_{\text{critical}} = 94.4357$, $P = 0.000$ for Kruskal-Wallis.

**(2) Number of Subordinates Reporting Directly
to the Production Manager:**

The number of subordinates reporting directly to the

production manager, or what is called 'span of control', is another factor which was added to this study. Table 6.3 reveals that most of the production managers interviewed have between 5 and 8 subordinates. The average span of control is 6.9 subordinates, and the S.D. is 1.86. Only 10.9% or 12 managers have less than 5 subordinates, and 18.2% or 20 managers have between 9-12 subordinates.

Table 6.3 Distribution of the Managers according to their Direct Subordinates.

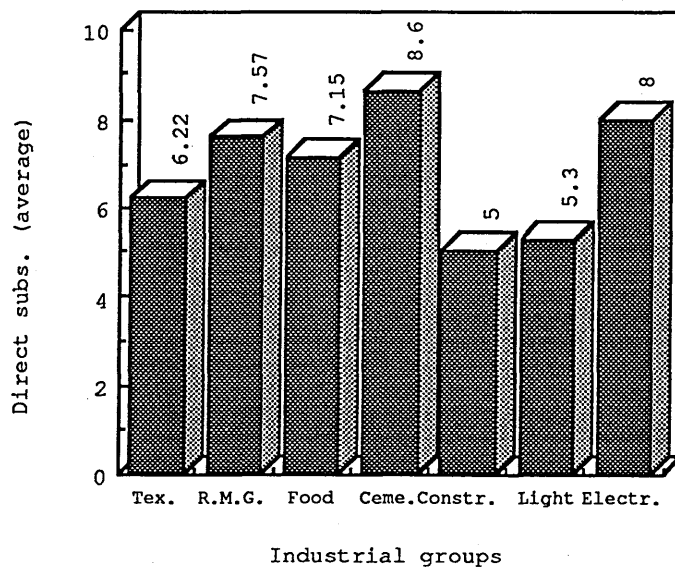
Range (Subordinate)	No. of Managers	Percent
Less than 5	12	10.9
5-8	78	70.9
9-12	20	18.2
Total	110	100.0
Mean (S.D.)	6.9 1.86	

However, the above results do not necessarily indicate the degree of authority of the production managers. The appropriate span of control depends on many factors including the level of technology and the number of products.

Figure 6.2 displays average numbers of subordinates reporting directly to the production managers for the seven industrial groups. It can be seen that the production managers in the cement companies have the

largest mean with 8.6 direct subordinates. Those in the electronics companies have a mean of 8 direct subordinates, those in the ready-made garment group have a mean of 7.57, those in the food industry group have a mean of 7.15, those in the textiles industry group have a mean of 6.22, those in the light industries have a mean of 5.3 direct subordinates. The lowest mean is 5 direct subordinates, for production managers in the construction materials group.

Figure 6.2 Average number of Direct Subordinates across the Industrial Groups.



The results of ANOVA showed that there are statistically significant differences between the number of direct subordinates in the industrial groups ($F=9.6972$, $P=0.000$). These results were supported by the Kruskal-Wallis test, which also showed statistically significant differences ($X^2_{critical}=41.9217$, $P=0.000$).

(3) Number of Subordinates Reporting Indirectly
to the Production Manager:

The average number of subordinates reporting indirectly to the production manager is 39.5, and the S.D. is 20.8. Table 6.4 shows that most of the production managers have between 10-50 indirect subordinates, 36.4% or 40 managers have 10-30, and 38.2% or 42 managers have 31-50. Only 14.5% or 16 managers have 51-70 indirect subordinates, while 10.9% or 12 managers have 71-90.

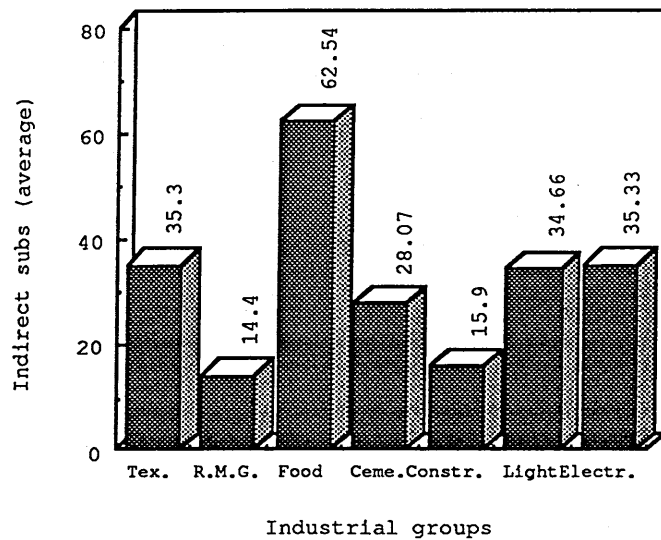
Table 6.4 Distribution of the Sample according to the
Number of Indirect Subordinates.

Range	No. of Companies	Percent
10-30	40	36.4
31-50	42	38.2
51-70	16	14.5
71-90	12	10.9
Total	110	100.0
Mean	39.5	
(S.D.)	20.8	

Figure 6.3 shows the average of these numbers for each of the seven industrial groups. The production managers who work in the food industry group have the largest average (62.24) of indirect subordinates in comparison with the other six groups. The electronics industry group comes second with a mean of 35.33. This mean is very near

to the mean of the textile industry group with 35.30 indirect subordinates, and the mean of the light industry group with 34.66. The cement industry group comes fifth with an average of 28.07, the construction materials group has an average of 15.9, while in the ready-made garments group the average is 14.4.

Figure 6.3 Average Number of Indirect Subordinates across the Industrial Groups



The results of ANOVA showed that there are statistically significant differences between the number of subordinates reporting indirectly to the production managers in the industrial groups ($F=71.4120$, $P=0.000$). These results were supported by the Kruskal-Wallis test which show statistically significant differences of ($\chi^2_{\text{critical}}=41.9217$, $P=0.000$).

6.2.3. Complexity of Products:

Complexity of products is determined by the number of

main products and main components. New (1986) argued the impact of these two factors on the nature of the production manager's job. He stated that they dictate the size and complexity of the production plans and control tasks within the organisation⁽³⁾.

The production managers interviewed were asked about the number of their companies' main products and about the number of main inventory item records currently in use.

(1) Number of Main Products:

The production managers interviewed were asked about the number of the main products their companies produce. The answers show that the average number of products is 7.2 items, and the S.D. is 5.4, as Table 6.5 shows. The data show that 20 companies produce one item as a minimum number of products, and 3 companies produce 20 items as a maximum number of main products.

Table 6.5 Distribution of the Companies according to the Number of Main Products.

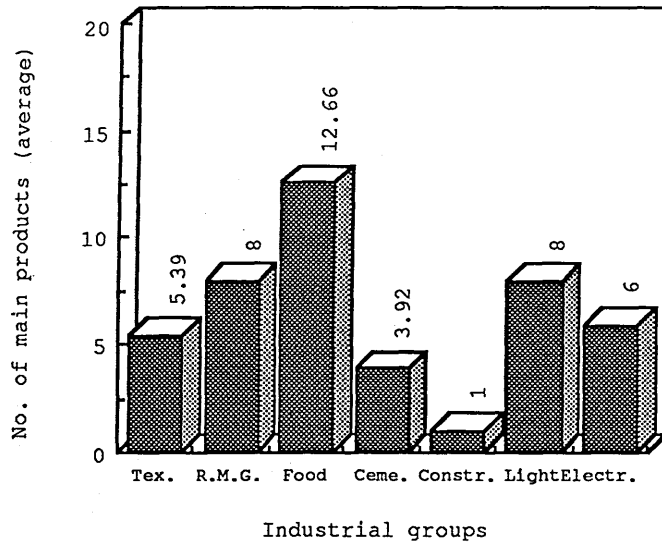
Indicator	Range	No. of Companies	Percent
Less Complex	1-5	55	50
Complex	6-10	31	28.2
More Complex	11-and more	24	21.8
Total		110	100.0
Mean (S.D.)		7.2 5.4	

Table 6.15 shows that 50% or 55 companies produce 1-5 items, 28.2% of the companies, or 31 companies, produce 6-10 items, while 21.8% of the companies, or 24 companies, produce 11 or more items.

The indicator in Table 6.15 suggests that the degree of complexity increases when the number of products increases. Any additional product needs more physical resources and managerial attention. Accordingly, half of the sample included in this study are 'less complex' companies in terms of number of products, while 21.8% are 'more complex'.

Figure 6.4 shows the means of the total number of main products for the companies in the seven industrial groups. Using the indicator mentioned in Table 6.5, it can be said that the cement and construction material companies are 'less complex' companies, because the cement group has a mean of 3.92 main products, and the construction materials group has a mean of 1 main product. The companies belonging to the textile, electronics, ready-made garment and light industry groups have a mean of 5.39, 6.0, 8.00 and 8.00 main products respectively, and can thus be classified as 'complex' companies. Only the companies belonging to the food group can be classified as 'more complex' companies, having a mean of 12.66 main products.

Figure 6.4 Average Number of Main Products across the Industrial Groups.



The results of ANOVA indicate statistically significant differences between the sample in terms of the number of main products: $F=37.2287$, $P=0.000$. The Kruskal-Wallis test supports the ANOVA results, by showing statistically significant differences: $\chi^2_{\text{critical}}=37.2287$, $P=0.000$.

(2) Number of Components:

In the interview the production managers were asked about the main inventory item records i.e. the number of components currently live, (in use). The answers in Table 6.6 show that the average number of components is 28.78, and the S.D. is 38.6. The minimum number of main components is one for 20 companies mostly belonging to the construction material industry, and the maximum number of components is 99 items for 23 companies.

Table 6.6 Distribution of the Companies according to the Number of Main Components.

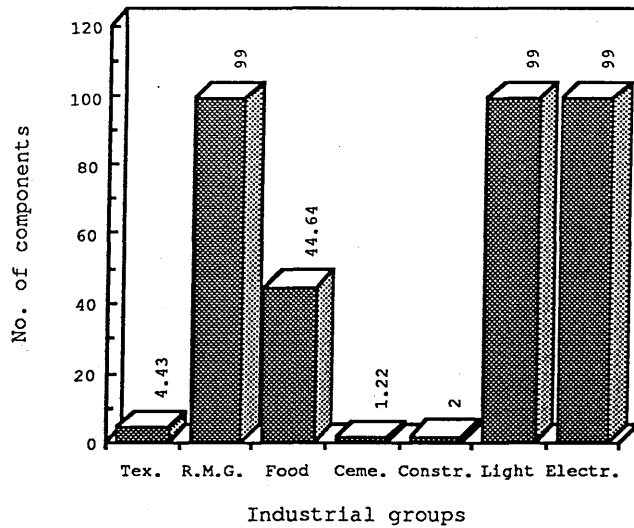
Indicator	Range (Components)	No.of Companies	Percent
Less Complex	1-25	76	69.1
Complex	26-50	8	7.3
More Complex	51-and more	26	23.6
Total		110	100.0
Mean		28.78	
(S.D.)		38.6	

Table 6.6 shows that 96.1% or 76 companies use 1-25 main components. The range of 26-50, and 51 or more, includes 7.3% and 23.6% of the companies respectively.

Using the same criteria applied to the number of products, it is obvious that half of the companies may be described as 'less complex'.

The means of main components for the seven industrial groups are shown in Figure 6.5. It can be seen that the means of the companies belonging to the cement, construction materials, and textile industry groups are 1.22, 2.00 and 4.43 respectively. In terms of the criteria of Table 6.6, they are 'less complex' companies. The companies in the food industry group are 'complex' companies. Their mean is 44.64 components. Three groups have a mean of 99.00 components. They are: ready-made garments, light industries, and electronics. They are 'more complex' companies, according to the same criteria.

Figure 6.5 Average number of Components across the Industrial Groups



The results of ANOVA indicate that there are statistically significant differences between the companies in terms of their main components: $F=39.9234$, $P=0.000$. These results were supported by the results of the Kruskal-Wallis test, which indicates the same differences: $\chi^2_{critical}=99.3535$, $P=0.000$.

6.3. Personal Characteristics:

6.3.1. Age:

The average age of the Iraqi production managers included in the sample is 46.7 years, the S.D. is 4.39. Table 6.7 presents the distribution of the different age groups.

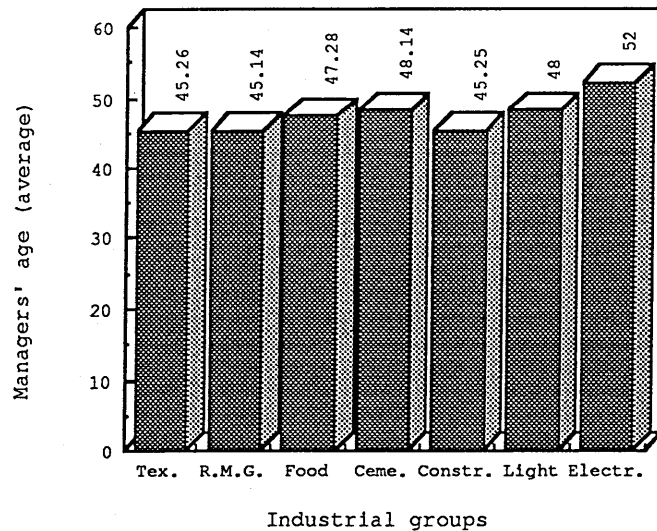
Table 6.7 Distribution of Iraqi Production Managers by Age Groups.

age group	No. of managers	Percent
35-39	6	5.5
40-44	26	23.6
45-49	48	43.6
50-54	27	24.6
55-59	3	2.7
Total	110	100.0
Mean in Years	46.70	
S.D.	4.39	

It can be seen from the table that the largest single group of managers interviewed is between 45-49 years of age (48 managers or 43.6% of the total number). Almost half of them are between 40-44 and 50-54, only 5.5% are in the group of 35-39, and 2.7% are in the group of 55-59.

The means of the age of the production managers in the seven groups are shown in Figure 6.6. The Figure shows that the means are between 52 years for managers in the electronics group and 45.14 years for those the tailoring group. The other groups have the following means: 45.25 years for the managers in construction materials, 45.26 years for those in textiles, 47.28 years for those in food, 48.00 years for those in light industries, and 48.14 years for those in cement.

Figure 6.6 Average Age of Managers across the Industrial Groups



The results of ANOVA show that there are no significant differences between the sampled managers in terms of their age. ($F=2.1924$, $P=0.0510$). The results of the Kruskal-Wallis test show the same indication of ANOVA ($X^2_{critical}=12.1819$, $P=0.0591$).

6.3.2. Working History:

Working history reveals the managers mobility and experience. Both factors may vary in their range and depth. Mobility and experience were examined through, first, years of service in the present company, and second, the number of organisations the manager has served with throughout his career.

(1) Years of Service in the Company:

Experiences will be determined by years in the present company, and years in the present position. This is very important, because the years of service in the company will reveal his experience in that particular company, while the years in his present position will reveal his experience as a production manager in the company.

(A) Years in the Present Company:

For service in the present company, the data show that the mean is 11.54 years, and the S.D. is 5.51. Table 6.8 indicates that 46.4% of the production managers included in the study have had more than 11 years of service in the present company, while 39% of them have had between 6-10 years of service. Only 14.3% have had less than 5 years of service.

Table 6.8 Production Managers rated according to their Years of Service in the Present Company.

Indicator	Range (Years)	No. of managers	Percent
Unstable	1-5	16	14.3
Stable	6-10	43	39.3
Very stable	11-more	51	46.4
Total		110	100.0
Mean in years		11.54	
(S.D)		5.51	

The indicators in Table 6.8 are similar to Leviatan's

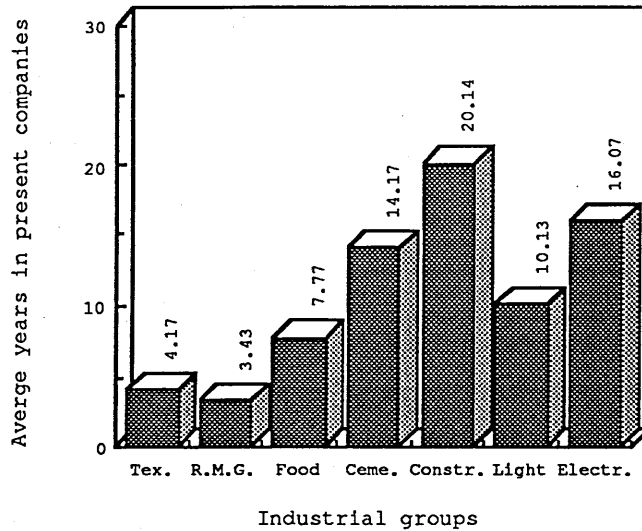
(1978) which were adopted by Al-Moumen's (1985)⁽⁴⁾ studies. They found that the manager's stability within the company is a major indicator of his knowledge and experience in the company. In more detail, the manager who has spent a short time within the company is rated as 'less stable', because during this stage he is trying to study the company in order to make himself more acquainted with its activities. In the second stage, when he has spent more time within the company, he will have become more familiar with it and be trying to involve himself in its activities. But when the manager has spent a very long period of time within the company, he will reach a high degree of stability, which indicates that he has become an 'expert' in the company and in leading its activities.

Thus, Table 6.8 gives the picture that 46.4% of the production managers included in this study are familiar and are involved in their company activities.

Figure 6.7 shows the means of the total number of years spent by production managers in their present companies, for the seven industrial groups. Using the indicator in Table 6.8, one may classify the production managers working in the ready-made garment and textile groups as 'unstable' managers. They have on average less than 5 years experience in their companies. The production managers working in the food industry group had spent on average 7.77 years in their present companies and thus

can be said to be 'stable' managers. The production managers working in the rest of the groups are 'very stable'. They had spent, on average, more than 10 years in their companies.

Figure 6.7 Average Years in the Present Company across the Industrial Groups



The results of ANOVA reveal that there are statistically significant differences between the sampled production managers in terms of their years in their present companies ($F=10.809$, $P=0.000$). The Kruskal-Wallis test supports these results by indicating statistically significant differences between them ($X^2_{critical}=43.9622$, $P=0.000$).

(B) Years in the Present Position:

The length of time these individuals have served in their current position as production manager, varies

between and within groups. Table 6.9 indicates that the mean of years in the present position is 6.08 and the S.D. is 3.59. The Table also shows that 27.3% of the managers have less than 3 years in their current positions, 30% of them have 4-6 years, while 42.7% of them have more than 7 years.

Table 6.9 Production Managers rated according to their Years of Service in Present Positions.

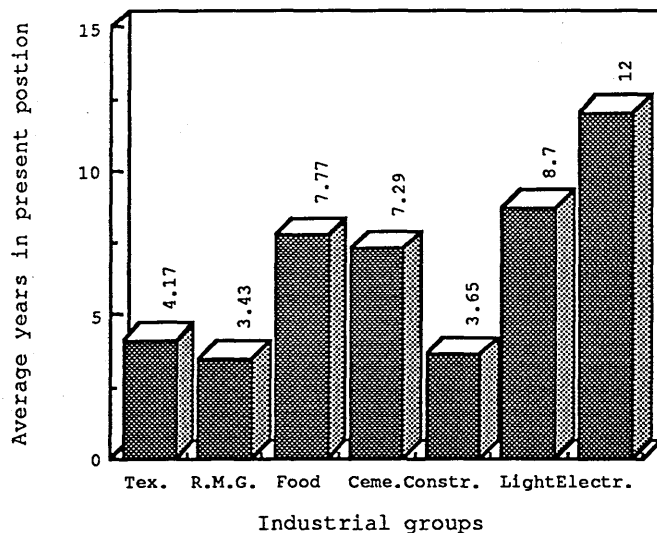
Indicators	Range of service Years	No. of Managers	Percent
Studying the job	1-3	30	27.3
Knowing the job	4-6	33	30.0
Expert in the job	7 and more	47	42.7
Total		110	100.0
Mean in years		6.08	
(S.D.)		3.59	

The results indicate that most of the production managers included in this study have spent a lengthy period of time in their position within the company. Using the same criteria applied to service within the company, it is obvious that most of the production managers are in the 'expert' or 'knowing the job' category.

In this context, Figure 6.8 shows the means of this factor for the different industrial groups. It can be seen that the production managers who work in the ready made-garment and construction materials industry groups

are in the 'studying the job category, according to the indicator mentioned in Table 6.9. Using the same indicator, it is possible to classify the production managers who work in the textile group as 'knowing the job'. Consequently the other production managers are 'expert' in the job, in terms of years in the present position.

Figure 6.8 Average Years in Present Position across the Industrial Groups



There are statistically significant differences between the sampled managers across the seven industrial groups, as ANOVA results show ($F=8.3258$, $P=0.000$). Kruskal Wallis results reveal the same indication of significant differences ($X^2_{critical}=35.3324$, $P=0.000$).

(2) Number of Previous Companies (Mobility):

Mobility is determined by the number of companies a

production manager has moved to before joining the present company. This indicates the degree of experience and knowledge the production manager brings to the present company, which he has gained from his work in other companies.

Table 6.10 shows that the mean of previous companies the production managers have moved through is 2.02, and the S.D. is 0.73. It is also shows that 25.5% of the production managers have spent their entire career in one company before joining the present one, whereas 47.3% of them have moved between 2 companies, and only 27.2% have moved between 3 companies.

Table 6.10 Distribution of the Production Managers according to their Previous Companies.

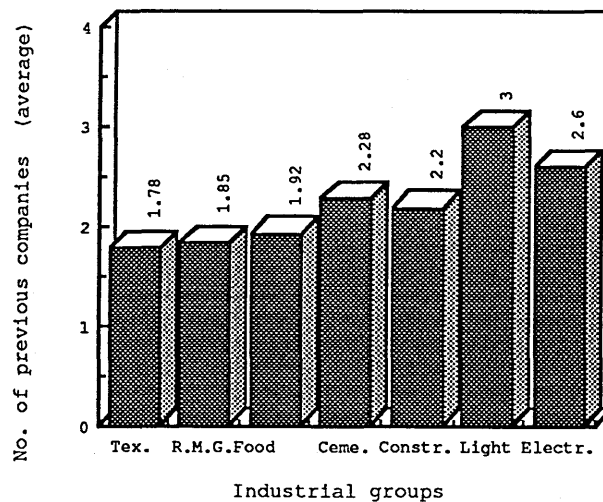
No. of previous Companies	No. of Managers	Percent
1	28	25.5
2	52	47.3
3	30	27.2
Total	110	100.0
mean (companies)	2.02	
(S.D.)	0.73	

The above results support the results shown for length of service in the current position. They indicate that the production managers included in the sample did not transfer a noticeable amount of experience, but maintained stability in their companies and in the

positions they hold.

Figure 6.9 shows the mean of the number of previous companies the production managers have moved from before joining the present company, for the seven industrial groups. The means are 1.78, 1.85 and 1.92 companies for the managers who work in textiles, ready-made garment and food industries respectively. The means are 2.28, 2.2 and 2.6 companies for the managers in the cement, construction materials, and electronics groups, while the mean is 3 companies for the light industry group's managers.

Figure 6.9 Average No. of Previous Companies across the Industrial Groups



ANOVA results do not show significant differences between the sampled production managers in terms of this variable ($F=1.5378$, $P=0.1737$). The Kruskal-Wallis test support these results by showing no significant differences as well ($X^2_{critical}=8.9226$, $P=0.1780$)

6.3.3. Formal Education:

The increasing scale and complexity of industrial companies, the proliferation of managerial techniques, and the technical transformation of many branches of industry have caused more firms to regard education, particularly higher education, as a prerequisite for a production manager. It is also known that without continuous education, a manager is more likely to be incapable of achieving sound equilibrium between the internal requirements of the company and the external demands.

The results of this study show that all the production managers included in the sample, have a Bsc. degree in Engineering. Table 6.11 shows that 89.1% of them have studied in Iraqi universities, while only 10.9% of them have studied in universities abroad, most of them in the United Kingdom.

Table 6.11 Iraqi Production Managers rated according to the Place of their Study.

Place of the study	No.of managers	percent
Iraq	98	89.1
Abroad	12	10.9
Total	110	100.0

The tendency of the sampled managers to study engineering for their first degree, is due to an Iraqi

Civil Service Law. This Law determines the minimum qualification for a production manager as Bsc. in Engineering. As a result of the similarity between the sampled production managers in terms of their educational level, this variable will be excluded from the later analysis of variables which are supposed to cause differences between the the production manager's job.

6.3.4. Training:

Normally, training programmes aim at improving the efficiency of the trainees through development of their skills. Continuous training is essential even if managers are highly educated because education can become out of date.

This study is concerned mainly with the type of training that production managers are involved in, in order to study its effect on their competence in the job. The production managers were asked about their involvement in two types of training programmes. They are:

(1) managerial training programmes. These programmes are designed to give a general knowledge of management, and the use of computers in this field, as well as the new managerial techniques. This type of training includes the common training programmes run in Iraq by the National Centre for Consultancy and Management

Development (NCCMD).

(2) technical training programmes. Such programmes are mostly concerned with technology. They mainly deal with the hardware of the production lines. It is important to mention that many foreign agencies and companies are involved in this sort of training of Iraqi production managers, especially those companies who import technology to the country. Most of these programmes are run abroad.

The research tried to collect data about the duration of each training programme, as can be seen from Question 6 of the Questionnaire. Most of the managers could not remember the duration of the programmes, and the data collected were incomplete. Thus the analysis will include the number rather than the duration of the programmes.

Table 6.12 indicates that most of the production managers in the sample are involved in training programmes. It also indicates that the mean of technical programmes is 5.36 programmes, and the S.D. is 2.76, while the managerial programmes have a lower mean, 4.58, and an S.D. of 2.34. The higher mean of technical programmes, and the educational level of the production managers indicate that Iraqi industry is more concerned with the technical side than with the managerial side of the production manager's job.

The results in Table 6.12 show that only 4 managers

were not involved in any training programmes. 45.5% of them were involved in 1-4 managerial programmes, and 38.1% were involved 1-4 technical programmes. 44.5% were involved in 5-8 managerial programmes, and 44.6% were involved in 5-8 technical programmes. Finally 6.4% of the managers were involved in 9-12 managerial programmes and 13.7 of them were involved in 9-12 technical programmes.

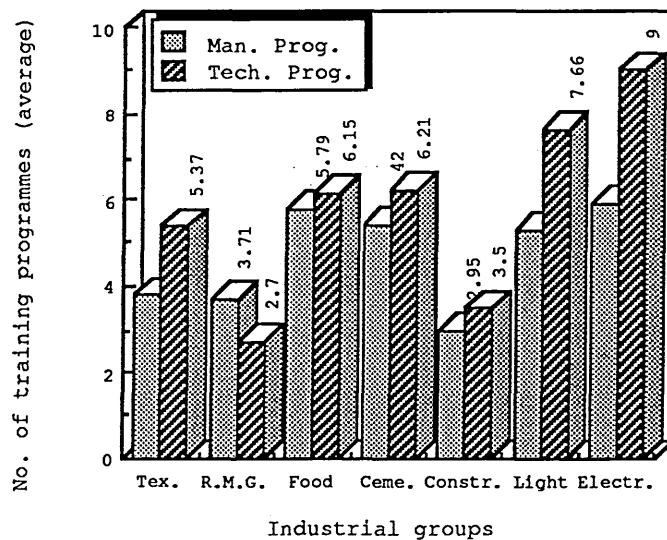
Table 6.12 Distribution of Production Managers according to their Involvement in Managerial and Technical Programmes.

No. of Programmes	No. of Managers	Percent
<u>Managerial Programmes</u>		
0	4	3.6
1-4	50	45.5
5-8	49	44.5
9-12	7	6.4
Total	110	100.0
Mean (programmes)	4.58	
(S.D)	2.34	
<u>Technical Programmes</u>		
0	4	3.6
1-4	42	38.1
5-8	49	44.6
9-12	15	13.7
Total	110	100.0
Mean (Programmes)	5.36	
(S.D.)	2.76	

Figure 6.10 shows the means of the number of managerial and technical programmes that the sampled production managers have attended, from the different industrial

groups. It shows that the means of the technical programmes are always greater than the means of the managerial programmes. The managerial programmes have means of 6.00, 5.79, 5.42, 5.33,, 3.71 3.69 and 2.95 respectively, for the electronics, food, cement, light industry, ready-made garment, textile, and construction materials groups. On the other hand, the means of the technical programmes are 9.00, 7.66, 6.21, 6.15, 5.37, 3.5 and 2.7 programmes respectively for the electronics, light industries, cement, food, textiles, construction materials and ready-made garments groups.

Figure 6.10 Average No. of Training Programmes across the Industrial Groups



There are statistically significant differences between the sampled production managers for the seven industrial groups, in terms of technical and managerial training programmes. The results of ANOVA are $F=10.6180$, $P=0.000$

for the technical programmes, and $F=4.9084$, $P=0.000$ for the managerial programmes. The results of the Kruskal-Wallis test are $X^2_{\text{critical}}=40.7338$, $P=0.0000$ for the technical programmes, and $X^2_{\text{critical}}=22.222$, $P=0.0011$ for the managerial programmes.

6.4. Summary:

The material presented in this chapter describes characteristics of the sampled Iraqi production managers, as well as characteristics of their companies, in two sections. The first presented the companies' characteristics in terms of, (1) their industrial group, (2) their employees (the total number of employees, the number of subordinates reporting directly to the production manager and the number of subordinates reporting indirectly to him) (3) the complexity of their products (the number of main products and the number of components).

The second section presented the characteristics of the 110 sampled production managers in terms of (1) age, (2) working history, which included years in present position as well as the number of previous companies (mobility), (3) formal education, and (4) training programmes.

The study applied ANOVA and Kruskal-Wallis tests to examine the differences between the sampled production managers for the seven industrial groups, in terms of all the above characteristics. The analysis has shown significant differences between the groups except in age and the number of previous companies they have served in prior to moving to their present one.

Notes:

- (1) David F. Groebner and Patrick W. Shannon, Business Statistics: A Decision-Making Approach, Ohio: Charles E. Merrill publishing Co., 1981.
- (2) Ibid.
- (3) C.C. New, and A. Myers Managing Manufacturing Operations in the U.K., Regby: Swift Valley Press Ltd., 1986.
- (4) Kais Al-Moumen, Top Management Involvement and Role in Changing organisational Structure with Particular Reference to Iraq, UMIST., Unpublished Ph.D. Thesis, 1985.

Chapter Seven

Work Activities

7.1. Introduction:

One of the main objectives of this study is to investigate the work characteristics of a production managers' job in Iraq. As mentioned in chapter five, three aspects are dealt with: (1) the types of activities engaged in and how they are distributed over time, (2) managerial contact patterns, and (3) work patterns. This chapter aims to discuss the first aspect, while chapters eight and nine aim to deal with the other two.

This chapter was added to discuss similarities as well as differences in production managers' work activities in Iraq. It is divided into two sections. The first concerns types of work activities, and how they are distributed in terms of time spent on each. The second section analyses differences between the sampled production managers in terms of time spent on these activities. Data from the interviews with 110 managers are supplemented by observation of 7 managers to form the basis of the results discussed in this chapter.

7.2. Types of Work Activities:

The aim of this section is to study production managers' work activities in Iraq, and to explain how

these activities were distributed in terms of time spent on each.

Five activities were chosen to cover the bulk of the managers' work. They are talking, reading, paperwork, travelling, and others. The activities included in this section were mainly adopted from Stewart's (1976)⁽¹⁾ study. Most of these activities are also used by Feldman (1983)⁽²⁾. The same activities were chosen because they represent all managers' activities. Furthermore, using the same activities enables the researcher to make comparisons between the results of the present study and findings by other researchers.

Question number 11 of the questionnaire, was asked in relation to these five activities. Each production manager was asked to estimate how he divided his daily time between these activities. In addition, 7 managers were each observed for four working days for the same reason.

7.2.1. Talking Activity:

Data from interviews indicate an emphasis on talking activity. The production managers spent on average 62.6% of their total time on this activity. Table 7.1 shows that 18 spent 40-50% of their total time talking and 21 spent 51-60%. Nearly half of the sampled production managers spent 61-70% of their total time talking, while 15 spent 71-80%, and only 5 spent 81-90%.

Table 7.1 Iraqi Production Managers; Time spent on Talking.

Percent of daily time	Number of Managers	Percent
40-50	18	16.4
51-60	21	19.1
61-70	51	46.4
71-80	15	13.6
81-90	5	4.5
Total	110	100.00
Average	62.6	
S.D.	10.3	

Data from observation studies support the above results by also indicating an emphasis on this activity. Observation of seven managers showed that the minimum time spent was 43% of his total daily time by a production manager who worked in an electronics company, while the maximum time spent was 83% by a production manager who worked in the construction materials industry.

The results of all the seven cases observed indicate a strong preference for face-to-face talking, and using the telephone, and less orientation toward formally scheduled meetings. The main reasons are that the managers use this activity to give daily instructions and to solve daily work problems for most internal matters.

The above results have some similarities with Feldman's (1982) study. He found that the production managers

included in his sample spent 66-80% of their time on talking. In addition he found a strong preference for face-to-face communication⁽³⁾. Brewer and Tomilson's (1964) study found that talking is the most important means of acquiring and systematizing information, and the managers spent on average 39% of their time in this way.⁽⁴⁾

7.2.2. Paperwork Activity:

Less time is spent on paperwork, i.e. initiating dictation, calculations, writing and reading letters and internal memos and reports, than on talking. As Table 7.2 shows, the sampled production managers spent on average 17.96% of their total daily time on this activity.

Table 7.2 Iraqi Production Managers; Time spent on Paperwork.

Percent of daily time	Number of managers	Percent
1-10	23	20.9
11-20	49	44.5
21-30	32	29.1
31-40	6	5.5
Total	110	100.00
Average	17.96	
S.D.		

The above table indicates that 23 managers spent 1-10% of their daily time on paperwork. Nearly half of the sample spent 11-20%, 32 spent 21-30% and 6 spent 31-40%.

Data from observation studies support the results of interviews, by also indicating less emphasis on paperwork than on talking. The data show that the minimum time spent on this activity was 8% of the total time of a production manager who worked in the construction materials industry, while the maximum time was 36% of the time of a manager who worked in the electronics industry.

The above results show that the Iraqi production managers included in this study spent more time on paperwork in comparison with other studies, such as that of Feldman (1983)⁽⁵⁾, Mintzberg (1973)⁽⁶⁾, and Stewart (1976)⁽⁷⁾. As chapter four explained earlier, Iraq is a socialist country. The government actively and directly controls the economy through a predetermined comprehensive economic plan. Once the plan is approved, the production managers in the public sector are bound to attain its objectives. Thus, under such circumstances, the production managers receive daily instructions, and send reports about their departments' daily production to the Ministry of Industry and to the Ministry of Planning. These procedures move through routine channels and require a lot of paperwork. Observation of the seven production managers supports this argument by indicating that the main use of paperwork is to receive instructions, report the results, and discuss practical problems with the Ministry of Industry.

7.2.3. Reading Activities:

Another activity of production managers suggested by this study is reading, i.e. external material such as newspapers, books and journals. The interviews indicate that the sampled production managers spent on average 8.1% of their time on this activity, as can be seen from Table 7.3.

Table 7.3 Iraqi Production Managers ; Time spent on Reading.

percent of daily time	Number of managers	Percent
1-5	43	39.0
6-10	45	40.9
11-15	10	9.1
16-20	6	5.5
21-25	6	5.5
Total	110	100.00
Average	8.1	
S.D.	5.2	

The table shows that the majority of the production managers were included in the first two categories. They spent a maximum 10% of their time on reading. 43 managers spent 1-5%, and 45 spent 6-10% of their time. Only 10 managers spent 11-15%, 6 spent 16-20, and another 6 spent 21-25% of their time on reading.

Data from the observations show different results. The observed managers spent between 1-5% of their time on reading. This result gives the impression that the

interviewed managers overestimated the time allocated to this activity. They might be keen to show that they wish to update their knowledge in the field of management.

The Ministry of Industry has made a decision to create a new unit in all industrial companies to follow up publications in the field of production management. The main objective of these units is to summarize some of the new publications which they consider useful and present them to the production managers. The persons who are in charge of these units should have previous experience in production management departments. The main reason for the creation of these units, is the feeling in the Ministry of Industry that production managers do not allocated enough time for reading.

7.2.4. Travelling Activity:

Production managers travelling for the purpose of their work is the fourth activity suggested by this study. The interviews indicated that the production managers included in the sample spent, on average, 6.46% of their time on this activity, as Table 7.4 shows.

Table 7.4 Iraqi Production Managers; Time spent on Travelling.

Percent of time	Number of managers	Percent
1-5	51	46.4
6-10	49	44.5
11-15	10	9.1
Total	110	100.00
Average	6.46	
S.D.	3.2	

Similar results to reading activity can be seen from the table. The majority of the production managers spent 1-10% of their time travelling. The table indicates that 51 managers spent 1-5%, and 49 managers spent 6-10%. In other words 100 managers out of 110 or 90.0% of them are in the categories of 1-5% and 6-10%. Only 10 managers estimated 11-15% of their time as spent on travelling.

In the observed group, only one manager working in the food industry, travelled for one day for inspection reasons. Because of limited time, the observation method was unable to indicate any significant results about travelling.

The discussions with the sampled production managers indicate that there are two main reasons for their travelling. The first is for inspection and the second is for attending training programmes. As mentioned before,

there are two main sorts of training programmes, managerial programmes which are usually organized by (NCCMD), and technical programmes which are mainly organized by foreign agencies and companies. Production managers have to travel abroad or to the NCCMD center to attend these programmes.

7.2.5. Other Activities:

The production managers were asked to estimate the time spent on any other activity other than the above four activities. Their answers indicated that on average 4.6% of their total time was spent on other activities, as Table 7.5 shows.

Table 7.5 Iraqi Production Managers; Time spent on other Activities.

Percent of daily time	Number of managers	Percent
1-5	83	75.5
6-10	26	23.6
11-15	1	0.9
Total	110	100.0
Average	4.6	
S.D:	2.2	

It can be seen from the table that more than half of the sample estimated 1-5% of their total daily time as spent on other activities, 26 managers estimated 6-10% and only one manager estimated 11-15%.

The observation studies found that, on average, 5.5% of the total time of the seven managers was spent on other activities. The observations indicated that these activities are:

- (1) Informal visits from outside the company.
- (2) Informal telephone calls by persons from outside the company, some of them working in the same ministry.
- (3) Informal visits from colleagues, peers and other senior managers who work in the same company.

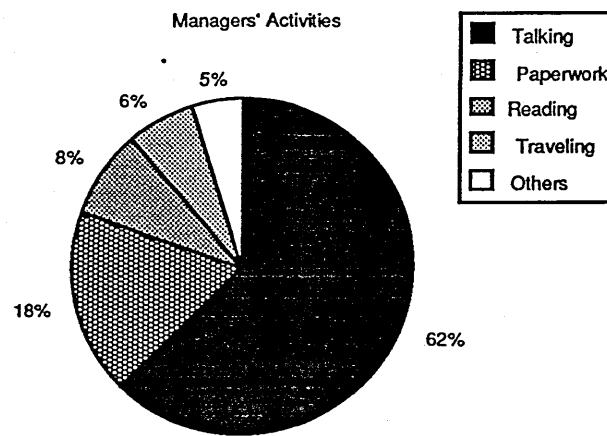
Visiting in fact, is a fairly common social phenomenon in Iraq and other Arab countries, It is part of the culture. The visitor can either pay his respects, request a favour, or express a grievance. As an Arab, you have to respect your visitors, irrespective of the time of their visit.

Kotter (1982) studied 15 managers during a six-year study. He found that his sample discussed a wide variety of topics, some of them non work-related issues...sport, health, religion, social, etc⁽⁸⁾. Feldman's (1983) study indicates that his sampled production managers spent much time in community-related matters, such as political and religious affairs.⁽⁹⁾

Figure 7.1 summarizes the average time spent on the the five activities. The main activity is talking with others, including all conversations, meetings, and telephone calls. The production managers spent on average

62% of their time talking. They spent on average 18% of their total time on paperwork, including dictation, calculations, writing and reading letters and internal memos and reports, whereas they spent on average only 8% of their total time on reading, including external material, newspapers, books and journals. The figure also shows that on average 6% of production managers' time was spent on travelling. On average, the respondents spent 5% of their daily time on other activities which were not included in the above categories.

Figure 7.1 Average Time spent on Work Activities



7.3. Differences between Managers' Time

Distribution over Work Activities:

The previous section discussed similarities between the sampled production managers in terms of time distribution over work activities. This section attempts to point out differences between them in this respect. It also

attempts to investigate the factors influencing time distribution over these activities.

To examine the differences between the sampled production managers in terms of work activities across the seven industrial groups, ANOVA, and Kruskal-Wallis tests were applied. Table 7.4 displays the results of the two tests.

Table 7.6 Analysis of Variance of Time spent on Work Activities across the Industrial Groups.

Work activities	(ANOVA)		Kruskal-Wallis	
	F	sig	X^2_{Critical}	sig
Talking	106.406	0.000**	87.618	0.000**
Paperwork	85.985	0.000**	62.919	0.000**
Reading	169.116	0.000**	62.916	0.000**
Travelling	147.721	0.000**	95.744	0.000**
Others	4.962	0.000**	29.779	0.000**

** Statistically Significant more than 99.9%

The above results show significant differences between the sampled production managers regarding the distribution of their time over the five activities suggested by this study. This stage of the analysis aims to investigate the factors influencing the time distribution over the activities. The study suggested earlier that these differences should be attributed to two main groups of factors. These are company characteristics, and personal characteristics. In order

to examine the impact of these factors, multiple regression analysis, followed by stepwise regression was used for this purpose.

According to the multiple regression equation, the time spent on any work activity is a function of a set of factors, X_k , as follows:

$$Y = f(X_1, X_2, X_3, \dots, X_k)$$

$$Y = B_0 + B_1 X_1 + B_2 X_2 + B_3 X_3 + \dots + B_k X_k$$

Where:

B_0 = regression constant

B_1 = regression coefficient for variable X_1

·
·

B_k = regression coefficient for variable X_k

k = number of independent variables.

In other words the regression coefficients $B_1, B_2, B_3, \dots, B_k$, represent the effects of the respective variables $X_1, X_2, X_3, \dots, X_k$, controlling for all other variables in the equation.

In the data set, all the factors commonly identified as being relevant in explaining variations in time spent on work activities are presented. The multiple regression analysis for the purpose of this study was carried out in five stages as follows:

In the first stage, all the variables were entered into the equation in order to assess their influence on time spent on talking by the sampled production managers. The

relevant variables are:

Company characteristics:

- Total employees.
- Direct subordinates.
- Indirect subordinates.
- Main products.
- Main components.

Personal characteristics:

- Age.
- Years in present company.
- Years in present position.
- Number of organisations during career.
- Number of technical programmes.
- Number of managerial programmes.

It is important to mention here that the industrial groups as an independent variable were excluded from the variables entered in the regression equation. The reason is that the industrial groups represent nominal data. To enter them into the equation, one should use a dummy variable. At the same time, a dummy variable should not be used as an independent variable in regression, if one of the categories contains less than 20% of the cases. There are four categories which include less than 20% of the cases. This limited the use of the dummy variable, and therefore, the industrial groups could not be used as a variable in the equation. The study will treat this

variable through the results of chapter six along with the results of the regression analysis for the other independent variables here in chapter seven and in chapter eight.

In the second stage, all the above variables are examined in order to assess their influence on the time spent on paperwork by all the production managers included in the sample.

In the third stage, the same variables are examined to find out their impact on the time spent on reading.

In the fourth stage, the same explanatory variables were entered into the equation in order to examine their impact on the time spent on travelling.

Finally in the fifth stage, the same variables were examined in order to find out their influence on the time spent on other activities.

All the variables listed above were entered into the regression equation. The summary of the results is seen in Tables 7.7 to 7.11. The 'multiple R' represents the correlation between the dependent variables and the entire set of independent variables. The correlations between each one of the five activities and the set of independent variables are above 0.70. In more detail, the correlations were: 0.77 for talking, 0.81 for paperwork, 0.74 for reading, 0.93 for travelling and 0.71 for other activities. These results show very high correlations

between the activities and the set of independent variables.

The 'R square' is the proportion of variance in the dependent variables associated with variance in the independent variables. This proportion is a good indicator of the explanatory power of the regression model. For the five models in Tables 7.7 to 7.11, the independent variables explain more than 50% of the variance in the time spent on each of the working activities. In Table 7.7, the independent variables explain 59% of the variance in the time spent on talking activity. As Table 7.8 shows, the same independent variables explain 66% of the variance in the time spent on paperwork. Table 7.9 shows that the independent variables explain 54% of the variance in the time spent on reading. As can be seen from Table 7.10, the independent variables explain 86% of the variance in the time spent on travelling. Finally, Table 7.11 shows that the independent variables explain 51% of the variance in the time spent on other activities. All the results of 'R square' indicate a good explanation by the regression models.

The figures under heading 'B' are the regression coefficients. They can be used as a measure of the influence of each independent variable upon any activity, with adjustments made for all other independent variables. The 'SE B' column gives the standard errors of

estimate of the regression coefficients. The 'Beta' column indicates the values of the standardized regression coefficient. Beta represents the effect that the standard deviation difference in the independent variable would have on the dependent variable in standard deviation (the standardized score of the dependent variable). For the total number of employees in Table 7.7 Beta is -0.338 , which means that a difference of one standard deviation in the total number of employees is predicted to cause a difference of 0.338 standard deviation in time spent on talking. Because the coefficient is negative, a manager working in a company with a lower number of employees is predicted to spend a higher percentage of time talking.

The values of 'P' indicate the significant of the regression coefficient for each explanatory variable, Tables 7.7 to 7.11 show the results as follows:

Four significant variables explain the variance of time spent on talking as Table 7.7 shows: (1) total number of employees, (negative regression coefficient), (2) manager's age (positive regression coefficient), (3) years in present position, (negative regression coefficient), (4) number of technical programmes, (negative regression coefficient).

Three significant variables explain the variance in time spent on paperwork as Table 7.8 reveals. They are: (1) total number of employees, (positive regression

coefficient), (2) manager's age (negative regression coefficient), (3) years in present position, (positive regression coefficient).

As can be seen from Table 7.9, there are five significant variables that explain the variance in time spent on reading. They are: (1) number of main products, (positive regression coefficient), (2) number of main components, (positive regression coefficient), (3) manager's age, (negative regression coefficient), (4) years in present position (positive regression coefficient), (5) number of technical programmes, (positive regression coefficient).

Table 7.10 shows five significant variables which explain the variance in time spent on travelling. They are: (1) total number of employees, (negative regression coefficient), (2) number of direct subordinates, (positive regression coefficient), (3) number of main products, (positive regression coefficient), (4) number of main components, (negative regression coefficient), and (5) manager's age, (negative regression coefficient).

Finally, the regression coefficient is highly significant for the variable total number of employees, in explaining time spent on other activities, as Table 7.11 shows.

Table 7.7 Direct effects of Selected Factors on Talking.

Multiple R = 0.77

R square = 0.59

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-.010	.003	-.338	-3.575	.000**
Direct subs.	-.887	.602	-.157	-1.472	.144
Indirect subs	-.011	.080	-.022	-.140	.888
Main products	.361	.362	.189	.998	.320
Main components	-.014	.031	-.054	-.464	.643
Age	2.398	.388	1.017	6.176	.000**
Years in present comp.	-.443	.212	-.235	-2.086	.039
Years in present posn.	-1.689	.440	-.587	-3.836	.000**
Orgs. during career	-1.675	1.144	-.117	-1.464	.146
No. of technical progs.	-2.048	.686	-.543	-2.984	.003*
No. of managerial progs.	1.317	.888	.297	1.482	.141

** Statistically significant more than 99.9%

* Highly significant = 99%

Table 7.8 Direct effect of Selected Factors on Paperwork

Multiple R = 0.81

R square = 0.66

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.012	.008	.563	6.533	.000**
Direct subs.	.617	.365	.164	1.690	.094
Indirect subs	.010	.049	.032	.222	.825
Main products	-.293	.219	-.231	-1.336	.184
Main components	-.022	.018	-.125	-1.171	.244
Age	-1.596	.235	-1.017	-6.782	.000**
Years in present company	.321	.128	.256	2.492	.014
Years in present posn.	1.133	.267	.591	4.246	.000**
Orgs. during career	1.012	.693	.106	1.459	.147
No. of technical progs.	-.060	.416	-.024	-.145	.884
No. of managerial progs.	.341	.538	.115	.634	.527

** Statistically significant more than 99.9%

* Highly significant = 99%

Table 7.9 Direct effect of Selected Factors on Reading

Multiple R = 0.74

R square = 0.54

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.001	.001	.092	.921	.359
Direct subs.	.206	.322	.072	.640	.523
Indirect subs	.025	.043	.101	.586	.559
Main products	-.887	.193	-.919	-4.580	.000**
Main components	.062	.016	.461	3.731	.000**
Age	-.691	.207	-.579	-3.329	.001*
Years in present company	.058	.113	.061	.513	.609
Years in present posn.	.693	.235	.476	2.945	.004*
Orgs. during career	.771	.612	.106	1.261	.210
No. of technical progs.	1.414	.367	.741	3.852	.000**
No. of managerial progs.	-.685	.475	-.305	-1.443	.152

** Statistically significant more than 99.9%

* Highly significant = 99%

Table 7.10 Direct effect of Selected Factors on Travelling

 Multiple R = 0.93

 R square = 0.86

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-.002	5.480	-.278	-5.102	.000**
Direct subs.	.426	.109	.240	3.910	.000**
Indirect subs	.032	.014	.210	2.235	.027
Main products	.499	.065	.834	7.619	.000**
Main components	.027	.005	.333	4.941	.000**
Age	-.383	.070	-.517	-5.459	.000**
Years in present comp.	-.059	.038	-.100	-1.541	.126
Years in present posn.	.134	.079	.149	1.691	.094
Orgs. during career	-.277	.206	-.062	-1.342	.182
No. of technical progs.	.275	.124	.233	2.220	.028
No. of managerial progs.	-.249	.160	-.179	-1.549	.124

** Statistically significant more than 99.9%

Table 7.11 Direct effect of Selected Factors on other Activities

Multiple R = 0.71

R square = 0.51

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.001	7.048	.277	2.670	.008*
Direct subs.	-.141	.140	-.118	-1.011	.314
Indirect subs	-.031	.018	-.299	-1.670	.098
Main products	.152	.084	.378	1.810	.073
Main components	.003	.007	.067	.521	.603
Age	.144	.090	.289	1.599	.113
Years in present company	.060	.049	.150	1.214	.227
Years in present posn.	-.238	.102	-.391	-2.329	.021
Orgs. during career	.046	.266	.015	.173	.862
No. of technical progs.	.294	.159	.368	1.843	.068
No. of managerial progs.	.029	.206	.031	.141	.888

* Highly significant = 99%

The next stage of the analysis was carried out in another model of regression. The multiple regression models were simplified by using stepwise entry of variables with forward selection through the following steps:⁽¹⁰⁾

The first step was a simple regression model, in which only one predictor was most highly correlated with the criterion variable. The equation would be: $Y = B_0 + B_1X_1$.

The second step examined the partial correlation coefficient, to find an additional predictor variable that explains both the most significant and the greatest portion of the error remaining from the first regression equation.

The third stage recomputed the regression equation using the two predictor variables, and examined the partial 'P' value for the original variables in the model, to see if it still made a significant contribution, given the presence of the new predictor variables. If the original variable still makes a significant contribution, this stage would have the equation:

$$Y = B_0 + B_1X_1 + B_2X_2.$$

The fourth stage continued this procedure by examining all predictors not in the model, to determine if any should be included in the model. If a new predictor is

included, this stage examines all the predictors previously used in the model to judge if they should be kept.

A summary of the results of the stepwise regression can be seen in Tables 7.12 to 7.16. A comparison between Tables 7.7 to 7.11 and these tables, shows that the values of 'multiple R' in the second set of tables represents at least 92% of the values of 'multiple R' in the first set of tables. Moreover, the values of 'R square' in Tables 7.12 to 7.16 represent at least 85% of the values of 'R square' in Tables 7.7 to 7.11. This indicates that the stepwise regression models give a better explanation for the variance in time spent on working activities compared with multiple regression models. Tables 7.12 to 7.16 reveal that 5 variables out of 11 explain the variance in one or more of the work activities. They are:

- (1) The total number of employees as an explanatory variable, has been a statistically significant (0.000) regression coefficient in explaining the variance of time spent by the production managers on three activities: talking, paperwork, and others.

Regarding talking activity, Table 7.12 shows a negative regression coefficient for the total number of employees. The result indicates that when the number of employees increases, the time spent on this activity decreases.

Referring to Figure 6.1, it might be possible to state that production managers who work in the large companies, electronics and light industries, spent less time talking in comparison with production managers in the small companies, construction materials and food. The observation indicated that the large companies in the sample used more advanced technology than the small companies. Thus it is possible to suggest that complex technology needs less time to be spent on talking than simple technology.

Concerning paperwork, Table 7.13 shows a positive regression coefficient for the total number of employees. This indicates that the time spent by production managers on this activity increases when the total number of employees increases. Referring to Figure 6.1, it is possible to state that production managers who work in electronics, light industries and textiles, spent more time on paperwork in comparison with managers who work in construction materials, food and cement.

Thus it is possible to relate these results to the nature of the technology in each industrial group, as mentioned above. It is also possible to conclude that the Ministry of Industry pays more attention to large companies, which results in more paperwork.

For the other activities, Table 7.16 shows a positive regression coefficient for the total number of employees. This reveals that the time spent by production

managers on other activities increases when the total number of employees increases.

Production managers who work in large size companies spent more time on these sorts of activities. While these activities are a necessary part of the social side of a production manager's job, the prestige of the manager in a large company tends to attract more people who wish to establish friendly relations with him. Thus, these managers can expect more informal visits and telephone calls.

(2) The number of main products as an explanatory variable, has been a statistically significant (0.000) regression coefficient in explaining the variance in time spent by the production managers on reading and travelling.

It can be seen from Table 7.14, that the number of main products as an explanatory variable has been a positive regression coefficient in explaining time spent on reading. The result indicates that when the number of main products increases, time spent on reading increases. By referring to section 6.2.3, it is possible to say that in terms of this variable, production managers in 'more complex' companies spent more time on reading than those in 'less complex' companies. These results could be due to the argument that any additional products might cause additional problems, which need time spent on reading to help solve them.

Table 7.15 shows that the number of products has been a positive regression coefficient in explaining the variance in time spent on travelling. This indicates that the time spent on travelling increases when the number of main products increases. By referring to Figure 6.4, it is possible to state that production managers in the food, light industries and electronics, spent more time on travelling than managers who work in construction materials and cement.

The results of observation studies, mentioned earlier in this chapter, showed that one of the main reasons for managers' travelling is to attend training programmes, many of them abroad. Accordingly, the opportunities to attend training programmes increase in 'complex companies', which increases the time spent on travelling.

(3) The age of the sampled production managers as an explanatory variable, has been a statistically significant (0.000) regression coefficient in explaining the variance in time spent by these managers on all the five activities suggested by this study. Thus it is a dominant variable that explains the variance in time distribution for all the work activities, regardless of industrial group.

Table 7.12 shows a positive regression coefficient for manager's age as an explanatory variable for the variance in time spent on talking activity. It indicates

that the older managers spent more time talking. Observation of Iraqi society leads to the conclusion that people in companies look upon the older managers as experts, so they are frequently asked for their advice on working matters.

The variable, manager's age, has been a negative regression coefficient in explaining variance in time spent on paperwork, as Table 7.13 shows. In other words the older managers tended to spend less time on this activity than the younger managers.

Manager's age reveals a negative regression coefficient in explaining the variance in time spent on reading as Table 7.14 shows. The results indicate that the older managers spent less time on reading in comparison with the younger managers.

Manager's age shows a negative regression coefficient in explaining the variance in time spent on travelling, as Table 7.15 shows. It indicates that the older managers spent less time travelling than the younger managers.

Finally for other activities, age has been a positive regression coefficient in explaining the variance in time spent on them, as can be seen from Table 7.16. It means that older managers spent more time on this activity in comparison with younger managers. This indicates that older managers expect more informal visits or telephone calls because they have wider social

relations in society due to the age factor.

(4) The number of years in the present position as an independent variable, has been a statistically significant (0.000) regression coefficient in explaining the variance in time spent by production managers on talking, paperwork and reading.

For talking, Table 7.12 shows that the variable years in the present position has been a negative regression coefficient in explaining the variance in time spent on this activity. This indicates that 'expert managers' spent less time talking than those 'studying the job'. The results of section 6.3.2 showed significant differences in this variable, so managers in the electronics and light industries spent less time talking than managers in the construction materials and ready made garment industry.

The results lead us to the conclusion that a longer-serving manager needs to spend less time giving instructions to his subordinates than a newer manager. In other words, people judge what their boss wants by their previous experience of him.

Number of years in present position has been a positive regression coefficient in explaining variance in paperwork activity as Table 7.13 shows. It means that 'expert managers' spent more time on this activity than those 'studying the job'. The results indicate that

expert managers know the routine of their companies and how to deal with the Ministry of Industry through paperwork. This experience increases the probability that they will spend more time on this activity.

Number of years in present position as an independent variable explains the variance in reading activity. Table 7.14 shows a positive regression coefficient. The result means that when the years in the present job increase, time spent on reading activity increases. In other words, 'expert' managers spent more time on this activity than 'studying the job' managers. This result leads to the conclusion, that 'expert' managers have more time to spend on reading.

(5) The number of technical programmes production managers have attended, as an explanatory variable, has been a statistically significant (0.000) regression coefficient in explaining time spent on reading. It has been a highly significant (0.005) regression coefficient in explaining time spent on travelling.

Table 7.14 shows a positive regression coefficient for this variable in explaining the variance in time spent on reading. This means that when the number of technical programmes increases, the time spend on reading increases. The results lead to the conclusion that the training programmes stimulate the managers to read.

This variable has been a positive regression

coefficient in explaining time spent travelling as Table 7.15 shows. It is clear now that the increased number of technical training programmes led to more time being spent on travelling, because most of the technical programmes were organized abroad, as mentioned in section 6.3.4.

Table 7.12 Factors affecting Time spent on Talking

Multiple R = 0.75
R square = 0.56

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-.012	.002	-.395	-4.724	.000**
Age	2.371	.302	1.006	7.843	.000**
Years in present posn.	-1.623	.363	-.564	-4.471	.000**

** Statistically significant more than 99.9%

Table 7.13 Factors affecting Time spent on Paperwork

Multiple R = 0.79

R square = 0.61

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.011	.001	.502	7.412	.000**
Age	-1.420	.170	-.905	-8.326	.000**
Years in present posn.	.994	.219	.519	4.540	.000**

** Statistically significant more than 99.9%

Table 7.14 Factors affecting Time spent on Reading

Multiple R = 0.72

R square = 0.52

Variables	B	SE B	Beta	T	sig T
Main products	.855	.102	.886	8.308	.000**
Age	-.767	.161	-.642	-4.746	.000**
Years in present posn.	.720	.203	.494	3.542	.000**
No. of technical progs.	1.261	.277	.660	4.540	.000**

Table 7.15 Factors affecting Time spent on Travelling

Multiple R = 0.503

R square = 0.709

Variables	B	SE B	Beta	T	sig T
Main products	.476	.063	.796	7.515	.000**
Age	-.411	.057	-.556	-7.164	.000**
No. of technical progs.	.206	.101	.174	2.026	.005*

** Statistically significant more than 99.9%

* Highly significant = 99%

Table 7.16 Factors affecting time spent on Other Activities

Multiple R = 0.66

R square = 0.42

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.003	5.059	.449	5.973	.000**
Age	.201	.037	.404	5.411	.000**

** Statistically Significant more than 99.9%

7.4. Summary:

The chapter has studied work activities of Iraqi production managers. Five activities were suggested for the purpose of the study. They are: talking, paperwork, reading, travelling, and other activities.

The results indicated that talking is the main activity. The sampled production managers spent an average of 62.6% of their time on it. The results revealed a strong preference for face-to-face talking and for using the telephone. Managers talk mainly to give instructions and to solve daily problems in most internal matters. The sampled production managers spent on average 17.96% of their time on paperwork. They receive instructions on paper, and send written reports about their departments' performance to the Ministry of Industry. Reading was the third activity suggested by the study. The interviews indicated that production managers spent 8.1% of their time reading. The 110 production managers estimated the average time spent on travelling as 6.46%. The main reasons for travelling were for inspections and attending training programmes. Other activities consumed on average 4.6% of the production managers' daily time. These activities were: informal visits and telephone calls from outside the companies, and informal visits from colleagues, peers and other senior managers who work in the same company.

In spite of the above similarities between the sampled production managers, the application of ANOVA and Kruskal-Wallis tests revealed significant differences between them across the seven industrial groups, in terms of time spent on each of the five work activities. Based on these results, the other main aspect in the chapter investigated the variables which explain these differences. The application of multiple regression and stepwise analysis indicated that 5 out of the 11 variables previously suggested could explain the differences in time spent on one or more of these work activities. The results showed that the total number of employees explains the variance in talking, paperwork, and reading. It was also found that the number of main products explains the variance in talking, reading and travelling, and similarly, age explains the variance in all five activities. The number of years in present position explains the variance in talking, paperwork and reading. Finally, the number of technical programmes explains the variance reading and travelling.

Notes:

- (1) Rosemary Stewart, Contrast in Management
London: McGraw-Hill, 1976.
- (2) Howard Feldman, An Exploratory Study of the Senior Production Manager's job: Through an Assessment of Demands, Choices, and Constraints, Unpublished Ph.D. Thesis, Georgia State University, 1983.
- (3) Ibid.
- (4) E. Brewer, and J.W.C. Tomilson, 'The Manager's Working Day'. The Journal of Industrial Economic, 12 1964.
- (5) Howard Feldman. Op., Cit.
- (6) Henry Mintzberg, The Nature of Managerial Work, New York: Harper and Row, 1973.
- (7) Rosemary Stewart, Op., Cit.
- (8) John P. Kotter, The General Managers, New York: Free Press, 1982.
- (9) Howard Feldman, Op., Cit.
- (10) Joseph F Hair, Jr., Rolph E. Anderson, Ronald L. Tatham, Bernie J Grablowsky, Multivariate Data Analysis, New York: Macmillan Publishing Co., 1984.

Chapter Eight

Managerial Contact Patterns

8.1. Introduction

It has been stated in chapter five that managerial contact patterns are one of the most important work characteristics of Iraqi production managers. They include time spent with other people and with different categories of contacts.

This chapter was added to discuss managerial contact patterns for the sampled production managers. It is in two sections. The first investigates the types of managerial contacts, and the second points out differences between the managers in terms of this aspect. Data from the interviews with 110 production managers are supplemented with observation of 7 managers, to form the basis of the results discussed in this chapter.

8.2. Types of Managerial Contact:

This section aims to study managers' contacts with other people. Six contact types were eventually suggested. They are divided into two groups. The first group consists of internal contacts: (1) subordinates, immediate and more junior, (2) boss, (3) colleagues, and (4) other seniors reporting to the same line boss. The second group consists of external contacts: (1)

suppliers, and (2) customers. In addition, the chapter includes any other contact which is not included in the first or second group.

Question number 12 of the questionnaire, was asked in relation to these groups. Each production manager was asked to estimate his time spent with the above contacts.

8.2.1 Time Spent with the Boss:

On average, 14.2% of their total contact time was spent with their bosses by most of the sampled production managers. Table 8.1 shows that 23 managers (20.9% of the sample) spent 5-10% with their bosses, 65 managers (59.10% of the sample) spent 11-15%, 13 managers (11.86% of the sample) spent 16-20% and 9 managers (8.14% of the sample) spent 21.25% of the total contact time with their bosses.

Table 8.1 Iraqi Production Managers; Time spent in Contact with Bosses.

Percent of total contact time	Number of managers	Percent
5-10	23	20.90
11-15	65	59.10
16-20	13	11.86
21-25	9	8.14
Total	110	100.00
Average	14.2	
S.D.	3.62	

Data from observation studies support the above results. They indicate that the seven managers spent between 21-10% of their total contact time with bosses. The managers who work in the electronics and light industrial companies were in contact with their respective bosses approximately 21% of the total contact time. The manager who works in the textile industry spent 13%, while the manager who works in the construction material company spent 10%. Single-person incidents, in which the subject was in contact with the boss only, generally exceeded the total of group incidents, with exceptions for the two managers who work in the electronics and light industry companies. They spent more time than the others on group discussions with the bosses.

In relation to other studies, the above results have some similarities with Feldman's (1983) findings. He found that the production managers included in his study spent 15-29% of their contact time with their bosses. He found that single-person incidents generally exceeded the total group incidents⁽¹⁾. In comparison with Stewart's (1967) and Mintzberg's (1973) findings, this study found that the sampled managers spent more time with bosses. Stewart (1967) found that the managers spent 8% of the total contact time with their bosses⁽²⁾. Mintzberg (1973) found that managers spent relatively little time with their superiors, generally of the order of 10%.⁽³⁾

8.2.2. Time Spent with Subordinates:

Contact with subordinates tended to dominate the contact times for the sampled production managers. On average, they spent 53.3% of the total contact time in touch with their subordinates. Table 8.2 indicates that 21 managers (19% of the sample) spent 35-45%, 56 managers (about half of the sample) spent 46-55%, and 18 managers (16.4% of the sample) spent 56-65%, and 15 managers (13.7% of the sample) spent 66-75% of their time in contact with their subordinates.

Table 8.2 Iraqi Production Managers; Time spent in Contact with Subordinates.

Percent of total contact time	Number of managers	Percent
35-45	21	19.0
46-55	56	50.9
56-65	18	16.4
66-75	15	13.7
Total	110	100.0
Average	53.3	
S.D.	9.4	

Data from the observation studies show that the seven managers spent between 44-65% of the total contact time with subordinates. The managers who work in the electronics and light industry companies spent approximately 44% of the contact time in touch with their

subordinates. Most of their contacts were with one or two subordinates. Unscheduled meetings were the other incidents for these managers. The manager who works in the food industry spent 47% of the total contact time with his subordinates. His contacts consisted mostly of single-person incidents. The managers who work in the textile, ready-made garment and cement companies, spent between 51-56% of their total contact time with their subordinates. The number of single-person incidents with one or perhaps two subordinates was substantial, with few unscheduled meetings. Finally, the manager who works in the construction material company spent 65% of his contact time with subordinates. Most of the incidents were with one subordinate. All the observed contacts for the seven managers were for discussion of operating problems and personal matters.

The above results indicate some similarities with Feldman's (1983) findings. He found that his sampled production managers spent between 50-53% of their contact time with their subordinates. The number of single-person incidents was also substantial. The majority of other incidents were unscheduled meetings⁽⁴⁾. Mintzberg (1973) found that subordinates generally occupied one-third to one-half of the manager's contact time, most often for the purpose of making requests, of sending or receiving information, and of making strategy⁽⁵⁾. Stewart (1967) found that 26% of managers' time was spent with subordinates.⁽⁶⁾

8.2.3. Time Spent with Colleagues:

The average time spent by the sampled managers with their colleagues was 13.5% of the total contact time. Table 8.3 reveals that 23 managers (20.9% of the sample) spent between 1-10%, the majority of the managers spent between 11-20% and 18 managers (16.4% of the sample) spent between 21-30% of their contact time with their colleagues.

Table 8.3 Iraqi Production Managers; Time spent in Contact with Colleagues.

Percent of total contact time	Number of managers	Percent
1-10	23	20.9
11-20	69	62.7
21-30	18	16.4
Total	110	100.0
Average	13.5	
S.D.	6.1	

The observation studies support the results of the interviews. They indicate that the range of time spent by the seven observed managers on this type of contact was between 5-20% of the total contact time. The managers who work in electronics and light industry companies spent about 20% of the total contact times with colleagues. Single-person incidents were relatively rare for them. Frequent scheduled meetings involving their colleagues

were noted for these two managers. In contrast, the manager who works in the construction material company spent the least time (5%) with his colleagues. He depended heavily on single-person incidents. Contact with colleagues was substantial, ranging from 16-19% of the total contact time for the rest of the managers. Observation indicates similarities between the ways in which contacts were made with colleagues. Generally, they depended on scheduled meetings, with some single-person incidents through telephone contacts.

The above results show similar findings to Feldman's (1983) study. He found that his sampled production managers spent 18-21% of the total time in touch with their colleagues. He also found, that single-person incidents were very few. In contrast, he observed frequent use of scheduled meetings.⁽⁷⁾

8.2.4. Time Spent with other Seniors:

The average time spent by the production managers on this contact type was 3.5% of the total contact time. Table 8.4 summarizes the data collected by interviews. It reveals that 89 managers (80.9% of the sample) spent 1-5%, and the rest (21 managers, 19.1% of the sample) spent 5-10% of the total contact time with other seniors.

Table 8.4 Iraqi Production Manager; Time spent on Contact with Other Seniors.

Percent of total contact time	number of managers	Percent
1-5	89	80.9
5-10	21	19.1
Total	110	100.0
Average	5.3	
S.D.	2.01	

The observation studies show that the range of time spent with other seniors was between 2-7% for the seven managers. The lowest was 2%, spent by the manager in the construction materials company. The manager in the cement company spent 3%, the managers of the food, ready-made garments and textile companies spent approximately 5%, the manager of the light industry company spent 6%, and the manager of the electronics company spent 7% of his time with other seniors. The observations indicate that almost all contacts took place in scheduled meetings which were attended by most of the senior-level managers. Very few single-person incidents were found.

The above results show that the sampled production managers in this study spent less time with other seniors than those in Feldman's (1983) sample. He found that they spent between 10-19% of their time with other seniors and always in lengthy scheduled meetings.⁽⁸⁾

8.2.5. Time Spent with Suppliers:

Table 8.5 shows that the average time spent by the sampled production managers on contact with suppliers was 2.4% of the total contact time. More than half of the sample (65 managers) spent between 0-2% of their time, 38 managers (34.6% of the sample) spent 3-5%, while only 7 managers (6.4% of the sample) spent between 6-8% of the total contact time in touch with suppliers.

Table 8.5 Iraqi Production Managers; Time spent on Contact with Suppliers.

Percent of total contact time	Number of managers	Percent
0-2	65	59.0
3-5	38	34.6
6-8	7	6.4
Total	110	100.00
Average	2.4	
S.D.	2.00	

Observation studies reveal similar results to the interviews. The seven managers spent between 0-6% of their time in contact with suppliers. Time spent by the managers who work in the construction materials, and ready-made garment companies was almost negligible. The manager who works in the light industry company spent 6%, the manager who works in the electronics company spent 5%, while the rest of the observed managers spent between 2-4% of their contact time with suppliers. In all the

cases, managers used telephone calls to make contact. The exception were the managers who work in the electronics and light industry companies. They used face-to-face contacts with suppliers as well as telephone calls.

8.2.6. Time Spent with Customers:

Very little time was spent by the interviewed production managers on this contact type. The average was 1.3% of the total contact time. Table 8.6 shows that 27 managers (24.5% of the sample) did not have any contact with customers, 55 managers (50% of the sample) spent 1% of the total contact time with customers and 23 managers (20.9% of the sample) spent 2%. Only 5 managers (4.6% of the sample) spent more than 2% of their contact time with their customers.

Table 8.6 Iraqi Production Managers; Time spent on Contact with Customers.

Percent of total contact time	Number of managers	Percent
0	27	24.5
1	55	50.0
2	23	20.9
more than 2	5	4.6
Total	1.3	100.0
Average	1.3	
S.D.	0.8	

During the observation period, the manager who works in the ready-made garment company contacted one of his customers (Iraqi Airways) to discuss the design of clothes they had ordered. The contact took 5 minutes on the telephone. Another such contact was made by the manager in the cement company to discuss the quality of product the customer wanted. It was a face-to-face contact and took 30 minutes. The observation data do not indicate any other contact of this type for the rest of the managers.

8.2.7. Other Contacts:

The sampled production managers were asked to estimate their time spent on any other contact that is not included in the six contact types suggested by this study. Their answers indicated that on average, 5.6% of their total contact time was spent on other contacts, as Table 8.7 shows.

Table 8.7 Iraqi Production Managers; Time spent on other Contact

Percent of total contact time	Number of managers	Percent
1-4	38	34.5
5-8	64	58.2
9-12	8	7.3
Total	110	100.0
Average	5.6	
S.D.	2.12	

It can be seen from the table, that more than half of the sample estimated that 5-8% of their total contact time was spent on other contacts. 38 managers (34.5% of the sample) estimated 1-4%, and 8 managers, (7.3%) estimated that 9-12% of their time was spent on these contacts.

The observation studies found that on average 6% of the total contact time of the seven managers was spent on other contacts. Observation indicated that these contacts are:

(1) Contacts with senior people (boss level or above) who work in the Ministry of Industry, mainly to discuss work problems. Telephone calls were the main way of making this sort of contact. Some scheduled meetings were found as well.

(2) Contacts with other people at about the same organisational level who work in the Ministry of Industry, mainly to inform the Ministry about the performance of their departments. Contact was made by telephone and usually followed-up by written confirmation.

(3) Contacts with other people to discuss non-business matters. The main subject of these contacts was social affairs.

It is important to mention that the researcher consider

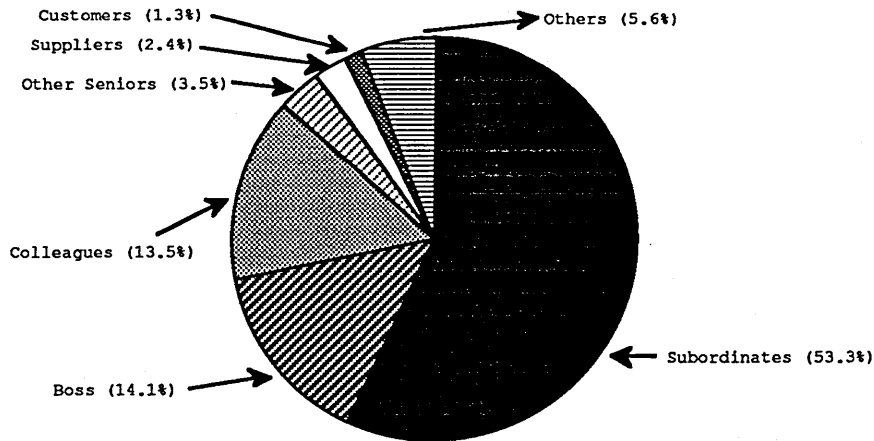
managers' contact time with the Ministry of Industry as an external contact. This is because the companies included in this study are autonomous in the matter of legal transactions, and work on the profit-and-loss accounting principle, as mentioned in section 4.4. Accordingly, it is possible to add all the other contacts to the external one. Based on this, the average time spent for external contacts will be 9.3% of the total contact time.

In comparison with other studies, the sampled Iraqi production managers seem to spend less time on external contacts than other managers. Feldman (1982) found that his sampled production managers spent 17-27% of their time on this sort of contact⁽⁹⁾. Mintzberg (1973) found that external contacts generally consume one-third to one-half of the manager's contact time. These are of great variety and include clients, suppliers, associates, peers, and others.⁽¹⁰⁾

Figure 8.1, summarizes the average time spent on the seven contact types. In terms of internal contacts, time spent with subordinates tended to dominate the managers' working day. On average, they spent 53.3% of the contact time in touch with their subordinates. They spent on average 14.2% with their bosses and on average, 13.5% with colleagues. They spent on average 3.5% of their contact time with other seniors. In terms of external contacts, the figure shows that suppliers occupy on

average 1.3% of the managers' time, and contacts with people from the Ministry of Industry and other people occupy on average 5.6%.

Figure 8.1 Average Time spent by the Production Managers on Contact Types



8.3. Differences between Managers' Time

Distribution over Contact Types:

One of the main issues discussed in the previous section was the similarity of the sampled production managers in terms of time distribution over the seven contact types. This section attempts to point out differences between them in this respect. It also attempts to investigate the factors influencing time distribution over these contact types.

To examine the differences between the sampled production managers in terms of time spent on the contact types, across the seven industrial groups, ANOVA and

Kruskal-Wallis tests were applied. Table 8.8 indicates that there are significant differences between the sampled managers for each contact type, except contact with customers.

Table 8.8 Analysis of Variance in Time spent on Contact Types across the Industrial Groups.

Contact types	(ANOVA)		Kruskal-Wallis	
	F	P	X ² _{Critical}	P
Boss	19.668	0.000**	54.087	0.000**
Subordinates	208.275	0.000**	84.587	0.000**
Colleagues	168.835	0.000**	78.394	0.000**
Other seniors	208.813	0.000**	84.786	0.000**
Suppliers	104.512	0.000**	92.695	0.000**
Customers	2.089	0.088	12.208	0.090
Other	3.264	0.004*	22.902	0.000**

** Statistically significant more than (99.9%)

* Highly significant = 99%

The next stage of the analysis investigates the factors which caused the differences shown by the above results. The analysis deals with the 11 factors which were suggested before, to examine their impact on contact types, by applying multiple regression analysis followed by stepwise regression analysis. Because the time spent on contact with customers was nil for some of the managers and negligible for the others, and no significant differences were found between them in these terms, this factor will be excluded from the later analysis.

In the data set, almost all factors commonly identified as being relevant in explaining variations in contact types are presented. For this reason, a the multiple regression analysis was carried out over six stages. At each stage, all the 11 variables were entered into the equation in order to assess their influence on time spent on each one of the seven contact types.

A summary of the results is seen in Tables 8.9 to 8.14. The 'multiple R', which represents the correlation between the dependent variables and the entire set of independent variables, is: 0.82 for contact with the boss, 0.78 for contact with subordinates, 0.83 for contact with colleagues, 0.78 for contact with other seniors, 0.87 for contact with suppliers, and 0.42 for contact with others. Generally speaking, the results show a high correlation between the contact types and the independent variables.

The 'R square', which indicates the explanatory power of the regression model, shows that the independent variables explain 67% of the variance in the time spent on contact with the boss, as Table 8.9 shows. In table 8.10, the same independent variables explain 61% of the variance in time spent with subordinates. In table 8.11 they explain 68% of the variance in time spent with colleagues. In table 8.12, they explain 60% of the variance in time spent with other seniors. In table 8.13, they explain 75% of the variance in time spent on contact with suppliers. Finally, in table 8.14, the independent

variables explain only 18% of the variance in time spent on contact with others.

The values of 'P' indicate the significance of the regression coefficient for each explanatory variable shown in Tables 8.9 to 8.15, as follow:

Four significant variables explain the variance of time spent by the sampled production managers on contact with the boss, as Table 8.9 shows. They are: (1) direct subordinates (positive regression coefficient), (2) manager's age (positive regression coefficient), (3) number of technical training programmes (negative regression coefficient), and (4) number of managerial training programmes (negative regression coefficient).

Five significant variables explain the significance of the variance in time spent by the sampled production managers on contact with subordinates, as shown in Table 8.10. They are: (1) direct subordinates (positive regression coefficient), (2) number of main components (negative regression coefficient), (3) manager's age (positive regression coefficient), (4) years in present position (negative regression coefficient), and (5) number of technical training programmes (negative regression coefficient).

As can be seen from Table 8.11, six significant independent variables explain the variance in time spent by the sampled production managers with their colleagues.

These variables are: (1) total number of employees, (2) number of direct subordinates, (3) number of main components, (4) manager's age (5) years in present position, and (6) number of technical training programmes. All these variables have positive regression coefficients.

Table 8.12 shows the six significant independent variables which explain the variance in time spent on contact with other seniors. They are: (1) number of direct subordinates, (2) number of indirect subordinates, (3) manager's age, (4) years in present company, (5) years in present position, and (6) number of organisations during career. All of them have positive regression coefficients, except the number of indirect subordinates which has a negative regression coefficient.

Table 8.13 shows that five significant independent variables explain the variance in time spent by the sampled managers with the suppliers. These variables are: (1) number of main products (positive regression coefficient), (2) manager's age (negative regression coefficient), (3) years in present company (positive regression coefficient), (4) number of organisations during manager's career (negative regression coefficient), and (5) number of technical training programmes (positive regression coefficient).

Finally, Table 8.14 shows that the total number of employees has been a highly significant regression

coefficient with positive power in explaining time spent on other activities.

Table 8.9 Direct Effect of Selected Factors on Contact with Boss.

Multiple R = 0.82

R square = 0.67

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-.002	9.485	-.193	-2.280	.024
Direct subs.	.767	.188	.390	4.065	.000**
Indirect subs	.018	.025	.105	.720	.473
Main products	.254	.113	.382	2.240	.027
Main components	-.020	.009	-.216	-2.062	.042
Age	.630	.121	.767	5.189	.000**
Years in present company	.036	.066	.055	.549	.584
Years in present posn.	-.262	.137	-.262	-1.907	.060
Orgs. during career	-.644	.358	-.129	-1.799	.075
No. of technical progs.	-.650	.214	-.495	-3.025	.003*
No. of managerial progs.	-.750	.278	-.486	-2.698	.008*

** Statistically significant = more than 99.9%

* Highly significant = 99%

Table 8.10 Direct Effect of Selected Factors on Contact
with Subordinates

Multiple R = 0.78

R square = 0.61

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-.001	.002	-.053	-.580	.563
Direct subs.	2.767	.533	.436	4.209	.000**
Indirect subs	.031	.071	.068	.434	.665
Main products	.239	.320	.137	.748	.456
Main components	-.091	.027	-.377	-3.320	.001*
Age	2.450	.343	1.139	7.130	.000**
Years in present company	-.322	.188	-.187	-1.715	.090
Years in present posn.	-1.407	.389	-.536	-3.611	.000**
Orgs. during career	-1.042	1.012	-.080	-1.030	.306
No. of technical progs.	-2.519	.607	-.733	-4.147	.000**
No. of managerial progs.	1.657	.786	.410	2.107	.037

** Statistically significant = more than 99.9%

* Highly significant = 99%

Table 8.11 Direct effect of Selected Factors on Contact
with Colleagues

Multiple R = 0.83
R square = 0.68

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.004	.001	.246	2.958	.004*
Direct subs.	-1.265	.316	-.376	-4.003	.000**
Indirect subs	.025	.042	.068	.602	.548
Main products	-.099	.190	-.087	-.523	.602
Main components	.044	.016	.281	2.731	.008*
Age	1.700	.203	1.211	8.350	.000**
Years in present company	.140	.111	.125	1.261	.210
Years in present posn.	.943	.231	.550	4.084	.000**
Orgs. during career	-1.042	1.012	-.080	-1.030	.306
No. of technical progs.	1.185	.360	.528	3.292	.002*
No. of managerial progs.	-.322	.466	-.122	-.697	.490

** Statistically significant = more than 99.9%

* Highly significant = 99%

Table 8.12 Direct effect of Selected Factors on Contact
with other Seniors

Multiple R = 0.78

R square = 0.60

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-7.602	5.759	-.123	-1.320	.190
Direct subs.	.587	.114	.538	5.124	.000**
Indirect subs	-.054	.015	-.573	-3.602	.000**
Main products	-.045	.068	-.123	-.659	.512
Main components	.005	.006	.097	.846	.399
Age	.365	.073	.803	4.957	.000**
Years in present company	.135	.040	.373	3.360	.001*
Years in present posn.	.235	.083	.423	2.813	.006*
Orgs. during career	.632	.217	.229	2.906	.004*
No. of technical progs.	.189	.130	.260	1.452	.149
No. of managerial progs.	-.013	.168	-.016	-.082	.934

** Statistically significant = more than 99.9%

* Highly significant = 99%

Table 8.13 Direct Effect of Selected Factors on Contact
with Suppliers.

Multiple R = 0.87
R square = 0.75

Variables	B	SE B	Beta	T	sig T
Total No. of employees	-5.287	4.358	-.089	-1.213	.228
Direct subs.	.163	.086	.156	1.884	.062
Indirect subs	.024	.011	.271	2.136	.035
Main products	.147	.052	.419	2.832	.005*
Main components	.006	.004	.126	1.383	.170
Age	-.299	.055	-.687	-5.356	.002*
Years in present company	.118	.030	.339	3.859	.000**
Years in present posn.	.044	.063	.084	.707	.481
Orgs. during career	-.448	.164	-.170	-2.722	.007*
No. of technical progs.	.381	.098	.549	3.865	.000**
No. of managerial progs.	-.026	.127	-.032	-.210	.834

** Statistically significant = more than 99.9%

* Highly significant = 99%

Table 8.14 Direct effect of Selected Factors on Contact
with others.

Multiple R = 0.42

R square = 0.18

Variables	B	SE B	Beta	T	sig T
Total No. of employees	.328	.105	.837	3.106	.002 *
Direct subs.	-.124	.176	-.106	-.704	.482
Indirect subs	.043	.023	.428	1.852	.067
Main products	-4.772	8.847	-.072	-.539	.590
Main components	-.005	.009	-.106	-.640	.524
Age	.208	.113	.428	1.837	.069
Years in present company	.018	.062	.048	.303	.762
Years in present posn.	-.172	.128	-.290	-1.340	.183
Orgs. during career	.092	.334	.031	.278	.781
No. of technical progs.	.072	.200	.092	.359	.720
No. of managerial progs.	-.386	.259	-.423	-1.489	.139

* Highly significant = 99%

The next stage of the analysis was carried out using another regression model. The previous multiple regression models were simplified by using stepwise entry of variables with forward selection. Tables 8.15 to 8.20 summarize the results of this regression model. A comparison between Tables 8.9 to 8.14 and Tables 8.15 to 8.20, shows that the values of 'multiple R' in the second set of tables represent from 98-75% of the same values in the first set. The values of 'R square' in the second set of tables explain from 99-56% of the same values in the first set. Tables 8.15 to 8.20 indicate that 10 variables out of 11 explain the variance in one or more contact type. They are:

(1) Manager's age. The regression coefficients shown in Tables 8.15, 8.16, 8.17, 8.18 for the variable manager's age are statistically significant with positive power in explaining the variance in time spent on contact with boss, subordinates, colleagues, and other seniors. These results support the results of section 7.3 which indicate that older managers spent more time on talking with others than younger managers. The explanation of this result, according to the author's understanding of Iraqi society, is that people look on age as an indicator of experience and wisdom. Thus older managers may be asked for their advice about work matters by their bosses, colleagues, and other senior managers.

(2) Number of technical training programmes. The

regression coefficients displayed in Tables 8.15, 8.17, 8.19 for this variable are statistically significant in explaining the variance in time spent on contact with the boss (negative value), with colleagues (positive value) and with suppliers (positive value).

To explain the above results, the researcher thinks that an increase in technical training programmes might increase the technical knowledge of production managers. These increases in technical knowledge are due directly to the programmes themselves, and indirectly to the increase in time spent on reading, as the results of section 7.3. indicated. Accordingly, it might be possible to expect more contacts from colleagues, to share the knowledge of these managers and to ask for their advice in solving work problems. In contrast, such technical knowledge might reduce the possibility of contact between managers and their bosses.

These results indicate that managers with a high record of technical training programmes spent more time on contact with suppliers. This could be explained in the following ways: (1) the technical knowledge gained by these managers, helps them to establish such contacts, and (2) the technical programmes organized by agencies abroad who are usually the major suppliers, enable these managers to maintain such contacts as a result of their previous experience.

(3) Number of direct subordinates. The regression

coefficients for this variable, as shown, in Tables 8.15, 8.16, and 8.17, are statistically significant in explaining the variance in time spent by the sampled managers with the boss, (positive value), with subordinates (positive value), and with colleagues (negative value).

The above results support the argument that the increase in the number of direct subordinates increases the amount of time spent with them. It is also most likely that the production manager who has more direct subordinates, needs more contact with his boss to solve their problems. In contrast, the results indicate that more direct subordinates parallels with less time spent on contact with colleagues. This result could be because in this case production managers need to spend more time with their subordinates and their boss, which affects negatively the time spent with colleagues.

(4) Length of service in present position: The regression coefficients for this variable are statistically significant in explaining the time spent by the sampled managers on contact with subordinates (negative value), with colleagues (positive value), and with other seniors (positive value), as can be seen from Tables 8.16, 8.17, 8.18.

One of the explanations of the above results depends on what is stated in section 7.3., that "expert managers"

spend less time with their subordinates, because the subordinates know what their boss wants, from their previous experience of him. In contrast, "expert" managers may spend more time with their colleagues and other seniors asking for their advice about work.

(5) Total number of employees. The regression coefficient for this variable is statistically significant in explaining time spent by managers with colleagues, and highly significant in explaining time spent on other contacts (both of them with positive value).

The results indicate that production managers in large companies spent more time with their colleagues. This indicates that in large companies, more coordination between the managers of different departments is needed to solve problems, which leads to more time being spent with their colleagues. The results also indicate that production managers who work in large companies spent more time on other contacts. As already mentioned in this chapter, contacts with people in the Ministry of Industry and social affairs form a major part of other contacts. These results support the results of section 7.3., namely that the Ministry of Industry pays more attention to large companies. On the other hand, the size of these companies gives the manager a degree of prestige, which increases the probability of social activity.

(6) Length of managers' service in the company. The

regression coefficients of this variable are statistically significant for contact with other seniors and with suppliers, with positive value for both of them.

These results can be compared with the results of years in present position. They indicate that 'expert' managers are more likely to spend more time with other seniors, and the company depends on them to deal with suppliers.

(7) Indirect subordinates. The regression coefficient for this variable is statistically significant in explaining time spent with boss and other contacts.

The above results support the results of the number of direct subordinates, as mentioned before. They indicate that in large production management departments, more time is spent on contact between production managers and their bosses. Similarly, more time is spent on contact with the Ministry of Industry to deal with working matters.

(8) The other independent variables are: (a) the number of products with a statistically significant regression coefficient (positive value) which explains the variance in time spent on contact with suppliers, and (b) the number of organisations during career with a highly significant regression coefficient (positive value) which explains the variance in time spent on contact with other seniors .

Table 8.15 Factors affecting Time spent on Contact with Boss.

Multiple R = 0.79

R square = 0.62

Variables	B	SE B	Beta	T	sig T
No. of technical prog.	-1.101	.170	-.838	-6.442	.000**
Indirect subs	.062	.013	.364	4.592	.000**
Direct subs.	.851	.180	.432	4.724	.000**
Age	.603	.111	.733	5.393	.000**

** Statistically significant = more than 99.9%

Table 8.16 Factors affecting Time spent on Contact with Subordinates

Multiple R = 0.78

R square = 0.61

Variables	B	SE B	Beta	T	sig T
Age	2.31	8.311	1.077	7.436	.000**
Direct subs.	2.245	.525	.436	4.274	.000**
Years in present posn.	-1.308	.342	-.498	3.816	.000**

** Statistically significant = more than 99.9%

Table 8.17 Factors affecting Time spent on Contact with
Colleagues.

Multiple R = 0.82

R square = 0.67

Variables	B	SE B	Beta	T	sig T
Total employees	.005	.001	.311	4.713	.000**
Age	1.751	.163	1.246	10.700	.000**
Years in present posn.	1.050	.203	.612	5.167	.000**
Direct subs	-1.344	.285	-.400	-4.714	.000**
No. of technical progs.	1.096	.280	.479	3.800	.000**

** Statistically significant = more than 99.9%

Table 8.18 Factors affecting Time spent on Contact with Other
Seniors

Multiple R = 0.42

R square = 0.18

Variables	B	SE B	Beta	Tsig	T
Years in present company	.122	.034	.336	3.527	.000**
Age	.336	.059	.739	5.648	.000**
Years in present posit.	.298	.070	.536	4.204	.000**
Orgs' during career	.639	.208	.232	3.063	.000**

** Statistically significant = more than 99.9%

Table 8.19 Factors affecting Time spent on Contact with Suppliers.

Multiple R = 0.85

R square = 0.73

Variables	B	SE B	Beta	T	sig	T
Main products	.191	.038	.544	4.985	.000**	
No. of technical progs.	.373	.760	.537	4.916	.000**	
Years in present company	.109	.025	.313	4.306	.000**	

** Statistically significant = more than 99.9%

Table 8.20 Factors affecting Time spent on other Contacts.

Multiple R = 0.31

R square = 0.10

Variables	B	SE B	Beta	T	sig	T
Total No. of employees	.224	.066	.573	3.394	.001*	
Indirect subs	.046	.017	.451	2.673	.008*	

* Highly significant = 99%

8.4. Summary:

The chapter has discussed the second aspect of Iraqi production managers' work characteristics, which was managerial contact patterns. Seven contact types, divided into two groups, were suggested for the purpose of this study. The first group was internal contacts, including contact with boss, subordinates, colleagues and other seniors. The second group was external contacts, including contacts with suppliers, customers, and other contacts which not included in any of the above six types.

The interviews indicated that internal contacts occupied, on average, 84.4% of the production managers' total contact time. Most of this (53.2%) was spent on contact with subordinates. Data collected by observations revealed a strong preference for face-to face contact, with few unscheduled meetings. Contact with the boss came second in terms of time spent on it: on average, 14.1% as shown by the interviews. The number of single-person incidents, in which the subject was in contact only with the boss, generally exceeded the total of group incidents. The interviews indicated that the average time spent with colleagues was 13.3% of the total contact time. Observation studies revealed that single-person incidents were relatively few, in contrast with heavy use of scheduled meetings involving colleagues. Contact with other seniors occupied an average of 5.3% of the managers' total contact time. The observations indicated that almost all contact took place in scheduled meetings attended by

most of the senior-level managers. Very few single-person incidents were found.

External contacts occupied approximately 9.3% of the sampled production managers' contact time. This included an average of 2.4% spent on contact with suppliers, 1.3% on contact with customers, and 5.6% with others, such as people from the Ministry of Industry and non-businesses contacts.

The results showed some similarities between the sampled production managers and the production managers studied by Feldman (1983), in terms of time spent with subordinates, bosses, and colleagues. In contrast, they spent less time than Feldman's (1983) sample on contacts with other seniors, and with all the external contact types⁽¹¹⁾. The results showed many differences in comparison with Stewart's (1976)⁽¹²⁾, and Mintzberg's (1973)⁽¹³⁾ studies of general managers. The sampled production managers spent more time with bosses and subordinates, and less time on external contacts.

In spite of the similarities between the sampled production managers, the application of ANOVA and Kruskal-Wallis tests revealed significant differences between them across the seven industrial groups, in terms of time spent on each of all the contact types, except contact with customers. Based on these results, the other main section in the chapter investigated the variables which explain

these differences. The application of multiple regression and stepwise analysis indicated that 10 out of the 11 variables suggested before, could explain the differences in time spent on one or more of these contact types.

Notes:

- (1) Howard Feldman, An Exploratory Study of the Senior Production Manager's Job: an Assessment of Demands, Choices, and Constraints, Unpublished Ph.D. Thesis, Georgia State University, 1983.
- (2) Rosemary Stewart, Contrasts in Management, London: McGraw-Hill, 1976.
- (3) Henry Mintzberg, The Nature of Managerial Work, New York: Harper and Row, 1973.
- (4) Howard Feldman, Op., Cit.
- (5) Henry Mintzberg, Op., Cit.
- (6) Rosemary Stewart, Op., Cit.
- (7) Howard Feldman, Op., Cit.
- (8) Ibid.
- (9) Ibid.
- (10) Henry Mintzberg, Op., Cit.
- (11) Howard Feldman, Op., Cit.
- (12) Rosemary Stewart, Op. Cit.
- (13) Henry Mintzberg, Op., Cit.

Chapter Nine

Work Pattern

9.1. Introduction:

The study needs to develop a number of different ways to describe the work characteristics of Iraqi production managers. They are too complex and varied to be discussed on the basis of one dimension alone. In the previous two chapters, work activities and managerial contact patterns were discussed. In this chapter, work characteristics will be discussed according to a third aspect, work pattern.

The chapter consists of two sections. The first deals with characteristics of the work pattern, while the second investigates the differences between the work patterns of the sampled managers.

9.2. Characteristics of the Work Pattern:

This section deals with characteristics of the work pattern of Iraqi production managers. It is made up of the following characteristics: (1) duration of activities, (2) time span of problems or decisions, (3) periodicity and other recurrent work, (4) expected compared with unexpected work, (5) incidence of urgent work and crises, (6) the extent to which work has to be done to meet time deadlines that are not self-imposed, (7) origin of activities, and how far these stem from the

need to respond to others or to a system, and how far they are self-generating.

9.2.1. Duration of Activities:

The duration of activities can be discussed along two lines. They are: (1) fragmentation of work, and (2) issues requiring sustained attention.

Question number 13 in the Questionnaire addressed itself to the issue of fragmentation of work. Each of the 110 sampled production managers was asked how often, on average, the job required him to switch his attention from one subject, person, or problem, to another. Table 9.1 shows a summary of their answers. They can be grouped into four categories. The first included 17 managers (15.5% of the sample) who said they needed to switch their attention every 1-5 minutes. The second included 34 managers (30.9%) who switched their attention every 6-10 minutes. The third included 35 managers (31.8%) who switched their attention every 11-15 minutes. The remaining 23 managers (21.8%) the fourth category, switched their attention every 16-20 minutes. No one mentioned that the job required him to switch his attention every 21 minutes and more.

Table 9.1 Iraqi Production Managers; Fragmentation of Work.

Work Fragmentation	No. of Managers	Percent
1-5 minutes	17	15.5
6-10 minutes	34	30.9
11-15 minutes	35	31.8
16-20 minutes	24	21.8
21 minutes and more	00	00.0
Total	110	100.0

The above results show two main points: first, that all the managers were busy and their jobs were fragmented, and second, that there are variations between their answers. Some managers' jobs were more highly fragmented than others.

The observation studies supported the interview results. They revealed that incidents were brief and characterized by variety. The observed managers were busy, averaging 49-70 incidents per day. Approximately 75-85% of the incidents in which they were involved took less than 20 minutes. The majority took 15 minutes or less. Interruptions occurred frequently. On average, every activity was incident interrupted. All the observed managers, perceived their work day as highly fragmented. Generally speaking, the job of the manager who worked in the construction materials company was more fragmented than that of the other observed managers. The observations also showed that the jobs of the managers

who work in the electronics and light industries were less fragmented than the others.

In sum, the results of this study indicate that the Iraqi production manager's job is highly fragmented. The results corroborate previous work on the fragmentation of the manager's working day. An observation study of retail chain-store managers showed that over 40% of their activities took less than one minute. There is even greater fragmentation in the jobs of the 110 managers. Feldman's (1983) findings indicate similar results. He found that approximately 85% of the incidents took less than 10 minutes⁽¹⁾. The production manager's job was among 16 jobs studied by Stewart (1976). She found that the total incidents for them were 12 per hour.⁽²⁾

The second part of the study of the duration of activities was issues requiring sustained attention. Question number 14 of the Questionnaire was asked pertaining to issues requiring sustained attention to one subject or problem for an hour or more at a time. The Question included a scale of seven points, starting from (1) minimum (none of the time) and ending with (7) maximum (100% of the time). Each manager was asked to choose the column which best expressed the location of his job on the scale.

Responses in the interview to the question on sustained attention showed some variation, ranging from

very little to mid. At the same time, none of the managers chose either of the two extreme points on the wide one. Only 6 managers chose the point above mid, as Table 9.2 shows.

Table 9.2 Iraqi Production Managers; Time spent on Sustained Attention to one Subject or Problem.

Time	No. of Managers	Percent
Nil (0%)	0	0.0
very little	37	33.6
Little	46	41.8
Mid	21	19.1
Above mid	6	5.5
Wide	0	0.0
All time (100%)	0	0.0
Total	110	100.0

The seven observed managers' working days comprised mainly momentary and diverse incidents, among them a number of issues that ultimately received sustained attention. The managers spent from 39-51% of the total working time involved in incidents lasting 60 minutes or more. The lowest per cent was for the manager who works in the construction materials company, while the highest per cent was for the manager who works in the electronics company. Observed examples included scheduled management meetings, meetings with the boss to solve technical problems, production scheduling and reports to be submitted to the Ministry of Industry. Most of these activities involved a variety of people in different

positions, only some of them were handled solely by the manager himself. Throughout the observations, most of the managers said that the working day provided little opportunity for such work so that it had to be done away from the office.

The above results support Stewart's (1976) arguments, that the application of sustained attention to one subject or problem is not a frequent feature of many managers' lives, unlike for example surgeons and dentists. However, a job that requires sustained attention is not necessarily one with a low score of fragmentation.⁽³⁾

9.2.2. Time Spans of Problems and Decisions:

Through Question number 16, the production managers were asked the following: "In your job, do you have actively to consider problems or decisions that have time a span of one year or more?". Table 9.3 shows the answers. Almost 81.8% of the managers indicated that they dealt with problems whose impact lasted for up to one year, while the other 18.2% of them indicated that they dealt with problems lasting up to two years. No one dealt with problems extending over three years and more.

Table 9.3 Iraqi Production Managers; Time Spans of Problems and Decisions.

Time Spans	No. of Managers	Per cent
1-2 years	90	81.8
2-3 years	20	18.2
3 and more years	00	00.0
Total	110	100.0

The above results indicate that the sampled production managers are unlike other managers in terms of the time span of problems or decisions with which they deal. Studies such as Feldman's (1983), mention that:

"..almost all the sampled production managers indicated dealing with problems/opportunities extending at least three years into the future. Decision areas most often mentioned as requiring long time spans included: equipment purchases, manpower planning, questions on manufacturing capacity and expansion..."⁽⁴⁾

A possible explanation of these differences is related to what was discussed in sections 4.3 and 4.4. Iraq is a socialist country. The government actively and directly controls the economy through the comprehensive economic plans. Such plans include the strategic decisions which are usually taken by the Central Planning Council. Once the plans are approved, the production managers in the public sector are expected to attain their objectives. Mezal (1988) mentioned that:

"Iraqi manufacturing companies are not totally free in handling such types of strategic decisions. Rather, these decisions are mostly affected by government policies and their objectives. The first strategic decisions are usually taken outside the companies by certain governmental bodies namely the Iraqi Planning Centre ."⁽⁵⁾

Accordingly, Iraqi production managers deal with operational problems which last for up to one year, rather than with strategic problems extending over three years or more.

9.2.3. Periodic and Recurrent Work:

To investigate this aspect of the research, the production managers were asked, through Question number 17 of the Questionnaire, about the recurrent aspects of their jobs. Their answers indicated that there was a strong recurrent pattern to their work. They mentioned daily, weekly, and in some cases seasonally recurrent activities.

The observation studies provided more information about this aspect. All the seven observed managers had a daily pattern of work tours to monitor output. The discussions which followed indicated that they prepare weekly reports dealing with production performance to be sent to the Ministry of Industry. Scheduled meetings with senior management were usually held on a weekly basis.

Managers in the construction and cement companies noted recurrent seasonal activities. They had an annual planned shutdown for one or two weeks every year for maintenance.

The above results show some similarities with other findings. Stewart (1976) found that all her sampled production managers had a strong recurrent pattern to their work. All of them have some daily pattern⁽⁶⁾. Feldman (1983) found that the number of recurrent activities for his sampled production managers was high. He found several cases of weekly, monthly, and seasonal recurrent activities.⁽⁷⁾

9.2.4. Unexpected Work, Urgent Work, and Crises:

To investigate the existence of unexpected work, urgent work, and crises, the sampled production managers were asked through Question number 18 of the Questionnaire to rate their jobs in terms of these three categories. As Stewart (1976) stated, unexpected work can be defined as that where the timing and precise nature cannot be predicted, although it may be work with which the manager is familiar. A crisis is defined as a problem that requires the manager's immediate attention. Urgent work is defined as a problem/opportunity requiring the manager's attention, but not necessarily immediate action. Urgent work may not be a crisis, often it is only urgent because the boss wants it quickly.⁽⁸⁾

Data from the interviews with the sampled group indicated the existence of unexpected work and urgent work. No-one mentioned the existence of crises. 74% of the sample said that their jobs included mainly unexpected work. The rest of them said that their jobs mainly included urgent work.

As mentioned above, unexpected work is unpredictable in terms of timing and nature, although managers may have had prior experience with the situation in question. The interviews with the sampled managers indicated that the major sources of unexpected work were bosses and the Ministry of Industry. Examples included unexpected projects allocated by their bosses, and requests emanating from the Ministry of Industry. The interviews also indicated that the main source of urgent work, which may be hard for the manager to eliminate, is mechanical breakdown suffered in the production process.

To compare this study with other studies, Stewart's (1976) production managers indicated a high degree of unexpected work, making it difficult for the manager to plan his working day or week⁽⁹⁾. Feldman's (1983) sample mainly rated their work as urgent and crises⁽¹⁰⁾. Stewart (1976) and Feldman (1983) found that the main sources of unexpected work were subordinates, bosses, and external contacts. In addition, a variety of sources contributed to urgent work, but the generating source of most incidents was mechanical breakdown.

The above results show some similarities with the results of this study in terms of the high proportion of unexpected work activities in a production manager's job. In contrast, there were major differences in the sources of unexpected activities. There are two reasons for this: (1) The role of the Ministry of Industry in managing industrial companies in Iraq created a major source of unexpected work for the production managers. (2) The other studies showed subordinates to be one of the main sources of unexpected work through their Trade Unions. This study does not show a significant effect of this source because the sampled companies belong to the public sector in Iraq, and Trade Unions do not exist in this sector.

9.2.5. Responding and Self-Generating Work:

The sampled production managers were asked, through Question number 19 of the Questionnaire, to rate their jobs as responding, self-generating, or a mixture. The answers showed that the majority of them (90% of the sample) described them as responding. Only 10% of the sample indicated that they could describe their jobs as a mixture. They mainly work in electronics and light industries.

The discussions with the interviewed managers showed that they rated their jobs as 'responding', because they spent more time reacting to their bosses or to the

Ministry of Industry. The managers who said that their jobs were a mixture, had some form of specialist knowledge not held by their bosses. Feldman (1982) argued that self-generating activities increase with the increasing sophistication of the manufacturing infrastructure⁽¹¹⁾. This could explain why managers who work in electronics and light industry mentioned some sort of self-generating characteristics in their work, although they work in the same public sector environment as the managers who said that their jobs mainly included responding activities.

9.3. Differences between Managers in

Terms of Work Pattern Characteristics:

The work pattern of Iraqi production managers was the focus of the previous section. In due course, six characteristics were identified to determine the work pattern. It was then discovered that there were certain variations among these characteristics. Elaboration of those variations is both important and relevant. To serve this end, this section will discuss the variation in these characteristics.

This stage of the analysis attempts to determine which of the 11 selected independent variables account most for the differences in the average score profiles among managers, differentiated according to work pattern characteristics. While the dependent variables in this

case are categorical (nominal or nonmetric), the same model of multiple regression which was used before, cannot be used. Discriminant analysis will be used for this purpose. Hair (1984) argued the application of this tool, as follows:

"Discriminant analysis is the appropriate statistical technique when the dependent variable is categorical (nominal or nonmetric) and the independent variables metric...Discriminant analysis is capable of handling either two groups or multiple groups (three or more)."⁽¹²⁾

Discriminant analysis involves the linear combination of the two (or more) independent variables that will discriminate best between the a priori defined groups. This is achieved by the statistical decision rule of maximising the 'between-group' variance relative to the 'within group' variance. This relationship is expressed as the ratio of the 'between-group' to the 'within-group' variance. Discriminant analysis attempts to do this by forming one or more combinations of the discriminating variables⁽¹³⁾. These "discriminant functions" are of the form:

$$D_i = d_{i1}Z_1 + d_{i2}Z_2 + \dots + d_{ip}Z_p$$

where:

D_i is the score of discriminant function i

d 's are the weighting coefficients

Z 's are the standardized values of the p

discriminating variables used in the analysis.

The maximum number of functions which can be derived is either one less than the number of groups or equal to the number of independent variables, if there are more groups than these variables.⁽¹⁴⁾

In the data set, almost all the independent factors were perceived relevant in explaining discrimination between managers according to the characteristics of each work pattern identified in Section 9.2. The discriminant analysis for the purpose of this study was carried out in five stages. At each stage, the 11 discriminating factors were entered into the equation in order to assess their influence on the grouping of managers in terms of each work pattern characteristic.

The summary of the results is displayed from Tables 9.4 to 9.8. In conducting the analysis, two models were applied to ascertain the factor/factors which were influential in relation to work pattern characteristics. The models applied for this purpose were either the multiple or the two group models.

While the multiple model produced more than two functions, the two group models have resulted in one function. Further evaluation was conducted on the results of the multiple model to assess the one important function in relation to the characteristics, whereas in the two group model, evaluation was aimed at identifying whether or not the resultant function has had any

significance in the discriminant analysis. Eigenvalue, Canonical Correlation, and Wilks' Lambda criteria will be used for the purpose.

The eigenvalue is the 'between-group' variance divided by the 'within-groups' variance. It is a statistical indicator for evaluating the worth of 'discriminant analysis'. An eigenvalue of 0 means that the discriminant analysis had no discriminant value. Whereas an eigenvalue about 0.40 is considered excellent. The eigenvalues for the first functions for the two multiple models were 1.010 for 'fragmentation of activities', as Table 9.4 shows, and 2.492 for 'sustained attention', as Table 9.5 shows. According to the other models, the values of eigenvalue were 0.729 for 'time spans of problems and decisions' as Table 9.6 shows, 3.251 for the 'unexpected work, urgent work' as Table 9.7 shows, and 2.278 for 'responding and mixture of responding and self generating' as can be seen from Table 9.8. All the five values indicate the excellent worth of discriminant analysis.

The canonical correlation squared is the ratio of the 'between-groups' variance in scores of the function to the total variance in score, It is a good measure of how well the function discriminates between groups on a scale that ranges from 0.0 to 1.0. The canonical correlation values for the first function of the first two groups were 0.708 for 'fragmentation of activities', (Table

9.4), and 0.844 for 'sustained attention' (Table 9.5). According to the other models, the values were 0.649 for 'time span of problems and decisions' (Table 9.6), 0.874 for 'unexpected work, urgent work' (Table 9.7), and 0.833 for 'responding and mixture of responding and self-generating' (Table 9.8).

Wilks' lambda (also called the U statistic) is the 'within-group' sum of squares divided by the total sum of squares. This ratio can vary from 0.0 to 1.0. The lower the Wilks' lambda, the better the discriminating power of the model. For the first multiple group model, which is shown in Table 9.4 under the 'after function' column, 0 indicates what the Wilks' lambda is in that row is, when all the functions are in the analysis. The value of 0.217 indicates that differences between groups account for 78% of the variance in the predicting variables. The lambda for after-function 1 indicates what per cent of the variance is accounted for by group differences, after the effects of function 1 are removed. The lambda of 0.437 indicates that the proportion which accounts for the variance remaining after the effects of function 1 are removed, is 0.563. It is clear that the effects of function 1 are much greater than the effects of the other functions. Applying the same procedure for the other multiple group models indicates that the effects of function 1, in Table 9.5, for 'sustained attention' are much greater than the other functions.

The above evaluation indicates that the first function

for the two multiple group models is more important than the other functions. Thus they will be used in the later analysis. Evaluation also indicates that the single functions produced by 'two-group' models discriminate well between the managers in terms of work pattern characteristics. Consequently, the next stage of the analysis deals with the standardized discriminant function coefficients (SDFC).

The method of assessing the importance of a particular independent variable is to look at its SDFC. The term 'standardized' indicates that each variable score is standardized then multiplied by the discriminant function coefficient. It is important to mention at this point that the signs of the coefficients in the discriminant analysis have no special meaning. That is because the dependent variable is treated as a nominal measure, it is not possible to think in terms of positive or negative associations. Thus the results of the previous chapters have helped to indicate whether the effect of the independent variables is positive or negative. Tables 9.4 to 9.8 indicate that the variables with the greatest effect on one or more of the work pattern's characteristics are as follows:

The variables with the biggest effect on 'fragmentation of activities' are: 'manager's age' with a value of 2.172 for the (SDFC), followed by 'years in present position', with a value of 1.177 for the (SDFC),

and 'number of technical training programmes', with a value of 1.169 for the (SDFC), as Table 9.4 shows.

The variables with the biggest effect on 'sustained attention' are, manager's age, with a value of 1.218 for the (SDFC), followed by 'number of technical programmes', with a value of 0.839 for the (SDFC), and 'years in present position', with a value of 0.610 for the (SDFC), as can be seen from Table 9.5.

The variables which discriminate most effectively between the managers in terms of 'time spans of problems and decisions' are: 'number of managerial programmes', with a value of 6.350 for the SDFC, followed by 'main products', with a value of 1.451 for the SDFC, and 'number of technical programmes' with a value of 1.101 for the SDFC as Table 9.6 shows.

The variables which discriminate most effectively between the managers in terms of 'unexpected work, urgent work,' are: 'numbers of technical programmes, with a value of 2.316 for the SDFC, followed by 'years in present position', with a value of 1.113 for the SDFC, and 'years in present company', with a value of 0.926 for the SDFC (Table 9.7).

Table 9.8 indicates that the variables which discriminate most effectively between the managers in terms of 'responding' and 'mixture of responding and self-generating' are: 'main products', with a value of

1.435 for the SDFC, followed by 'total number of employees', with a value of 1.070 for the SDFC, and 'number of technical training programmes', with a value of 0.666 for the SDFC.

The above results indicate the six variables with the greatest effect in discriminating between the sampled production managers in one or more of the work pattern characteristics. These variables are:

(1) 'Manager's age'. This is one of the variables which discriminate between the managers in terms of 'fragmentation of activities' and 'sustain attention'.

To explain the above results, it might be useful to mention what was stated before about the importance of the age as an indicator of experience and wisdom in Iraqi Society. Older managers expect frequent interruption from other people seeking their advice and help to solve work problems. The results of section 7.3., and 8.3. support this argument. Section 7.3. indicates that older managers spend more time on talking and other activities than younger managers. Section 8.3. reveals that older managers spend more time on contact with their subordinates, bosses, colleagues and other senior managers than younger ones.

From the above discussion, one can conclude that older managers experience a greater amount of work

fragmentation than younger managers. In contrast, older managers spend less time in sustained attention to one subject or problem than the younger managers.

(2) 'Years in present position'. This is one of the variables which discriminate between the managers in terms of 'fragmentation of activities', 'sustained attention', and 'unexpected work, urgent work, and crises'.

To explain the above results, it might be useful to remind the reader of the relevant arguments, and findings of the previous chapters. As mentioned in section 6.3.2. 'years in present position' indicates an important aspect of the production managers' experience. In addition the results of Section 8.3. indicate that 'expert managers' spend more time in contact with other people.

Accordingly, it is possible to expect more fragmentation and less time for sustained attention to one problem or subject, among the 'expert managers'. This is due to their wide contacts with others, which usually cause them frequent interruptions.

Regarding 'unexpected work, urgent work, and crises', which indicate the managers' ability to plan their day, the results lead to the conclusion that 'expert managers' can plan their day on the basis of previous experience. This could reduce their unexpected work. The results are supported by Stewart's (1976) findings. She found that:

"The length of time that the manager has had the job may effect his ability to plan. The longer he has been in the job, the more familiar the work will become, if it is recurrent".⁽¹⁵⁾

(3) 'Years in present company'. This is one of the variables which discriminate between the managers in terms of 'unexpected work, urgent work, and crises'. This discriminating variable indicates the length of the managers' experience in their companies. The dependent variable indicated, to some extent, the managers' ability to plan their working day. Thus it is possible to conclude that more years in the present company might reduce the amount of unexpected work.

(4) 'Number of technical training programmes'. This is one of the variables which discriminate between the managers in terms of 'fragmentation of activities', 'sustained attention', 'time span of problems and decisions', 'unexpected work, urgent work, and crises', 'responding and self-generating' work. It is clear that this variable is the dominant variable with discriminating effect between the managers in terms of all the work pattern characteristics.

In order to to explain the above results, it might be useful to review some of the previous relevant findings. As mentioned in 6.3.4., technical programmes are mostly concerned with the technological field of knowledge. Many foreign agencies and companies are involved in this sort

of training, specially those companies which imported the technology to the country. Thus most of these programmes are run abroad. Section 8.3. provides more information about this variable. It reveals that the variable indicates another side of the production managers' technical knowledge, consequently, managers with more technical training programmes (wider technical knowledge), spend more time in contact with their bosses, colleagues and suppliers, than managers with fewer technical training programmes.

Based on what is mentioned before and in relation to the results of this chapter, it is possible to expect more fragmentation of activities and less time for sustained attention to one problem or subject, for managers with more technical training programmes. This is because of their wider contacts with people.

Considering the results of 'time spans of problems and decisions', the researcher expects wider time spans for managers with more technical training programmes. This is due to the increased ability of these managers to plan their work. They might be influenced by their observations of the long-term plans used abroad.

In respect of 'unexpected work, urgent work, and crises', the possible explanation of the results is that more technical training programmes might reduce the amount of urgent work. This is due mainly to the source

of urgent work being mechanical breakdown. This could be reduced because of the increased technical knowledge of the production manager.

In terms of 'responding and self-generating', technical knowledge could help the production manager to be 'self-generating' rather than 'responding'. That is, when the manager has more sophisticated knowledge than his boss and the people who work in the Ministry of Industry, his work may be more 'self-generating' because of his knowledge.

(5) 'Total number of employees', and 'main products'. These are the most important variables which discriminate between managers in terms of 'responding and self-generating'.

The possible explanation of these results is that larger organisational size and a larger number of products tend to define the job as 'self-generating'. By considering the results of section 6.2. one can conclude that managers who work in such industrial groups as electronics and light industry are more 'self-generating' than managers who work in the construction materials group.

Table 9.4 Factors which influence Fragmentation of Activities

Function	Eigenvalue	Canonical Correlation	After-Function	Wilks' Lambda	Sign.
1	1.010	0.708	0	0.217	0.000
2	0.539	0.591	1	0.437	0.000
3	0.351	0.509	2	0.672	0.002
4	0.100	0.302	3	0.908	0.296

Standardized Discriminant Function Coefficients

Total number of employees	0.482
Number of direct subordinates	0.432
Number of indirect subordinates	0.520
Number of main products	0.599
Number of main components	0.657
Manager's age	2.172
Years in present company	0.273
Years in present position	1.177
Organisations during career	0.197
Number of technical training programmes	1.169
Number of managerial training programmes	0.771

Table 9.5 Factors which influence Sustained Attention

Function	Eigenvalue	Canonical Correlation	After- Function	Wilks' Lambda	Sign.
1	2.492	0.844	0	0.117	0.000
2	0.943	0.696	1	0.408	0.000
3	0.197	0.405	2	0.794	0.191
4	0.051	0.220	3	0.951	0.758

Standardized Discriminant Function Coefficients

Total number of employees	0.448
Number of direct subordinates	0.485
Number of indirect subordinates	0.287
Number of main products	0.293
Number of main components	0.267
Manager's age	1.218
Years in present company	0.185
Years in present position	0.610
Organisations during career	0.010
Number of technical training programmes	0.839
Number of managerial training programmes	0.336

Table 9.6 Factors which influence Time Spans of Problems
and Decisions

Function	Eigenvalue	Canonical Correlation	After- Function	Wilks' Lambda	Sign.
1	0.729	0.649	0	0.561	0.000

Standardized Discriminant Function Coefficients

Total number of employees	0.242
Number of direct subordinates	0.092
Number of indirect subordinates	0.390
Number of main products	1.451
Number of main components	0.267
Manager's age	0.424
Years in present company	0.294
Years in present position	0.687
Organisations during career	0.027
Number of technical training programmes	1.101
Number of managerial training programmes	6.350

Table 9.7 Factors Which influence Unexpected Work,
Urgent work

Function	Eigenvalue	Canonical Correlation	After- Function	Wilks' Lambda	Sign.
1	3.251	0.834	0	0.304	0.000

Standardized Discriminant Function Coefficients

Total number of employees	0.187
Number of direct subordinates	0.245
Number of indirect subordinates	0.064
Number of main products	0.540
Number of main components	0.274
Manager's age	0.547
Years in present company	0.926
Years in present position	1.113
Organisations during career	0.199
Number of technical training programmes	2.316
Number of managerial training programmes	0.160

Table 9.8 Factors which influence Responding and Mixture

Function	Eigenvalue	Canonical Correlation	After- Function	Wilks' Lambda	Sign.
1	2.278	0.833	0	0.305	0.000

 Standardized Discriminant Function Coefficients

Total number of employees	1.070
Number of direct subordinates	0.596
Number of indirect subordinates	0.120
Number of main products	1.435
Number of main components	0.065
Manager's age	0.319
Years in present company	0.420
Years in present position	0.572
Organisations during career	0.132
Number of technical training programmes	0.666
Number of managerial training programmes	0.113

9.4. Summary:

The chapter has discussed the work patterns of Iraqi production managers through six issues. They are: (1) duration of activities, (2) time span of problems or decisions, (3) periodicity and other recurrent work, (4) expected compared with unexpected work, (5) incidence of urgent work and crises, (6) the extent to which work has to be done to meet time deadlines that are not self-imposed, (7) origin of activities and how far these stem from the needs of others or from a system, and how far they are self-generated.

The results indicate that all the managers were busy and their jobs fragmented. Their working days were characterized mainly by momentary and diverse incidents, among them a number of issues that ultimately received sustained attention. Most of the incidents concerned operational problems which lasted one year or less, rather than problems lasting more than three years. Iraqi production managers have daily, weekly and sometimes seasonal activities. Their jobs include 'unexpected' work and 'urgent' work. The managers described their jobs as 'responding' because they spend most of their time reacting to their bosses or to the Ministry of Industry.

In spite of the above similarities between the sampled production managers, it was discovered that there are certain differences between them. Section 9.3.

investigated the variables which explain these variations. The application of discriminant function analysis indicated that 5 out of the 11 variables suggested before, could cause these variations. They are: manager's age, years in present position, years in present company, number of technical training programmes, total number of employees, and number of main products.

Notes:

- (1) Howard Feldman, An Exploratory Study of the Senior Production Manager's Job: Through an Assessment of Demands, Choices, and Constraints, Unpublished Thesis, Georgia State University, 1983.
- (2) Rosemary Stewart, Contrasts in Management, London: McGraw-Hill, 1976.
- (3) Ibid.
- (4) Howard Feldman, Op., Cit. P.220.
- (5) Fadhil H. Mezal, A Contingency Analysis of Manufacturing Policy in Iraqi Industry, Unpublished Thesis, University of Wales, 1988, P.331.
- (6) Rosemary Stewart, Op., Cit.
- (7) Howard Feldman, Op., Cit.
- (8) Rosemary Stewart., Op., Cit.
- (9) Ibid.
- (10) Howard Feldman, Op., Cit.
- (11) Ibid.
- (12) Joseph F. Hair, Jr., Rolph E. Anderson, Ronald L. Tatham, Bearnie J. Grablowsky, Multivariat Data Analysis, New York: Macmillan Publishing Co., 1984. P.
- (13) Norman Nie, et. al., SPSSx Statistical Packge for the Social Sciences, New York: MacGraw-Hill Book Company.
- (14) Ibid.
- (15) Rosemary Stewart, Op., Cit. P.42.

Chapter Ten

Demands of the Job

10.1. Introduction:

What makes jobs possessing similar responsibilities and functions different from one another? Why is one more difficult than another? Kotter (1982)⁽¹⁾, and Stewart (1976)⁽²⁾ suggested that partial answers to these questions can be obtained from an analysis of the demands imposed by the set of formal and informal responsibilities defining the job. Job demands exist as two types (1) the things that must be done by the jobholder, such as supervisory requirements; and (2) the pressures that he cannot avoid. For example, he needs to meet certain minimum performance criteria.

The aims of this chapter are to: (1) identify the key demands associated with the Iraqi production manager's job (2) assess the sample groups' perception of the difficulty of the demands identified by Stewart (1976), and (3) identify the similarities and differences between the jobs in terms of the demands faced.

This chapter provides an analysis and assessment of the difficulties and demands of the job of an Iraqi production manager, within the framework provided by Stewart (1976)⁽³⁾. It is divided into four sections; the first deals with the demands of relations with subordinates, the second with the extent to which a job

is boss-dependent, the third focuses on the demands of peers and other seniors, and the fourth discusses the demands of external contacts. Data from the interviews with 110 managers are supplemented by data from the observation of 7 managers to form the basis of the discussion in this chapter.

10.2. Method of Scoring:

Scoring of the demands was based on the framework developed by Stewart (1976)⁽⁴⁾, used by Feldman (1983)⁽⁵⁾, and incorporated into the questionnaire used in the structured interviews. The assessment of each demand was made on the basis of the scores allocated by each manager. These were grouped according to the seven industrial groups. The mean of each group was calculated and used to rate each demand, as can be seen from Tables 10.1 to 10.5. The means of the managers' answers across the seven industrial groups were assigned to one of three ratings, 'low', 'medium' or 'high'. Total points available to be scored in the tables were divided by three to produce these ratings. For example in Table 10.1, the managers in the textile industry were allocated a 'medium' rate because their cumulative point total was 8. This was calculated by summing the total points available for the managers in the ten categories assessed, which was 23. Dividing by three provided a range of three ratings with 'medium' demand, allocated to managers scoring between eight and fifteen.

Scores were totaled across the rows to indicate the degree of difficulty presented to managers in all the industrial groups by specific demand. Again, the total points available were divided by three to distinguish between 'low', 'medium' and 'high'. Most categories were scored on a 0, 1 or 2 basis.

10.3 Demands of Relationships with Subordinates:

This section aims to investigate demands that relationships with subordinates can make upon the production manager's job. As mentioned in section 2.4., the most important facet of a production manager's job, which distinguishes it from other areas of management, is the involvement with the human factor as well as with the technological factor. Thus the production manager assumes broad personal responsibility for the management of his human resources and the policies affecting them. In this context, Feldman (1983) stated:

"Every relationship in which the manager is involved creates a unique set of problems or opportunities. Managers are placed in a network of relationships which both influence and are influenced by the responsibilities of the job. Managing subordinates is one aspect of their network of relationships and its importance and difficulty varies within similar jobs."⁽⁶⁾

Table 10.1 shows the Iraqi production managers'

ratings of the demands of their relationships with subordinates. The table summarizes their answers to Question 20 of the Questionnaire.

The first two categories in Table 10.1, are: (1) number of immediate subordinates, and (2) the interlocking nature of their work. These two categories provide a crude indication of the difficulty of the sampled Iraqi production managers' job. As Stewart (1976)⁽⁷⁾, and Feldman (1983)⁽⁸⁾ found, relationships with subordinates create demands, in particular requests for information, help, or authorization. As section 6.2.2. shows, the average number of direct subordinates for the sampled managers was 6.9. Figure 6.2 shows that the range of the average number of subordinates across the seven industrial groups is 5 to 8.6. making this a 'high' demand overall.

Interlocking work, the second demand to be assessed, makes the job potentially more difficult. If the subordinates' work interlocks, that is, if what one does directly affects the work of the another, then the manager must concern himself with the interrelationships of his subordinates. Of great concern is the situation where not only does work interlock, but the interests of the subordinates may conflict. In this situation the production manager might face heavy demands, due to the high incidence of interlocking work, with potential conflicts of interest between subordinates. The results in Table 10.1 indicate that the managers in the food,

cement and construction companies experienced 'low' demand in terms of subordinate work interlock, the managers in textiles, and ready made-garments experienced 'medium' demand, and the managers in light industry and electronics experienced 'high' demand.

The observation studies and the discussions with the interviewed managers indicated that the variation in this category appears to be most closely associated with types of plant layout. Managers in electronics and light industry said that they had several functional departments, each facing potential conflict with the others because of departmental relations. The managers in the textile and ready-made garment companies indicated that the nature of their plant layout caused some subordinate interlock, but no conflict of interest in their work. Finally, the managers in food, cement and construction material companies said that the design of their plants depended mainly on product or line layout. Each line operated separately from the other, and work interlock did not appear in such circumstances.

The third category in Table 10.1 comprises the different aspects of subordinates' work that managers may need to supervise. The first two aspects cover the content of work in terms of (1) the extent to which it is allocated by the production manager, and (2) whether the subordinates do their work without supervision. The results indicate that 'high' demand in the allocation

category was placed on managers in the construction materials industry, while 'medium' demand was placed on the other managers. The possible explanation, according to the discussions with the interviewed managers, is that the allocation of work was affected by the degree of work sophistication and subordinates' ability and skills.

The second of these two aspects covers the monitoring of tasks. Stewart (1976) suggested that this is 'low' where the work is easily defined and comes directly from visible sources, or where the results don't matter⁽⁹⁾. Table 10.1 shows that the managers in the food industry perceived the demand for monitoring as 'high' while those in the textile, ready-made garments, cement and construction materials industry perceived it as 'medium'. The managers in the light industry and electronics companies perceived their work as including very little monitoring activity. In discussions, the interviewed managers gave two main reasons for this variation on the subject of monitoring: they are the nature of the product, and the skills of subordinates. The managers in the food industry indicated that because of the nature of their product, they needed to ensure that their subordinates did not neglect any areas of their work. In the textile, ready-made garment, cement, and construction material companies, managers generally felt that the lack of skills of some of their subordinates was the most common reason for the need for monitoring.

Table 10.1 shows that the sample experienced 'high' demand for active supervision of the quantity of work. The results show that this aspect was more demanding for the sampled Iraqi production managers than for Feldman's (1983)⁽¹⁰⁾ sampled production managers. This is due to emphasis in the Iraqi economy on the quantity of products needed to meet market demand in order to reduce the importation of products.

The need for active supervision of the quality of work produced by subordinates was assessed as a 'medium' demand by the sampled group. It was seen as less important than supervision of the quantity of work. Table 10.1 shows 'low' demand for the managers of the textile, ready-made garment, and construction material companies, 'medium' demand for the managers of the cement companies, and 'high' demand for the managers of the food, light industry and electronics companies.

The discussions with the interviewed sample indicated two main reasons for the variation between them on supervision of quality. They are the nature of the product, and production policy. The managers in the food industry believed that because of the nature of their products, quality standards were one of the most important aspects of subordinates' performance. The observed manager in the food industry stated:

"I treat quality as one of the most important priorities. This is because we deal with

products which directly affect people's health. Thus I am directly involved in monitoring the quality of work that each of my subordinates produces".

The managers in the light industry and electronics companies indicated production policy as the main reason for their emphasis on quality. They produce their products under license from foreign companies. The licensing companies ask for a certain level of quality as a pre-condition for providing these licenses. Thus, managers who operate this sort of strategy emphasis quality to fulfill the pre-conditions.

Stewart (1976) suggested two aspects to examine supervision difficulties; they were the extent of compliance with what the manager wants done, and the ease of assessing his subordinates' performance. The first aspect in this in this category included three items. The first was rated 'low', since all the companies work in the public sector where unions do not exist, as mentioned in section 9.2.4.

The second and third items included the risk of industrial action and the basis of the manager's authority. To remain consistent with Stewart's (1976) approach, which has also been used by Feldman (1983), double weights were given to these items. Stewart (1976) contended that these make the greatest demands upon the managers, and should receive greater weight. Different

methods of scoring or giving emphasis to other items are dependent on the individual using the framework. In spite of that, the study used Stewart's (1976) approach to simplify later comparisons between its findings and Stewart's (1976) and Feldman's (1983) findings.

Risk of union activity among the manager's subordinates or his subordinates' subordinates with whom he is in daily contact was assessed as 'low' demand. This result is affected by the non-existence of trade unions.

The third item provided to assess the difficulty of supervision, the basis of the manager's authority, was used to judge the demands imposed by the job on the manager's supervisory skills. Stewart (1976) stated:

"Subordinates are more likely to be amenable to their manager's wishes if his authority is based on superior knowledge and experience, or if they work in an organization where superiors are traditionally respected."⁽¹¹⁾

Generally speaking, the sampled production managers assessed this item as a 'low' demand. The discussions with them revealed that all of them had the same range of authority based on responsibilities defined by the Ministry of Industry for all production managers in the public sector, so the question was rephrased to assess the extent to which the manager used this authority. The managers in light industries and electronics companies indicated that the extent to which they used their

authority depended on their superior knowledge and experience. They rated the demand as 'low' in this category, while the rest of the managers rated it as 'medium'. As section 6.3. shows, the managers who rated the demand as 'low' had longer service in their jobs and a greater number of technical training programmes than the other managers.

As Table 10.1 shows, ease of monitoring subordinates' work was rated as a 'low' demand. The result shows similarities with Feldman's (1983) findings. The managers said that periodic reports and plant inspections were sufficient to enabled them to monitor their subordinates' work.

In sum, the demands of relationships with subordinates was 'medium' for the managers in all the industrial groups except construction materials, where it was 'low'. The two most demanding aspects were the number of immediate subordinates, and monitoring the quantity of work. All the other aspects of work requiring supervision were perceived as creating 'medium' demand. Difficulty of supervision was rated as a 'low' demand.

10.4. Demands of the Boss Relationship:

This section aims to investigate demands that the relationship with the boss can make upon the Iraqi production manager's job. Stewart (1976) stated:

Table 10.1 Assessment of the Demands of the Subordinates Relations.

Categories	Managers across industrial groups							Degree of difficulty
	Textil.	R.M.G.	Food	Cement	Constr.	Light	Elect.	
No. of immediate subordinates	1	2	2	2	1	1	2	11 (H)
Subordinates work interlocks	1	1	0	0	0	2	2	6 (M)
<u>Aspects of work requiring supervision</u>								
Content								
(a) Allocation	1	1	1	1	2	1	1	8 (M)
(b) Monitoring nature of tasks	1	1	2	1	1	0	0	6 (M)
Quality	0	0	2	1	0	2	2	7 (M)
Quantity	2	2	2	2	2	2	2	14 (H)
<u>Difficulty of supervision</u>								
Extent of compliance								
Subs and/or subs' subs unionized	0	0	0	0	0	0	0	0 (L)
Risk of industrial action	0	0	0	0	0	0	0	0 (L)
Basis of authority	1	1	1	1	1	0	0	5 (L)
Ease of monitoring	1	0	1	1	0	1	1	5 (L)
Subordinates demands on managers (total points)	(M) 8	(M) 8	(M) 11	(M) 9	(L) 7	(M) 9	(M) 10	

Notes:

Subordinates demands on managers: low = 1-7; medium = 8-15; high = 16-23.

Degree of difficulty: low = 1-5; medium = 6-10; high = 11-14.

"The relationship with his boss is one that can be difficult for the manager. It can cause more problems for him than that with his subordinates, because it is less under his control...analysis of the difficulties in the relationship is based upon the extent to which the job is dependent for its character upon the bosses to whom it reports. The more that it is, the more a good relationship with one's boss is essential for success in the job."⁽¹²⁾

Question 21 of the Questionnaire suggested four categories to assess the extent to which the Iraqi production managers' jobs were dependent on their bosses. Table 10.2 summarizes their answers.

The first category is dependence on the boss to determine the scope or boundaries of the job. It was assessed as a 'low' demand by the sampled managers. The managers in the food, light industrial, and electronics groups felt that their bosses had very little influence in determining the range of their jobs. The rest of the managers believed that their bosses made some difference to scope of their jobs.

Feldman (1983) found that this category caused 'medium' demands for his sampled production managers. He noted that the possession of specialist knowledge appeared to act as a buffer to this demand⁽¹³⁾. Stewart (1976) found that the influence of the boss on the scope of the job varied with organisational structure. The more formalised

and procedure-bound the structure, the less flexible are the jobs, hence the less the boss can affect job boundaries.⁽¹⁴⁾

This study found that the sampled Iraqi production managers believed that the influence of their bosses in determining the range of their jobs was relatively small. This is because of the role played by the Ministry of Industry in managing the industrial companies in the public sector. The Ministry, as mentioned before, plays a major role in determining the scope of the production manager's job. Thus the boss has little influence on it.

The second category in Table assessed 10.2 was the dependence on the boss for the backing or support of his authority when needed. Stewart (1976) noted that this was not the formal authority vested in this superior's job, but rather authority that may be lent to him so that he can deal on an equal basis with contacts that normally deal with his boss or other, higher-level company executives.⁽¹⁵⁾

In the case of the sampled Iraqi production managers, this demand was assessed overall as 'medium'. The managers in the ready-made garments, light industries, and electronics groups rated this category as a 'high' demand. The rest of the managers rated it as 'medium'. The managers who rated the demand 'high', needed their boss's support in dealing with the licensing companies. Feldman (1983) found that 'high' demand in this category

was the result of situations paralleling those described by Stewart (1976), that is, the need for the boss's support in dealing with large customers about quotes and contracts.

The third category assessed, dependence on the boss for support for changes and for more resources, was the only one perceived by most of the sample group as creating a 'high' demand. Feldman (1983) found that production managers who dealt with decisions about equipment and facilities which required large amounts of capital and their superior's support and approval rated this as 'high'

The fourth category used to assess the job's dependence on the boss, was the extent to which the job required the boss to allocate the production manager's work. Overall, this created a 'low' demand. The same result was found by Feldman (1983). It appeared, as Stewart (1976) suggested, to be more applicable to lower-level management jobs.

In sum, the sampled Iraqi production managers depended on their bosses mainly for authority, and for support for change and for more resources, while the other two categories scored 'low'.

10.5. Relationship Demands of Peers and other

Seniors:

This section aims to investigate demands that

Table 10.2 Assessment of the Demands of the Boss Relations.

Categories	Managers across industrial groups							Degree of difficulty
	Textil.	R.M.G.	Food	Cement	Constr.	Light	Elect.	
Dependence on boss for scope of job	1	1	0	1	1	0	0	4 (L)
Dependence on boss for his authority	1	2	1	1	1	2	2	10 (M)
Dependence on boss for support for changes and for more resources	2	2	2	1	1	2	2	12 (H)
Dependence on boss for work allocation	1	0	1	1	1	0	0	4 (L)
Subordinates demands on managers (total points)	(M) 5	(M) 5	(M) 4	(M) 4	(M) 4	(M) 4	(M) 4	

Notes:

Subordinates demands on managers: low = 1-2; medium = 3-5; high = 6-8.

Degree of difficulty: low = 1-5; medium = 6-10; high = 11-14.

relationships. with peers and other seniors can make upon the Iraqi production manager's job. Feldman (1983) stated:

"Demands made by relations with peers and other seniors serve to make a job more difficult because of the necessity to obtain cooperation for individuals outside the normal chain-of-command, that is, people over whom they have no formal authority."⁽¹⁶⁾

Question 22 of the Questionnaire asked the sampled managers, to assess according to five categories, the difficulty of the demands made by relationships with peers and other seniors. Table 10.3 shows their answers.

The first category, requiring services or supplies from peers and/or other seniors, can increase the difficulty of the job if the competition for these resources is strong. As in Feldman's (1983) findings, the sample group overall rated this as 'medium' demand, because they believed that they faced a minimal amount of competition for services or supplies within their respective organisations. Services and supplies to senior production managers are provided by: (1) financial departments and (2) personnel departments. Typical examples of the services provided by peers and/or other seniors included, capital expenditure proposals and a variety of services to personnel.

In addition, Feldman (1983) found that marketing

departments provide a variety of services to production departments. Examples included providing sales forecasts and in some firms, supervising the scheduling function⁽¹⁷⁾. The results of this study indicate that marketing departments did not provide significant services to the production departments. This is due to the nature of the relations between the two departments in the sampled companies. The interviewed managers reported that their departments prepared a proposal of their forecasts depending on their plant's capacity. These forecasts are sent to the Ministry of Industry to be discussed and included in the main annual plans, which are part of the Five Year Plans. The responsibility of marketing departments is to distribute the products through the appropriate distribution channels. Thus the services which were reported by Feldman are unavailable in Iraq.

The second category includes managers who require cooperation, other than services and supplies from their peers and/or other seniors to fulfill their tasks. This is a potentially demanding and difficult job. Stewart (1976) notes:

"It will be harder to get cooperation if there is a cost, whether of convenience, effort, or money for the peer or other senior. Where there is no such cost, the rating is zero. It is also zero...if there is a system that ensures cooperation. Where the jobholder has something to trade in return for cooperation he will be in

an easier position than those who cannot do so. Those who successfully appeal to higher authority, their boss, or the peer's boss if he does not cooperate, will also need less skill in their peer relationships than those who have to rely wholly on the good relationships that they can establish."⁽¹⁸⁾

As can be seen from Table 10.3, this category was rated overall as a 'low' demand although the managers in the food, light industrial and electronics groups rated it as 'medium'. This is because of the extent to which they required peer cooperation. These managers often had to negotiate with their peers and other seniors, especially in the financial department, to obtain their cooperation when foreign currency is needed for example to import components in time to fulfill quotas. The rest of the managers rated this demand as 'low'. They indicated that cooperation was required but no difficulties were found.

The third category for assessing the difficulties and demands of relationships with peers and other seniors was the extent to which the job included providing some form of service or advice to this contact group. The managers in the food and electronics industries, believed that their peers and/or other seniors generally required their advice. A review of the results of sections 6.3.4. and 8.3. indicated that these managers have attended a greater number of technical programmes than the other managers and that this has provided them with more

technical knowledge. Thus there is an increase in contacts by peers and/or other seniors seeking advice and help in solving work problems from these production managers .

Table 10.3 indicates that managers in the ready-made garment and cement industries found this category caused 'medium' demand. The rest of the managers found it to be undemanding. Their services and advice were required but only on occasions.

The fourth category (Table 10.3) is the need to deal with peers of high professional status. The results indicate very 'low' demand by this category of contacts upon the sampled managers, except for the managers who dealt with research scientists.

The fifth category is the necessity for production managers to make management presentations to other seniors. Table 10.3 shows an overall 'low' demand in this category upon the sampled managers. The managers in the food, light, and electronics industry groups indicated a 'medium' demand. They reported participating in these activities during board of directors' meetings. The rest of the managers did not experience any demand from this category.

In sum, the relationships with peers and other seniors caused 'low' demand for the managers who work in the textile, ready-made garment, cement and construction

materials industry groups. The same relationships caused 'medium' demands for the managers in the food, light industry and electronics groups.

Two categories created 'medium' demand for the sampled production managers. They were: requiring and providing services to peers and other seniors. In contrast two categories created 'low' demand. They were: requiring cooperation, dealing with peers of high professional status and making presentations to other seniors.

10.6. Demands of External Contacts:

The demands made by external contacts are assessed in Table 10.4 in the same way as in the previous tables. There are five types of demand; the first is the need to develop personal relationships and to establish goodwill with external contacts. All the managers found this to be an undemanding aspect of their job, except the managers in the electronics industry group who rated it as a 'medium' demand. Feldman (1983) found this category to be a demanding aspect for his sample⁽¹⁹⁾. The sampled managers reported that public sector companies do not need such relationships.

The importance of the impression that the manager makes is the second category. Stewart (1976) found that this category is separate from the first because it is less personal. A man can create a good impression for the organization at, say, a meeting or a conference, without

Table 10.3 Assessment of the Demands of the Relations with Peers and other Seniors.

Categories	Managers across industrial groups						Degree of difficulty
	Textil.	R.M.G.	Food	Cement	Constr.	Light Elect.	
Requiring services or supplies from peers and/or other seniors.	1	1	1	1	1	1	7 (M)
Requiring cooperation (other than services or supplies) from peer(s) and/or other seniors to get job done	0	0	1	0	0	1	3 (L)
Providing service including information and advice to peer(s) and/or other seniors.	0	1	2	1	0	2	8 (M)
Having to deal with peer(s) of high professional status.	0	0	0	0	0	1	2 (L)
Having to make presentations to other seniors.	1	0	1	0	0	1	4 (L)
Subordinates demands on managers (total points)	(L) 2	(L) 2	(M) 5	(L) 2	(L) 2	(M) 6	(M) 6

Notes:

Subordinates demands on managers: low = 0-3; medium = 4-6; high = 7-9.

Degree of difficulty: low = 1-5; medium = 6-10; high = 11-14.

establishing a personal relationship.⁽²⁰⁾

All managers believed that this category made a 'high' demand on their jobs. This result is due to the relationship of the companies with the Ministry of Industry. The managers indicated that the impression they made on the Ministry affected their share of the available resources.

The third category, suggested by Stewart (1976), is bargaining. It includes trade union negotiations. This study found this category to be totally undemanding because of the non-existence of trade unions in the public sector in Iraq.

The fourth category (Table 10.4) is the need for discretion in conversation. One must not give away any information of value to the company or say anything that may discredit it, such as an unwise remark to a journalist, a competitor, or a broker.

The results indicate that this category was rated as a 'medium' demand by most of the managers except the managers in the food, light industry, and electronics groups. They assessed it as being a 'high' demand.

The discussions with the managers revealed that their companies had to import several commodities from companies abroad, such as spare parts and raw materials. Accordingly, they have to deal with brokers or

representatives from these companies. A manager ought to be very specific and know exactly which information he should give, and which he should withhold.

The fifth and last demand is the variety of external contacts and the extent to which this means dealing with people from varying educational and social backgrounds requiring different approaches.

Table 10.4 shows that this category is 'undemanding' for all the managers except the manager in the electronics industry, who stated that he had a variety of external contacts. Because of the nature of the products, he reported dealing with people from different backgrounds to discuss their needs and/or comments on some of the software his company produced.

In sum, the results reveal that the most demanding categories were the impression that the managers made on the Ministry of Industry, and the necessity of being discreet in conversation. The sampled managers assessed the other categories as undemanding. Looked at group by group, the results show that external contacts were a 'high' demand for the managers in the electronics industry group, and a 'medium' demand for the managers in the food and light industry groups. The managers in the textile, ready-made garments, cement and construction industry groups assessed them as a 'low' demand.

Table 10.4 Assessment of the Demands of External Contacts.

Categories	Managers across industrial groups						Degree of difficulty
	Textil.	R.M.G.	Food	Cement	Constr.	Light Elect.	
Need to develop personal relationship and to establish goodwill.	0	0	0	0	0	0	1 (L)
Importance for the organisation of making a good impression	2	2	2	2	2	2	14 (L)
Involvement bargaining and negotiations	0	0	0	0	0	0	0 (L)
Need for discretion.	1	1	2	1	1	2	10 (H)
Variety of external contacts.	0	0	0	0	0	0	1 (L)
Subordinates demands on managers (total points)	(L) 3	(L) 3	(M) 4	(L) 3	(L) 3	(M) 4	(H) 6

Notes:

Subordinates demands on managers: low = 0-3; medium = 4-5; high = 6-9.
Degree of difficulty: low = 1-5; medium = 6-10; high = 11-14.

10.7. Summary:

This chapter has analysed the difficulties and demands imposed upon the sampled production managers by their contacts with their subordinates, bosses, peers and external contacts.

The demands of relationships with subordinates were 'medium' for all the industrial groups, except for the construction materials group, which rated them 'low'. The two most demanding aspects were the number of immediate subordinates, and monitoring the quantity of the work. All the other aspects of work requiring supervision were perceived as creating 'medium' demand. The difficulty of supervision for the Iraqi production managers was rated 'low'.

The results discussed in this chapter show that the demands of the relationship with the boss were 'medium' for all the industrial groups. The sampled managers depended on their bosses mainly to make changes and for more resources, and for the boss's authority. Dependence on the boss for definition of the scope of the job and for work allocation were rated 'low'.

The relationships with peers and other seniors were rated as a 'low' demand for the managers in the textile, ready-made garment, cement and construction materials industry groups. These relationships were rated as 'medium' by the managers in the food, light industry and

electronics groups.

Generally speaking, two categories caused 'medium' demand for the sampled production managers. They were requiring and providing services to peers and other seniors. The other categories which included requiring cooperation, dealing with peers of high professional status and making presentations to other seniors were a 'low' demand.

The results indicate that external contacts were a 'high' demand for the managers in the electronics industry group and a 'medium' demand for the managers in the food and light industry groups. Those in the textile, ready-made garment, cement and construction industry groups assessed them as 'low'.

The results show that the most demanding categories were the impression that the manager made on the Ministry of Industry, and the need to be discreet in conversation. The sampled managers assessed the need to establish goodwill, their involvement in bargaining and the need for a variety of external contacts as undemanding aspects.

The nature and complexity of products, production line layout, production policies and the need for knowledge and technological sophistication were the main factors which caused the differences between jobs in terms of demand.

Notes:

- (1) John P. Kotter, The General Managers, New York:Free Press, 1982.
- (2) Rosemary Stewart, Contrasts in Management, London: McGraw-Hill, 1976.
- (3) Ibid.
- (4) Ibid.
- (5) Howard Feldman, An Exploratory Study of the Senior Production Manager's Job: Through an Assessment of Demands, Choices, and Constraints, Unpublished Ph.D.Thesis, Georgia State University, 1983.
- (6) Ibid., P. 114.
- (7) Rosemary Stewart, Op., Cit.
- (8) Howard Feldman, Op., Cit.
- (9) Rosemary Stewart, Op., Cit.
- (10) Howard Feldman, Op., Cit.
- (11) Rosemary Stewart Op., Cit., P.52.
- (12) Ibid., P.58.
- (13) Howard Feldman, Op., Cit.
- (14) Rosemary Stewart, Op., Cit.
- (15) Ibid.
- (16) Howard Feldman, Op., Cit., P.159.
- (17) Ibid.
- (18) Rosemary Stewart, Op., Cit. P.64.
- (19) Howard Feldman, Op., Cit.
- (20) Rosemary Stewart, Op., Cit.

Chapter Eleven

Summary and Conclusions

11.1. Introduction:

This is the final chapter of the study. It is divided into three sections. The first summarizes the findings of the study, the second discusses the conclusions and the third offers recommendations for future research.

11.2. Summary of the study:

11.2.1. Objectives of the study:

The main objective of this study has been to develop an understanding of the nature of the job of Iraqi production managers who are responsible for the production function in their organisations.

The necessity for studying the production manager's job has been recognized by many writers in the field such as, Skinner (1978), Feldman (1983) and New (1986). By the same token, consultants and academics such as Miller and Graham (1981) have called for a back-to-basic philosophy of managing the functions of the organisation. In order to return to this philosophy and to understand the function of production management, it is first necessary to develop a basic understanding of the nature of a production manager's job. The study of a production manager within the context

of a developing country such as Iraq, has additional importance due to the fact that a production manager in a developing country has to handle directly two factors that are equally important; (1) personnel within the cultural context of the given developing nation, (2) the sophistication of a technology, more often than not imported from a developed country. Upon production managers rests the task of reconciling these two factors, and thus, shouldering the onerous responsibility for organisational development in his organisation.

This study attempts to develop an understanding of the nature of the job of an Iraqi production manager. Within the framework of the general objective, the study tries to investigate several aspects. The first is the characteristics of the job of an Iraqi production manager. These are (1) work activities, and how they were distributed in terms of time spent on each. Five activities were suggested for this purpose; these are: talking, paperwork, reading, travelling, and other activities, (2) managerial contacts (internal and external), and (3) work pattern.

The second aspect is the nature of difficulties and demands imposed upon a manager by his contacts with his subordinates, boss, peers, and external contacts. This study adapted Stewart's (1976) assessment of the difficulties and demands, i.e. the things that the

production manager must do and the pressure that he cannot escape.

Previous research investigated similarities rather than differences between managers' jobs. For the researcher to fully understand the jobs, both the similarities and the differences between them must be examined. Thus the third aspect of this study was the major causes of variation in the jobs of production managers.

Mintzberg (1973) suggested four sets of variables which are responsible for the differences between managers' jobs. These are: (1) the organisation, its industry, and other factors in the environment; (2) the differences caused by the job itself and its level in the organisation; (3) the differences within a given job stemming from the person in that job; (4) the differences caused by the situation. This study used two sets of variables adapted from Mintzberg's four sets: first, company's characteristics, including industrial group, employees and complexity of products, second, personal characteristics, which include manager's age, working history, formal education and training.

11.2.2. Research Methodology:

This study is a field research which analysed cross-sectional data drawn from 110 production managers in one of the developed countries, namely Iraq. The main variables are work activities, managerial contacts, work pattern, and job demands. These variables are treated as dependent

variables through the investigation of the major causes of differences in the jobs of production managers. Whereas the independent variables consist of two sets. The first set is the company's characteristics and the second set is personal characteristics.

In order to achieve the main objective of the study, a questionnaire originally developed by Stewart (1976), and modified for the purpose of Feldman's (1983) study, was adapted to serve as the main research tool. The questionnaire was designed to cover all the variables included in the study. The questions cover all three aspects. These are: (1) background information about the production managers and their companies, (2) work characteristics, and (3) relationships.

The main method of data collection used was the structured interview. This method was used because an interview can last long enough to allow the information to be oriented to the topic under investigation. Also the quality of the data is high, and the number of missing data is typically low.

The observation method was also used for data collection, especially in areas where the interview is weak, such as when the manager is known to be a poor estimator. because of the advantages of the observation method for collecting information about the time distribution of managers' activities, and because of the

weakness of structured interview, this study used structured observation as an auxiliary method. The main aim of this method was to collect information about job characteristics and time distribution.

11.2.3. Summary of the Main Findings:

Work Activities:

The findings show that the main activity of Iraqi production managers was talking. The sampled production managers spent an average of 62.6% of their time talking. The results revealed a strong preference for one-to-one talking and for using the telephone. Managers talk mainly to give instructions and to solve daily problems in most internal matters. The second activity was paperwork. The sampled production managers spent on average 17.96% of their time on it. They received instructions on paper, and sent written reports about their departmental performance to the Ministry of Industry. Reading was the third activity suggested by the study. The interviews indicated that production managers spent 8.1% of their time reading. The 110 production managers estimated the average time spent on travelling as 6.46%. The main reasons for travelling were inspections and attending training programmes. Other activities consumed on average 4.6% of the production managers' daily time. These activities were: informal visits and telephone calls from outside the company, and

informal visits from colleagues, peers and other senior managers who work in the same company.

Generally speaking, the above findings have some similarities with previous studies conducted by Brewer and Tomislon (1964), Mintzberg (1973), Stewart (1976), Kotter (1982) and Feldman (1983), in terms of order and content of work activities. In spite of the similarities, the Iraqi production managers appeared to spend more time on paper work than the sampled production managers of these earlier studies. This is due to the industrial climate of Iraq which leans more toward a socialist philosophy. The government actively and directly controls the economy through a predetermined comprehensive economic plan. Once the plan is approved, the production managers in the public sector are bound to attain its objectives. Thus, under such circumstances, the production managers receive daily instructions, and send reports about their departments' daily production to the Ministry of Industry and to the Ministry of Planning. These procedures move through routine channels and require a lot of paperwork.

To examine the differences between the sampled production managers in terms of work activities across the seven industrial groups, ANOVA, and Kruskal-Wallis tests were applied. The results show significant differences between the sampled managers regarding the distribution of their time over the five activities.

Mintzberg (1973) suggested four groups of variables which are responsible for differences between managers' jobs. This study adapted Mintzberg's factors and suggested that the differences should be attributed to two main groups of factors. These are: (1) company's characteristics, including 'total number of employees', 'direct subordinates', 'indirect subordinates', 'main products' and 'main components', (2) personal characteristics, including 'manager's age', 'years in present company', 'years in present position', 'number of organisations during career', 'number of technical training programmes', and 'number of managerial training programmes'.

In order to examine the impact of these factors on time distribution over the five work activities, multiple regression followed by stepwise analysis was used for this purpose. The findings appear to be consistent with those in Mintzberg's (1973) study. Two variables of the company characteristics group, and three variables of the personal characteristics group could explain significantly the differences in time spent on one or more of these work activities. The result shows that the 'total number of employees' has a statistically significant regression coefficient in explaining the differences in time spent by the managers on talking, paperwork, and other activities. It was also found that 'number of main products' as an explanatory variable, has a statistically significant

regression coefficient in explaining the variance in time spent by the sampled managers on reading and travelling, and similarly, 'manager's age' has a statistically significant regression coefficient in explaining the variance in time spent by these managers on all the five activities suggested by this study. The regression coefficient for the 'number of years in present position' as an independent variable, has a statistically significant regression coefficient in explaining the variance in time spent by the sampled managers on talking, paperwork, and reading. Finally, the regression coefficient of the 'number of technical training programmes', is statistically significant in explaining time spent on reading. This variable has a highly significant regression coefficient in explaining time spent on travelling. Possible explanations for these results were discussed in section 7.3.

Managerial Contact Patterns

The study showed that internal contacts occupied, on average, 84.4% of the production managers' total contact time. Most of this (53.2%) was spent on contact with subordinates. Data collected by observation revealed a strong preference for face-to face contact, with few unscheduled meetings. Contact with the boss came second in terms of time spent: on average, 14.1% as shown by the interviews. The number of single-person incidents, in which the subject was in contact only with the boss, generally

exceeded the total of group incidents. The interviews indicated that the average time spent with colleagues was 13.3% of the total contact time. Observation studies revealed that single-person incidents were relatively few, in contrast with heavy use of scheduled meetings involving colleagues. Contact with other seniors occupied an average of 3.5% of the managers' total contact time. The observations indicated that almost all contact took place in scheduled meetings attended by most of the senior-level managers. Very few single-person incidents were found.

External contacts occupied approximately 9.3% of the sampled production managers' contact time. This included an average of 2.4% spent on contact with suppliers, 1.3% on contact with customers, and 5.6% with others, such as people from the Ministry of Industry and non-businesses contacts.

The above results show some similarities between the sampled production managers and the production managers studied by Feldman (1983), in terms of time spent with subordinates, bosses, and colleagues. In contrast, they spent less time than Feldman's (1983) sample on contacts with other seniors, and with all the external contact types. The results showed many differences in comparison with Stewart's (1976), and Mintzberg's (1973) studies of general managers. The sampled production managers spent more time with bosses and subordinates, and less time on external contacts.

The application of ANOVA and Kruskal-Wallis tests revealed significant differences between the managers across the seven industrial groups, in terms of time spent on each of the contact types, except contact with customers. Because the time spent on contact with customers was nil for some of the managers and negligible for the others, and no significant differences were found between them in these terms, this factor was excluded from the later analysis.

The study suggested earlier that these differences should be attributed to two main groups of factors. These are company characteristics, and personal characteristics. In order to examine the impact of these factors, multiple regression, followed by stepwise analysis were used for this purpose. The findings appear to be consistent with Mintzberg's (1973) study. Ten out of eleven variables, could explain the differences in time spent on one or more of these contact types.

The results showed that the regression coefficients for the 'manager's age' are statistically significant with positive power in explaining the variance in time spent on contact with boss, subordinates, colleagues, and other seniors. It was also found that the regression coefficients for the 'number of of technical training programmes' are statistically significant in explaining the variance in time spent on contact with boss (negative value), with

colleagues (positive value) and with suppliers (positive value). The regression coefficients for the 'number of direct subordinates' are statistically significant in explaining the variance in time spent by the sampled managers with the boss, (positive value), subordinates (positive value), and with colleagues (negative value). The regression coefficients for the 'length of service in present position' are statistically significant in explaining the time spent by the sampled managers on contact with subordinates (negative value), with colleagues (positive value). The regression coefficients for the 'total number of employees' are statistically significant in explaining time spent by the managers with colleagues, and highly significant in explaining time spent on other contacts (both of them with positive value). The regression coefficients of the 'length of manager's service in the company' are statistically significant for contact with other seniors and with suppliers (with positive value for both of them). The regression coefficient for the 'indirect subordinates' is statistically significant in explaining the variance in time spent boss and other contacts. Finally, the regression coefficient for the 'number of products is statistically significant (positive value) in explaining the variance in time spent on contact with suppliers, and the regression coefficient for the 'number of organisations during career' is highly significant in explaining the variance in time spent on contact with other seniors (positive value). Possible explanations for these

results were discussed in section 8.3.

Work Patterns:

The work pattern, as Stewart (1976) suggested, is made up of the following: (1) duration of activities, (2) time span of problems or decisions, (3) periodicity and other recurrent work, (4) expected compared with unexpected work, (5) incidence of urgent work and crises, (6) the extent to which work has to be done to meet time deadlines that are not self-imposed, (7) origin of activities, and how far these stem from the need to respond to others or to a system, and how far they are self-generating.

The duration of activities discussed along two lines. They are: (1) fragmentation of work, and (2) issues requiring sustained attention.

The results show two main points: first, that all the managers were busy and their jobs were fragmented, and second, that there were differences between them. Some managers' jobs were more highly fragmented than others. These results corroborate previous work on the fragmentation of the manager's working day. An observation study of retail chain-store managers showed that over 40% of their activities took less than one minute. There is even greater fragmentation in the jobs of the 110 managers. Feldman's (1983) findings indicate similar results. He found that approximately 85% of the incidents took less

than 10 minutes. The production manager's job was among 16 jobs studied by Stewart (1976). She found that the total incidents for them were 12 per hour.

The second part of the duration of activities was issues requiring sustained attention. The results show that managers' working days comprised mainly momentary and diverse incidents, among them a number of issues that ultimately received sustained attention. The managers spent from 39-51% of the total working time involved in incidents lasting 60 minutes or more. Observed examples included scheduled management meetings, meetings with the boss to solve technical problems, production scheduling and reports to be submitted to the Ministry of Industry. Most of these activities involved a variety of people in different positions, only some of them were handled solely by the manager himself.

The above results support Stewart's (1976) arguments, that the application of sustained attention to one subject or problem is not a common feature of many managers' lives, unlike for example surgeons and dentists. However, a job that requires sustained attention is not necessarily one with a low score of fragmentation.

Regarding time spans of problems and decisions, the results indicate that almost 81.8% of the managers indicated that they dealt with problems whose impact lasted for up to one year, while the other 18.2% of them indicated

that they dealt with problems lasting up to two years. No one dealt with problems extending over three years and more.

The above results indicate that the sampled production managers are unlike other managers in terms of the time span of problems or decisions with which they deal. Studies such as Stewart's and Feldman's (1983) indicated that their sampled managers dealt with problems extending at least three years into the future.

A possible explanation of these differences is related to what was discussed in sections 4.3 and 4.4. Iraq is a socialist country. The government actively and directly controls the economy through the comprehensive economic plans. Such plans include the strategic decisions which are usually taken by the Central Planning Council. Once the plans are approved, the production managers in the public sector are expected to attain their objectives. Accordingly, Iraqi production managers deal with operational problems which last for up to one year, rather than with strategic problems extending over three years or more.

The investigation of the periodic and recurrent nature of the sampled managers' work, indicate that there was a strong recurrent pattern. The managers mentioned daily, weekly, and in some cases seasonally recurrent activities.

These results show some similarities with other findings. Stewart (1976) found that all her sampled production managers had a strong recurrent pattern to their work. All of them have some daily pattern. Feldman (1983) found that the number of recurrent activities for his sampled production managers was high. He found several cases of weekly, monthly, and seasonal recurrent activities.

The investigation of the existence of unexpected work, urgent work, and crises, showed that the sampled group indicate the existence of unexpected work and urgent work. No-one mentioned the existence of crises. To compare this study with other studies, Stewart's (1976) production managers indicated a high degree of unexpected work, making it difficult for the manager to plan his working day or week. Feldman's (1983) sample mainly rated their work as urgent and crises.

The above results show some similarities with the results of this study in terms of the high proportion of unexpected work activities in a production manager's job. In contrast, there were major differences in the sources of unexpected activities. There are two reasons for this: (1) The role of the Ministry of Industry in managing industrial companies in Iraqi created a major source of unexpected work for the production managers, (2) the other studies showed subordinates to be one of the main sources of unexpected work through their Trade Unions. This study does not show any significant effect of this source because the

sampled companies belong to the public sector in Iraq, and Trade Unions do not exist in this sector.

Considering that the sampled managers rated their jobs as responding, self-generating, or a mixture, the results show that the majority of them (90%) described them as responding. Only 10% of the sample indicated that they could describe their jobs as a mixture. The last group mainly work in electronics and light industries.

The discussions with the interviewed managers showed that they rated their jobs as responding, because they spent more time reacting to their bosses or to the Ministry of Industry. The managers who said that their jobs were a mixture, had some form of specialist knowledge not held by their bosses. This result support Feldman's (1982) argument, that self-generating activities increase with the increasing sophistication of the manufacturing infrastructure.

The other main issue of the analysis attempts to determine which of the 11 selected independent variables account most for the differences in the average score profiles among managers, differentiated according to work pattern characteristics. While the dependent variables in this case are categorical (nominal or nonmetric), discriminant analysis is used for this purpose.

The results indicate that 6 out of the 11 variables

suggested before, could cause these differences. They are:

- (1) 'managers's age', which discriminates between the managers in terms of 'fragmentation of activities' and sustained attention,
- (2) 'years in present position' which discriminates between the managers in terms of 'fragmentation of activities', 'sustained attention, and 'unexpected work, urgent work, and crises',
- (3) 'years in present company' which discriminates between the managers in terms of 'unexpected work, urgent work, and crises',
- (4) 'number of technical training programmes' which discriminates between the managers in terms of 'fragmentation of activities', 'sustained attention', 'time span of problems and decisions', 'unexpected work, urgent work, and crises', 'responding and self-generating work'.
- (5) 'total number of employees', and 'main products'. These are the most important variables which discriminate between the managers in terms of 'responding and self-generating'.

Possible explanations for these results were discussed in section 9.3.

Job Demands:

What makes jobs possessing similar responsibilities and functions different from one another? Why is one more difficult than another? Kotter (1982), and Stewart (1976) suggested that partial answers to these questions can be obtained from an analysis of the demands imposed by the set of formal and informal responsibilities defining the job.

Job demands exist as two types (1) the things that must be done by the jobholder, such as supervisory requirements; and (2) the pressures that he cannot avoid. For example, he needs to meet certain minimum performance criteria.

One of the main aspects of this study attempts (1) to identify the key demands associated with the Iraqi production manager's job (2) to assess the sample groups' perception of the difficulty of the demands identified by Stewart (1976), and (3) to identify the similarities and differences between the jobs in terms of the demands faced.

The results show that relations with subordinates were a 'medium' demand for all the industrial groups, except for the construction materials group, which rated them 'low'. The two most demanding aspects were the number of immediate subordinates, and monitoring the quantity of the work. All the other aspects of work requiring supervision were perceived as creating 'medium' demand. The difficulty of supervision was rated 'low'.

The results showed that the demands of the relationship with the boss were 'medium' for all the industrial groups. The sampled managers depended on their bosses mainly to make changes and to provide more resources, and for the backing of boss's authority. Dependence on the boss for definition of the scope of the job and for work allocation were rated 'low'.

The relationships with peers and other seniors were rated as a 'low' demand by the managers in the textile, ready-made garments, cement and construction materials industry groups. The same relationships were rated as a 'medium' demand for the managers in the food, light industry and electronics groups.

Generally speaking, two categories were rated as a 'medium' demand by the sampled production managers. They were requiring and providing services to peers and other seniors. The other categories which included requiring cooperation, dealing with peers of high professional status and making presentations to other seniors were a 'low' demand.

The results indicate that external contacts were a 'high' demand for the managers in the electronics industry group and a 'medium' demand for the managers in the food and light industry groups. Those in the textile, ready-made garment, cement and construction industry groups assessed them as 'low'.

The results reveal that the most demanding categories were the impression that the manager makes on the Ministry of Industry, and the need to be discreet in conversation. The sampled managers assessed the need to establish goodwill, their involvement in bargaining and the need for a variety of external contacts as undemanding aspects.

The nature and complexity of products, production-line layout, production policies and the need for knowledge and technological sophistication were the main factors which caused the differences between jobs in terms of demand.

These results support Feldman's findings. He found that his sampled managers' relationships with their subordinates caused them 'medium demand and similarly, dependence on boss caused them 'medium' demand. Relations with peers/other seniors caused them 'low' demand and external contacts caused them 'high demand'.

11.3. Conclusions:

With reference to this study as a whole, it is important to remember two main points: (1) the study took place exclusively in manufacturing companies and its sample is drawn from the senior production manager level. This limits the applicability of any conclusions to service-oriented organisations, and to low-level production supervisors, and (2) the study had to depend quite often on the subjective assessments of the respondents themselves about the nature of a production manager's job. With these limitations in mind, the following conclusions may be reached:

The review of approaches to the production management in section 2.3. shows that all levels of production

management are treated as a homogeneous occupational group and some of them (the managerial process approach) emphasise abstract concepts such as planning, organizing, staffing, directing, and controlling. Little attention is paid to differences between similar jobs, or to variations among production jobs at different hierarchical levels. In addition, the impact of work characteristics and their influence in helping to shape jobs has been virtually ignored.

Emphasis on similarities between managerial work activities fosters a paradigm which suggests that across different levels and functions managers have similar interests and concerns. As the discussions in section 3.3 show, this has been developed by research studies concentrating on the similarities found between managers' allocation of time. Such studies have ignored the impact of variables which determine job variations among both similar and different managerial jobs.

The study of 110 Iraqi production managers possessing similar responsibilities and working at the same level in the managerial hierarchy, illustrates the need to conceptualise them as a heterogeneous occupational group. The job of the senior manager differs from one industry to another, and even from one firm to another in the same industry. The manager adapts the job according to his own and his company's characteristics. Stewart's (1976)

framework appears to have excellent promise as an analytical tool for understanding differences between managerial jobs.

Thus, it can theoretically be suggested that recognition and classification of job variations is potentially useful in the selection of managers and in management development strategies. Job description and specification could be enhanced through a consideration of demands and constraints. Management development strategies could move away from the assumption that management is a homogeneous occupational group with a common core of material relevant to all.

A number of works researching some aspects of managerial work in the Arab world have been carried out during the last twenty years for example the widely quoted study by Muna (1980). The review of some of these studies in section 3.2.3, showed that their main concern was the general manager rather than the production manager. Their main emphasis was managerial style, the attitudes of Arab managers, and the influence of Arab culture and the Islamic religion on the nature of managerial work. The main conclusion of most of these studies is that there are significant differences between Arab and western general managers in terms of their managerial behaviour which affects their work characteristics. The main factors which are responsible for such differences are, the Islamic religion, Arab culture and sociological factors such as,

class and family.

The findings of this study of Iraqi production managers show similarities with previous studies conducted in western countries in terms of work activities, managerial contact patterns, work patterns and the demands of the job. It may be possible to conclude that the technological aspect of the production manager's job is the main reason for these similarities. This supports the argument that the most important facet of the production manager's job, which distinguishes it from other areas of management, is its involvement with technology. The technology is that aspect which is largely concerned with the technological details of the design, manufacture, and use of equipment and machinery.

The research process and final results suggest several other observations pertinent to Iraqi production managers. For instance, the characteristics found in the work patterns of the managers raise the following question: Do these managers have the time and opportunity to use the analytical techniques taught by schools of business? Unlike Feldman's (1983) and Stewart's (1976) sampled managers, Iraqi production managers do not have the opportunity to use such analytical techniques. This difference and other differences discussed previously in the study, between the Iraqi and western production managers, could be due to the economic climate of Iraqi industry which leans more toward

a socialist philosophy.

It may be possible to conclude that all managerial jobs are not similarly affected by the same factors. Cultural and sociological factors such as class and family are the most important factors for the general manager's job. The case is different for the production manager's job. The most important factors affecting these jobs are the technological side and the prevailing economic and political climate.

Quite simple, it is possible to conclude that production managers are different in certain management concepts from general managers in their own jobs. They may be in key aspects of their attitudes and behaviour more akin to production managers in other countries the same technology dealing with.

The preceding conclusions suggest a number of implications for this study. Given the wide disparities between the jobs of senior production managers, more attention must be focused on job differences and the concept of managers as a heterogeneous occupational group.

Textbook writers in the field of production management treated all levels of production managers as a homogeneous occupational group. They placed emphasis on abstract concepts i.e. planning, organising, staffing and

hierarchical level and industrial group.

For educational purposes the emphasis on technical expertise and analytical tools, and prescriptive statements about the responsibilities and functions of production managers, must be supplemented with research findings from studies of actual jobs and activities. Production management must move from a paradigm based on a series of independent, technically-oriented sub-functions, to a re-emphasis on the management of a functional field. Skills for dealing with external contacts, subordinates, peers and conflicting demands, are necessary to equip the student for work in production management.

Because of the differences between production managers' jobs, management development programmes should move away from the assumption that managers are a homogeneous occupational group with a common core of material relevant to all. These programmes should recognize that job variation does exist and different skills may be required even within similar jobs.

From the practitioners' point of view, selection has to cope with many obstacles if it is to be successful. They have learnt to remove some of these, but have continued to suffer from their inadequate understanding of the differences between managers' jobs. Job descriptions and job specifications tell them about the specialised

requirements of the job, but tell little about its other specific demands. This study could help to clarify and classify some of the demands that are often omitted from a job specifications, and which should form part of the requirements for the job.

Large companies usually practice career planning for their high level managers. It is based on established views about the type of experience needed by the managers. They are usually given a period in different tasks and in a job that gives a good overview of the business. This approach should be supplemented by the analysis that is provided by studies such as this. Career planning should include experience in dealing with relationship demands to achieve a wider understanding of the business.

11.4. Opportunities for Future Research:

It can be seen from the conclusions of this study that senior production managers do not have a homogeneous character. In addition, the study illustrates the need to identify variations between similar management jobs. It also suggests some areas for future research, as follows:

(1) Further studies such as this, based on samples from other Arab countries, could serve to increase knowledge in the field and to provide a greater understanding of the nature of the managerial job in this part of the world.

(2) Further modification and extension is needed to

include production managers at middle and/or lower level. This could also provide a better understanding of the job.

(3) It is apparent from this study that future research should include service-oriented organisations. Research such as this could provide further generalisation and more understanding of the nature of managerial work.

(4) Another major issue requiring research is the concept of effectiveness. How do the characteristics and demands relate to effectiveness within the senior production manager's job ? How do they relate to effectiveness within other types of managerial jobs?

While it is apparent that researchers have collected a wealth of data pertaining to managerial work, the focus on differences and factors responsible for job variation remains at an elementary stage. Researchers must begin to shift their emphasis from similarities between managerial jobs to a realisation of the significance of comprehending and classifying differences in such work.

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Appendix

INTERVIEW QUESTIONNAIRE

These questions are about your job rather than about your own management style.

BACKGROUND INFORMATION:

- 1. Age.....
- 2. How long have you been in your present job?.....
- 3. When did you commence with your present organisation?...
- 4. How many organizations have you been employed by during your career? List please:

<u>Organisation Name</u>	<u>Job Title</u>
.....
.....
.....
.....

- 5. What are your qualifications?

<u>University or School attended</u>	<u>Place of study</u>	<u>The Degree</u>	<u>The Subject</u>
.....
.....
.....

6. Have you attended any training or development course?

Yes.....

No.....

if yes give details please

(a) Managerial Programmes:

<u>Name of the programme</u>	<u>Where</u>	<u>When</u>
.....
.....
.....
.....

(b) Technical Programmes:

<u>Name of the programme</u>	<u>Where</u>	<u>When</u>
.....
.....
.....
.....

7. How many employees are there in the organisation?.....

8. How many subordinates do you control?

Reporting directly to you.....

Reporting to your subordinates and so on down down the line.....

9. Principal business undertaken by firm (e.g. Chemical Engineering, Textile, Food, etc).....

10. What are the main products of your organisation?

List please:

<u>Product Name</u>	<u>Number of Components</u>
.....
.....
.....
.....

Job Characteristics:

11. Please give an approximate idea of the percentage of your time that you spend, on average, on each of the following: (Do not overestimate the paperwork, remember all the conversation that may interrupt it).

Categories	Percent of time
1. Talking with other people. (include all conversations, meetings and telephone).	
2. Paperwork, including dictation, writing, calculations, reading letters, and internal memos and reports.	
3. Reading external material: newspapers, books, journals.	
4. Travelling (if you work when travelling include above and not here.	
5. Others (please specify).	
Total	100%

12. Please give an approximate idea of how the total time that you spend talking with people is divided between the categories below. Please read all the categories before answering.

Contact types	% of my total time talking with others
Internal	
1. Subordinates, immediate and more junior	
2. Boss.	
3. Colleagues (reporting to same line boss)	
4. Other senior people (boss's level)	
External to the organisation	
4. Suppliers	
5. Customers	
6. Others (please specify)	
.....	
.....	
.....	
Total	100%

13. How often, on average, does your job require you to switch your attention from one subject, person, or problem to another? (Include telephone but exclude travelling.)

1. Every 21 minutes and more.....
2. Every 16 to 20 minutes.....
3. Every 11 to 15 minutes.....
4. Every 6 to 10 minutes.....
5. Every 1 to 5 minutes.....

In questions below, please tick the column which best expresses where your job lies on a scale from 1 (minimum= No, none of the time) to 7 (maximum= 100% of the time), 4= 50% of the time or tick the box N for not applicable.

	TIME							
	No			mid.			100% of the time	
	1	2	3	4	5	6	7	N
14. Does your job require sustained attention to one subject or problem for an hour or more at a time ? (In answering this think how much of your prolonged concentration at any one time). Please give examples.....								
15. In your job do you personally have to do work for definite time deadlines? (Do not include self-imposed deadlines, nor appointments to see people, nor deadlines affecting your staff, but not yourself.) Examples.....								

16. In your job do you have to actively consider problems or decisions that have time spans of one year or more? If yes, please give examples check N for not applicable where appropriate).

One-Two years	Yes...	No...	N...	Ex.....
Two-Three years	Yes...	No...	N...	Ex.....
Three plus years	Yes...	No...	N...	Ex.....

17. Does your job have a recurrent nature?

Yes.....

No.....

If yes, please give examples (check N for not applicable where appropriate).

Daily recurrent work	Yes...	No...	N...	Ex....
Weekly recurrent work	Yes...	No...	N...	Ex....
Monthly recurrent work	Yes...	No...	N...	Ex....
Other types of recurrent work e.g. seasonal, quarterly, yearly, etc.....				
.....				
.....				

18. Does your job consist of:

Unexpected work: where the timing and precise nature of the work can not be predicted even though it may be work with which the manager is familiar.

Yes.....

No.....

Crises: problems that require the manager's immediate attention.

Yes.....

No.....

Urgent work: problems/opportunities requiring the manager's attention, but not necessarily immediate action. Urgent work may not be a crisis; often it is only urgent because the boss wants it quickly.

Yes.....

No.....

19. Would you characterize your job as predominantly responding, self-generating or a mixture of the two (check one).

Responding (the manager's main function is to respond to the requests, instructions, queries, and problems of other people.....)

Self-generating (where the manager takes the initiative.....)

Mixture of the two.....

20. Assessment Of The Demands Of Subordinate Relationships.

Category	Nil or low	Score Mid	Score High	Score
Number of immediate subs	1-2	0	3-6	2
Subs' work interlocks (what one does directly affects the other's work)	No	0	Yes, but no conflicts of interest in their work	2
Aspects of work requiring supervision				
Content				
(a) Allocation	None of the work	0	Some of the subs' work or all but little change is necessary	2
(b) Monitoring nature of tasks	No determined by routine or by other or allocated by self	0	Yes but little opportunity for subs to neglect areas of work	2
Quality	No	0	Yes but minor aspect of subs work	2
Quantity	No	0	Yes but minor aspect of subs work	2
Difficulty of supervision				
1. Extent of compliance (a) Subs and/or subs subs unionized	None	0	—	1
(b) Risk of industrial action among subs or subs subs whom he see daily	No industrial action (except national action)	0	Some risk but no recent history	4
(c) Basis of manager's authority	Superior knowledge/experience or traditional respect	0	Usually given for reason in previous column but can easily be forfeited	4
2. Ease of monitoring	Work fairly easily monitored but no clear guide to performance	0	Work fairly easily monitored but no clear guide to performance	2

2.2. Assessment of the demand of relations with peers and other seniors

Category	None or low	Score	Mid	Score	High	Score
1. Requires services or supplies from peer(s) and/or other seniors	No, or, system ensures provision or, cooperation has no disadvantages for them.	0	Yes, some competition good relations means service or supplies sooner, or of better quality	1	Yes, strong competition for service or supply. These can be much delayed, or not provided if relations are not good	2
2. Requires cooperation from peers and/or other seniors other than service or supplies to get own job done	No, or, system will ensure cooperation or, cooperation has no disadvantages for them	0	Yes, and cooperation has disadvantages for them, but jobholder has something to trade, or can appeal to higher authority	1	Yes, and cooperation has disadvantages for them, jobholder has nothing to trade and cannot insist on cooperation by appealing to higher authority	2
3. Is providing service including information and advice to peers and/or to other seniors	No, or, service is generally wanted	0	Yes, some persuasion is necessary	1	Yes, service has to be sold to sceptical users, and jobholder is not personally backed by powerful boss; or to other seniors liable to complain	2
4. Has to deal with peers of higher professional status	No	0	Yes and scores low or mid on category 2	1	Yes, and scores high on category 2	2
5. Has to make presentations to other seniors	No	—	—	—	Yes	1
						9

23. Assessment of the demands of external contacts

Category	None or low	Score	Mid	Score	High	Score
1. Need to develop personal relationships and to establish goodwill	No, would make little or no difference to the organization	0	Yes, establishing goodwill is useful but not essential	1	Yes, important to establish goodwill	2
2. Impression that he makes is important for organisation	No, or only marginally	0	Of some importance	1	Yes, very important, could lose business, access to scarce supplies, goodwill, or confidence	2
3. Involves bargaining and negotiation	No	0	Some, but limited in scope and not of much importance	1	Yes, important to success of job	2
4. Must be discreet in what he says	No, unlikely to be in a position to say anything that mattered	0	Yes, needs some discretion in what he says	1	Yes could give away information of value	2
5. Variety of external contacts	No, deals with people of similar background, and for same purpose	0	Some variety of contacts	1	Very varied contacts with people of different backgrounds, requiring different approaches	2
Total						10

DIARY

Date.....

Name.....

1 Time (a)	2 Duration (a)			3 Activity						4 Contacts					5	6 Place	7 Notes	
	-5	6 to 10	11 to 15	16 to 20	21+	Talking (b)			(c) Tour	(d) Mail	(e) Other	(g) Alone	(h) Boss	(i) Subs.	(j) Colls.	(k) Sen.	(l) Exte.	(m) Interrupt
						Tel	other	2+										

