

MANAGEMENT ACCOUNTING IN SAUDI ARABIA :
A COMPARATIVE ANALYSIS OF SAUDI AND
WESTERN APPROACHES

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ABSTRACT

The purpose of this study is to investigate the similarities and differences in management accounting practices between the Saudi owned and managed companies and the joint venture companies located in Saudi Arabia . The investigation included the degree of sophistication of management accounting systems , the managerial use of accounting and the role of accountants in decision making and control .

In the first part the background characteristics of the research in perspective is provided .Along with a general overview of the literature ,the development of the research themes are presented.

The second part of the research is concerned with the similarities and differences between the participating companies regarding the degree of sophistication of the accounting system the managerial use of accounting and the role of accountants in decision making and control . This part is descriptive and no attempt is made to explain why such similarities or differences have occurred . However , the results of the investigation indicate that the western joint venture companies have a more sophisticated accounting system and their accountants have a greater role to play in decision making and control . In addition ,the managers of the joint venture companies rely more on accounting information in decision making and control compared to their Saudi counterparts .

The third part is devoted to provide an explanation of the reasons behind the differences in management accounting practices between the participating companies .

This involves the investigation of the relationship between the variables (organizational, managerial , and environmental) and the degree of sophistication of management accounting systems , the managerial use of accounting and the role of the controllers in decision making and control . The main results of this part indicate that top management is an important factor which appears to have contributed to the differences of the practices of the participating companies . The other influential factors are the organizational and environmental factors such as organizational goals , ownership , price competition and accounting education .

Part three ends with the summary and principal findings and a review of the research along with suggestions of how this research can be carried forward .

CHAPTER ONE

INTRODUCTION

1.1 INTRODUCTION :-

The advanced technology or technical know-how which exists in today's western industrialized nations did not reach this level within a few years. In fact it took up to hundreds of years to develop. This technical know-how was the basis for the growth of industries which, in turn played a major role in the economic development of advanced countries . Managerial know-how has grown with economic development in those countries. One aspect of managerial know-how is accounting systems and techniques which have developed step by step in line with industrialization ,

Developing countries in recent years have found that industrialization is the means to the ultimate goal of their economic development. Transferring technology from developed countries was the way of achieving this goal quickly and efficiently. Thus, developing countries have developed industries in a very short time compared with that of developed countries.

This is due to the fact that both technical and managerial know-how are readily available for the developing countries. Therefore, the developmental patterns of the developing countries are different from that of the developed countries. As Chandler et al (1984) stated:

"The economic development of today's emerging nations will certainly not follow the development patterns of the older industrialized countries. One reason is that the rate of development of today's emerging nations should be more rapid than that of today's industrialized nations. Another reason is that

the tools of planning and policy-making available today are far superior to those that were available previously".

Financial resources usually act as a constraint for developing countries in their attempt to import advanced technology. Fortunately Saudi Arabia does not lack financial resources.

In fact, Saudi Arabia, as a developing country undergoing an economic boom, presents a unique arena in having a variety of industries with high technology, that are large by world standards, and with an increasing share of the world market. All of this taking place in a period of a few years. Some of these industries are joint ventures with leading international companies and others are fully owned and managed by Saudi Nationals. It is this difference which represents an opportunity for this research.

The availability of western management theory and techniques including accounting to the developing countries in one package is what concerns both academics and practitioners. In particular it is the differences in political, social, economical and cultural conditions in the developing countries from those found in the developed countries that are of concern. It has been argued that each country should develop its accounting in a manner relevant to the society in which it exists, Chetkovich (1972).

Conducting research studies is highly recommended as one approach to the development of accounting in a manner relevant to the society in which it exists. As Perera (1989) has said:

"A systematic attempt at improving the quality of accounting in a developing country would require research studies to accurately determine a country's particular accounting needs".

There is no doubt that research studies which seek to reach this goal would emphasize studying the accounting system within its environmental and organizational context. This in turn would help in identifying the most influential factors on the accounting systems and help in suggesting what can be done.

This study is an attempt to provide an indepth study of management accounting systems within its environmental and organizational context primarily to see if there are any differences in systems between the Saudi owned and managed companies and the joint venture companies and to identify the reasons for these differences if they do indeed exist.

1.2 Accounting and Economic Development : -

Prior to the 1960's, the potential of accounting as a useful contributor to the process of economic development was generally ignored and largely unexplored by both economists and accountants Qureshi (1974). Also, the topic of accounting in developing countries was ignored. However, the pioneering study by the Committee on international relations of the American Institute of Certified Public Accountants (AICPA, 1964) opened the door for a new field of accounting - accounting in developing countries. In this field, many writers have recognized the important role of accounting in the economic development of emerging nations . As a result the role of accounting in economic development has dominated the literature with particular attention focused on the role of financial accounting.

Poverty is the major problem facing developing countries and economic development is dependent on capital formation, which consists of saving and investment. Economists believe that the supply of capital is governed by the ability to save and

the demand for capital is governed by the incentive to invest. Accordingly, Choi (1974) argued that there is a circular relationship on both the supply and demand side of the problem of capital formation. On the supply side, he suggested that a small capacity to save arises from a low level of real income. A low level of real income is, in turn, a result of low productivity which is due largely to a lack of capital. Finally, the absence of capital is a result of a small capacity to save .

On the demand side ,the incentive to invest may be low because of the minimal buying power of the consuming public. This is due to the small size of their real income which, in turn is due to low productivity. The low level of productivity is a result of the small amount of capital used in production which may partly be caused by a small incentive to invest.

To achieve economic development, one must break out of this vicious circle in order to attain a sustained increase in per capital real income or output.

Many writers have argued and rightly so that accounting has a dual function in the economic development process (e.g.Belkaoui,1988) . This view has been well expressed by Enthoven (1965). He stated:

"Accountancy has a dual effect on economic development. On one hand, it is the basis for generating sufficient investor confidence to stimulate the flow of investment capital and restrict unproductive savings practices. On the other hand, effective accounting techniques are a necessary prerequisite to the efficient use of capital. Both aspects are important and will play a role in a nation's economic programming and in the national accounting on which it is based".

Accounting certainly has a major role to play on both sides. On the supply side, financial accounting systems provide the information necessary for lenders and investors. This type of accounting information reflects the current status and past performance of the enterprise. Investors rely on this information in selecting the profitable and productive projects. In this way, accounting can facilitate capital investment.

On the demand side, management accounting has a role to play in the capital formation process. Productive and administrative efficiency are the result of effective management decisions which are in turn dependent upon relevant accounting information. If properly utilized, accounting information may, among other factors, contribute to a country's ability to break the vicious circle of poverty.

Since the emergence of management accounting, economists have recognised its important role in the process of economic development. For example, Hirschman (1958) pointed out that, there is considerable evidence that underdeveloped countries possess untapped sources of capital waiting for entrepreneurial and managerial elements to gather it and put it to work. Not only does management accounting make possible the procurement of capital but if used effectively, it can also make possible a continual flow of resources into a developing country.

Accountants also recognized this role. For instance Choi (1974) stated that management accounting has a significant contribution to make during the initial state of development .

Scott (1970) recommended that in a developing economy external reporting and internal reporting should be given equal priority with neither being stressed to the detriment of the other, and that accountants of developing nations should be capable

of carrying out each of their activities equally well. This recommendation, indeed shows the importance of management accounting in a developing economy.

There are many reasons for believing that management accounting has a greater role to play in the economic development of developing countries than financial accounting. This is partly due to the fact that developing countries generally have limited and scarce economic resources, where cost accounting or more generally management accounting data have a major role to play in utilizing it efficiently and effectively particularly those countries that considered industrialization as the means to the ultimate goal of their economic development.

Enthoven (1980a) stated that the role of accounting in economic development will increase and management accounting has more valuable techniques for economic planning than financial accounting. He argued:

"Management and Financial Accounting will become more heavily involved with socio-economic aspects. sound economic planning - of a micro and macro nature - must be based on carefully evaluated feasibility studies or project cycle activities. Measurement tools that must be applied are largely of a managerial accounting nature, such as capital-out ratios, input-output analysis and equilibrium pricing."

Nevertheless, Scott (1968) indicated that the external reporting in the UK and US has tended to be emphasised to the detriment of the other areas of accounting. Although management accounting has received great attention in the west (UK, US) during the 1950s and 1960s, the domination of financial reporting in practice appears to have been present. Johnson and Kaplan (1987) argue that management

accounting practices follow and have become subservient to financial accounting requirements. They stated that today's management accounting information is driven by the procedures and cycle of the organization's financial reporting system is too late too aggregated and too distorted to be relevant for managers planning and control decisions. Many academics have been surprised by these criticisms. For example, Drury (1990, 1992) and Holzer et al (1991) indicated that management accounting textbooks do not advocate that management accounting practice should be dictated by financial accounting practice. They argue that if cost accounting practices had been driven by financial accounting requirements it must have happened despite the concepts and suggestion advocated in the literature.

However, one could argue that it might not be a surprise to find that developed countries emphasize financial accounting and auditing due to the fact that most business entities in these countries are privately owned and there is a demand for information from investors and creditors. In addition income determination becomes the focus of measurement in accounting in these countries.

In developing countries, nevertheless, the national government plays an important role in the direction of economic development. The government's involvement in economic affairs emphasizes the need for efficiency measures and input/output relationships in addition to the information needed for economic planning at the macro level. Therefore, one could argue that management accounting is very important to developing countries because it can provide useful information for evaluating economic activities, projects and managers (Agami^{et al} 1987).

Despite the major role that management accounting plays in the economic development process, financial accounting has received by far the greater emphasis.

Many writers in accounting in developing countries recognise the lower emphasis on management accounting, for example, Langenderfer (1965) Scott (1970) Choi (1974) Saleem (1981).

In this regard Saleem (1981) argued:

"..... the bulk of literature available on accounting in developing countries is concerned with the financial aspects of accounting and the effect of accounting on economic development little attention has been given to management uses of accounting".

A review of the recent writing shows that management accounting still has been accorded little attention. Most of what is in the literature is concerned with either financial accounting [Samuel et al, (1982), Gul et al, (1984), Ndubizn (1984), or Rahman et al (1988)], or accounting education [Juchan et al (1986), Markell (1985) or the transfer of accounting technology to developing countries Chandler et al (1981), Tang (1986).

It is almost impossible to find a whole article which deals with management accounting whereas there are many in financial accounting. However, part of some articles are related to management accounting, such as Foroughi (1981), Perera (1989), but their investigations are very general.

1.3 The Business Environment of Saudi Arabia

Managing organizations requires a thorough understanding of the dynamic relationships within the socio-technical system (the internal environment) and the relationship to the external environment with which the system is in constant

interaction (Kanungo et al, 1990). Accounting is one of the major tools of management which is highly recognized as a product of its environment. The environmental factors which have been identified to influence the practice of accounting in developing countries are economic conditions, social, legal, political, cultural and educational factors. In this section we will provide a preliminary overview about these factors which will be dealt with in depth in chapter nine.

Saudi Arabia is a developing country. In regard to the nature of its economy, it is a free enterprise economy, with considerable government intervention, due to the fact that the government is dedicated to economic development.

Until the emergence of the Saudi Oil Industry the Saudi Society was basically engaged in primitive agriculture, fishing, and the Hajj (pilgrimage) trade. The little business that existed was family owned. In Saudi Arabia's endeavour to seek sources of national income other than oil, the government considered industrialization as a potential means of achieving the goal of diversification.

The extraordinary program which has taken Saudi Arabia from an underdeveloped country thirty years ago to a society with a modern infrastructure and the potential to develop a diversified economy has been successful.

The private sector economic development programme has been given great attention in the last twenty years or so by the government which provides investors with loans at a very low interest rate ie. 2 percent on outstanding balance. The policy of encouraging the private sector seems to have been very successful indeed. Arnold (1992) went as far as to say that there is mounting evidence that the Saudi economy is gradually becoming less dependent on government spending. However, the family owned and managed business concern is a prominent phenomenon in Saudi Arabia.

The business environment of developing countries is characterized by unpredictability and Saudi Arabia is not an exception. One strategy for operating in a more stable environment is to develop linkages with enterprises in the developed countries. One example of this type of linkage would be the joint venture.

This type of arrangement can provide improved access to technology management know how, financing, and market. Saudi Arabia has done exactly that and has successfully attracted many leading international companies particularly from the United States and is still doing its best to attract more. In this regard Arnold (1992) states:

"Fostering joint ventures is a major priority of the government's economic policy. These are exempt from tax for the first ten years on condition there is a minimum of 25% Saudi equity participation in the cost of the project. Interest-free loans from SIDF (Saudi Industrial Development Fund) are available for up to 50% of the project cost or for the modernization or expansion of existing ones".

In addition to its policy which emphasizes the attraction of foreign investors, the strong political ties between Saudi Arabia and western developed countries has helped in facilitating the transfer of technical and management know how to Saudi Companies.

Culture is also considered to be a powerful factor affecting the accounting system, although it is still in its infancy. The people in developing countries are said to be

the products of highly structured traditional societies where all authority is driven from family (or tribe) position. One would expect that the managers of such societies would emphasize centralization over decentralization.

This type of argument regarding this factor or the other factors will be discussed in more detail in chapters 2 and 9 .

1.4 General Overview of the Major Characteristics of the Participating Companies :

Saudi Owned and Managed Companies: -

It is important to understand the role of Government policy in the industrialisation of Saudi Arabia. It is Government policy to develop Saudi industry in a protected environment for outputs and subsidies for inputs whether these are financial or non-financial in nature . For example , in the refinery industry Saudi companies sell at prices below cost despite this industry being a monopoly where the normal prediction would be monopoly pricing .The protection afforded industry by the government insisting on no foreign competition is another major factor . Some of these companies export and are therefore exposed to international competition and fluctuating exchange rates . Although these foreign exchange risks are not explicitly shared with the Government the companies do have an edge in as much as they receive input subsidies .

We tend to view the discipline of management accounting as the internal provision of information for decision making where there decisions are typically constructed in a planning and control framework . Information has value because it leads to improved

decision making . Where it cannot improve decisions then it has no value and we would expect to see nominal forms of accounting systems . For example , Variance analysis is traditionally viewed as a control function with some feedback into the planning process . However , if there is no emphasis placed on efficient production then there is no focus on cost control and hence no demand for the type of management accounting cost information that we typically would expect to see .

The consequence of this industrial policy is that we should be careful in our interpretation of the extent of the development of management accounting systems in Saudi owned and managed companies . For example , it may be that Saudi companies appear to have a relatively unsophisticated management accounting system . One explanation is that Saudi companies do not understand the importance of good systems, say of activity based costing which is claimed to improve both pricing decisions and control , or at least they do not have the skills to implement such a system . Another explanation is that they do understand that there is nothing useful to come out the system in that decisions are made in these companies which are insensitive to the information . This would even be the case for those companies with foreign exchange exposure since this area is not well developed in the management accounting literature (Appleyard et.al, 1991).

Joint Venture Companies :-

Joint ventures reduce uncertainty through a legal and binding relationship with another firm. In a joint venture , organizations share the risk and cost associated with large projects or innovations. Also as indicated in the previous section that one type of joint venture occur between developed and developing countries . Some firms in the developing countries develop linkages with firms in the developed countries to improve access to know how , technology and the like .

The exemption from tax for the first ten years and the interest free loans for up to 50 % of the project cost are clear indications of the emphasis made by the Saudi government on this type of linkage with international leading companies . Many of the large industries that were initially established by the Saudi government operate primarily through joint venture partnerships with a number of leading multinational corporations (e. g. Petroleum and Petrochemical industries) . Among leading international corporate partners that have successfully made a commitment are Mobil , Shell , Texas Eastern , the Mitsubishi Group Companies and many others .

One of the major goals of the commitment with the international companies is to observe the technical and administrative expertise and to build upon this by the Saudi national workforce .This is a clear indication of the emphasis of the Saudi government on transferring know how to Saudi companies. And one of the policies in the joint ventures which is aiming to facilitate this transferring of know how is the employment of Saudi nationals with an expatriate for a period of five years to receive the training that make him able to substitute for the expatriate . This was the policy and the aim but in reality most of the Saudi nationals who are qualified do not stay long in these companies because they can easily find better income and positions in large cities which has resulted in keeping many expatriates in their positions . In our study we have included only the joint venture companies with the United States and the United Kingdom and we utilized them as the benchmark for the development of Saudi management accounting practice , (for more detail regarding the participating companies see appendix A) .

Nevertheless , in the majority of the Western joint venture companies which participated in this study the top managers and accountants are still western nationals either American or British .

In this study there are three classes of company where the class is established by product . These are petrochemicals , petroleum and cement . In the case of petrochemicals , Sabic - Saudi Arabian Basic Industry Corporation -fully owns the

Saudi owned and managed companies and owns that part of the joint ventures not held by the foreign partner . Despite owning these companies, control resides within the companies with each having a Board of Directors who are responsible for both marketing and production decisions . Sabic , however , acts as an agent for sales for the Saudi owned and that part of sales deemed Saudi owned in the joint ventures . All these companies are functionally organised which means that production is regarded as a cost centre by the senior managers of these companies .

In the case of petroleum companies Samarec(Saudi Arabian Marketing and Refining Companies) oversees this industry . It was established in 1988 and replaced Petromin (General Petroleum and Minerals Organization) which had been previously established in 1962 to oversee oil refining and the marketing of petroleum. Samarec acts like Sabic except in the case of Saudi owned refineries where sales were purely domestic .

Finally , in the case of cement companies these were essentially private companies , that is , companies with a restricted set of shareholders .

Despite this form of ownership there is still a focus on cost centres because of the functional organisation employed . (See chapter 8) .

1.5 The Significance of the Study

This study can be significant in many ways:

First, As pointed out in the previous sections, many argue and rightly so, that management accounting has a major role to play in the process of economic development. Since long ago, the relationship between the accounting function and the success of industry has been vital. For example, as early as 1958, Hirschman points out that this relationship is essential rather than accidental and that a high

degree of industrialization cannot be developed without a highly developed accounting function to facilitate the flow of economic data.

However, previous studies and articles concerning management accounting practice in developing countries has, revealed that the usage of accounting as a management tool is very low, (See Chapter 2), (Saleem 1981, Kordi 1979, Savage 1967, Scott 1970). Thus, with the huge and rapid growth of industries in the developing country of Saudi Arabia, the vital question is what is the role of accounting and accountants in the management of these industries.

This study will examine the contribution which accounting is currently making to the management of these industries. This is indeed vital to the Government of Saudi Arabia as well as to investors and potential investors inside or outside Saudi Arabia (joint ventures).

Second: As indicated earlier in this chapter, research in management accounting in developing countries has been (and still is) lacking. This study therefore, can be significant to many developing countries, because many similarities exist between Saudi Arabia and numerous other developing countries. These countries follow more or less the same path of economic and industrial development. In particular, this is true in the Gulf area in which countries like Saudi Arabia, Qatar, Oman, Kuwait, Bahrain and the United Arab Emirates have formed an economic co-operation and have already embarked upon joint ventures (or investment) in several industries. Therefore, the significance of this study will extend beyond the boundaries of Saudi Arabia.

Third: The few articles and studies that are concerned with management accounting in developing countries have one thing in common. This is that they all rely heavily

on western theoretical literature to describe the practice of management accounting in developing countries. This heavy reliance on theoretical literature is based on the assumption that management accounting concepts and techniques as specified in the literature are highly used in the west, (e.g UK, USA).

Unfortunately, in recent years, western literature has revealed that there is a gap between the theory and practice of management accounting for example, Kiani Aslani (1977), Imhoff (1978), Coates et al (1983), Kaplan (1984), Johnson and Kaplan (1987), Ratnatunga et al (1988), Lyne (1988), (See Chapter 2).

Therefore, one can argue that comparing management accounting practices between the developed and developing countries is more beneficial than describing it in the light of western theoretical literature. To the best of my knowledge, there is no comparative study conducted concerning management accounting practice between developed and developing countries although this has been highly recommended by Briston (1978), Jaggi (1973).

This leads to the question of why there is no comparative study in management accounting practices between the developed and developing countries.

One reason may be related to the nature of accounting in general and management accounting in particular. It is a product of its environment. Therefore, the full relationship between the management accounting system and the environment in which it operates must be comprehended by the researchers in order to understand the constraints and considerations involved in the decision of whether or not to use various accounting practices.

However, multinational companies and joint ventures with developed countries are operating successfully in developing countries. They are operating in the same

environment as local industries using the same accounting systems. Their success is due not only to their technical know-how, but also to their management know-how, Negandhi (1970). From the accounting perspective they mostly import their own accounting systems and procedures and frequently also, their own accounting staff, (Chandler et al, 1981) , This is the case in Saudi Arabia and most of the developing countries.

The main objectives of this study are to examine the similarities and differences in the practice of management accounting between the Saudi companies which are fully owned and managed by Saudi nationals and joint ventures companies with the United Kingdom and the United States. One of the major characteristics of these joint ventures is that the western partner designs the accounting system and join with their accounting staff in the management of these industries. By utilising the joint ventures as the bench-mark for the development of Saudi management accounting practice various factors can be controlled for in the research design.

This study will be the first comparative study in management accounting between developed and developing countries and intends to fill part of the gap in the literature of accounting in developing countries.

1.6 The Objectives of the Study

The aim of this study is to examine the state of the art of management accounting practice in Saudi Arabian Companies which are fully owned and managed by Saudi nationals and to compare it with Saudi joint ventures with western leading companies (UK, USA), operating in the same environment.

The specific objectives of the study can be enumerated as follows:

1. To examine the similarities and differences in the application of management accounting concepts and techniques by Saudi nationals and joint venture (UK, USA) management.
2. To determine the degree of importance accorded to the use of accounting information in the control of these industries.
3. To investigate the obstacles, if any, which prevent the application in Saudi owned and managed companies of certain techniques or concepts which are applied in their joint venture counterparts.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction :-

The previous chapter considered the importance of accounting to the economic development, the significant of the study and the research questions. In general the previous chapter showed that there is a lack of empirical research in management accounting in developing countries and comparative studies between the developed and developing countries in this field is highly recommended.

This chapter will be concerned with the literature review of the studies which are related to this topic. This review of literature will provide an overview of the major problems faced by the developing countries in the practice of accounting in general and management accounting in particular. Also, a highlight on the recent argument regarding the perceived gap between theory and practice in the developed countries will be presented in this chapter.

2.2 Management Accounting in the Developed and Developing Countries:-

As the world becomes increasingly interdependent and the economic future of developed countries hinges more and more on success in meeting the problems facing the Third World interest in accounting in developing countries has heightened. That was after the pioneering study by a committee on International Relations of the American Institute of Certified Public Accountants (AICPA, 1964). This study opened the door to a new field of study in accounting : accounting in developing countries. Since then a number of studies and articles have been published.

As we indicate earlier in Chapter 1 the main objectives of our study are to examine the similarities and differences in practice of management accounting between the Saudi owned and managed companies and the joint ventures companies with the

United Kingdom and the United States. This comparison will attempt to show how far behind is the practice of management accounting in Saudi companies and what constraints they are facing in trying to be as successful as their counterparts which are operating in the same environment.

It is in fact a comparison between developed and developing countries management accounting practice. In this sense, a number of questions arise such as:

What is the difference ?

Why is it different ?

Should the gap be bridged and if so , can the gap be bridged ?

In the light of the literature the next section will deal with these questions.

2.2.1 What is the difference?

The basic principles of accounting that are adopted in practice are quite similar in the developed and developing countries. This is due to the spread of western accounting to many developing countries from the UK and the USA. Almost all of the British Colonies have had imposed upon them a British Companies Act with the usual reporting and auditing requirements. Moreover, most of the major multinationals have been based in the United Kingdom or the United States and these have adopted the accounting systems of the home country for their overseas subsidiaries and have trained local staff in those systems.

Hove (1986) stated that an examination of the sources of existing accounting systems in developing countries reveals that those systems were primarily imposed by developed countries through colonialism and then through the operations of trans-national corporations, professional accounting institutes, and the special conditions in

economic aid agreements rather than in response to the societal needs of those countries.

As a result of strong western influences, there is no developing country which has been able to construct a system of accounting designed primarily to meet its own information needs (Perera, 1989). Western influences have dominated both education and practice (Briston, 1978). These imported accounting systems have been indiscriminately adopted in most developing countries without proper modification to the needs of the country's specific accounting and business environment Enthoven (1973), Hove (1986), Perera (1989). If this uncritical adoption of western systems is indeed the case then we would expect that there would be little difference between developed and developing economies.

However, the adoption of western accounting systems without proper modification to these countries' environment has necessarily given rise to obstacles in its application.

One possible negative result of the adoption of developed countries accounting practice is that information produced on the basis of such practice is not likely to give the correct signals to the decision makers, because it is not likely to be relevant for their decision models (Hove, 1986). Kanungo et al (1990) went as far as to say that uncritical transfer of management theories and techniques based on western ideologies and value systems has in many ways contributed to organizational inefficiency and ineffectiveness because of the developing countries' environment. The environmental factors include the economic condition of the developing countries, education, politics and social and cultural factors (see next section).

It is these factors, which have negatively influenced the application of the western accounting systems that have caused the gap between the developed and developing countries' accounting. Accounting in the developed countries assumed a major role

in providing reliable information to decision makers. The developing countries have not reached that level reached by the developed countries.

Saleem (1981) concured with Scott (1968) who stated that in economically advanced nations accounting contributes substantially to gathering, organizing and measuring the efficiency of the utilization of economic resources. Accounting in these countries fulfils the above role by providing investors, management, government and other interested parties with information . Accounting in developing nations does not provide these services to anywhere near the same degree as in developed nations.

In his poineering article Scott stated :

"..... in developing nations internal reporting may offer management little more than the verification of past transactions and management may not realize the potential of accounting as a managerial tool."

This is one picture which can show the gap or the difference between the developed and developing countries. Almost all writers in accounting in developing countries follow the same line of thought in arguing that the usage of accounting is at a very low level. Savage (1967, 1978) Saleem (1981) Kordi (1979), Juchau et al (1986), Perera (1989). For example, Enthoven (1980) stated that :

" Management accounting (in developing countries) tends to be underrated ; many managers have an inadequate notion of the value of good managerial accounting for pricing , costing , performance evaluation and planning . Firms are often reluctant to install good costing methods . "

Therefore, one could say that the only difference between the developed and developing countries is that the developing countries do not utilize the accounting systems available to them as the developed countries do. This has resulted in many problems. These problems include poor internal control lack of management accounting concepts, incomplete, inaccurate and late records (Jagetia et al, 1983).

2.2.2 *Why is it different?*

The answer to this question has already been alluded to above in 2.2.1.

It is known that accounting is a service type activity, which therefore, develops in response to needs and other influences within the environment in which it is used. This is true of accounting in general and management accounting in particular because of its greater flexibility when compared to financial accounting.

Management accountants have recognized that the external environment has an influence on the management control system e.g. Khandwalla (1972). Khandwalla examined the relationships between different types of competition such as price and product quality and the usage of a number of sophisticated accounting controls. The controls were those commonly used in manufacturing firms, such as standard cost, flexible budgeting and statistical quality controls. He found that a positive relationship existed between the intensity of competition and the extent of use of management controls. He concluded that intensified competition caused managers to search for ways to control cost and that management accounting controls were employed for this purpose.

Parker (1978) divided environmental factors affecting management accounting practice into two categories:- those that are of a national or international type and

those that are of a market or industrial type. Among the national and international type are cultural and political factors. Cultural factors include managerial style, work attitudes and individual aspirations. Political factors, include matters related to taxation and regulation. Among the market and industrial type, the factors are those related to types of production process, to the state of technology and to the type of market in which the firm operates.

However, this recognition of environmental influences on management accounting systems is rather a recent development. Before the middle of this century, classical management theory dominated the literature. The main feature of this theory is that there is a single best way of managing and organizing. As a result, there was a belief that there is only one best way of designing management accounting systems and there are no environmental influences on the systems. The development of system theory has opened the door for researchers to find the impact of the environment on organizations. Studies that have been conducted with regard to system theory have led to the development of contingency theory which is a prominent area of the management accounting literature at the present time. In the contingency theory literature, three main variables have been identified as having an influence on management accounting systems. These are environment, organization structure and technology. Other possible contingent variables that have been suggested in the literature include size ownership and management style. Of course, such variables may be highly correlated with organisation structure.

Nevertheless, one of the significant outcomes of research endeavours in the analysis of accounting in different countries has been an enhanced awareness of the importance of a country's environmental factors on the accounting system. Since the 1960's writers in this field considered the external environment to be the main reason behind the differences between accounting practices in different countries. They analyzed the external environment in terms of its legal, economic, political

educational and cultural components. (Mueller, 1967, American Accounting Association (AAA) 1976, Gray, Campbell and Shaw, 1984).

The level of accounting education is usually considered to be a primary factor in the development of management accounting practice. As early as 1958, Ronson stated:

"The state of accounting in underdeveloped countries usually depends upon the availability and background training of both management and accounting personnel."

Many writers in accounting in developing countries considered accounting education as deficient (eg. Chandler et al 1984, Perera 1989). For example, Belkaoui (1988) stated that the state of accounting education in developing nations is far from compatible with what should be required for an effective implementation of development planning.

One of the deficiencies in the accounting education in developing countries is its overemphasis on the technical aspects of accounting with less emphasis placed on philosophical, theoretical and functional aspects of accounting. This is also the case of Saudi Arabia accounting education (Abdeen et al 1986).

The political factor also has been influential in some countries, as a result of the centralization of planning. In a centrally planned economy, all major decisions including strategic planning, allocation of resources, pricing and distribution are top down decisions. This means that the central government makes decisions and the local government agencies implement them. This centralization of authority and control from the centre has a negative effect on the internal uses of accounting information (Saleem, 1981).

With regard to the economic factor, it is known that the condition of a developing economy is different from that of an advanced economy. The economy of developing countries is less complex and less competitive as governments seek to provide stability. Managers in developing countries are less conscious about cost control, therefore, they are less in need of sophisticated techniques.

Social and cultural are considered as one of the causes of the low level of usage of accounting information. Seiler (1966) argues that in developing countries, people tend to believe that success is primarily the result of sheer luck rather than the systematic application of effort and creative energy. However, writers other than Seiler seem to argue for more relevant cultural factors. For example, Savage (1978) stated that managers in developing countries are the products of highly-structured traditional societies where all authority is derived from family (or tribe) position where creativity and innovation are discouraged and submission to authority is seen as the way to avoid the anxieties of living. With regard to the attitudes toward business and management, he added that the relationship between superior and subordinate in developing countries is a very personal one. The Company is either an abstraction which is not really understood, or the Company is really embodied in the person of the immediate superior. The result may be that the subordinate has respect for the superior, but has little or no such feeling for the Company itself.

In this case one would expect that when job tasks are performed, the individual's priority and concern is not the accomplishment of job objectives as such but rather the personalized relationships generated by the job. This would indicate that the companies of developing countries are much more centralized than in developed countries.

Nevertheless, in an attempt to develop commonly acceptable well defined and empirically based terminology to describe cultures, Hofstede (1980) identified four

distinct dimensions which he considered to reflect the cultural orientation of a country. These are;

Power distance: is the extent to which the members of a society accept that power in institutions and organizations is distributed unequally. For example, the more that superiors exclude subordinates from the budget preparation process, the greater the power distance.

Uncertainty avoidance: is the degree to which the members of a society feel threatened by uncertain and ambiguous situations by providing more formal rules and rituals, career stability etc.

Individualism: relates to the importance the members of a society attached to personal and family life, compared with their regard for the organization.

Masculinity: relates to the relative importance of qualities associated with the members of a society who are said to be assertive and whose main goals are making high earnings. They usually do not care for the quality of life or relationship with people. In other words low masculinity, refers to the extent that the individuals behaviour is driven by feelings rather than task considerations (Mendonca et al, 1990).

The socio-cultural environment in developing countries is characterized by a relatively high uncertainty avoidance, low individualism, high power distance, and low masculinity (Jaeger 1990). This in general is the opposite of the characteristics of the socio-cultural environment in the developed countries. This is what has led many writers to consider that some western management techniques as culturally inappropriate in developing countries because such techniques are based on western culture which is different from that of developing countries. For example, Hofstede

(1980) states that goal setting or management by objectives which he describes as the single most popular management technique used in the USA, presupposes the following underlying value orientations:

- (i) that subordinates are sufficiently independent to negotiate meaningfully with the boss (not-too-large distance);
- (ii) that both are willing to take risks (weak uncertainty avoidance); and
- (iii) that performance is seen as important by both (high masculinity).

These values, however, are incompatible with what is often the case in developing countries (Jaeger, 1990).

2.2.3 Should the gap be bridged and if so , can the gap be bridged ?

It is impossible to estimate the size of the gap between the developed and developing countries in the absence of comparative studies. Nevertheless, what the literature reveals is that management accounting in the developing countries is in a very low level of usage compared to that of the developed countries, (see section 2.2.1).

Unfortunately, there is little in the literature on how to improve it to reach that level of the developed countries. As we indicated earlier in the previous section that the main causes of the gap or difference between the developed and developing countries is that accounting systems are imported from western countries (UK., USA) to be applied in a totally different environment. Each country has its own political, social, economic and cultural characteristics, and it is highly probable that the information needs of the managers of the economy will differ from one country to another. Briston (1978) suggested that:

"..... each country should be encouraged not to standardize the structure and specifications of its information system, but to create a system appropriate to its needs."

Enthoven (1973) argues in the same line of thought:

"..... accounting must integrate with its socio-economic environment. Since this environment differs from country to country, it follows that any profession that ignores its environment is heading for trouble or at least hampering its ability to render as full a service to the country as possible."

This argument seems to emphasize that each developing country needs to develop an accounting system that fits its own environment because countries differ from one another and these differences can be explained in terms of the environmental needs and circumstances prevailing in those countries. This emphasis indicates that international standards which may result from the international harmonization of accounting might not be suitable for developing countries. Samuels et al (1982) believe that it may do more harm than good for developing countries because these standards are more suitable for developed countries than developing countries particularly where these standards are dominated by Anglo-American accounting principles and practices. However, one could argue that the primary emphasis in financial accounting is on reporting to people external to the entity. This emphasis on providing information about an entity to outside users through the process of recording classifying and communicating the totality of transactions of that entity, makes it suitable for high degree of standardization in all industrialized countries. But management accounting which is the subject of this research has evolved differently in different organizations and industries because it responds to the perceived needs of management although it has been recognized as an important

discipline. The greater flexibility of management accounting indicates the fact that its development must be as a response to the environmental needs and circumstances in which they operate.

Therefore, it seems more appropriate in solving the problems of developing countries to develop the accounting systems which fit their environment. But the question which poses itself is how?

Chandler et al (1981) presents a global systems view of accounting in developing countries which they believe can provide some revealing insights into the underlying problems of all components of the accounting establishment.

In their argument, they suggest that the accounting establishment in a developing country which they define consists of four components. These are: the accounting function in indigenous enterprises, the local accounting profession, the accounting function of government agencies and the teaching of accounting in educational institutions.

These components as they suggest, are inter-related since the behaviour of one component affects the behaviours of the others. They suggest that these components should be viewed as a global system and governments in developing countries should not attempt to solve the problems of each of the components independently. The inter-relationships between those components which they suggest are as follows:- the poorly designed accounting systems in indigenous enterprises and government components have an impact on the accounting profession by reducing the effectiveness of the professional sector. Also, these poorly designed accounting systems provide little guidance to the educational systems as to an appropriate curriculum for developing country accounting. The enterprise component draws the qualified staff from government through higher salaries. Also, the accounting

profession draws qualified personnel from both enterprize and government components. Finally, the accounting educational component provides a focal point for the system-wide personnel shortage.

The common underlying problems faced by developing countries are; qualified staff and accounting systems. Increasing qualified staff will not alone solve the systems problem, because the qualified staff are taught the accounting of developed countries. In developing countries, the curriculum is imported from developed countries and also the instructors have received their education in developed countries. These curricula are designed for the environments of developed countries. Therefore, the authors suggest that the curriculum in developing countries should be designed for their environment. As they commented:

"For this curricula to include the design and operation of accounting systems involved a fundamental shift in this current direction of imitating the curricula of developed countries. Such curricula do not normally include basic systems techniques because they are not needed in the developed world. A new curriculum should facilitate intensive systems training at its most fundamental level. This includes form design, data and document flows, use of journals and ledgers, necessary report preparation and internal control."

The authors believe that the curricula of accounting education which suit the environment of the developing country will provide accountants and auditors who will be able to design the system which fits their organization. The accounting profession has a responsibility to aid in this systems development process by providing professional standards for the design and operation of accounting systems.

Also, they suggest that users of the accounting systems (government and private enterprise) should play their roles by establishing a stable accounting environment. This can be through the standardization of account codes, procedure forms, reporting requirements and internal control features. This demonstrates one of the difficulties of regarding western accounting systems as a homogeneous body of knowledge. What Holzer et al are suggesting is very much a Franco-German approach to accounting, adopted in a rather uncritical way. Indeed the very diversity of accounting in Western Europe has required a harmonisation process through EC directives. The reference point implicit in Holzer et al is clearly the Anglo-American approach to accounting.

Nevertheless, most of the writers who are familiar with the economic, cultural, political and social conditions in developing countries would argue that each developing country should create an accounting system appropriate to its own needs. Western literature and the assumed success of the application of accounting systems in the west is still looked upon as the ultimate goal to be followed without the recognition of the differences between these countries and the developing one. For example, the accounting systems of all the western joint ventures in Saudi Arabia were designed by western accountants. There is no doubt that management accounting in the west will continue to develop as it has in the past, that is in response to the needs of managers within the environment in which they operate and in accordance with the capabilities of managers to use the tools developed by academic and management accountants who anticipate those needs. If developing countries continue to rely on the imported western accounting systems and western oriented accounting education, their problems will not be solved but might be increased. As Briston (1978) commented:

"Accounting has not evolved in the industrialized world as an absolute science but as a response to economic and social factors. If this is not realized, there is a serious danger that accountants (in

developing countries) will continue to propound techniques which evolved under circumstances which no longer exist and which are irrelevant or even positively harmful."

Therefore, it is apparent that the nature of the accounting systems as a service type activity makes it respond to the needs and other influences within its environment. Accordingly, western accounting systems have been developed. Viewing western accounting systems as an ideal and emphasizing their application without proper modification is one obstacle among others facing the improvement of accounting in developing countries.

However, not every developing country has all of the previously mentioned accounting problems and many are doing their best to alleviate them. The degree of influence of environmental factors (education, economic etc) vary from country to country. For example, some countries might have the political factor as the most influential one through the centralization and ownership of the government, while other countries might have the economic factor as the most influential one. Therefore, identifying the major obstacles to the development of accounting in developing countries is crucial. This can be through an intensive research of most of the developing countries, to gain an insight into their problems and identify the most influential factors on their accounting systems and suggest what can be done,

As the American Accounting Association Committee Report on International Accounting Operation and Education (1975 - 1976) states:

In many countries, research would be necessary to accurately define a country's particular accounting needs. Such research may ideally lead to the development of an accounting development plan."

In summary, accounting has not evolved in the industrialized world as an absolute science, but as a response to its environment. This is the form of accounting that was imposed on developing countries. As a result most developing countries have little chance to evolve accounting systems which truly reflected the needs and circumstance of their own societies. Information produced on the basis of developed countries accounting systems is considered as not suitable to decision makers in developing countries. Therefore, it is not surprising to find that almost all the writers in accounting in developing countries consider the usage of accounting at a very low level.

Since the environment of the developing countries is different from that of the developed countries accounting systems which developed in the developed countries may have only limited applicability in the environment of the developing nations. If one accepts the above premise it becomes clear that there is a need to develop an accounting system appropriate to each of the developing countries, not all the developing countries, because each country has its own environmental needs and circumstances.

2.3 Management Accounting Theory versus Practice in the Developed Countries

Management accounting is considered to have been developed since the early decades of this century. For example, Johnson and Kaplan (1987) stated:

"By 1925 virtually all management accounting practices used today had been developed: cost accounts for labour, material and overhead; budgets for cash income, and capital, flexible budgets, sales forecasts standard costs, variance analysis, transfer prices,

and divisional performance measures"

However, general use of the term management accounting began during the 1950s. Prior to that the term cost accounting was used, where the emphasis of cost accounting was on allocating manufacturing costs to products. This has led many writers in recent years to indicate that the classical model of cost accounting has inventory evaluation as its primary driver of financial information (e.g. Howell et al, 1987). Also Johnson and Kaplan claim that management accounting practices follow and have become subservient to financial accounting requirements.

In defining management accounting the professional management accounting bodies in the UK and the US view management accountants to be concerned with all aspects of accounting except the external audit, (Scapens, 1985). Scapens considers the definitions in management accounting textbooks are either too general or simply emphasise a particular research approach. However, management accountants are responsible for providing detailed financial and cost data to management in a form suitable for decision-making, planning and control.

Until the middle of this century, however, all the information provided by the accounting system in developed countries was mainly used to report outside the firm, and the internal use of accounting information was very limited indeed.

Simon and his associate (1954) have drawn attention to accounting information to managers and the importance of its appropriateness in fulfilling their needs. That study seemed to have had a profound effect on the perceived role of accounting information for managers.

The tremendous research that has been conducted in the 1950s and 1960s in this field has developed management accounting to this stage. The researchers in that period

developed and refined new techniques. Absorption costing for example which was very widely used for external financial reporting purposes was recognized as being potentially misleading for decision making purposes and a relevant costing approach began to gain in acceptance.

Many other decision models were developed for attaining improved decisions maximising behaviour, for example, linear programming models, capital investment decision models, cost variance investigation models and so on.

It has been argued that these models are very complex, have little practical relevance, ignore information costs and often fail to quantify information benefits.

This has led Scapens (1991) to say;

"An economic framework played a central role in structuring the decision models used by management accounting researchers. In that framework the decision maker was assumed to have available at no cost and with no uncertainty all the information needed to completely structure any decision problem and to arrive at a profit maximising solution."

This may be regarded as an extreme view. Others would argue that these models simply facilitated decision making; they do not replace the decision maker. The models are themselves information. They are clearly simplifications of a much more complex situation where the robustness of the models could be tested by the use of sensitivity analysis (Demski, 1980). It was clear that uncertainty rather than certainty was the environment within which the decision maker was operating.

In the early 1970s management accounting researchers attempted to refine the

economic framework which forms the basis of the conventional management accounting literature developed earlier in the 1950s and 1960s to provide broader conceptual frameworks for the development of management accounting. In addition, the complexities of the models poses the question of their applicability.

By the mid 1970s an information-economics approach emerged. This approach intended to place a value on information and compare this value with the cost of producing the information. However, it has not proven possible to develop operationally useful means of incorporating the cost-benefit analysis of information into the design of management accounting systems. (Wilson et al, 1986)

The other approach which also resulted from the refinement of the economic framework was that of agency theory. In a simple two-person model, the agency problem may be explained as follows. An agency relationship exists when one or more persons, ie. a principal(s), engages another person(s), ie. an agent(s), to provide some productive input and possibly information. (Baiman, 1982) The agent selects an action, which combines with some stochastic process to generate an outcome to be shared by the agent and principal. The agent is generally modelled as work and risk averse, and the principal is modelled as risk neutral or less risk averse than the agent. Because of these differences in attitude toward work and risk, the agent cannot always be expected to act in the best interest of the principal. This conflict and the inability of the principal to observe with certainty the actions of the agent create an information problem for both the principal and the agent when a "first best" solution in risk sharing is considered. However, this problem of moral hazard is then overcome by making the agent share in the risks. This approach of agency theory thus suggests the offering of "incentives" to solve the control problem. Of course if an accounting monitoring system proves to be cheaper than incentives for solving the control problem then we would expect to see the implementation of traditional variance analysis.

However, agency theory has some severe limitations. One of which is its simplified settings of its models, most of which deal with two persons in a single period,

Nevertheless, agency theory within its severe limitation is expected to provide useful theoretical insights into management accounting. (Wilson et al, 1986, Drury, 1988, Scapens 1984) Agency theory according to Scapens (1984) emphasises the role of management accounting not only as a decision facilitating system but also as a control system for regulating organizational activities which was the primary concern of earlier research.

Also, by the early 1970s, the contingency theory of management accounting has emerged, but its emergence was quite independently of the developments in the quantitative area. It emerges from behavioural and organizational research. The contingency theory approach to management accounting seeks to define specific aspects of an accounting systems design that are appropriate for different sets of circumstances. A contingency theory approach is both descriptive (in explaining why organizations have the accounting systems that are in operation) and prescriptive (in recommending the design of accounting system, that ought to be operated in a particular set of circumstances). This theory also have its limitations. (for more detail see Chapter 8).

The other side of the same coin is management accounting practice. In recent years it has been argued that the theory of management accounting as embodied in textbooks has become increasingly divorced from practice. This view was as a result of surveys conducted by many researchers. For example, (Coates et al 1983) observed little formal analysis of cost behaviour, no evidence of sophisticated mathematical techniques and widespread use of absorption costing. In another study Gregory and Piper (1983) found little evidence of sophisticated techniques for stock

control.

By the late 1980s the researchers started to use case studies instead of questionnaire survey's to have an indepth understanding of the practice. But the result of such case studies did not seem to have changed the previous attitudes toward the gap between theory and practice.

For example, Scapens (1991) stated that the recent research has not changed the view taken in the mid 1980s that the conventional wisdom is not entirely compatible with current practice.

The other major development regarding management accounting practice is related to the new manufacturing environment. (See next section). This argument was led by Johnson and Kaplan (1987) who stated;

"Today's management accounting systems provide a misleading target for managerial attention and fail to provide the relevant set of measures that appropriately reflect the technology, the products, the process and the competitive environment in which the organization operates."

Nevertheless, the current research indicates that there is a drift away from normative research to more descriptive economic and behavioural research which seek to understand management accounting practice.

2.4 Management Accounting And The New Flexible Manufacturing Environment

In recent years the impact of the new flexible manufacturing environment upon management accounting systems has attracted some of the major writers in the fields. For example Johnson and Kaplan (1987) have been critical about the lack of sophistication in management accounting systems which they argue have remained unrevised for approximately eighty years. For instance, they argue that cost control systems are so crude that they do not facilitate the costing of products from flexible manufacturing environments. As a consequence products may be sold at a loss (because the true costs are underestimated) or product markets lost through overpricing (because the true costs are over-estimated).

It is arguable that this type of criticism is inappropriate to Saudi companies where these companies operate with (computer controlled) established technologies for single products. There is no emphasis upon flexible manufacturing and the costing of small batches. Rather there are long production runs for which the established cost control systems were designed. Thus there will be very little focus upon this literature in this research. Indeed, the design of this research reinforces this view by establishing as a benchmark for Saudi management accounting, the best practice of western influences companies operating in the same environment, rather than the techniques and practices suggested in the latest academic literature.

Conclusion : -

The literature in this area of study tends to be comparative in nature , where the comparison is between developed and developing countries or between theory and practice . The evidence is supportive of inter-country variation in management accounting practice such that management accounting practice in Saudi Arabia

should be different from the practice in say USA . Furthermore , the evidence suggests that theory , as represented in management accounting textbooks is an inappropriate standard from which to assess practice . This study is innovative in that it is placed entirely within one country where the research design attempts to control for inter-country variation but importantly establishes a reference point of good practice which removes the theory versus practice dimension ; good practice is the standard by which other practice is evaluated .

CHAPTER THREE

THE CONCEPTUAL FRAMEWORK OF THE RESEARCH

3.1 Research Methodology

A number of classifications have been used to categorize accounting research in western countries. According to Mueller (1970), Sterling (1977), Choi et al (1984), accounting research might be classified according to its type - such as managerial, financial or behaviour or according to the nature of the data used inductive/deductive. For example, while some writers in accounting in developing countries have attempted to link the identified environmental factors to national accounting practice e.g Mueller (1967) Seidler (1968), Previts (1975), Nobes (1984); others have sought to analyse the accounting practices of different countries with reference to a variety of economic, social, political and cultural factors (eg. Da Costa et al, 1978, Frank, 1979). The former is a deductive approach and the latter is an inductive approach to the international classification of accounting research (Gray, 1985, Perera, 1989). Another way of classifying accounting research is according to the type of research methodology employed: a priori or empirical .

In the last decade or so, the approach to management accounting research in the developed countries, has changed. There is now an increasing emphasis on explaining existing practices rather than developing models to improve them. (Drury, 1990)

For example Scapens (1990) stated:

"It is probably fair to say that much current management accounting research is concerned with the nature of management accounting practice."

In understanding management accounting practice many researchers have strongly advocated the use of fieldwork and/or case studies eg. Kaplan (1986), Tomkins (1986), Scapens (1990). In the literature, the terms case studies and fieldwork are both used to refer to studies of management accounting in its organizational context and the use of surveys has been criticized because it can only give a very superficial view of management accounting practice. (Scapens, 1990)

The recent cry in the study of management accounting in its organizational context in developed countries, coincides with the line of thought of many writers in accounting in developing countries who have long proclaimed that accounting (Financial and managerial) is influenced by its national environments. (Educational, economic etc). E.g Siedler (1968), Mueller, (1967) Jaggi (1973), Perera (1989) etc.

This suggest that management accounting system cannot be studied in isolation but as part of its organizational environment. This organizational environment incorporates both internal and external environmental and organizational dimensions.

The classification of accounting research in western countries might be quite suitable for research in developing countries, but Jaggi (1973) was more thoughtful when he

took a different approach in his classification of accounting research in developing countries.

He suggested that it may be better understood if we classified accounting research in developing countries as descriptive, conceptual and hypothesis testing. He describes descriptive studies as the ones which provides information regarding accounting models as they exist in the real world. The process of conducting them starts with observations of empirical phenomena. The methods used for observation may consist of primary sources like questionnaires, laboratory experiments etc. or secondary data obtained from existing sources. Jaggi found that most of the studies are of this nature. He indicated that many studies have been undertaken to describe the art of accounting in certain developing countries.

Conceptual studies are a more advanced stage of analysis in such studies a model or framework is developed which examines an existing system. Conceptual studies may be static, dynamic or comparative. Jaggi pointed to the greater need for comparative studies and the need for a conceptual framework for such studies. Many other researchers also pointed to the same direction, for example, Briston (1978), Schweikart (1985).

The purpose of our study is to fill part of the gap in the research methodology by trying to develop a conceptual framework and carry out a comparative study between Saudi owned and managed enterprises and joint ventures enterprises with the United States. To the researchers' best knowledge this study is the first comparative study which compares management accounting practice between developed and developing countries. Finally, Jaggi describes hypothesis testing studies as narrower in focus and more rigourous in methodology compared to descriptive and conceptual studies.

3.2 Conceptual Development

As we indicated in the last section that there is a great need for a conceptual framework for the study of accounting in developing countries. Due in part to the exploratory nature of this type of research there is no comprehensive model or framework yet developed for analytical purposes. However, Jaggi (1973) and more recently Schweikart (1985) recommended that the field of comparative management studies is a good starting point in developing a model for a study such as our study. This recommendation is based on the fact that each country has its own business environment and the identification of these environmental factors was the main concern of the field of comparative management studies. eg. Farmer and Richmond (1965).

Nevertheless in the last two decades the literature of international accounting and accounting in developing countries seem to submit that accounting is a product of its environment and it should develop in a manner relevant to the society in which it exists (Chetkovich 1972, Hove, 1986).

Parker (1984) and Schweikart (1985) have used the contingency theory as a vehicle for the development of their models.

The variables which they both considered as contingent include all national environments such as educational, economic, political and social and cultural. Parker who seems to emphasize financial accounting in his model included other factors such as lack of local accounting standards and the external professional environment. He also included predetermined factors such as colonial influences. However,

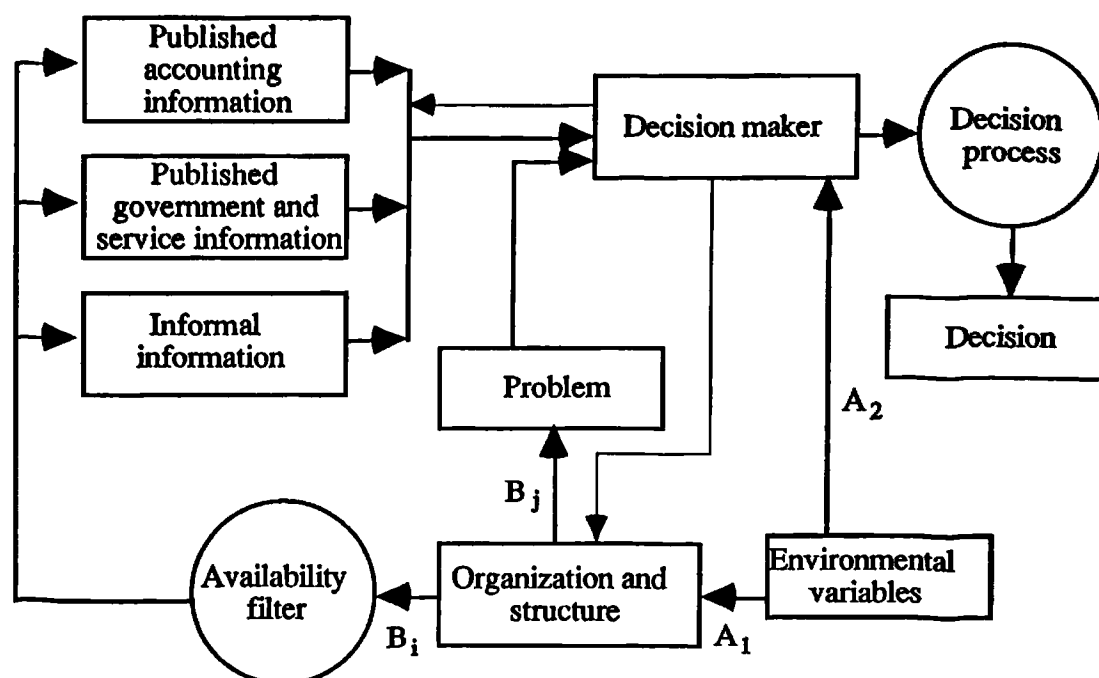
Schweikart developed two separate models, one for financial accounting and the other for managerial accounting. His managerial accounting model is more relevant to our study and worth reviewing before we develop our model.

3.3 The Schweikart Model

The main feature of the model is to identify various environmental factors that are expected to have a significant impact on the decision situation and accordingly, the information needs of the decision maker. These factors have been classified among; i) educational variables, ii) economic variables, iii) political- legal variables, iv) socio-cultural variables, (see Figure 3.1).

Schweikart considered these factors as having an external and internal effect on accounting information needs. He then divided the external influences into two types, one of which (A1) is assumed to directly affect the structure and type of organization and the other (A2) is assumed to directly affect the decision process. These external factors also assumed to have an indirect internal effect on the type of information provided to decision makers.

Figure 3.1 The Schwaikart model is depicted diagrammatically as follows:



A_1, A_2 Direct environmental contingencies (external)

B_i, B_j Indirect environmental contingencies (internal)

Schweikart indicated that the field of comparative management is a good starting point for the development of a conceptual framework for the study of international accounting. In particular he emphasizes the variables identified in the Farmer and Richman model (1965). It seems that he confined his model to these variables. However, the Farmer and Richman model has faced some criticism. The criticism of the Farmer and Richman model which is also true for Schweikart model is that they ignored management philosophy as a factor which is considered as an important factor in comparative management, management theory and recently management accounting literature.

The second criticism that can be directed towards Schweikart model is that he assumed that national environments are the only influences on differences in management accounting practices. In other words he ignored the potential effects of factors such as technology, size, structure, age of the companies etc. However, it is worth noting that western researchers have identified these variables in a variety of contingency frameworks which they used as a point of departure for the study of management accounting information system.

The third criticism is that he considered the interrelationship between the organization and its environmental factors as a one-way relationship. It has been recognized in the modern organization theory and management accounting literature that each side exerts a measure of influence over the other (Dent et al, 1987).

3.4 The Research Model

Having researched relevant literature on the nature of research of accounting in the developed countries and the key issues of concern that arise in the development of a framework for the study of management accounting system, the next stage was to develop the research model. The research model is depicted below. As it appears the conceptual model is based on an interdisciplinary framework. The model includes the national environments (country variables) which have been identified by writers in the field of comparative management and highly recognized by writers in international accounting and accounting in developing countries. The second element is the contingency factors which are primarily identified by organizational theorist and for long have been submitted to have an effect on the management accounting system. The third element is the management philosophy which encompass the attitude and beliefs of managers toward accounting and non-accounting control systems and personal characteristics.

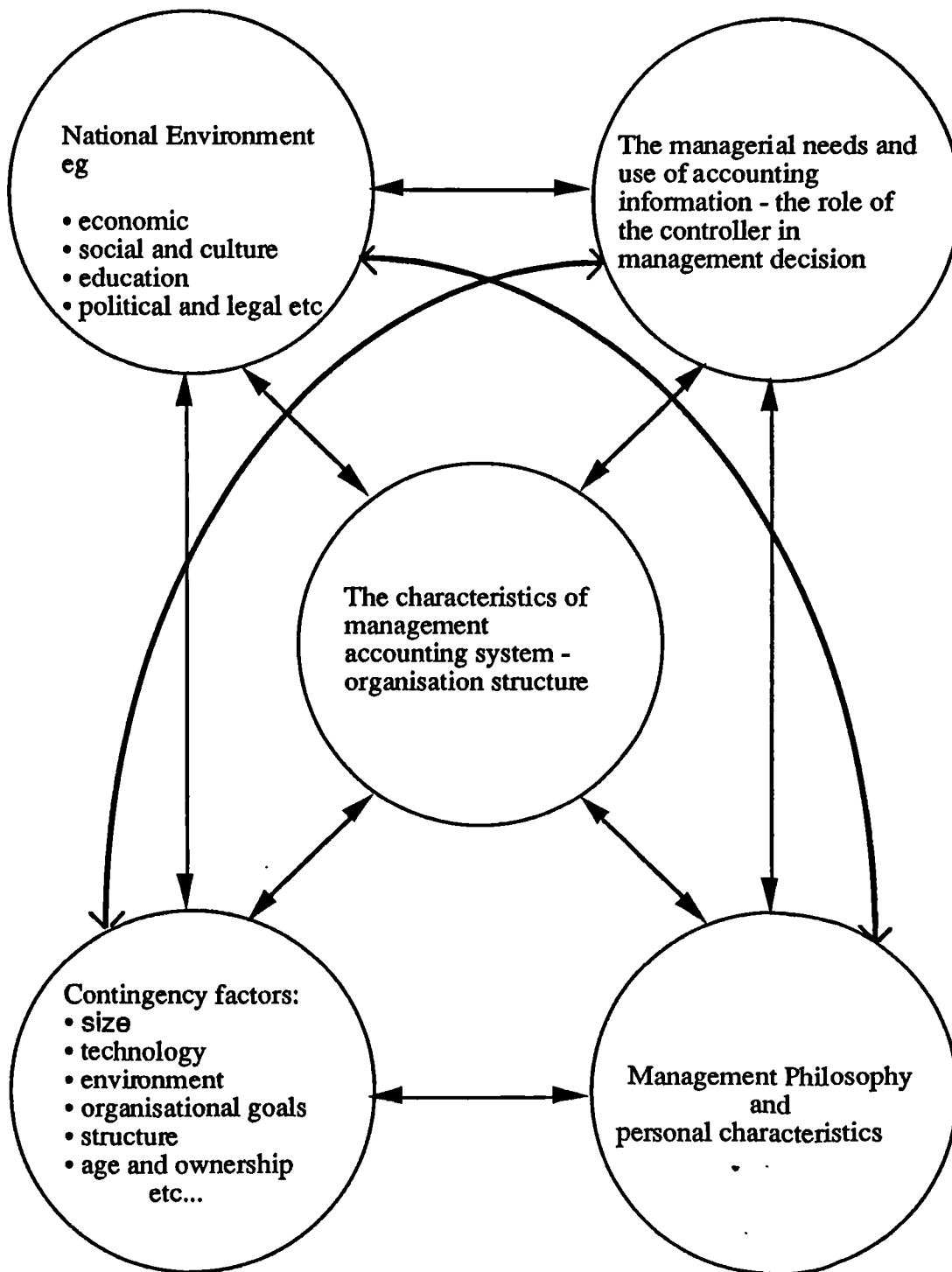
These three elements are suggested to be important in understanding and explaining the other two elements of the model which are the main concern of the study. These two elements encompass the characteristics of management accounting system, the role of the controller in management decisions and the managerial use of accounting information.

However, it has been recognized in the modern organization theory and management accounting literature that organizations are not merely passive adopters to their situation but rather they influence and are influenced by that situation. Dent et al (1987) raise doubts about the direction of causality between contingencies and structural and information characteristics. They stated:

"The interaction between the organizational and its contingencies is not one-sided but rather each exerts a measure of influence over the other".

Nevertheless, in our model we did not attach a greater weight to the effects flowing from any one particular element. Instead, lines of multiple causality were depicted. The literature concerned with the relationship between the elements of the model will be discussed in the relevant chapters in the thesis.

Figure 3.2 The Research Model



3.5 Operational Objectives of the Research

3.5.1 The degree of sophistication of management accounting techniques

Management information and control systems are based on accounting and other quantitative data. The role of management accounting in business organizations generally is perceived to be the provision of information for decision making by various elements of the organization's hierarchy. The degree of sophistication of the accounting system is a factor in the selection of management accounting concepts to be used in a company. In other words, the accounting system must be designed so as to provide the information required. The sophistication of the accounting techniques will make it possible to use information in many decisions. The controllers of the participating companies will be provided with a structured questionnaire to explore the characteristics of the accounting information systems of their companies. The characteristics of the accounting information system in the structured questionnaire will include budgeting systems, cost accounting systems, capital expenditure, the internal audit function quantitative techniques, computer usage and the like. A structured interview will also be held with the controllers beside their answers to the structured questionnaire.

3.5.2 *The role of the controllership function*

This section introduces the role of the controller in decision making and the managerial use of accounting.

(i) *The role of the controller in management decisions*

Controllers can no longer limit their activities to accumulating, recording and reporting cost information. In today's organization the controller is an important part of the management team. He plays a central role in the provision of information for

decision making whether this be for planning or control. Clearly, how important this role is depends upon the amount of uncertainty present in the organizations activities.

Arguably this role has increased in importance as the world economy has grown and widened, and companies have become internationalised. There is increasing world competition, and world regulation which leads to increased uncertainty.

To take an overall view of the position of the controller within the organization it is important to include the perceptions of influential colleagues. A controller is one member of a managerial team and part of his job is to interact with his colleagues. Therefore, in today's organization the controller is part of the management team. He communicates with management and is involved in decision making.

In collecting the data concerned with the role of the controllers we will directly ask the chief executives, production managers and marketing managers about the role of the controllers in decision making in their companies.

(ii) *The managerial use of accounting information*

Accounting information is a vital aid to planning and control in most organizations. Horngren *et al* (1990) following Simon *et al* (1954) stated that the accounting information system if it is to assist management should raise and help to answer these basic questions:

1. Score-card questions; Am I doing well or badly? (Performance evaluation)
2. Attention direction questions; What problem should I look into? (Management by exception)
3. Problem-solving questions: Of the several ways of doing the job, which is the best? (Decision making)

In our study, this framework underlies the construction of the questionnaire and the structured interviews.

In collecting the data we will directly ask the chief executive, production managers and marketing managers about their uses of accounting data. Since this is an important element in evaluating the role of the controller.

3.5.3 *The Organizational Characteristics*

Modern organizational theory has recognized that organizational design depends upon situational variables including organizational size, production technology and other environmental factors. Theorist have also suggested that this contingency theory approach can be applied to the design of management accounting information systems. For example, Dermer (1977) stated:

"Understanding the particular characteristics of an organization is the first step toward specifying the details of a planning and control system".

Indeed, this would seem to be the position taking in most text books in management accounting. Management accounting systems cannot be isolated from its organizational context. The literature which is concerned with organizational characteristics will be discussed in Chapter 8.

Drawing on literature from organizational theory and management accounting, the definition and operationalization of these characteristics will be presented in this section as follows:-

(i) Size

The intuitive argument regarding organizational size is that in a small business a manager or owner may observe operations informally and make decisions somewhat intuitively based on such observations. However, if it is assumed that the same business grows in size the manager will be in need of methods other than direct observation and accounting is one of the most important formal information systems known in business organization.

Since the late sixties writers in accounting in developing countries recognized the importance of the size of the company to the use or none use of accounting in general and management accounting in particular. (Savage, 1967), (Scott, 1968).

In the west many studies have indicated a high degree of association between the size of an organization and its structural characteristics. (Pugh et al, 1969, Blaw, 1970, Child, 1975)

However, Otley (1987) argued that the effect of size measured by number of people employed has a significant effect on the management accounting system although it perhaps exerts most of its influence indirectly via organization structure.

The number of employees, the amount of assets and the amount of gross sales usually have been used by organizational theorists and accountants as a measure of the organizational size. Nevertheless, organizational size usually defined as number of employees has received strong support as a contingency theory variable. Child (1973) among many others defended number of employees as the most appropriate measure of size by observing (..... it is people who are organized). But, theorists have often suggested that size has usually been over simplified in contingency theory studies. (Ford et al, 1977). This is obviously true in the new manufacturing

environment where labour is a minor input. For the purpose of this study, the number of employees and the amount of assets were used as measures of size. The amount of gross sales was not used in this study due to the fact that the sales prices of some of the Saudi owned and managed companies are fixed by the government where the sales prices are less than their costs.

(ii) *Technology*

Technology is the tools, techniques and actions used to transform organizational inputs into outputs. Various ways of classifying organizations in terms of their technology are available.

The analysis offered by Woodward (1965) and Perrow (1967) are the best developed and best known in the literature of organization theory. Perrow defined technology as (the actions that an individual performs upon an object, with or without the aid of tools or mechanical device in order to make some change in that object). He identified four distinct types of technologies as follows:

Craft technologies:- These are characterized by a fairly stable stream of activities, but the conversion process is not well understood. Examples include manufacturers of fine glassware and other artistic products.

Routine technologies:- These are characterized by little task variety and the use of objective computational procedures. Examples include an automobile assembly line and continuous chemical processing.

Technical professional technologies:- These tend to be complex because there is substantial variety in the tasks performed. Engineering and accounting tasks usually fall in this category.

Nonroutine technologies:- These tend to have high task variety and the conversion process is not analysable or well understood. Strategic planning and other work that involves new projects and unexpected problems are nonroutine.

Woodward's view of technology is based on the physical organization of workflows. She classified firms on the basis of their technical complexities and suggested the following three grouping: unit or small batch, large batch or mass production and continuous process. According to her study, structure, technology and the success of the organization were correlated. Organizational structure characteristics linked to production technology were authority levels and span of control.

Since Woodward's research, new developments have occurred in manufacturing technology. New manufacturing technologies include robots, numerically controlled machine tools and computerized software for product design engineering analysis and control of machinery. The ultimate technology is called computer integrated manufacturing (CIM). Although, research into the relationship between CIM and structure has not been as systematic as Woodward's research some patterns are beginning to emerge. These patterns suggest that CIM is associated with greater emphasis on team work, decentralized decision making, a smaller span of control, highly skilled workers and an overall organic structure. (Daft, 1989, Hull et al, 1987). (See section C below) .

Moreover, Merchant (1984) has indicated a positive association between the degree of automation in the production process and the formality of budget systems use. Automation is one of the major characteristics of the new manufacturing technology.

Nevertheless, both Perrow and Woodward point to the importance of routine versus non-routine technology as a determinant of organizational structure. Woodward's

typology, however, focused on manufacturing industries while Perrow's typology is broad enough to include all types of organizations. For the purpose of this study we have used Woodward's typology because the firms in the sample are manufacturing. However, for the purpose of a match design we do not have to be unduly concerned about the definition of technology since we are only concerned to observe the matched companies are using the same technology.

(iii) *Organization structure*

Structures provide the framework within which an organization functions. They are the systems - formal or informal - of an organization.

- (a) The basic structure of an organization involves the central issues of how the organization should be segmented (differentiated) and how it should be integrated to accomplish the organizations basic goals and objectives. The required differentiation depends upon the type of the environment. In general the amount of differentiation needed increases as the environment becomes more uncertain. The term differentiation refers to the extent to which differences in formal structure exist between subunits. This term was first used by Lawrence and Lorsch (1967). They also found in their empirical research that the most successful firms that in terms of the commercial success were those which achieved the required differentiation and were then able to integrate the diverse units. Therefore, achieving the precise balance of differentiation and integration is critical to organizational performance. Watson and Baumler (1975) related the concepts of differentiation and integration to management accounting. They propose that accounting systems enhance differentiation by treating subunits as separate units responsible for cost, profits, investments, or even revenues. This is the basic idea of responsibility accounting. But it does not guarantee separability

without the use of standard costing. On the other hand there is no doubt that accounting has a role to play as an integrative device between sub-units. For example, setting of transfer prices.

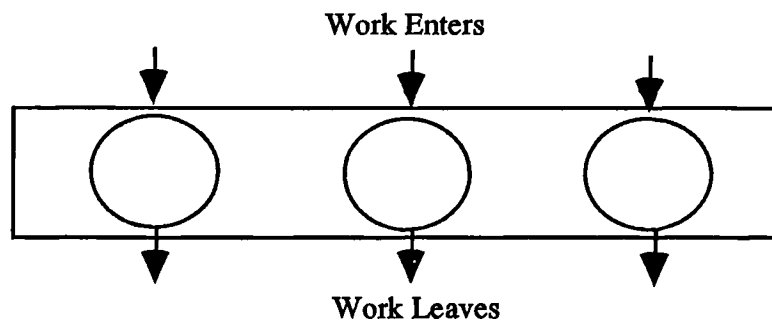
- (b) Another aspect of organizational structure which is equally important is the type of interdependency existing between the subunits. Thompson (1967) suggested that task dependencies would have an effect on how one might want to structure an organization. Thompson argued that, the organizational structure and form of coordination depend upon the internal interdependence of the organization. He defined three types of interdependence that are widespread in the modern organization:

1. Pooled
2. Sequential
3. Reciprocal

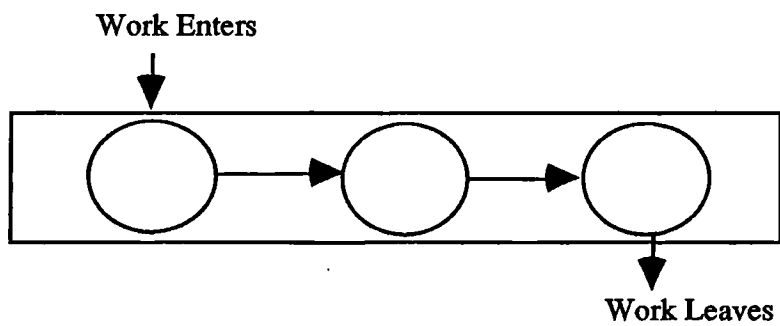
The first is pooled with each part not necessarily directly dependent upon and supportive of the other parts, but supportive of the organization as a whole. McDonald's restaurants or branch banks are examples of pooled interdependence. The connection between branches is that they share financial resources from a common pool. Thompson argued that managers should use rules and procedures to standardize activities.

Figure 3.3 Thomson's measure of interdependency

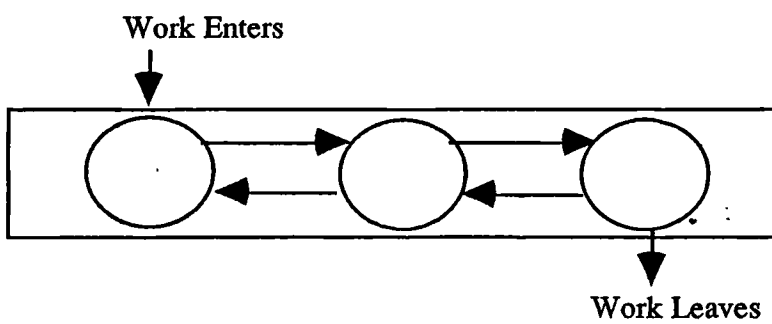
Pooled



Sequential



Reciprocal



Sequential interdependence is the second type. One part of the organization produces outputs which become inputs for another part. This is direct interdependence with a specific order of interrelationship. Coordination in this type of interdependence is required. Extensive planning and scheduling are generally needed because plant B needs to know what to expect from plant A so both can perform effectively. An example of this include the typical assembly line in a manufacturing organization. We can solve this problem with either a pricing solution or a quantity solution. Each has its costs. By introducing quantity planning, autonomy is lost. The subunit is presumably created to take advantage of some of the properties of decentralization such as local information and flexibility of response. With a pricing solution for internal planning, ie. a set of transfer prices, autonomy is not lost but goal congruence may become a problem as subunits attempt to create "managerial slack".

The third type of interdependence described by Thompson is reciprocal where the outputs of each become inputs for the others. This is also inclusive of pooled and sequential interdependence as there is also a pooled aspect to sequential. Coordination in this type is considered as the most difficult of all. Extensive planning is required, but plans will not anticipate or solve all problems. Daily interaction and mutual adjustment among departments are required. An example of this is hospitals. Empirical studies in management accounting indicated that organizational interdependence is important when designing management accounting systems. (eg Chenhall and Morris 1986, Macintosh and Daft 1987). See Chapter 8. An obvious example in management accounting is that of reciprocal cost allocation but the evidence is that such schemes are not used in practice.

The instrument developed and validated by Van de Ven et al (1980) is the measurement which we will use in our study. (See Figure 3.3). This instrument is based on Thompson typology and has been used by researchers in accounting such as Macintosh et al (1987).

- (c) Another response to environmental uncertainty is the amount of formal structure and control imposed on employees. Burns and Stalker (1961) conducted one of the earliest studies of this nature. They observed that when the external environment was stable the internal organization was characterized by rules, procedures and a clear hierarchy of authority. Organizations were formalized and also centralized, with most decisions made at the top. They called this a mechanistic organization system. One could argue that this type of organization is suitable for strict budgetary controls. In rapidly changing environments, however, the internal organization, was much looser, free flowing and adaptive. Rules and regulations often were not written down, or if written down were ignored. Decision authority was decentralized. Burns and Stalker used the term organic to characterize this type of management structure. Field studies by Duncan (1972), Khandwalla (1972) and more recently by researchers in accounting (eg Gordon and Narayanan, 1984) found that increased perceived uncertainty was correlated with less mechanistic structures. However, environment is not the only factor. Other factors such as size technology and the like have been considered to have an effect on organization structure.

Notwithstanding, the literature of organization theory is replete with summaries of studies concerning with the effect of environment and other contingent factors on the organization structure. Here we are concerned with the effect of organization structure on the accounting system.

In the literature of management accounting, the formal structure of the organization is considered as one of the most important aspects of internal context that influences the design of management accounting (Chenhall et al, 1981) . (The literature concerned with the effect of the organization structure on the management accounting systems will be considered in Chapter 8).

Nevertheless, this factor could be operationalized as follows:

1. With respect to the amount of differentiation in the participating companies, we will ask the chief executives about their organizational chart and discuss with them the extent of differentiation. Our discussion will include the number of job titles or departments, the number of hierarchical levels, the number of divisions and so on.
2. With regard to the amount of formal structure and control imposed on the employees, it was viewed in terms of Burns and Stalker's (1961) notion of mechanistic and organic. (See Khandwall, 1977 and Gordon and Narayanan, 1984). Our questions to the chief executives will be about the degree of centralization, and formalization of authority.
3. The interdependency was viewed in terms of (Thompson, 1967). The instrument developed and validated by Van de Ven et al (1980) is the measurement of the interdependency that we have used in this study. (See Figure 3.3 above)

(iv) Organizational Goals

All organizations, whether they operate in the private or the public sector, exist in order to achieve one or more objectives. The starting point for the process of management consists of setting the overall aims and objectives. The precise way in which these are determined depends very much on the nature of the organization. For a typical private sector organization, the folklore of economic theory has led to profit maximization or shareholder wealth maximization being frequently suggested as the fundamental goals to be pursued. Economics offers a number of arguments for this objective but a primary one is that organizations which do not maximize profit will be driven out by competition. The difficulty with these arguments and this one in particular is that they are incomplete; there is no focus upon the process by which this comes about. It is therefore, feasible to address other goals. For example, other goals are to provide employment stability, to increase market share, to reduce risk and so on. This factor could be operationalized by simply providing a list of goals and objectives to the chief executives and ask them to select the three most important goals to their companies.

(v) *Age and Ownership*

The age of organizations, is also considered as a contingent factor in the literature of organization theory. For example, Khandwalla (1977) differentiated between old organizations founded 60 years ago or more and middle-aged organization which have been founded between 40 and 60 years ago. The youthful organizations in his sample were founded, in general between 5 and 20 years ago. He indicated that as the organization grows older, it tends to get more conservative more risk averse and more structured (particularly in their formalized procedures). Earlier, Inkson et al, (1970) indicated a similar phenomenon that the older an organization is, the more

formalized its management activities. Therefore, one could argue that old organization which tend to be more formalized will rely less on informal methods of control and decision making such as direct personal contact and personal observation etc. and rely more on formal control systems including accounting control.

Nevertheless, the age of the participating companies is not expected to have any effect because the majority of the participating companies are new. In operationalizing this factor we will simply ask top level managers about the age of their companies.

A more important factor is the ownership of the organization. One of our primary aims in this research is to look at the similarities and differences in management accounting practices between the Saudi owned and managed companies and the joint venture companies in a detailed fashion. The differentiation between the participating companies implies the importance of ownership. Implicit in the rationale for doing this research is that ownership will explain to a large degree any differences found between management accounting practices. The ownership of western companies (USA, UK) is assumed to affect the degree of the application of western management and accounting techniques in developing countries.

(vi) Environment

There are at least two strands to the literature on environment. There is a body of literature established by those working in the area of international accounting and comparative management and a body of the literature established by those authors working in the area of contingency theory.

Since the 1960's writers in the first field considered the external environment to be the main reason behind the differences between management and accounting

practices, in different countries. They analysed the external environment in terms of its legal, economic, political, educational and cultural components. Representatives of this body of literature are Farmer and Richman (1965), Negandhi and Prasad (1970), Mueller, (1967), (1968), American Accounting Association (AAA) (1976), Horovitz (1980), Hofstede (1980, 1984), and Choi and Mueller (1984).

The second strand which investigated the relationship between organizations and its environment is known as "contingency theory". In this theory the term "environment" has been defined differently by different scholars. Placid/turbulent (Emery and Trist, 1965) stable/unstable and homogeneous/heterogeneous (Thompson, 1967), simple/complex and static/dynamic (Duncan, 1972) represent just a sampling. Underlying these conditions is a simpler characterisation based on the degree of certainty or uncertainty involved, stable, simple and static dimensions are frequently treated as synonymous with a certain environment whilst dynamic, complex and unstable are taken to mean an uncertain environment (Dent et al 1987). Therefore, the environment can be characterised in terms of a certainty - uncertainty continuum. In general, the environment is most difficult to deal with when extreme uncertainty exists and least difficult to deal with when it can be characterized as certain or well defined.

In addition to the argument stated above regarding the different definitions of the organizational environment, critics of organizational theory pointed out that the organization is not totally passive in its relationship with the environment. However, the supporters of contingency theory reply that an organization does not directly change its environment, but only rearranges its resources to influence the environment.

The main thesis of this theory is that environmental contingencies dictate structure; the better the fit between an organizational structure and its environment, the more

successful the organization will be. [Examples are (Burns and Stalker , 1961), (Lawrence and Lorsch,1967) and (Duncan, 1972)].

In our study however, we have considered the argument which was raised in both bodies of literature regarding the external environment. In regard to the nature of the Saudi economy in general it is a market economy with considerable government intervention. In recognition of this in analyzing the external environment our analysis is based on the following steps:

Firstly, with respect to the argument raised in the literature of the contingency theory we have taken the uncertainty of the environment to mean the unpredictability of the actions of customers, suppliers (material, labour, and capital) and competitors which was used by researchers in management accounting such as Govindarajan, (1984) Thus we have uncertainty on both the input and out put dimensions of Saudi business.

It is important to appreciate that all the participating companies have labour as a minor input, material is cheaply available and the financing of capital expenditure is subsidized by the government. Therefore, for the purpose of this study we have considered the supply of labour, material and capital as invariable factors.

On the output side, competition is a factor which might contribute to an uncertain environment. Khandwalla (1972) for example examined the effect of competition, that faced the organization on the use of management controls. He concluded that the higher the level of competition faced, the greater was the sophistication of management accounting controls used. For the purpose of this study we have asked top level managers regarding the extent of the competition they face.

Secondly, in analyzing the external environment in terms of its legal, economic political, educational and cultural components, we must emphasize the fact that all the participating companies are in one country. The following section will provide the definition and operationalization of these factors.

3.5.4 The nature of the developing country's environment:

Although this comparative study was conducted in one country where it is possible to control for some factors such as economics, it seems important to appreciate the nature of the economic environment of the country. We will answer questions such as: Is it a free economy? To what extent does it rely on the industrial sectors? and so forth. In addition, Saudi Arabia is known to the world as a rich country, whether the strength of its economy has any relationship with management accounting practice in the participating companies? This will be discussed in Chapter 9. Therefore, we can say that we did not totally ignore economics as a factor because of its strong relationship to accounting. In addition a general overview regarding the political and legal factors will be provided in Chapter 9. However, drawing on literature from accounting in developing countries the definition and operationalization of the social and cultural factors and education will be presented in this section as follow.

(a) Social and Cultural Factors

It is worth mentioning here that our focus in this research is not on the notion of organizational culture but rather on the national or social culture. The notion of social culture is the set of norms and values which the managers and workers bring to the job, rather than the norms and values which the management and/or workers develop in their work environment. We should appreciate that organizational culture and social culture are not separable variables.

By differentiating developed and developing countries along cultural lines one can say that there seem to be identifiable differences between them. For example the western developed countries are highly individualistically oriented while the developing countries are highly collectivistically oriented. (Hofstede 1983) This may have implications for how the system of responsibility accounting is operationalized in different countries.

Some writers in management in developing countries considered the notion of social culture as the major factor behind all management problems in developing countries. They believe that western management theories and techniques are culturally inappropriate. For example, Jaeger (1990) argued that western management theories and techniques have been imported by developing countries to speed up their industrial development. He argued that the uncritical use of these theories and techniques has contributed to organizational inefficiency and ineffectiveness in the developing countries. But many others consider it as one factor among other factors and could be added to the growing list of contingency variables, (Brownell, 1987). However, the research on the impact of national culture on control systems design is evidently at a very early stage, but it is of evident importance. Recent years have witnessed increasing attention to such a concept. (eg Birnberg et al 1988 and Chow et al 1991).

In operationalizing this factor we will consult western managers and accountants regarding what have been highlighted in the literature in respect of the national culture and its impact on management accounting systems. Whether they think that the social culture has any effect on the system they brought with them to Saudi, or whether they have considered this factor when they design the management accounting systems. These types of questions and discussions with western managers

and accountants might throw considerable light on the differences in management accounting practice.

(b) Education

The deficiencies in accounting education and training in developing countries are considered by many writers as one of the major reasons behind the deficiencies in accounting practice in general and management accounting in particular. For example Scott et al (1980) conducted a study which they claim to be the first comprehensive and systematic analysis of international accounting problems. They indicated that the failure of developing countries in utilizing accounting information adequately for internal management purposes is due to the lack of accounting education and training for both managers and accountants concerning the nature and role of accounting information for managerial functions.

This argument and many others regarding accounting education in developing countries is a clear indication of its importance as an influential factor. This important factor could be operationalized as follows:

1. A direct question will be asked regarding the accounting education and experience for both managers and accountants.
2. The opinion of western managers and accountants will be solicited regarding the quality of the Saudi accountants who are working with them. And what do they think of their accounting education.
- 3) We also need to shed some light on the accounting education in Saudi Arabia.

3.5.5 Management Philosophy

We indicated earlier that old organizations may tend to be more conservative more risk averse and more structured. However, this type of behaviour and others in the literature of organization theory are more linked to top management philosophy than to any other factors such as age, size etc. Organizational age, size and type of business are considered to have an influence on management style, (Khandwalla, 1977) . This argument lead us to the interrelationship among contextual variables which is beyond the scope of this research. This is due to the fact that the interrelationship among contextual variables are very complex and considered as the main reason behind the scarcity of the empirical research in the contingency theory of management accounting (Chenhall et al, 1986).

Nevertheless, the effect of management style on control has been examined by various researchers. For example, Camman et al (1976) examined the need for congruence between control systems and management style. They first stated the following premises:

First, control systems influence the way organization members behave on the job by putting more time and effort on those areas subject to control. Second, how, members respond to control systems depends largely on the way managers use the systems. Third, managers adopt different styles of control. Therefore, there is a need for managers to choose an appropriate control style. They presented three major control styles, they are, the external - control style, the internal motivation - control style and the mixed - control style (See Chapter 7).

Hopwood (1972) identified three styles of evaluation based on three distinct ways of using budgetary information in the evaluation of managerial performance. They are:

- 1) the "budget - constrained" style of evaluation where the subordinate's

performance is primarily evaluated based upon his ability to continually meet the budget on a short term basis; 2) the "profit conscious" style where the superior does not rely solely on budget data in evaluating the subordinate's performance but uses those data in a rather flexible manner; 3) the "non accounting" style where budget data play a relatively unimportant part in the superior's evaluation of the subordinate's performance.

Gordon and Miller (1976) combine the idea of uncertainty with that of differences in management style in developing a model of control systems. They describe types of organizations based on the styles of their managers: 1) the adaptive firm which is successful because it adopts its organization structure and its management control process to its environment; 2) the running blind firm, which attempts to react to uncertainties by intuitive judgements rather than by an analysis based on good information and which is generally unsuccessful; and 3) the stagnant bureaucracy which is unsuccessful because it doesn't respond to changes in its environment. However, this classification seems simplistic.

Recently, Umapathy (1987) argued that the top management beliefs and values are reflected in the design and use of budgeting, and budget meetings are frequently used by the top management to communicate and reinforce these beliefs.

In this study we have concentrated on two elements of management philosophy. One of which is that managers differ as to the relative importance they attach to financial and quantitative devices contrasted with nonfinancial and qualitative devices. This element is based on the assumption that some managers are "numbers-oriented" (Anthony, 1988) or as Sathe (1982) stated "financially-oriented", while other managers are not. Under this assumption one would expect that the managers who are "numbers oriented" would rely on financial information and analysis and emphasizes financial control in their approach to management .

The other element of management philosophy is concerned with the assumptions or views of top management regarding the design and the use of the budget. Therefore, the management style as a factor in this study is operationalized as follows:

- (i) By measuring the relative importance placed by top management on various organizational devices in controlling their companies. This could be done by simply asking chief executives about the relative importance they place on various financial and non-financial measures.
- (ii) With respect to budget the top management philosophy has several dimensions, for example: top down and bottom up as one dimension. The controllers of the participating firms will be asked about the extent of participation, the use of non-financial budgetary targets, the emphasis placed on quantitative and/or qualitative data, the budget approval and standard specification .

CHAPTER FOUR

Methodology of the Research

4.1 Research Design and Data Analysis

The design of research in management accounting can take several forms. Research can be either normative or positive or be theory based or practice. At the empirical level research can be either statistical - for example regression on large sample or based upon a case study. The case study approach can itself either be a single indepth investigation or to facilitate a comparative analysis be based on several structured questionnaires.

Statistical analysis can be performed on a sample of data where this may be cross section (for example, across several companies) or time series (on a company overtime). The techniques of estimating parameters depend heavily upon the stationarity of the stochastic variables and the ability to control for systematic effects. The position adopted here is that the results to be inferred from a study based on a large scale mailed questionnaire are not likely to be valid because the assumption of independent observations from a single underlying population is violated (Appleyard et al 1991).

Furthermore, the exercise would not facilitate as closer investigation of any observed differences in management accounting practices. This leads to rejecting the statistical approach for investigating the research problem, and the adoption of the structured questionnaire approach.

It has been admitted in the literature of management accounting that management accounting practices can only be described and understood within the context of

actual ongoing organization. Kaplan (1986) for example, stated that, cost accounting and management control procedure function in complex organization settings. He emphasizes that the initial effort to observe and describe management accounting practices must capture the richness of the organizational environment.

This indicates the fact that the main purpose is not only to document the existence or non-existence of practices but also to confirm how and why certain practices have or have not been implemented (Kaplan, 1986). Therefore, the focus is on the understanding of the context within which the accounting system is functioning.

This interest was initially prompted by a perceived gap between the theory and practice of management accounting (Johnson and Kaplan, 1987, Scapens, 1990). However, the emphasis on understanding the nature of management accounting practice lead us to the argument made by one of the social science researchers (Mohr, 1985) who stated;

"When the aim is understanding , explaining there is a tradeoff between case-study research [with detail diagnosis and process tracing] and large-sample research, typically rendered in correlations and regressions. The former emphasizes understanding how and why X and Y are related, on the average across many subjects."

This argument indicates that case study research is the most appropriate method in studying management accounting practice. Case study research appears to afford the researcher an opportunity to provide a rich description of management accounting practices and an explanation of which factors seem to be more influential. This is highly recognized by management accounting researchers. But this recognition is very recent.

Kaplan (1986) stated that field studies provide a rich research method for the study of management accounting issues. But the question which poses itself is why such rich research method does not already exist. Kaplan points out:

"The omission undoubtedly arises from an impression that field research activities lack legitimacy as scientific research, that scientific activity consists of either deductive reasoning model-building and theory proving, or the statistical analysis of large data bases. With this [model] of scientific activity there is no role for rich description or for testing in relatively few organizations."

The Kaplan argument provides a strong support for both field studies as a research method and qualitative method as a technique for data analysis. This is due to the fact that the ultimate goal of this type of research is to provide a rich description of management accounting practice which is highly needed as a first step in understanding the nature of management accounting practice. In other words management accounting researchers have recognized that there is a lack of knowledge about how accounting functions in actual organizations. At such stage of knowledge a field-based research would be most appropriate to describe management accounting practice in its organizational context and the development of a narrowly stated hypothesis at such stage would be premature and an inadequate method. Moreover a statistical generalisation is also out of the question at such a stage of knowledge.

However, as it appears from the research model, the aim of the study was to provide an in depth study of management accounting systems within its environmental and organizational context to identify the reasons for the differences in the management accounting practices between the participating companies.

In testing associations between the elements of the research model, qualitative analysis proved to be more meaningful than correlation methods and regression in view of the complex interrelationship between the elements of the research model and the small number of companies involved in the study.

Therefore, one could argue that the design of the research, the complex interrelationship between the variables of the model and the sample size were the major determinant in the choice of techniques for analysis.

Nevertheless qualitative analysis has firm backing from the literature. In regard to its nature as a method Walker (1985) stated:

"Analysis of qualitative material is more explicitly interpretative, creative and personal than in quantitative analysis, which is not to say that it should not be equally systematic and careful."

In conclusion, the aim of the study is to compare the management accounting practices between the Saudi owned and managed companies and the joint venture companies. The emphasis of the analysis is on the sophistication of management accounting systems and the managerial use of accounting information. In order to explain why differences occur between the practices of these companies, the analysis must involve the factors that have a potential impact on the management accounting system.

4.2 Contingency Theory and the Specific Control of Systematic Factors

The contingency theory is another approach which has been used in management accounting research for the purpose of explaining existing management accounting practice.

It is concerned with explaining why organizations have adopted a particular accounting system and also explaining the type of accounting system that ought to be operated in a particular set of circumstances. The former approach is descriptive and the later is prescriptive.

In general the management accounting information system is hypothesised to be contingent upon various factors. Observing that management accounting systems are different between companies is simply the result of differences in these factors. For example, companies differing in size will be organized differently (large companies are probably decentralised while small companies will be centralised) and consequently place different demands upon the management accounting system. This study attempts to investigate differences in systems by controlling for some of what are believed to be systematic factors. Specifically an attempt is made to minimize the effect of some of the factors namely, size and technology. Moreover, by conducting this comparative study in one country control is exercised over national environmental factors such as the economic structure political process and the structure of law. The implication of this is that any differences in management accounting systems will be the result of the remaining factors, for example, management philosophy, education, competition etc. This structured interview approach facilitates an investigation of these factors. Such an investigation would not be part of a statistical exercise.

Nevertheless, the complexity of the interrelationship among the contextual variables of the contingency theory seems to be the major reasons behind the scarcity of empirical research (Chenhall et al 1986). In this regard, Otley (1980) argued that the causal relationships among the contextual variables are of much greater interest than association and pointed out that it is unrealistic to expect purely statistical methods of analysis to unravel such complexity. This argument, however, provides

another support for our previous argument regarding the rejection of the statistical approach for investigating the research problem. This is due to the fact that the relationship between the elements of the research model of the study (See Figure 3.2) is a two-way relationship and this is an indication of its complexity.

4.3 Selecting the Industry to Study

To investigate the points raised by this research it was necessary to select a representative sample. As we noticed, the study was mainly concerned with the practice of management accounting in the Saudi owned and managed companies compared to the joint venture companies with the United States and the United Kingdom. This in fact proved to be a major constraining factor influencing the entire sample frame. In addition, Saudi Arabia is a small developing country compared with the United States and the United Kingdom.

The number of its companies is small. One would not expect that there is a need for statistical approach to select and determine a representative sample, particularly when larger firms are preferred. As a matter of fact it was not easy to find a sufficient number of comparable companies for this study.

Nevertheless, in selecting the companies under study the following steps were taken:

1. All the joint venture companies other than Western (USA, UK) companies were excluded.
2. The western joint venture companies that are not comparable with the Saudi owned and managed companies in terms of the size and technology also were excluded.

3. One of the Holland joint venture companies was found to be dominated by British managers and accountants, therefore, we have included it in our sample as a British company. This company became the only British company in the sample.
4. One of the Saudi companies was originally owned by Americans but recently became Saudi owned. However, this company was included in our sample as an American joint venture due to the fact that the American managers and accountants were still dominating this company.

The final choices of the companies under study were found to be in the petrochemical and petroleum industries. However, three large cement firms have been included in the sample basically because their technological complexity and size are very similar to that of the selected companies in the petrochemical and petroleum industries. In addition the number of the Saudi owned and managed companies in the petroleum and petrochemical industries fell short by three companies compared to their joint venture counterparts.

Nevertheless, there were some criteria which were set for selecting the sample. These criteria will be discussed in the following section.

4.3.1 Criteria for sample selection

The aim of this research was to select a pair of matched samples such that several factors were controlled for in the evaluation. This led to the following criteria :-

1. To select companies in the same size category as possible to avoid differences in the practice of management accounting known to result from firm size. In

addition large firms were preferred to smaller ones simply because larger firms are expected to be in need of a more sophisticated control system than smaller ones.

2. To select companies with the same technological complexities (same industry for example) to minimize the effect of technology on the management accounting practice which might cause the differences.
3. A sufficient number of companies to reflect the general pattern of practice.
4. To choose a sample which was economically important in the context of the Saudi economy . This would indicate to some extent the degree of importance attached to accounting in Saudi Arabia.
5. Geographically dispersed throughout Saudi Arabia. This may help in testing different types of experience and competence of Saudi managers and accountants.

4.4 Data Collection

4.4.1 Persons interviewed

To answer the research question it was decided that it would be necessary to interview if possible four people in each firm:

1. The chief executive
2. The controller
3. One top manager responsible for production
4. One top manager responsible for marketing

However, some of the firms did not have a marketing department and in most cases where there was a marketing department it was referred to as a sales department. The controller in many of the participating companies was the financial director .

All the interviews were conducted by the researcher himself and it was made very clear that the purpose was purely academic and that strict confidentiality would be observed in not divulging individual response nor personal matters. Respondents were, furthermore encouraged to refuse to answer any question which they considered sensitive or secretive.

4.4.2 Data collection instrument

The concern in the light of data collection is to decide how best to address the research questions, given constraints of time and cost, as well as the need to demonstrate that the data was properly collected and that the analysis was appropriate and had sufficient depth.

The social sciences literature abounds with several relevant methods for empirical investigations which researchers in management and accounting field studies have employed over the years.

The most common of these fall under the following: personal interviews, observation and postal surveys.

A structured interview was the main approach adopted for this study, although observations, in general and in a "non-technical" sense were always made to complement direct questioning. The reason for choosing the approach adopted and for the rejection of the others are discussed below,

The technical use of observation methods has been advocated in the literature of management accounting (Kaplan, 1986, Otley 1980). For example, Otley (1980) stated that the careful observation of the operation of organizational control systems over a period of time is an appropriate method. However, the technical use of observation methods notably direct and participant observation would have necessitated an intensive study over several months. This is out of the question due to the fact that the constraints on time for a doctoral research render such an approach for the present research extremely difficult.

A further factor mitigating against observation methods related to the difficulty of witnessing as well as analysing the various influences and interactions particularly when the interrelationship between the variables are as complex as those of the research model of this study.

The reason for not choosing a postal survey was simply because researchers in the field of management accounting have realised that surveys can give only a very superficial view of management accounting practice. (Scapens, 1990). Such an approach is one way of collecting data for a statistical analysis of the problems. However, this form of analysis has been rejected. (See Section 4.2)

Therefore, it is believed that a structured interview technique with observation in a general sense were the most appropriate method in the light of the prevailing conditions.

Some of the instruments used to measure some of the variables of the research model were adopted from previously validated sources. (eg. Van de Ven et al, 1980, Khandwalla 1977, Gordon et al 1984, Umapathy 1987).

The interview schedule contains open-ended questions and structured questions. They were written in English and translated into Arabic by the researcher himself. This served to mitigate any problems arising from interpretation as the translation was made.

4.4.3 The main interview phase

As we indicated earlier in Section 4.5.2, a structured interview was the main approach for this study with observations, in general as a complement.

The complete questionnaire and interview guidelines to the respondents are included in Appendix B. They consist of three component parts, the first part was directed to the controllers, the second part was directed to production and marketing top managers and the third part was directed to the Chief Executives. Each of the three parts is different from the others. The interview process starts with contacting the public relation departments of the participating companies or sometimes the controllers departments. An explanation of the nature of the study and the involvement required was discussed with the controllers or chief executives. The questionnaire consisting of the three parts was handed to the controllers or chief executives and a commitment to discuss them together with all the participants individually was obtained at this point. An appointment was subsequently arranged so that the respondents would have time to make a considered reply.

The questions asked to the controllers dealt mainly with management accounting techniques and included:

1. The nature and extent of use of management accounting techniques which include budgeting systems, cost accounting systems, capital expenditure

models, quantitative techniques, and the like, to investigate the importance accorded to the internal accounting function.

2. The design and the use of the budget where the controllers would be asked about the extent of participation in budgeting, the use of non-financial budgetary targets, the budget approval and standard specification etc.
3. Their view of the relative importance top management places on a number of financial and nonfinancial devices in managing their companies.
4. Western accountants will be asked about the standard of accounting education in Saudi and their views of the impact of social and cultural factors on the application of the imported western management and accounting techniques. Whether they consider any of these factors when they design their accounting and control systems.

The questions asked of production and marketing managers were identical . They dealt mainly with the managerial use of accounting information in decision making:

1. Their view of the financial reports they receive and the use of accounting data for performance evaluation, attention directing and problem solving.
2. The extent of involvement of the controllers in a number of decisions to find out the role of the controller in the management of their companies.

The questions asked to the Chief Executives dealt mainly with organization structure and the managerial use of accounting information:

1. Their view of the degree of centralization and formalization of authority, the amount of differentiation and the type of interdependency existing between the subunits in their organizations.
2. Their view of the accounting reports they receive and the extent of usage of accounting information in decision making.
3. The degree of importance they attach to various financial and nonfinancial devices in managing their companies.
4. Their formal accounting education and their view of the role of controllers in decision making and control.
5. Western top managers will be asked about Saudi Arabian's accounting education and their view of the social and cultural factors and the application of western management and accounting techniques in such an environment.

Some of the questions asked to the managers regarding their managerial use of accounting information were also asked to the controller. Asking the same questions would act as a cross check on the views and responses of the controller and indeed of the production and marketing managers. It may be that the controller focuses upon financial measures of performance and the formal channels of communication while the managers (who receive the reports) focus upon non-financial measures or make use of informal channels of communication.

4.5 Structure of the Thesis

The thesis is presented in three identifiable parts. The first part of the thesis (Chapters 1, 2, 3, 4) has offered some perspective on the background characteristics

of the research. Chapter (1) began by providing a general overview of the importance of management accounting to the economic development of a country and compared its role with financial accounting. Chapter (2), contained a general overview of the literature of management accounting in developing countries, the recent argument regarding the gap between theory and practice in developed countries and management accounting in the new manufacturing environment. Chapters (3) and (4) contained the general research methodology and the research model with definition and operationalization of variables.

The second part is concerned with the quality of management accounting systems and the role of accountants and accounting information in internal decision making and control . This part starts in Chapter (5) which provides a description of the management accounting techniques namely, budgeting systems, standard costing, performance measurement quantitative techniques etc. The aim of this chapter is to describe the application of such techniques and to provide the similarities and differences between the Saudi owned and managed companies and the joint venture companies.

Chapter (6) is also descriptive. In this chapter the emphasis will be placed on describing the role of controllers in decision making and control and how the techniques are used in both the Saudi owned and managed companies and the joint venture companies.

In addition, the managerial use of accounting data in planning and control will be discussed. These two chapters of this part should give a clear picture of the state of the art of the application of management accounting practices in the participating companies and the differences (if any) in the practices will be shown.

The third part is concerned with the relationships between the variables presented in the research model (See Figure 3.2). It sets out to provide an explanation of the reasons behind the differences in management accounting practices between the participating companies. This part starts in Chapter (7) by examining the dimensions of the top management philosophy in relation to the extent of the application of management accounting techniques and the managerial use of accounting information. Chapter (8) is concerned with the organizational and environmental factors that have been considered to influence the degree of sophistication of management accounting information systems. Chapter (9) contains the national environmental factors, namely economic, social and cultural, educational etc. The purpose of exploring such factors is because this study is conducted in a developing country where the national environment of developing countries is claimed to have an effect on the application of western management and accounting techniques. Nevertheless, by conducting this comparative study in one country control is exercised over some of the national environmental factors such as the economic and political structure.

Lastly but not least a summary of the principal findings of the study and a conclusion will be presented in Chapter (10). A discussion of the limitations of the study will also be offered with suggestions made of how this type of research can be carried forward.

PART II :- Accounting and Management Control Technology

**Chapter 5. The Degree of Sophistication of Management
Accounting Techniques .**

Chapter 6 .The Role of The Controllershship Function .

CHAPTER FIVE

THE DEGREE OF SOPHISTICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

5.1 Introduction

As organizations grow in size and complexity top management find themselves unable to make all the decisions. In such circumstances authority for certain types of decision making is delegated to subordinate managers.

The delegation of authority creates the need for control of the subordinate. Top managers like to follow up their subordinates to ensure that their orders are carried out properly, therefore the presence of an effective information system is essential to ensure that subordinates or sub-units of the firm function consistently with the general objectives of the enterprise. Haimann et al (1978) emphasized this point when he stated that organizations must have systems for information processing. These systems provide managers with information that helps them make decisions about their external environment and internal organizational processes. The accounting system is considered by many to be the major system which records and provides information for control as well as planning purposes, for example, Anthony (1965) stated:

"With rare exceptions, the management control system is built around a financial structure."

This chapter will be concerned with the quality of the management accounting information system in the Saudi owned and managed enterprises and the joint venture enterprises. It will be primarily descriptive with an explanation of why such differences occur between the companies surveyed dealt with in more detail in

Chapters 7-9. No attempt is made to match companies at this stage to control for production, marketing and organizational factors.

5.2 Budgeting Systems

Budgeting is an essential phase of managing the activities of any type of organization. Budgeting is the only activity that regularly brings together managers from different functional areas and hierarchical levels. It serves the dual functions of planning and control. Budgetary planning is the process of preparing a detailed short term plan for the functions, activities and departments of the organization for a time span of usually one year.

Table 5.1 shows that all the companies which participated in this study indicated that they prepare budgets for all major activities such as sales, production , capital expenditure, profit, cash flow, for a period of one year. The purchasing budget is the one most often neglected by both joint venture enterprises and Saudi-owned and managed enterprises. Nine of the surveyed companies do not prepare purchasing budgets, (five of the joint venture enterprises and four of the Saudi-owned and managed enterprises). It is interesting that of the four Saudi owned and managed companies , companies 7, 8 and 9 are cement companies . However , there would appear to be no systematic reason for the omission of purchasing budgets in these companies.

5.2.1 Budget Revisions

One of the principal considerations in budget administration is the procedure for revising a budget after it has been approved . During the budget year the actual performance of budget should be evaluated periodically and the company's future

Table 5.1
Areas of Budgets Prepared

Budgets	Sale	Production	Profit	Capital	Purchasing	Cash	Administration
Companies							
Joint Venture Enterprises							
Company 1	*	*	*	*	*	*	*
Company 2	*	*	*	*	*	*	*
Company 3	*	*	*	*		*	*
Company 4	*	*	*	*	*	*	*
Company 5	*	*	*	*		*	*
Company 6	*	*	*	*	*	*	*
Company 7	*	*	*	*		*	*
Company 8	*	*	*	*		*	*
Company 9	*	*	*	*		*	*

Saudi owned and managed Enterprises	Sale	Production	Profit	Capital	Purchasing	Cash	Administration
Company 1	*	*	*	*	*	*	*
Company 2	*	*	*	*	*	*	*
Company 3	*	*	*	*	*	*	*
Company 4	*	*	*	*	*	*	*
Company 5	*	*	*	*	*	*	*
Company 6	*	*	*	*		*	*
Company 7	*	*	*	*		*	*
Company 8	*	*	*	*		*	*
Company 9	*	*	*	*		*	*

plans reappraised . Clearly this idea of budget revision cannot take place without a control function . Most of the evidence available suggests annual budgeting with monthly or quarterly reporting . Thus it is conceivable that budgets could be revised every month or quarter as the evidence collected in the monthly or quarterly control reports is evaluated with respect to the remaining part of the annual budget . The systematic updating of the budget obviously requires extra work . However , a computerised cost information system would enable companies to collect detailed information about actual cost more quickly for comparison which in turn facilitates budget revisions . The result of the surveyed companies indicated that one of the joint venture companies revises its budget on a monthly basis , four on a quarterly basis and one on a semi-annually basis . On the other hand , one of the Saudi owned and managed companies revises its budget quarterly and another one semi-annually . It is difficult to draw definite conclusions on such small samples but the evidence is indicative of the general differential in the managerial use of management accounting information . Furthermore , this evidence is consistent with previous evidence on the lack of budget revision Lyall et. al . (1990) .

5.2.2 Control Reports

Budgeting does not stop with planning. In order to ensure that plans are correctly implemented, that stated targets are reached and that information is available to aid future planning, actual performance must be regularly reported and monitored, by comparison with expected performance. This is commonly known as the control process of the budget.

Collected data concerning the types of control reports prepared by the companies surveyed indicated that joint venture enterprises prepare control reports for all

activities of the budgets prepared. The frequency of preparing those reports is monthly, except one firm which prepares control reports quarterly.

Surprisingly one of the Saudi owned and managed companies do not prepare control reports at all. However, the rest of the Saudi companies indicated that they prepare control reports quarterly, except one company which indicated that the preparation of those reports is monthly.

Nevertheless, budget reports highlight the variances between plans and actual operations and the investigation of these variances is an important aspect of cost control. The investigation of variances is costly however, and the management accounting system will be more efficient if variance investigation is restricted to significant, controllable variances.

The results of the survey indicate that all the joint venture companies based their investigation of variances on a limited percentage or absolute amount and none of these companies were found to investigate all the variances.

With respect to the Saudi owned and managed companies it was found that three of the eight companies who prepare control reports, do not seem to pay any attention to the investigation of variances. The control reports of these three companies are two to three months late. In one of the remaining five companies all the variances are claimed to be investigated and in the rest the investigation of the variances is based on a limited percentage. The less emphasis placed on the investigation of variances in four of the nine Saudi owned and managed companies is a clear indication of the less importance attached to the budget as a managerial tool.

Written explanation of the causes of deviations and a discussion of deviations with immediate superiors are the most popular approaches used in dealing with significant variances in the majority of the joint venture companies.

Also written explanation of the causes of deviations was found to be popular in the Saudi owned and managed companies which indicated that they investigate variances . Oral discussions were found to be a popular approach in some of these companies . Only one company indicated that a discussion of deviations with an immediate superior is considered .

Finally, as Table 5.1 shows, a profit budget is prepared by all companies surveyed. Cost-volume-profit analysis is among the most useful techniques for planning profit strategies. It is used to evaluate how costs and profits are affected by changes in the level of business activities and is relevant to the application of a flexible budget . All joint venture enterprises reported the use of cost volume profit analysis. Only four of the nine Saudi-owned and managed enterprises reported the use of cost volume profit analysis . It will be shown later that for those companies using cost -volume-profit analysis for planning they typically fail to carry this through into costing systems . That is they use absorption costing rather than variable costing . This evidence is consistent with the situation in western economies .

5..2.3 Flexible Budget

A flexible budget is a budget that is adjusted for changes in sales volume. The use of a flexible budget is strongly advocated in most of the management accounting texts. Indeed the standard definitions of variances are based upon its use . It is expected to be used by all companies which use budgets for performance evaluation of managers and their responsibility centres . The result of the surveyed companies indicated that none of the respondents used flexible budgets. However, the general feeling that was gathered from the data collected indicates that most of the

participating companies apply the ideas of the flexible budget. This result is to some extent similar to the situation in the United Kingdom where the result of research indicates a remarkable low level of use of the flexible budget. This led Drury et al (1992) to state that:

"....careful scrutiny of company systems might reveal that flexible budgets are not formally and routinely prepared the ideas of flexible budgeting might still be employed".

Drury et al also indicated that the application of flexible budgeting and its usefulness may appear to be a fruitful area for future research . It is clear that there is no regular explicit calculation of a flexible budget rather it is implicit in the calculation of variances and their use in responsibility accounting . It is interesting that the idea of a flexible budget is used in practice but that there is no level of awareness of its application .

5.3 Standard Costing and Variance Analysis

A standard cost accounting system develops expected costs for material, labour, and overhead and then uses these standards as a basis for building budgets and for flowing the costs through the various stages of the manufacturing process. The standard costs are compared to actual costs and any differences or variances are analysed in the control reports .

Surprisingly, the result of the surveyed companies indicated that only two of the nine joint venture enterprises reported that they have got some aspect of the standard costing system. Both of them have standard material cost but only one reported that they develop standard allocation rates for overhead expenses. None of them developed standard labour cost.

The two companies indicated that their estimation of standard costing is based on experience. Also, surprisingly all the Saudi-owned and managed enterprises indicated that they do not use standard costing.

Standard cost variances operating statements are considered in the accounting literature to be one of the very important accounting control reports. The answer to the question regarding the calculation of variances has indicated the existence of a conflict between the answers, because all the participating companies which indicated the non use of standard costing stated that they calculate variances for material, labour and the like (except four of the Saudi-owned and managed companies). However, some of the participants seem to have realized such conflict. This was recognized by the researcher when some respondents scratched the term standard costs variance used in the questionnaire and replaced it with budget variance. It appears that they emphasise the difference between the terms standard costs and budget costs. A standard provides cost expectations per unit of activity and a budget provides the cost expectation for the total activity. One interpretation is that the calculation of budget variances for material (price, quantity), labour efficiencies and the like is a clear indication of the use of some aspect of a standard costing system. Alternatively, it is conceivable that variance analysis is performed without the aid of an underlying standard costing system. Control reports could be constructed while a normal or actual costing system is employed. This possibility would seem unlikely since it would be costly to reconstruct the budgets for actual levels of activity. It would be easier to operate a standard costing system with the advantage of timely information. It is more plausible to assume some misunderstanding on the part of the respondents which only serves to reinforce the arguments about level of awareness of the operation of a management accounting system. See Chapter Six for further development.

Table 5.2 shows the type of variances computed by the participating companies. As it appears from the table there are slight differences between the joint venture companies and the Saudi-owned and managed companies in the type of variances computed. Eight of the joint venture companies compute material (price and quantity) and five companies compute labour rate variance . This latter result is surprising given the previous evidence that none of the joint venture compute standard labour cost . This again serves to illustrate the ambiguities that arise in responses to questionnaires . It is clear that there is some misunderstanding between the ideas of budget , standards and variances and that these companies in calculating variances must in principle identify a standard as the benchmark from which to measure , which is inconsistent with their previous response .

However, only two companies were found to compute a labour efficiency, one company computed overhead variable and one company computed material mix and yield variance. The overhead fixed expenditure variance was found to be used by two companies and sales variances by three companies.

Only three of the Saudi owned and managed companies use material price variance and only three companies use material quantity variance. Two companies use labour rate and another two companies use labour efficiency. Also, two companies use overhead fixed expenditure and two companies use overhead volume. The sales variances were found to be used by three companies. However , it is not a surprise to find that four of the Saudi owned and managed companies do not compute variances because as indicated earlier in section (5.2.2) that the control reports of three companies are two to three months late and one company do not prepare control reports at all .

Table 5. 2 Type of Variances Computed

Variances Companies	Material Price	Material Usage	Labour Rate	Labour Efficiency	Overhead Variable	Overhead Efficiency	Material Mix and Yield	Overhead fixed Expenditure	Overhead V olume	Sales Variances
Joint Venture Enterprises										
Company 1	*	*						*		
Company 2			*							*
Company 3	*	*	*	*			*			
Company 4	*	*								
Company 5	*	*	*	*	*					*
Company 6	*	*								*
Company 7	*	*	*							
Company 8	*	*	*							
Company 9	*	*								

Saudi Owned and managed Enterprises	Material Price	Material Usage	Labour Rate	Labour Efficiency	Overhead Variable	Overhead Efficiency	Material Mix and Yield	Overhead fixed Expenditure	Overhead V olume	Sales Variances
Company 1			*	*				*	*	*
Company 2									*	*
Company 3	*	*						*		
Company 4	*	*								*
Company 5	*	*	*	*						
Company 6										
Company 7										
Company 8										
Company 9										

5.4 Costing Systems

A recent subject of concern in the management accounting literature has been the claimed mismatch between cost and management accounting systems and the new manufacturing environment . One of the most dramatic pieces of evidence of the new manufacturing environment is the level of automation many companies have implemented. The automated equipment is intended to reduce labour cost. The shift from labour to equipment changes the proportion of the manufacturing costs. Labour decreases, overhead increases. This was true for the participating companies. Collected data concerning the cost structure indicated that manufacturing costs, on average consist of 61% material, 11% direct labour and 28% overhead costs. These percentages indicate that labour is a minor cost as a percentage of total costs. However, Johnson and Kaplan (1987) has argued that one of the problems in traditional costing systems is the prevalence of labour hours/cost as a base for overhead recovery.

Nevertheless, none of the participating firms were found to emphasise the use of labour rate as a base for allocating overhead cost. The labour rate was found to be used as one method among others such as machine hours, engineering hours, rates per barrel, rate per tonne etc. However three of the Saudi-owned and managed companies indicated that they use a single overhead rate (not labour rate) for allocating all the overhead cost. This single overhead rate was found to be prepared by the industrial engineers in the technical departments:

Only one of the Saudi-owned and managed companies and three of the joint venture companies claimed that they use variable costing. The rest of the participating companies indicated that they use absorption costing .

This evidence on absorption costing is perhaps inconsistent with the evidence on the use of the overhead volume variance . With absorption costing under a normal costing approach an overhead volume variance will inevitably arise . It is most unlikely that an actual costing system will be employed for overheads .

The failure to make use of the benefits of variable costing in the participating companies is not surprising due to the fact that this situation exists in the west (UK, USA). (See for example, Johnson and Kaplan, 1987 and Drury et al 1992).

5.5 Performance Measurement

To encourage behaviour which is appropriate to the achievement of organizational goals, performance measures must be constructed which represent the desired levels, and it must be ensured that successful achievement of these performance measures is rewarded. There are a variety of performance measures, some of which are financial while others are non-financial. Non-financial measures include skills in performing the task, behaviours, attendance etc. This section is concerned with financial measures. Financial measures include return on investment and residual income. These two measures are the most popular ones in the management of investment centres or profit centres. In these companies the profit is at the corporate level and although the senior manager may be interested in profits , control is exercised within the company by means of cost centres . It is a cost centre which we are dealing with in the study.

Therefore, those two popular performance measures are not relevant to this study. Moreover, it is important in principle to draw the distinction between the evaluation of the unit and the evaluation of the manager of the unit. The evaluation of the manager is what we are concerned with.

Seven of the nine joint venture enterprises indicated the use of budgets as a factor in the evaluation of an individual manager's performance.

Joint venture enterprises link budgets with physical targets and managers are encouraged to reach those targets with minimum cost. One chief executive commented:

"Our managers and accountants work as a team. Managers consult accountants when it is appropriate to spend more than budgeted for the benefit of our company."

Unfortunately, none of the Saudi-owned and managed enterprises use any financial measure to gauge the performance of managers. Budgets are used as an expenditure control rather than a management control device.

One chief accountant said:

"our problem in this company is overspending. Although we trained all managers in managing their budget they still come to us to ask whether they have exceeded their budget or how much is left to spend."

The role of the budget in the Saudi-owned and managed companies is primarily a forecasting one, assisting management to define and quantify the goals and objectives of the firm.

The managerial use of accounting in the participating companies will be dealt with in great detail in chapter six. At this point we can conclude in detail that only in joint venture enterprises is accounting information used in performance evaluation.

5.6 Capital Budgeting

Capital budgeting refers to the process of evaluating, selecting and scheduling acquisition of long-term assets and of planning the financing of such acquisitions. The controller performs an essential role in collecting and analysing the data and presenting the appraisal. Numerous investment appraisal techniques exist but, however sophisticated, they compare the returns expected with the investment required.

As Table 5.3 shows, joint venture enterprises use more of the capital expenditure techniques than the Saudi owned and managed enterprises. Three of the joint venture enterprises use all the techniques introduced in this study. Two firms use three of them and four use only two.

Saudi owned and managed enterprises mostly use one or two of the capital expenditure techniques. Only one firm uses three of them. The pay-back period is the most popular technique of all. It is used by fourteen of the eighteen companies surveyed, followed by net present value. Accounting rate of return is the least used in all companies surveyed. One of the joint venture enterprises reported that they usually use accounting rate of return on their major projects and payback for smaller projects.

Table 5.3

Capital Expenditure Techniques in Use

Capital Expenditure Techniques Companies	Accounting Rate of Return	Payback Period	Net Present Value	Internal Rate of Return
Joint Venture Enterprises				
Company 1	*	*	*	*
Company 2	*	*	*	*
Company 3		*	*	*
Company 4		*	*	*
Company 5	*			*
Company 6	*	*	*	*
Company 7			*	*
Company 8			*	*
Company 9	*	*		

Saudi Owned and Managed Enterprises	Accounting Rate of Return	Payback Period	Net Present Value	Internal Rate of Return
Company 1		*	*	*
Company 2	*	*		
Company 3		*		
Company 4		*		
Company 5		*		
Company 6		*	*	
Company 7		*		
Company 8		*		
Company 9			*	

5.7 The Internal Audit Function

The objectives of the internal audit department are to safeguard an organization's assets from fraud and theft and to ensure that the organization's records are accurate and adequate, as well as to verify compliance with management policies and procedures and to promote operational efficiency. It is an important element of internal control in organizations.

Surprisingly two of the nine joint venture enterprises do not have an internal audit department . It may be that these companies buy in an internal audit function rather than create their own department . But this turned out not to be the case . One of the controllers in these companies stated that their accounting department assigned one accountant to each department for the purpose of internal audits.

Three of the nine Saudi-owned and managed enterprises do not have an internal audit department. One of the controllers of those companies commented:

"We do not need an internal audit department because we are over-audited. We have an external auditor, a government auditor, a headquarters auditor, etc."

All Saudi-owned and managed enterprises which have got an internal audit department indicated that the only role of the internal audit department is to protect the company's assets and the reliability of accounting and financial reports. None of them mentioned operational efficiency or compliance with established policies. However, one of these companies stated that their internal audit department accomplished special tasks assigned by top management.

On the other hand, only one of the seven joint venture enterprises which have got internal audit departments emphasises the financial audit as the major role of this department. The rest of them stress the operational efficiency and the overall system

of internal control in addition to the financial audit. One of the controllers describes the objective of this department as:

"To be an independent appraisal function within the company and to examine and evaluate the adequacy and effectiveness of the overall system of internal control adopted by management to enhance the achievement of established objectives and goals"

This comment and many others from the controllers of the joint venture enterprises indicates that they consider the operational efficiencies and compliance with established policies as a major role of such a department.

5.8 Quantitative Methods

Quantitative methods are important managerial accounting tools based on mathematical and statistical techniques. The extent of use of quantitative methods varies from company to company, as well as between joint venture enterprises and Saudi owned and managed enterprises. The use of quantitative methods by joint venture enterprises is relatively high. (See Table 5.4)

One of the joint venture enterprises uses five of the quantitative methods introduced in this study. Another three reported the use of four of these quantitative methods. One reported the use of three and two reported the use of two. The most popular quantitative methods in joint venture enterprises are statistical sampling followed by network analysis, and inventory model and followed by linear programming which is used only by three firms.

Unfortunately Saudi-owned and managed enterprises do not use more than one or two of the quantitative methods. Three firms reported the use of two of the quantitative methods and four use only one and two firms do not use any of the

Table 5.4
Quantitative Methods in Use

Technique Companies	Correlation Analysis	Regression	Statistical Sampling	Network Analysis	Linear Programme	Inventory Models
Joint Venture Enterprises						
Company 1		*	*			
Company 2			*	*	*	
Company 3				*		*
Company 4						
Company 5			*	*	*	*
Company 6			*	*	*	*
Company 7	*	*	*	*		*
Company 8	*	*	*			*
Company 9			*			

Saudi Owned and Managed Enterprises	Correlation Analysis	Regression	Statistical Sampling	Network Analysis	Linear Programme	Inventory Models
Company 1						
Company 2		*			*	
Company 3			*			*
Company 4			*		*	
Company 5					*	
Company 6			*			
Company 7			*			
Company 8			*			
Company 9						

quantitative methods. Although this section was treated separately from computerization they are in fact not independent.

5.9 Computerization

The use of the computer for performing financial activities in Saudi-owned and managed enterprises is unexpectedly high. Six of nine companies who participated in this study reported that they have a computing facility and they are utilizing it for many financial activities (See Table 5.5). Only one of those companies reported the use of the computer was only for stock control but they are proposing the use of it for budget accounts in the near future. All the other companies reported the use of the computer facility for financial modelling and spread sheets for budgeting and planning in addition to the payroll and general ledger. Only three of them use it for capital investment and four use it for stock control. None of them use it for credit control or cost behaviour analysis. As Table 5.5 shows all the nine joint venture enterprises have a computer and the scope of financial activities served by the computer are relatively higher than that in Saudi-owned and managed enterprises.

Financial modelling and spread sheets are used by all joint venture enterprises, in addition to payroll and general ledger. Seven of them use the computer facility for capital investment and seven use it for stock control. Only three use it for credit control and only two use it for cost behaviour analysis.

Table 5.5**Financial Activities Performed by Computers**

	Financial Modelling for Budgeting	Spread Sheets for Budgeting	Capital Investment	Stock Control	Credit Control Simulation Models	Cost Behaviour
Joint Venture Enterprises						
Company 1	*	*		*	*	
Company 2	*	*	*	*		
Company 3	*	*	*	*		
Company 4	*	*	*	*		
Company 5	*	*	*			
Company 6	*	*	*	*		
Company 7	*	*	*	*		*
Company 8	*	*	*	*	*	
Company 9	*	*			*	*

Saudi Owned and Managed Companies	Financial Modelling for Budgeting	Spread Sheets for Budgeting	Capital Investment	Stock Control	Credit Control Simulation Models	Cost Behaviour
Company 1	*	*	*	*		
Company 2	*	*	*	*		
Company 3				*		
Company 4	*	*		*		
Company 5	*	*				
Company 6	*	*	*	*		
Company 7						
Company 8						
Company 9						

5.10 Similarities and Differences

All companies which participated in this study prepare annual budgets for all major activities. The least popular budgets are purchasing budgets. The control reports which compare actual with budget are prepared by all companies surveyed except two of the Saudi-owned and managed enterprises. The rest of the Saudi owned and managed enterprises prepare control reports quarterly, except one firm which prepares it monthly. Joint venture enterprises prepare control reports monthly, except one firm which prepares it quarterly.

In spite of the fact that the practices in the Saudi-owned and managed enterprises and the joint venture enterprises vary from company to company, a comparison will highlight the differences in the degree of sophistication and comprehensiveness of the management accounting techniques. Generally speaking, management accounting techniques in joint venture enterprises seem to be more comprehensive and sophisticated than the management accounting system in Saudi-owned and managed enterprises.

1. Only one or two of the quantitative techniques are used by Saudi-owned and managed enterprises, while many of such techniques are used by joint venture enterprises.
2. The low level of usage of quantitative techniques by Saudi-owned and managed enterprises would indicate that the extent of financial activities performed in the computer facility are limited, compared to that of the joint venture enterprises.

3. Only one or two of the capital expenditure techniques are used by Saudi-owned and managed enterprises, while joint venture enterprises use most of the techniques.

4. Cost volume profit analysis is used by all joint venture enterprises while only four of the nine Saudi owned and managed enterprises use it.

5. None of the Saudi-owned and managed enterprises reported the use of accounting information for the performance evaluation of managers, while seven of the joint venture enterprises reported the use of budget as a factor in the evaluation of an individual manager.

6. All Saudi-owned and managed enterprises emphasise financial audit as the major function of the internal audit department. While six of the nine joint venture enterprises emphasise the operational efficiencies and compliance with established policies as a major role of such a department.

7. At first glance , it would appear that not one of the Saudi owned and managed enterprises make use of a standard cost system , while two of the joint venture enterprises use standard cost system . However, in taking a closer look at the data collected, there was a clear indication that all the participating companies implicitly use it except in the case of four of the Saudi-owned and managed companies. Also, this was the case with flexible budgeting where all the participating companies reported that they do not use it, while it was found to be implicitly used by all the companies except the two Saudi-owned and managed companies which do not compute variances.

The main objectives of this study are to examine the similarities and differences in the practice of management accounting between the Saudi-owned and managed

enterprises with the western joint venture enterprises and to explain why such similarities and differences exist.

However, it has been argued in western management accounting literature that there are many factors which have an effect on the design and the degree of sophistication of the management accounting system. Simple classification will not enable us to discriminate the degree of sophistication of the management accounting system. The studying of these other factors may give a better understanding of the differences in management accounting practices. At the present the contingency theory of management accounting is a prominent area of management accounting which identifies many variables as having an influence on management accounting systems. These are contextual factors such as size, history, technology, environment and structural factors, such as differentiation and integration, etc. Waterhouse and Tiessen (1978) argued that management accounting systems are an integral part of an organisation fabric, interwoven with organizational structure to enhance organizational control. This argument and many others in the western management accounting literature indicate the fact that, studying the organizational context and structure is vital for the understanding of management accounting practices. (See Chapter 8)

Chanhall et al (1981) argued that the more specific measures of context are believed to provide a richer description of the setting of management accounting systems. The contingency theory was used by western writers to study the practice of management accounting in western developed countries. The researcher also considered the factors which have been identified in the western literature of accounting in developing countries (See Chapter 9). These factors (such as accounting education, social , culture, economic, etc.) claimed to have an effect on the practice of management accounting in developing countries.

Moreover, the top management of each company has specific beliefs about how the company ought to be managed and about the role of planning and control systems in managing various activities (Umapathy, 1987) . These beliefs are directly reflected in both the design and use of the planning and control systems. (See Chapter 7)

Finally, it is worth noting that, designing a management accounting system, which provides information for managers, is not a guarantee that managers will use such information. The controller has a vital role to play in enhancing the managerial use of accounting, by going well beyond the production of accounting reports and becoming involved in management problems and decision making. (See Chapter 6). Chapters 7, 8 and 9 will explain why such differences occur .

CHAPTER SIX

THE ROLE OF THE CONTROLLERSHIP FUNCTION

6.1 The Literature:

Accounting is considered by many to be a powerful tool to generate useful economic data for planning and controlling economic activities. It appears from the literature of management accounting that there is an agreement regarding Simon et al's (1954) work on the controllership function. For example, Horngren et al (1990) following Simon and his associate (1954) stated that the accounting information system if it is to assist management should raise and help to answer these basic questions:

1. Scorecard questions: Am I doing well or badly? (Performance evaluation)
2. Attention directing questions: Which problems should I look into? (Management by exception)
3. Problem-solving questions: Of the several ways of doing the job which is the best? (Decision making)

The scorecard or performance evaluation function relates to the accounting information which is concerned with the performance of individual managers and business units in the organization. It is important, in principle to draw the distinction between the evaluation of the unit or centre (profit, cost etc) and the evaluation of the manager of the unit. It may be that the manager is doing an excellent job (by any

standard) in what are very difficult circumstances for the unit. Conversely, the unit may be doing very well (because of market conditions) regardless of the level of effort

expended by its manager. This information is vital to executives in solving problems of motivation and appropriate rewards for their managers.

The attention directing function relates to the aspect of accounting information which directs the attention of the management to a deviation from a previously determined plan. This traditionally has been solved by the preparation of a variance analysis. This function will help managers to focus their attention on those aspects of operations that are not operating as planned and this is consistent with the concept of management by exception. Simon and his associate (1954) indicated that it was very difficult to draw a line between the scorecard and attention directing accounting information because they found that what might be regarded as scorecard information for this level may be considered attention directing information for the next level.

The problem solving (decision making) function arises when a particular problem is identified and various alternative courses of action are proposed to handle it. This function relates to the provision of accounting information provided by a special study which is usually prepared by the controller department. Again there is some overlap with information that is attention directing. It is conventional to view traditional management accounting as the provision of information for both planning and control. These are not separable requirements. Investigation of variances for say control may well lead to revisions in plans for the next period. Arguably here there is a distinction to be drawn between routine and non-routine planning. This could be regarded as information for strategic planning (non routine) versus information for operational (routine) planning. In the case of strategic planning there is a demand for "special provision of information" by the Controllers Department.

However, Emmanuel et al (1992) criticised traditional management accounting texts in their strong emphasis on the problem solving function (decision making) at the expense of the control function. They stated:

"Traditional management accounting texts strongly emphasize (decision making) and consider in detail the precise accounting information that is necessary in order to take specific decisions. In so doing, they take economics as their major conceptual framework. However, they are less explicit about the attention-directing function, despite normally spending a considerable number of pages on the calculation of budgetary variances, and devote very little attention to the scorecard role of performance evaluation. Thus, the focus of traditional texts is clearly on decision-making rather than control".

Nevertheless, the role of the controller as information producer is of central importance to any organization. Accounting activities within an organization are usually under the overall supervision of the controller. However, the controllers can no longer limit their activities to providing accounting reports to managers. But rather they assist managers by interpreting these reports by analyzing program and budgets proposals and by consolidating the plans of various segments into an overall annual budget (Anthony et al 1992) . They are becoming more involved in management decisions. This is due to the growth of the world economy and the internationalization of companies which has increased competition world wide.

This chapter however, will be concerned with the most important elements of the controllership function which we have just discussed. In particular the extent of the managerial use of accounting information in decision making and control and the extent of the involvement of the controllers in management decisions .

6.2 The Managerial Use of Accounting Data

As indicated earlier in the literature review that the landmark study conducted by Simon and his associate (1954) suggest that accounting information serves three major functions, these are:

1. Score-card keeping: am I doing well or badly?
2. Attention - directing: what problems should I look into?
3. Problem - solving : of the several ways of doing the job which is the best?

6.2.1 Score-card and attention directing uses of accounting data

As we mentioned earlier there is no sharp line can be drawn between these two types of managerial use of accounting. As Simon and his associate (1954) stated. What is regarded as a score - card for the factory manager could be an attention direction to the Director General. For example, the regular accounting reports which compare the actual with budgeted can be used as a score card by the factory manager who is familiar with all what is going on in his factory, but this type of information directs the attention of the Director General to the targets which have been reached. At the same time it is used by the Director General as a score card in evaluating the performance of the factory manager.

Emmanuel et al (1985, 1990) stated that information based on budget estimates as well as normal accounting information concerning actual costs and revenues is relevant to all three major functions identified by Simon et al (1954). Particularly the attention - directing and performance evaluation functions where a budget standard is used as the basis of comparison with actual results.

In the Saudi-owned and managed enterprises all the nine companies which participated in this study indicated that they prepare budgets for all major activities such as sales production etc.

Nevertheless, one of these companies do not prepare the budget follow up reports and another three admitted that their budget follow up reports are two to three months late (See Chapter 5). This practice observed in four of the nine Saudi-owned and managed companies alone can show the degree of importance attached to the budgetary information in the Saudi-owned and managed enterprises . At the very least , it is not " timely " information . However, the questions which have been addressed to the interviewers were direct to find out whether they use accounting information for performance evaluation (scorecard- keeping) or attention directing in their companies. All the Saudi-owned and managed enterprises indicated that they do not use accounting information for evaluating individual manager"s performance . Instead they use the non-financial measures such as attendance, behaviour and the like as a performance measure.

With regard to the attention directing uses of accounting data in these companies, all the companies which indicated that they prepare budget follow up reports which compare actual with budgeted claim to use these reports to direct their attention to any deviation from a previously determined plan.

However, one must interpret this answer with considerable care because it appears from the interviews conducted with managers and accountants that the role of budgeting is to control expenditure rather than to be used as a management control device.

Spending within the budget limit is really what concerned both managers and accountants.

This type of practice or attitude toward accounting information found in the Saudi-owned and managed enterprises is due to many reasons. For example, some of these companies are fully owned by the government where their sales prices is controlled and are less than their production costs. This might create a lack of incentive for the manager, to utilize accounting information to address issues of efficiency and effectiveness in operations. However, at the end of section (6.2.2)we will discuss the factors which might have an effect on the managerial use of accounting for both the Saudi-owned and managed enterprises and the joint venture enterprises.

In the joint venture enterprises, six of the nine companies which participated in this study claimed to use accounting information for performance evaluation.. However all six companies which claimed to use financial information as a measure of performance evaluation , stated they used non-financial measures such as behaviour, attendance and the like, but with the emphasis upon the budgetary information in these companies. An example of the great importance attached to budgetary information in these joint venture enterprises can be easily extracted from the answers received from managers and controllers of the companies. For example, one DG stated that in his company:

"Each manager must meet with his functional vice president to discuss his performance and budget variances monthly and quarterly. Major variances are sometimes scheduled as a separate discussion item".

It is clear that the joint venture enterprises are concerned with efficient production and hence, one of their main goals is to decrease costs. This is one major factor which will indeed increase the importance of accountants and accounting in these companies. One production manager who was explaining the importance of accounting information stated:

"In our industry we found that everybody is emphasizing costs reduction. This is also our main goal. Accounting information however, is the only source of information which tell us whether we reach this goal or not".

The use of normal accounting information (such as actual cost) is an example of the managerial use of accounting as a performance evaluation to the unit. This type of information can provide an answer to the manager to the question: am I doing well or badly ?

With regard to the attention directing uses of accounting data all the joint venture companies claimed to use the information provided by the budget system for such a purpose.

However, many chief executives and controllers in both joint venture enterprises and Saudi-owned and managed enterprises were aware that very often the information was not timely. Many issues or problems impounded in accounting reports were already well known from original sources. For example, serious problems such as a breakdown had already been communicated to middle and top managers via the telephone. However, the financial reports illustrated the financial consequences of these events.

The other source of non-accounting information is the daily production reports. Daily production reports were found to be of interest to all Chief Executives in both Saudi-owned and managed enterprises and joint venture enterprises. In the joint venture enterprises one DG Stated that in his company he usually met with his Senior Managers daily after they all read the morning production report between seven and seven thirty. Then, they would discuss all what they have noticed in this report. He considered it to be an important source of information. This is not a surprising result given the focus upon production. This is especially the case for the Saudi owned companies where there is a focus upon the attainment of given volume levels regardless of the control of cost .

6.2.2. Problem solving uses of accounting data

The information needed by management to choose between alternatives is labelled as problem solving, which is identified by Simon et. al (1954) as the third type of management uses of accounting information. The following are the major decisions that management accounting is considered able to assist:

1. Pricing decisions
2. Production decisions
3. Investment decisions

6.2 2.1 Pricing decisions

Accounting information is often an important input to the pricing decision. Making the pricing decision may involve considerable analysis for one firm and involve no effort for another. In some firms, selling prices are derived directly from cost information by estimating future product cost and adding a suitable profit margin. While other firms, with products selling in a highly competitive market are a price taker.

However , some of the petro chemical companies which participated in this study (both joint ventures and Saudi owned) have indicated that they experience at times considerable volatility in their sales prices . One controller stated that the price of their product had fluctuated between \$120 and \$35 per ton within six months. This controller indicated that the accounting data helped them to determine if they needed to cut their production. As he stated they cut their production whenever they find that they are not covering their variable costs. The answer of this controller shows that this company had no control over the price, but either they take it or leave it.

Pricing decisions in the companies which participated in this study can be characterized into three groups:

The first group are refineries which are fully owned by the government. The prices of output of these refineries are fixed by the government. The government's policy is not set with the objective of deriving efficiency gains from the refineries rather they are set with the intention that refineries will make losses for which they will be subsidised. The implication of this that there is no incentive created for the managers to be efficient in production and consequently we would expect to see little emphasis placed upon cost reports. Output prices are unrelated to product cost.

The second group are those companies which are privately owned. For example the cement companies. These companies receive government protection against outside competitors but their prices can't exceed certain limits imposed by the Ministry of Trade. These companies have experienced a very high demand in the past ten years. All admitted that they had to increase their production capacity to meet the very high demand. But recently the demand has started to decrease. One chief executive stated that his company is looking to export.

The third group are the joint-venture enterprises and some of the Saudi-owned and managed enterprises (petrochemical) which sell their product in the international market. These companies are exposed to world prices, therefore they act as price takers.

However, it is clear from the above discussion that none of the companies which participated in this study sets the sales price but all what they can do is to monitor the costs. But even here there is no real focus on costs since managers are not rewarded for cost control and the government does not wish to audit costs in order to set prices.

6.2.2.2 Production Decisions

It is worth mentioning here that all the companies which participated in this study have a continuous production technology with high volumes and few material inputs. Also, they are highly automated.

The automation of manufacturing processing is claimed to enhance the certainty in the production process and increase the understanding of cause-effect relations and that is expected to result in increased control over production department activities. Sandaretto (1985) went as far as to say that in manufacturing process automation managers can control costs and estimate production costs without a formal cost system. But the empirical research that was conducted regarding the relationship between budgetary control and the degree of automation in the production technology indicated that there is a positive link between them. For example, Merchant (1984) found positive correlations between process automation and several aspects of budgeting. These include more emphasis upon variance and budget overruns and less emphasis upon meetings with supervisors and subordinates regarding budgeting. Managers, also, perceived themselves as having greater influence in budget planning. As manufacturing processes become increasingly programmable, Merchant argued that budgeting could be more readily employed as a central part of the control system. More recently Dunk (1992) conducted an empirical research in which he addresses the issue of whether or not manufacturing process automation influences the association between reliance on budgetary control and production subunit performance. The findings led him to conclude that as manufacturing process become more automated, companies would benefit from a reliance on budgetary control in the assessment of their production subunits. These findings indicate the important role of accounting information in manufacturing process automation. However the research in this area is still at an early stage.

Joint venture enterprises

In the majority of the joint venture enterprises there is either a committee or a separate department (usually called planning and economic department) which is responsible for production decisions. Typically the members of such departments are engineers. However, some of them were found to have a very good accounting background including Saudi nationals.

Nevertheless, the answers regarding the managerial use of accounting information in production decisions were:

"The accounting department provides us with accounting data regularly on a uniform basis. It helps us in identifying certain areas which might need improvement"

OR: *"Accounting data can show us the opportunities of decreasing our costs"*

OR:- *"we look at the trend of our accounting information to plan ahead"*

These types of answers, provided by many managers in the joint venture enterprises, indicate the fact that if there is any use of accounting data, it is confined to the regular accounting information provided by the accounting department. The decisions which might require special studies such as make or buy or discontinuing a line of business do not exist in the company. Similarly, all petrochemicals companies indicated that the level of their production has been at capacity since ever they started production and they intend to do so as long as their variable costs are covered. This was due to the very high fixed cost invested in these plants. With regard to production mix decisions.

There was a fixed formula used and this rarely changed. Since the prices were fixed for long periods there would be no reason to change the mix and moreover, since the material element was very cheap, changes in prices when they did occur would not be expected to impact upon product mix decisions. The consequence here was that we would not expect to see any material mix (or yield) variances since there was no demand for this information.

However, the production decisions in the Refineries of the joint-venture enterprises were found to be different.

A large number of interrelated choices exist to the refineries regarding their production decisions. There are many factors which determine whether or not a scheme of operation is profitable. These factors involve the costs of raw materials, the costs of operation, the characteristics of the various processes and the prices of the final products. Many of the ways of running the refinery can be varied: choice of crudes, operating characteristics of the pipe still and the cat cracker, the proportions of components used in blending the final products, and "mix" of final product.

In this case where a large number of interrelated choices exist there is no doubt that a decision model such as the linear programming technique is a very important aid to managerial decision making.

Such modelling can be very complex since all the input-output relationships need to be well-defined. To make these models yield good decisions requires considerable care in specification and the provision of cost and revenue information. Observing the use of such models in this industry should not come as any surprise; they have been used in refineries for some time.

This was indeed, the practice found in all the refineries of the joint venture enterprises. However, it was stated that the frequent changes in production volumes decrease the effectiveness of the traditional system of budgetary control. However, we can recall that the companies claimed not to be using a flexible budget as a control

device. The reality was that they computed variances in a traditional way such that by implication a flexible budget was in use. But this is not the whole story. Two of the joint venture companies considered linear programming as their major control device. A third company made an effort to use the budget as a control device in addition to the linear programme. In all the joint venture enterprises there were specialists in making all production decisions. These specialists relied heavily on the linear programme model. The accountant was found to have no role other than providing the regular accounting data such as budget follow up reports and production cost and the like. We typically regard the linear programme model as a decision model for planning. Here however, it is being used for control. In essence the production departments require timely information and it is clear that output decisions are highly sensitive to price changes (of inputs and outputs). The provision of monthly budgetary control reports would not provide timely information.

Saudi-owned and managed enterprises

In the Saudi-owned and managed enterprises only two companies were typical of the joint venture enterprises. In that, the production departments in these companies have referred to the regular accounting information as useful for planning purposes. However, there was no special study conducted by the accounting department regarding any production decisions. In the other companies, it was found that, many managers have emphasized that accounting information was irrelevant to any production decision. With regard to the refineries there was no use of the linear programming model which was found to be an extremely important tool for production decisions in the joint venture refineries. This is not surprising due to the fact that the main objective of all the Saudi owned and managed refineries which participated in this study is to meet the local demand while all the joint venture refineries are export oriented and face price competition in the international market. Therefore it is clear that the prices of the refined petroleum products are very critical for the joint venture

refineries in deciding what to produce. And this is not the case with the Saudi owned and managed refineries because their sales prices are fixed by the government. These prices are less than the cost. Nevertheless, due to the existence of a sellers' market for six of the nine Saudi owned and managed companies the production function is stressed. This coincides with the low quality of the accounting education for the managers in all the Saudi companies. As a result, the managers were found to be more interested in nonfinancial information such as production reports and narrative reports rather than accounting information (see chapter 7).

6.2.2.3 Investment Decisions

The investment decisions can be characterized into two categories according to the answers provided by the interviewees.

These were:

1. Strategic capital investment - such as an expansion of production capacity by introducing a new production line.
2. Normal capital investment - such as buying a car for the administration office, or the like.

Surprisingly all the joint venture enterprises were found to use an outside consultant for its strategic capital investment decisions. For example introducing, a new production line. The practice which has been observed in those companies is that the idea of a strategic capital investment starts as a proposal. The ultimate decision of accepting or rejecting such a proposal is with the Board of Directors. In the case of accepting the proposal by the board of directors, the proposal must be reviewed and endorsed by the accounting department before it is referred to an outside consultant. This indicates that, in a situation like this the accounting department prepares a special study. This

situation should come as no surprise since the internal politics of the joint venture would require “independent” approval of a strategic change .

The evaluation of the other capital investment decisions was found to be taken by a group of engineers. These engineers are working as a committee under the technical department in some companies, but, in other companies there is a separate department which is usually engaged in all the capital investment decisions and productions decisions. These departments are usually referred to as the planning and economic department or the economic and scheduling department . Many of the controllers in the joint venture enterprises have emphasized the good background of those engineers in financial matters . However ,there is still a role for the controllers since they are required to give the final approval for such investments .

As one controller said:

"The engineering department has knowledge about accounting and capital investment, however, we do have our analysis. We discuss it together with the engineers in addition to top level management which we involve in the discussions before the approval".

Another controller offers a similar view but it seems that his department has authority over the specialist since he emphasized that his department must agree: His answer was:

"The engineers in the economic and scheduling department can evaluate all the investment and make their own decisions, but, the controller must agree with the evaluation of any investment"

However, the general feeling that was gathered from accountants and managers in these companies seem to suggest that those engineers play a major role in capital investment decisions. This major role was due to their deep understanding of the technical aspect of production beside their good background in financial matters. The involvement of the accountants in such decisions prior to the final approval is a sign of the degree of importance attached to the accounting and accountants in these companies.

In the Saudi-owned and managed enterprises there were only two companies which have a very similar practice to the joint venture enterprises. In these two companies, all the investment decisions were found to be reviewed by the accounting department and the accountants were found to have a say in these decisions. The rest of the companies were found to give the accounting department a say in decisions such as buying a car for the administration office and the like. But the capital investment decisions regarding the factory's equipment were found to be taken by the factory managers with the approval of top level management. The accounting department has nothing to do with any of these decisions, since it was the engineers who had the relevant cost and revenue information .

Controllers" Views :-

Having investigated the three major uses of accounting information described by Simon et al (1954), the controllers' opinions were solicited about the degree of importance they attach to the accounting information in their companies regarding the following: 1) Individual performance evaluation; 2) the efficiency of manufacturing operations; 3) -pricing decisions; 4) the external financial reporting. The controllers opinions were graded on a score of 1- very important to 5- not important .

As Table 6.1 shows, the controllers in the Saudi-owned and managed enterprises have confirmed the managers answers regarding the managerial use of accounting in

evaluating the performance of individual managers. It shows that all controllers consider accounting information as not important for such a purpose. Also, the controllers in the Saudi-owned and managed enterprises gave the accounting information less importance regarding the efficiency of manufacturing operation compared to the importance attached to it by the joint venture enterprises.

Surprisingly, three of the controllers in the joint venture enterprises share the opinion of the controllers in the Saudi-owned and managed enterprises regarding the importance attached to accounting information in both the evaluation of individual performance and the efficiency of manufacturing operations. Of those controllers who share the opinion one was a member of a petroleum company which had indicated their reliance on the linear programme model as an important management control device .

With regard to the pricing and bidding in the companies which participated, many of the controllers, in joint venture enterprises and Saudi-owned and managed enterprises do not consider accounting information to be important, but two controllers of the petrochemical companies in the joint venture enterprises perceived it as very important. The reason behind that is the high fluctuation in the sales prices which had been explained earlier in this chapter.

Finally as Table 6.1 shows, seven of the nine controllers in the Saudi-owned and managed enterprises indicated that accounting information is extremely important for external financial statement presentation. This result is not surprising . The influence of financial accounting upon management accounting has been a recurring theme in much of the literature of accounting .

Table 6.1

Companies	Uses of Accounting Information			
	Individual Performance	Costs of finished Product (Financial Statement)	Cost of Finished Product for Pricing	Efficiency of Manufacturing Operation
Joint venture companies				
Company 1	2	3	5	2
Company 2	2	4	1	2
Company 3	2	1	1	1
Company 4	5	1	4	5
Company 5	5	2	4	4
Company 6	3	1	3	1
Company 7	1	4	5	4
Company 8	2	1	4	1
Company 9	4	2	5	4
Saudi Companies				
Company 1	5	1	2	2
Company 2	5	1	5	4
Company 3	5	1	5	4
Company 4	5	1	5	4
Company 5	5	1	5	4
Company 6	5	4	2	2
Company 7	5	3	3	3
Company 8	5	1	3	5
Company 9	5	1	5	5

Companies which are fully owned by the government have to present their financial statement to many government agencies such as the Audit Beuarue and the Ministry of Finance .

In the Saudi-owned and managed enterprises the managers seem to have a lack of incentive in using accounting information as a managerial tool. This was not a surprise due to the following:

1. Three of the companies which participated were fully owned by the government, which impose the sales prices. The sales prices were found to be less than their cost in these companies. Meeting the market demand was the measure of their performance.

Another three companies were found to receive government protection against outside competitors have experienced a very high demand in the last ten years for the only one product they produce.

These examples can illustrate the environmental factors which the majority of the Saudi-owned and managed enterprises face.

In addition, it shows the extent of the domination of the production function in these companies. (The environmental factor will be dealt with in Chapter 8)

2. Many writers in accounting in developing countries consider accounting education for accountants and managers as a major factor in the low level of accounting practice in these countries. Saudi accountants and managers are not the exception. The lack of accounting education for both managers and accountants was observed and will be discussed in detail in Chapter 9.

These are a highlight on the two major factors which are believed to have an effect on the utilization of accounting information and the role of the controllers in decision making. Chapters 7, 8 and 9 will discuss all the factors which have been claimed in the literature to have an effect on the degree of sophistication of the accounting system, the managerial use of accounting and the role of controllers in decision making.

6.3. The Role of the Controller in Management Decisions

In today's economy, which is plagued by business recessions, inflation, capital shortages and general economic uncertainty there is an increasing need for sound financial analysis and control. The increasing need for sound financial analysis and control has as a result increased the important role of the controller in today's organization. This partly due to the dramatic increase in the scope and frequency of reports demanded by the internal and external users of accounting information. The role of the controller does not stop with providing accounting information. In today's organization the controller is part of the management team. He communicates with management and is involved in decision making. Accounting is a service function . Accountants provide information for decision making . They are not the managers - the managers take the decision on the basis of information provided by management accountants . Of course , this presupposes managers understand accounting reports .

Within the single questionnaire there were two methods used to collect the data concerning the role of the controller in decision making. One of these methods was a structured component of the questionnaire . In this structured questionnaire there are a number of key decisions where the controller's involvement is expected. The managers were asked to show the extent of the controller's involvement in such decisions.

The other method was an open ended component of the questionnaire where the managers were asked about the role of the controller in production decision investment decisions and pricing decisions.

Firstly: we can discuss the result of the structured questionnaire which is summarized in Table (6 .2). The managers' opinions were solicited regarding the role of the controllers in the following key decisions:

1. Advertising
2. Promotion
3. Distribution
4. Acquisition and mergers
5. New products development
6. Capital investment
7. Selection of executives outside the controllership area
8. Credit policy
9. Pricing policy
10. Inventory policy
11. Setting customer claims
12. Stopping customer deliveries

The numbers in the table show the responses with respect to the above twelve decisions . Each row adds to twelve and is interpreted as follows : if the controller is involved as a major participant in a quarter of the decisions the score would be three . However, some of these decisions were found to be taken outside the majority of the companies if not all of them, for example, advertising and distribution. This was the case for all the joint venture enterprises. These decisions were found to be taken by Sabic and its foreign partner for all the petrochemical companies. Also Samarec and its foreign partner made these decisions for all the Saudi owned and managed refineries .

In the Saudi-owned and managed enterprises there are three companies where all the decisions are taken in the company. These three companies are, company (4), (5) and (7). The controllers in these companies are perceived to play no role in more than 50% of the decisions (7 decisions). In the remaining decisions where the controllers were perceived to have a role, the controller of company (5) was perceived to play a major role in most of the decisions. But in company (4) and (7) his role was mainly advisory.

In the rest of the companies the situation is almost the same regarding the percentages of the decisions taken outside the company and the perceived role of the controller except company (1). In company (1) the controller was perceived to play a major role in more than 40% of the decisions and 40% of the decisions are made outside the company. In the other companies, company (2), (3), (6), (8) and (9) 75% of the decisions are either not made in the company or the controller was perceived to have no role. In the other decisions, where the controllers were perceived to participate, he plays an advisory role in most of the decisions.

In the joint venture enterprises as; Table 6.2 shows the answers were diverse. However, one can categorize the companies into the following group according to their answers.

In the first group which are company (4), (5) and (8) more than 55% of the decisions are either not made in the company or the controller was perceived to have no role. But, in these companies the controller was perceived to be mostly a major participant in the rest of the decisions.

The second group which consist of company (1), (6), (7) and (9) the controllers were perceived to have a role in more than 55% of the decisions (in at least 7 decisions).

Table 6.2: - The Role of the Controller in Management Decisions

Companies	Has no role in the decision making process	His opinion is solicited prior to decisions being made by others	Is a minor participant in decision making	Is a major participant in decision making	Is the sole decision maker	No basis for opinion	Decisions are not made in the division
Joint venture companies							
Company 1	1	1	4	3			3
Company 2	2	4	2	1			3
Company 3	1	1	4	5		1	
Company 4	1		1	4			6
Company 5	4			3			5
Company 6	1		3	5			3
Company 7	1		3	4		1	3
Company 8	3		2	3			4
Company 9	1			6			5
Saudi Companies							
Company 1		1		5	1		5
Company 2	3	2	1				6
Company 3	7	1					4
Company 4	6	3	2		1		
Company 5	6	1	3	2			
Company 6	5			1			6
Company 7	7	4		1			
Company 8	7	2					3
Company 9	6	1		1			4

However, at least 25% of the decisions in their companies are not made at the company.

In the third group which is company (3) the controller was perceived to play a major role in more than 80% of the decisions.

In the last group, according to the answers, company (2) which had more than 40% of its decisions either not made in the company or the controller has no role. However, in most of the decisions which the controller was found to participate he was perceived to play an advisory role only.

Secondly: we can discuss the result of the open ended questionnaire. The survey observations indicate that in Saudi owned and managed enterprises the practice can be categorized into three groups. The first group consist of one company. Surprisingly, this company was found to be typical of joint venture companies. Five of its accountants were working closely with operational managers inside the factory. Their main goal is as the controller said:

"To help operational managers in preparing their budget and to be consulted in any financial matters such as variances. They help operational managers to reach their goals".

However, in this company as the case with the joint venture companies the role of the controller in decision making was perceived by top and middle managers to be limited. But, the top and middle managers seem to recognize the importance of accounting and the controller seemed to be very satisfied with the extent of their involvement in decision making process .

The second group consist of three companies. In these companies there was no close relationship between the accountants and operational managers as was the case with the above company but the attitude of top level managers and middle managers toward accounting was found to be very positive and the controllers was found to be very satisfied with the extent of their involvement in management decisions. As one controller said:

"I am very lucky to work in this company. Previously, I worked in one company where the accounting was strictly confined to financial accounting. In this company, I am working as part of a top management team. I am always informed with all that is going on in this company and I participate in all major decisions".

The controllers in these companies emphasized that they are always consulted in major decisions and they work closely with top level management. This was the case with the controllers in the joint venture enterprises.

The third group consist of five companies. In these companies the controllers were perceived by top and middle managers to have no role in decision making. Some of the controllers in these companies showed their anger when they were asked about their role in decision making. As one controller said:

"We have no role at all. They think that we are bookkeepers. The top level management discourage any involvement. I started to communicate with them formally by letters to draw their attention whenever I have a chance, because they don't listen to us. The DG asked me, not to write but come and talk to him".

This controller who shows his anger after he spent one year in this company, described the big difference between the practice in this company and the practice in the joint venture company which he used to work in for many years. The joint venture company was visited by the researcher and the discussions with the controller about the difference between the two companies raised many issues such as the lack of accounting education for managers and the like. The interview with the top level managers in that company confirm the lack of accounting education for managers when the DG explained the reasons behind his heavy reliance on his engineers advice rather than his accountants in decision making. Among the main reasons was, that the engineers have more knowledge in mathematics than the accountants. This lack of accounting education was expressed in many ways by many managers in these five companies. The other issue concerning the perceived role of the controllers in these companies was the emphasis of bookkeeping as the only role.

Surprisingly, the role of the controller in the joint venture enterprises was perceived by top level management and middle management, as limited. This impression came as a result of the limited answers from managers. To the question when they were asked what is the role of the controller in key decisions such as pricing, production and investment , answers such as limited or very limited role were received and some stated that the controller has no role. However, more specific questions were asked by the interviewer, other than those in the interview guidelines. These questions developed during the interview such as "what do you mean by saying it is a team work"? The answers to such questions were:

"We do not separate the function of our departments. For example, we ask our accountants to go to the factory personally each month and discuss with the engineers the reasons behind the physical material variances. Then the accountants must report to US their views of such variances".

Or:-

"Our managers have a good knowledge in accounting, however, we have assigned an accountant to each manager to consult with. If the manager can show that an increase in spending is for the benefit of the company, he can increase his expenditure. Also, our accountants investigate the variances with the engineers before reporting".

This direct and active channel of communication between the accountant and operational managers was observed in five of the joint venture enterprises. This type of practice was observed and highly recommended in a study conducted by Simon and his associate (1954). The close relationship observed between the accountants and the operating managers in these companies indicate the fact that the management of these companies have a very positive attitude toward accounting and the accountants. Nevertheless, this type of practice does not mean that the controllers in these companies have a major role to play in decision making. Recall that the top and middle managers indicated the limited role of their controllers in such decisions. The researcher extended the discussion to the controllers themselves to find out how do they perceived their role in decision making. The same questions were addressed to the controllers and the answers were such as:

"We are involved in the strategic decisions only."

The similar answer received was:

"If we have a choice of producing X instead of Y we definitely are involved in the decision otherwise we do not get involved because all

other production decisions are taken by the production department and we have no involvement whatsoever".

The examples provided by the controllers were hypothetical but in a real situation where there is an alternative to choose from there would be a need for a special study prepared by the controller department.

This is what Simon et. al (1954) and Homgren (1982) considered as the third type of the managerial use of accounting. Namely, the problem solving uses of accounting data. When the controllers were asked whether they have had any situation which required a special study prepared by their department they rarely find any real example of a special study prepared by their department and most of the special studies were found to be prepared by the technical department or a committee which consist of engineers only as members.

The controllers emphasized their role as part of the management team and also they emphasized the support they receive from the top level management in reaching financial targets. The top level management in these companies were found to be fully aware of the importance of the accounting. As one DG said:

"The accounting function is very important and our controller provides advice. We always seek his advice but his role in decision making is limited".

This statement and others can summarize the situation with all the joint venture enterprises where the importance of accounting was highly recognized, and the controllers were fully satisfied with the extent of their involvement in decision making. But their role in decision making was perceived to be limited. The best explanation to that is the fact that those companies were found to be centralized to some extent and

one must not forget the fact that in those huge factories the most critical function is that of production which dominates all firms surveyed. This would give the production department more power than the accounting department .

PART III :- MANAGERIAL , PERSONAL ,
ORGANISATIONAL. AND ENVIRONMENTAL
CHARACTERISTICS AND THE USE OF
ACCOUNTING INFORMATION

**Chapter 7. Management Philosophy , Style and Personal
Characteristics and the Degree of Sophistication of
Management Accounting Techniques.**

**Chapter 8. Organisational Characteristics and the Degree of
Sophistication of Management Accounting Techniques .**

**Chapter 9 . The Major Characteristics of the National
Environment of Saudi Arabia .**

Chapter 10 . Summary and Conclusions .

CHAPTER SEVEN

MANAGEMENT PHILOSOPHY, STYLE AND PERSONAL CHARACTERISTICS AND THE DEGREE OF SOPHISTICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

7.1 The Literature Review

Argyris (1952) was probably the first to draw attention to the critical distinction between the consequences of the technical features of accounting systems and the consequences of the style with which managers utilise budgets and management information. Unfortunately, this issue was then left largely unattended in the accounting literature for almost two decades (Brownell, 1987) . In drawing this distinction between the system and its use no inference is being made about their separability. Indeed, it should be expected that how managers use management accounting information will condition the type of system in use. Nevertheless, it is a useful construct for an initial discussion.

In an empirical piece of work Hopwood (1972) identified three styles of evaluation based on three distinct ways of using budgetary information in the evaluation of managerial performance. They are (i) the "budget-constrained" style of evaluation where the subordinate's performance is primarily evaluated based upon his ability to continually meet the budget on a short term basis; (ii) the "profit conscious" style where the superior does not rely solely on budget data in evaluating the subordinate's performance but uses this data in a rather flexible manner; (iii) the "non accounting" style where budget data play a relatively unimportant part in the superior's evaluation of the subordinate's performance. Hopwood's studies support the idea that the use of budgets and variance reports in performance evaluation reflects a supervisor's style. However, a subsequent empirical study by Otley (1978),

using comparable measures yielded no such associations and appeared to suggest that the rigid style was more likely to lead to better performance than the more flexible result. The differences between both studies may be due to situational differences where these differences were not controlled for in the analysis. Hopwood's study was based on responsibility (cost centres) in an integrated steel works with extensive interdependence with each other and Otley's study was based on responsibility (profit centre) in the coal industry with less dependence with each other. In these studies no explicit feedback of how using the system conditions the type of system in use is being made.

However, Camman et al (1976) examined the need for congruence between control systems and management style. They first stated the following premises:-

First, control systems influence the way organization members behave on the job by putting more time and effort on those areas subject to control. Second, how, members respond to control systems depends largely on the way managers use the systems. Third, managers adopt different styles of control. Therefore, there is a need for managers to choose an appropriate control style. They presented three major control styles, they are, the external-control style, the internal motivation - control style and the mixed-control style.

The external-control style is defined as an authoritative control style where the superior imposes standards of performance upon the subordinate. According to Camman et al this control system requires three steps, these are: (a) goals and standards are set at a high level, (b) comprehensive "people-proof" responsibility center measures and (c) a performance-linked reward system. This external control strategy can have different effects. On one hand it may lead to an improvement in performance but at the cost of (a) becoming narrowly focused on the performance

measures to the exclusion of doing the job better (b) misdirected effort (c) information distortion in order to manipulate the performance measures .

The internal-motivation-control style is defined as a participative control style where both the superior and subordinate discuss the selection of standards of performance. It is based on the assumption that subordinates can be motivated by building their commitments to organizational goals and by their being involved in the necessary tasks (participative control system). It is characterized by (a) goals are set participatively (b) more reliance on self-control. To the extent that subordinates find it difficult to participate in setting standards of performance this method may be inappropriate . Furthermore ,by the very nature of participation setting standards for evaluation may be rather subjective and hence difficult to use as a basis for a reward structure .

Neither of these two control systems can be considered as the right one for all circumstances. Therefore, a combination of the two styles should be considered. For example, at lower levels in an organization where standards of performance are more certain, a prescriptive or authoritarian style may be more appropriate while at higher levels in an organization where what constitutes a good standard is more uncertain, a participative approach may be more appropriate.

Nevertheless, managerial style is based on the idea that personal traits might have an important influence on how people process information, use an information system and/or adapt to a control situation.

In regard to the influence of management style on the management control function Anthony (1988) argued:

"Overlapping the other variables the management control function in an organization is influenced by the style of its senior management. The style of the chief executive officer affects the behaviour of the organization as a whole and the style of subordinate managers affects those parts of the organization that they manage".

In this Chapter we will attempt to study the relationship between the characteristics of management accounting systems and different aspects of management philosophy, style and personal characteristics.

7.2 Relative Importance Placed by Top Management on Various Organizational Devices

Control in organizations is effected by an intricate interplay of devices, some of which are financial such as budgeting, capital expenditure, and long term planning. Others are non-financial, such as monthly narrative reports, production reports, direct informal contact and the like. The top management of each company has specific beliefs about how the company ought to be managed and about the role of planning and control systems in managing various company activities. These beliefs are directly reflected in both the design and use of the planning and control systems. Therefore, it seems important to show the emphasis placed by the top management of all the participating companies on various organizational devices.

7.2.1 Management Emphasis on Planning, Budgeting and Capital Expenditure Systems

As shown in Table (7.1), the annual budgeting system and the approval system for capital expenditure were rated as the most important organizational devices from both the Saudi-owned and managed companies and the joint venture companies. Nevertheless, it has been noted that budgeting systems in the Saudi-owned and managed companies were little more than an exercise conducted each year, giving little thought to the concept of budgeting. In contrast, the budgeting system was found to be used as a very important management tool in most of the joint venture enterprises (Section 7.3).

Table 7.1

Management emphasis on planning budgeting and capital expenditure systems

Organizational Devices	Annual Budgeting System	Long Range Planning System	Approval System for Capital Expenditure	Periodic Budget Review
Companies				
Joint Venture Companies				
Company 1	E	E	E	M
Company 2	E	M	E	E
Company 3	E	M	E	M
Company 4	E	M	E	M
Company 5	E	E	E	L
Company 6	E	M	E	L
Company 7	E	E	E	M
Company 8	E	E	E	E
Company 9	E	E	E	L
Saudi Owned and Managed Companies				
Company 1	E	M	E	M
Company 2	E	L	E	M
Company 3	E	M	E	L
Company 4	E	M	E	L
Company 5	E	Not Used	E	Not Used
Company 6	E	Not Used	M	Not Used
Company 7	E	Not Used	M	M
Company 8	E	Not Used	E	L
Company 9	E	L	E	M

E = Extremely Important
M = Moderately Important
L = Limitedly Important

With regard to the long range planning system which is a complement to budgetary control, this is found to be rated as a very important organizational device in all the joint venture companies. Only three of the nine Saudi-owned and managed companies consider it as an important device. Another two companies stated that there is a limited use of long range planning system because they have just started using it. The remaining four Saudi-owned and managed companies do not use such systems at all.

The periodic budget review was also found to be emphasised by many of the joint venture enterprises. The Saudi-owned and managed enterprises, in contrast, do not emphasize such techniques. Two companies do not use periodic budget reviews, and a further three indicated that their use is limited. The limited use of periodic budget reviews was found in the companies which admitted that their budget follow-up reports are two to three months late. Nevertheless, four of the Saudi-owned and managed companies indicated that they consider periodic budget reviews as being moderately important organizational devices.

7.2.2 Management Emphasis on Non-financial Organizational Devices

As shown by Table 7.2, monthly narrative reports on operations are rated as the most important non-financial organizational device in the Saudi-owned and managed companies. Although the joint venture companies emphasize the importance of such a device it is to a lesser degree than in the Saudi-owned and managed companies. In addition, almost all the chief executives interviewed in the Saudi-owned and managed companies refer to production reports as another extremely important organizational device (which was not included in the questionnaire). This emphasis on monthly narrative reports on operations and production reports in the Saudi-owned and managed companies indicates the fact that top managers' major concerns

Table 7.2

Management Emphasis on Non-financial Organizational Devices

Organizational Companies Devices	Monthly Narrative Reports on Operation	Formal Goal Setting Systems	Performance Evaluation and Incentive Compensation Systems	Direct Informal Contact Between Department and Company Executives	Interdepartmental Task forces and Committees	Other Full-time Employees Responsible for Interdepartmental Coordination
Joint Venture Companies						
Company 1	L	E	M	M	M	Not Used
Company 2	M	M	M	M	L	Not Used
Company 3	M	M	E	M	M	Not Used
Company 4	M	M	M	M	M	L
Company 5	M	E	M	M	M	Not Used
Company 6	M	M	E	M	M	Not Used
Company 7	N	N	E	M	M	Not Used
Company 8	M	E	M	M	M	Not Used
Company 9	M	M	M	M	L	Not Used
Saudi Owned and Managed Companies						
Company 1	E	M	Not Used	E	L	Not Used
Company 2	E	L	Not Used	E	M	Not Used
Company 3	M	L	Not Used	M	M	Not Used
Company 4	E	L	Not Used	M	L	Not Used
Company 5	M	L	Not Used	M	M	Not Used
Company 6	E	L	Not Used	E	L	Not Used
Company 7	E	M	Not Used	M	M	M
Company 8	M	L	Not Used	E	M	Not Used
Company 9	E	M	Not Used	E	L	Not Used

E = Extremely Important

M = Moderately Important

L = Limitedly Important

were focused on production. This was not surprising because for six of these companies meeting the market demand was the main goal with little concern for cost control . Three of these six companies are fully owned by the government, with sales prices less than the costs, and they are the only seller in the market . Therefore, meeting local demand was their major concern. The other three companies, however, were found to receive government protection against outside competitors. They have experienced a very high demand in the last ten years or so, but this very high demand has now started to decline. Meeting these very high demands in these

companies seemed to attract the attention of top managers to production .As indicated in section (7.3), output and the breakdown (time and frequency) are the most important standards for top managers in these companies, which is at the expense of the use of accounting as a management tool. There was no need to control costs or manage sales and hence there was no demand for a sophisticated managerial accounting system focusing upon sales or profit analysis and productivity or efficiency.

Formal goal setting systems are rated highly by the joint venture companies. By contrast, only three of the Saudi-owned and managed companies considered formal goal-setting as a moderately important device; however, the rest of the companies rated such devices as least important.

Direct, informal contacts between departments and company executives are rated high in both the Saudi-owned and managed companies and the joint venture companies, but the Saudi-owned and managed companies rates such devices slightly higher than their counterparts. This might be an indication that the informal, personal contact is important to overcome the limitations of the formal accounting and management control systems in the Saudi-owned and managed companies.

Interdepartmental task forces and committees are relatively more emphasised by the joint venture enterprises than by the Saudi-owned and managed companies. On the other hand, the use of full-time employees for interdepartmental coordination is rated as the least important device by all the participating companies. However, the interdepartmental task forces and committees and interdepartmental coordination will be discussed in detail in sections 7.4 and 7.5 .

Performance evaluation and compensation systems on the other hand were not used by any of the Saudi owned and managed companies . And in chapter (5) and (6) we have indicated that they do not use accounting data for performance evaluation .However , several reasons may contribute to this finding such as :-

- (i) the centralization of operations .
- (ii) the lack of accounting education for both accountants and managers .
- (iii) the use of direct personal contact to communicate information on performance to departmental managers .

Nevertheless , the majority of the joint veture companies rated performance evaluation and compensation systems as a very important device .

In sum, a large number of organizational devices were found to be used by the joint venture companies in the hope that this will improve the overall effectiveness of their control system. Approximately nine of the ten organizational devices were found to be used by all the joint venture companies. In contrast, only four of the nine Saudi-owned and managed companies were found to use only eight organizational devices (See Tables 7.1 and 7.2).

The main role of budgeting in the Saudi-owned and managed companies, was to control expenditure rather than to be used as a management control device. Therefore, the periodic budget review was less emphasised in these companies. In addition, long range planning systems, formal goal setting and performance

evaluation were considered to be of only minor importance in the Saudi-owned and managed companies.

It appears that there is a difference between the Saudi owned and managed companies and the joint venture companies in regard to the relative importance top managers attach to financial and nonfinancial devices. In the Saudi owned and managed companies the managers seem to place less emphasis on financial devices but a slightly more emphasis on nonfinancial devices compared to their counterparts in the joint venture companies who seem to place more emphasis on financial devices and slightly less emphasis on nonfinancial devices. In other words, managers in the joint venture companies depend on financial information to a greater extent than the Saudi owned and managed companies. This leads us to the argument which we have made in Chapter (3) when we indicated that some managers are financially oriented while others are not and we also stated that the managers who are financially oriented would emphasize financial control in their approach to management. Therefore, one could argue that Western managers are financially oriented but Saudi managers are not. Financially oriented managers or as Anthony (1988) stated numbers -oriented managers are those who want a large flow of quantitative information and they spend much time analyzing it to drive tentative conclusions from it.

7.3 Management Philosophy and Budgeting

Budgeting or short-range planning involves setting objectives for the immediate future - usually for one year. The literature of management accounting advocates a broad role for budgeting in management's overall task of planning and controlling business operations. Budgeting is more than just a means of quantifying plans. The use of budgeting is held to be one of the most effective techniques for making control possible, for motivating managers at all levels to a high standard of performance and for achieving continuing coordination of the firm's activities.

Participation in budget-setting has been advocated by many writers as a means of making tasks more challenging and giving individuals a greater sense of responsibility. Participation was found to be positively related to increased morale, better acceptance of the budget and attitudes toward the organization and the job. However, the literature of budgetary participation draws attention to two important considerations. One of which is a personality factor (Brownell, 1981) which we will discuss later in this chapter. (See locus of control.) The other consideration is that participation may be associated with the creation of budgetary slack. For example, some managers may use the opportunity given by participation to reduce the standards demanded of them and to bias the estimates they submit (Otley, 1987).

Another argument regarding budgeting and motivation beside participation is related to the use of budgets as a target. The research studies provide substantial evidence that the existence of a defined quantitative goal or target is likely to motivate higher levels of performance than would be achieved if no such target was set. What is required to achieve the best performance is the establishment of the most difficult goals which are accepted by managers. (Hofstede, 1968; Wilson et al, 1986; Otley, 1987) However, the major difficulty is in identifying what are these goals will be.

Merchant (1984) argued and rightly so that budgeting is now generally recognized to be used differently in different organizations. Top management philosophy about how the company should be managed is central to the *design and use of the budget*. The top management philosophy has several dimensions. For example, top down bottom up as one dimension. Another dimension is the role of the management accountants dimension. In our study, we attempted to explore the views or assumptions of the top management of the participating companies regarding the use of the budget. This was done in this research by investigating budgetary participation, budgetary approval, non-financial targets, standard specification, and the use of quantitative and/or qualitative data .

(i) Assessing the value of budgetary participation

Budgets can be prepared on any time scale. Typically when we talk about budgets we mean the annual master budget. But we can have a medium term say three years budget and a long term budget say five years. These longer term budgets identify corporate strategy and would typically not involve subordinate participation. When we consider participation we generally think of it at the operational level. This is typically reflected in the annual budget.

Whether budgetary participation has value is reflected in the literature in the top down and bottom up debate. If it is valuable, how far should it go down?

The top down approach implicitly places a value of zero on participation. Of course in practice it is possible to conceive of companies operating with a mixture of bottom up and top down. For example, participation may only come so far down the hierarchical structure of the organization.

The results of the interviews showed that in all the surveyed companies, department heads and presidents participate in the preparation of the operating budget for fiscal

periods. Three of the joint venture companies indicated that shop foremen also participate in preparing the budget. Only one of the Saudi-owned and managed companies was found to rely solely on the accounting department in the preparation of the budget . However , although many of the Saudi owned and managed companies claimed that they include departments heads in budget participation , an in depth analysis of their responses and comments in a number of places indicates that the extent of their participation both in the preparation and subsequent use of the budget is in most cases limited .

Umpathy (1987) argued that top level managers who desire active participation in the activities of managers at lower levels would prefer more frequent formal meetings regarding budget matters. This preference for more meeting was in fact a preference for reinforcing the value of active participation. The formal meetings between top level managers and lower level managers regarding the budget were found to be more frequent in the joint venture companies. Five of the nine joint venture companies prefer monthly meetings, while three companies prefer quarterly meetings. Only one company was found to have bi-annual meetings. The meetings between top level managers and lower level managers in the Saudi-owned and managed companies were found to be monthly by only two companies, quarterly by two companies, bi-annually by two companies and yearly by two companies. One company does not hold any meetings at all. This is, of course, the company which relies solely on the accounting department in the preparation and final budget approval. This evidence on the number of meetings is a broad indicator of the value placed on participation on both the Saudi owned and managed companies. However , it is not surprising to find that the managers in the Saudi owned and managed companies do not emphasize budget meetigs due to the fact that most of these companies use the budget for expenditure control rather than management control . In contrast most of the joint venture companies emphasize budget meetings for the

purpose of investigating budget variances because they emphasize the use of the budget as a managerial control device .

The bottom-up process of establishing budgets is more popular in the joint venture companies than in the Saudi-owned and managed companies. In eight of the nine joint venture companies the subordinate levels of management are requested to submit goals and objectives relating to their particular function for review and final approval by higher levels of management, compared to only five of the nine Saudi-owned and managed companies. The other four companies were found to establish goals and objectives exclusively by members of higher management without consultation with subordinate levels of management. In these small sample companies it may be difficult to identify the systematic factors that explain this difference. However, the cultural and/or educational differences could be considered as the main reason behind the different views and assumptions of senior managers of the surveyed companies.

(ii) The budget approval

The formal budget approval in the Saudi-owned and managed companies was found to be given mainly by the board of directors, except in two companies in which the chairman of the board and the president were found to be involved. Also, in the Saudi owned and managed company which was found to rely solely on the accounting department for the preparation of the budget, its final budget approval was confined to the financial manager. The total reliance of this company on the accounting department in the preparation and final approval of the budget suggest that the top management does not consider budgeting to be an important process in managing company activities. In contrast, the majority of the joint venture companies indicated that the board of directors, controllers, presidents and chairman of the board are all involved in formally approving the budget. The use of multiple

approvals and active involvement of senior managers is common practice in the joint venture companies. This is an indication of the degree of importance attached to the budget in these companies. Other committees, including the executive committee, management committee, planning committee and budget committee do not seem to play a decisive part in approving budgets in any of the participating companies.

(iii) Non-financial budgetary targets

A natural focus for planning and control would be to emphasize financial measure, because performance of companies is reported through a profit and loss and balance sheet. However, it would not be surprising to find non-financial targets set as internal goals.

With regard to the use of non-financial budgetary targets, seven of the nine joint venture companies chose quality and five chose productivity. Another five companies chose human resources development. Safety and environment were added to the list by five other companies. In contrast, quality was chosen by only four of the Saudi-owned and managed companies. Productivity was chosen by only one company, and human resources by two companies. Three of the Saudi-owned and managed companies do not seem to establish any non-financial target during the budgetary process. The results suggest that the joint venture companies emphasize the use of non-financial targets compared to their counterparts. At least one or two non-financial targets were found to be used by each joint venture company.

(iv) Standard specification

There has been a long standing debate about which standard should be incorporated into the budgetary process. Traditionally, the consensus view has been that standard should be "currently attainable". More recently however, there has been in the

literature a move toward "ideal standard" as the issue of the new manufacturing environment has gathered pace.

The respondents were given five choices to indicate the level of difficulty of budgetary targets used in their companies: almost impossible, challenging, slightly beyond reach, attainable, and relatively easy. Budgetary targets are rated to be challenging by four of the joint venture companies, and the other five companies stated that their financial targets are attainable. On the other hand, Saudi-owned and managed companies seem to have varying preferences in the extent to which budgetary targets should be difficult. One company stated that their financial targets are slightly beyond reach and two companies rated it as challenging. The remaining six companies do not seem to exercise pressure on managers, because four of these companies indicated that their financial targets are attainable, and the other two companies rated such targets as relatively easy. It should be noted that the respondents were in general answering a question they thought related to standards of achieving output levels . Of course , the question is usually asked about the efficient conversion of inputs to outputs . This was not surprising since, as has been noted before , efficiency is not of paramount importance .

(v) *Quantitative vs Qualitative Data*

Higher level managers in the Saudi-owned and managed companies attach more importance to qualitative data -visual inspection- in evaluating organizational subunits compared to their counterparts, the joint venture companies. Six of the nine Saudi-owned and managed companies were found to emphasize the use of the qualitative data, and the remaining three companies were found to attach equal importance to both quantitative and qualitative data. In contrast, only one of the joint venture companies was found to emphasize qualitative data , two were found to

emphasize quantitative data and the remaining six were found to attach equal importance to both quantitative and qualitative data.

(vi) *The purpose of the budget*

As we indicated earlier in this section that the literature of management accounting advocates a broad role for budgeting in management's overall task of planning and controlling business operations. However, one budget can be used to serve several purposes. For example, budgets used for planning and coordination can also be used for evaluation.

All the participating companies indicated that, they use the same budget for planning, coordination and evaluation. However, a closer look at the data collected revealed that all the Saudi owned and managed companies do not use the budget for evaluation or coordination purposes. The main concern of top level managers in the Saudi owned and managed companies is to focus on the output and breakdown (time and frequency) which are considered as the most important standards for them, at the expense of budgetary control information. In the majority of the Saudi owned and managed companies the budget is mainly used for the purpose of controlling expenditure rather than as a management control device. In contrast the budget was found to be used by the majority of the joint venture companies in performance evaluation and coordination.

7.4 Committee Management

The meeting is the prime vehicle used in organizations to facilitate coordination . The task force is a committee formed to accomplish a particular task and then disbanded. In contrast, the standing committee is a more permanent inter-departmental grouping; one that meets regularly to discuss issues of common interest.

Our survey results show that five of the nine Saudi-owned and managed companies considered interdepartmental task forces and committees as moderately important organizational devices. In contrast, seven of the nine joint venture considered interdepartmental task forces as moderately important devices. Four of the Saudi-owned and managed companies and two of the joint venture companies rated such devices as of limited important organizational devices to be used in managing their companies.

One could argue that committee management is relatively more emphasised by the joint venture companies than by the Saudi-owned and managed companies.

The use of the task force is optional compared to the standing committee which seems to be part of the formal structure of the organization. The task force seems to be ignored by the majority of the participating companies. On the other hand, the standing committee which have been indicated as being used by many companies were: Purchasing Committee; Operating Committee; Contract Committees; Product Quality Committees and the like.

However, the majority of the Saudi executives in the companies which considered committee management as a moderately important device were, in fact, found to place emphasis only on what might be called business committees or top

management committees. These committees consisted of chief executives and departmental heads. They mostly meet on a weekly basis. The other committees do not appear to be encouraged by Saudi top managers. The investigation with all the chief executives in the Saudi-owned and managed companies regarding their reliance on such a device in decision-making resulted in many criticisms and negative attitudes towards such a device.

For example, one of the Saudi chief executives commented:

"I do not encourage the use of committees in solving problems, because the different views of committee members sometimes create problems and cause delay in decision-making. I would rather listen to all the different views of the committee members and make the decision myself than to let such events occur in my company."

In addition, the controllers in two of the Saudi-owned and managed companies which considered committees to be of minor importance as a device in managing their companies, stated that their President and/or Vice President usually discusses the matter with all parties concerned regarding any important issue before making a decision. One of these controllers commented: "Our company does not rely on committees because we are very centralized."

This comment, in addition to the previous comment made by one of the Saudi chief executives seems to explicitly indicate that the tendency toward centralization by top management is the major factor behind the limited use or non-use of committees as a managerial tool. Participation in decision-making, however, is one of the important functions which committees serve. Organizations with strong participator ideologies would have a particular affinity for them (Khandawalla, 1977).

The strong participatory ideology seems to exist in four of the nine joint venture companies. These companies were found to stress team work. In these companies, each manager has an accountant to consult in all financial matters (this is an emphasis on horizontal communication). The chief executives of these companies do not only emphasize their support to committees in their companies as an important management tool, but also emphasize the membership of the accountant in each committee. The existence of an accountant in committees will, no doubt, enhance the utilization of accounting service in these companies . In addition many of the members of the committees which were involved in production decisions were found to have a good accounting background . This in turn will enhance the utilization of accounting information . A further important function which committees are able to serve is coordination, which will be discussed in the following section.

7.5 Communication and Coordination

Organization structure should facilitate the communication among employees and departments that is necessary to accomplish the organization's overall task. Two channels of communication are known to exist: vertical; that is, between superior and subordinates or horizontal; that is between employees and managers at the same level. Horizontal channels of communication to achieve the coordination of departments and levels into an organizational whole.

Evidently, the budget is an important channel of communication and coordination. The budget serves as a vehicle through which the action of the different parts of an organization can be brought together and reconciled into a common plan. Through the budget, top management communicates its expectations to lower level management so that all members of the organization may understand these expectations and can coordinate their activities in order to attain them.

One would expect that the continuous follow-up of top managers for accounting reports would result in a call on middle managers to explain variances. Once middle managers feel the interest of top managers in asking for an explanation of variances, they in turn will be ready for such explanation and middle managers will be expected to be motivated to call for their subordinates for an explanation. In this way, the budget could be considered as a very important vertical communication and coordination device. In addition the horizontal communication and coordination between the accounting department and other departments will be encouraged as a result, due to the fact that once the subordinate feels that his superior will ask him for an explanation, he will review the accounting reports carefully and discuss them with the accounting department. He could argue with the accounting department regarding validity of their figures.

The direct contact between managers and across departmental boundaries is an important device for the horizontal channel of communication. The importance of such a device to accounting is the direct contact between managers and accountants, which is emphasised by Simon and his associates (1954) and more recently by Biggs et al. (1991). As Simon and his associated indicated, the direct contact between accountants and managers is one of the principal ways in which the operating manager learns to use accounting data and the accountant learns about operating technology and problems.

Also, Simon and his associates pointed out that when managers are strongly motivated to use accounting information, the horizontal channel will be used effectively with little need for formal planning or for elaborate formal procedures. But when managers are not strongly motivated to use accounting information, Simon emphasised the importance of the support of top management.

The findings of the research revealed that, due to the fact that the Saudi owned and managed companies do not emphasize the budget as a control device, its role as a coordination device was found to be minor. In contrast, the emphasis placed on the budget by the majority of the joint venture companies seems to give the budget a relatively major role in communication and coordination. It was due to the fact that the majority of the joint venture companies were found to emphasize the periodical budget review and the investigation of variances. This emphasis, however, seems to increase the communication between superiors and subordinates and enhance the role of the budget as a coordination device in these companies.

The direct informal contact between managers at the same level was found to be encouraged by five of the joint venture companies. In these companies, the accountants seemed to have regular discussions with the operating managers regarding the causes of the variances. Their investigation exceeds the boundaries of their offices. The accountants go inside the factories and see the machines themselves, which causes the variances and they learn the technical causes through discussion with the operating managers in these companies.

On the other hand, the top management of these five companies were found to assign an accountant to each manager to consult on all financial matters. The purpose of assigning an accountant to each manager in these companies is to provide accounting services to all departmental managers, which helps them to manage their units efficiently and effectively. As one chief executive stated:

"Each manager has goals and objectives which we want him to reach efficiently and effectively. We do not mind if a manager exceeds his budget as long as his spending benefits the company."

The use of management by objective technique in these companies is expressed by the chief executive with the assignment of accountants to managers to consult regarding efficient ways of reaching the goals and objectives, seems to be a promising way of encouraging managers to use accountancy data. This is due to the fact that the evaluation performance of managers depends on their reaching their goals and objectives efficiently and effectively.

Nevertheless, the direct communication between managers and accountants was not found in the Saudi owned and managed companies except in one company . The majority of the Saudi owned and managed companies and some of the joint venture companies were found to rely on top management committees to coordinate their activities. These committees consist of the representatives of the interfacing departments who meet with the director general weekly.

In three of the Saudi owned and managed companies, the director general was found to be responsible for coordination. Recently, one of the general directors of these three companies assigned three full-time employees to coordinate between departments and report to him monthly. This was the only company which was found to use full-time employees for the purpose of coordination.

7.6 Personnel Characteristics

7.6.1 Managers' Attitudes Towards Accounting

Daley et al. (1985) conducted an empirical study regarding managers' and controllers' attitudes toward financial control systems in Japan and the United States. Relative to the United States controllers, Japanese controllers were found to be more concerned with controllability, autonomy in making purchases, evaluation using budgets and using monetary measures in budget. In addition, they were less concerned with participation in budget development and more favourably disposed toward analytic approaches. One could argue that it is not surprising to find that the attitudes of managers and/or controllers in developed countries differ from country to country, or perhaps even in the same country towards the application of various management accounting techniques. But the case regarding developing countries is different. Due to the fact that most of the argument in the literature of accounting in developing countries emphasizes the low level of the application of management accounting techniques, and that managers in developing countries consider accounting as merely a record-keeping function rather than a provider of information for decision-making. Therefore, the question which poses itself is whether the managers of the participating companies recognize the potentially wide spectrum of useful services that an effective management accounting system could render.

However, in our study, we did not ask a direct question or try to use any instrument to measure managers' attitudes towards accounting. But it is not difficult to assess such attitudes because we investigated in depth both the application of management accounting techniques and the managerial use of accounting with both the managers and the accountants. In most of the chapters, the reader can easily extract the attitudes of the managers toward accounting. Particularly in Chapter Six, where we

investigated the managerial use of accounting information and the role of accountants in decision-making.

Generally speaking, the majority of the Saudi-owned and managed companies seem to perceive accounting as a record-keeping function. In contrast, the majority of the managers in the joint venture companies seem to recognize the important role of accounting in providing information for both the planning and control function . However , it appears that there is a relationship between the attitude toward accounting and the role of accounting in decision making and control in the participating companies .

7.6.2 Locus of Control

The locus of control construct suggests that individuals differ with respect to the assumptions regarding the nature of causation and control over outcomes (pleasant and unpleasant) which one experiences in life. Some tend to believe that they are responsible for the outcomes or their behaviour causes and controls the outcomes (internal locus of control). Others tend to believe that the outcomes they experience in life are determined by forces outside themselves (external locus of control) (Rotter, 1966).

Brownell (1981) investigated the relationship between budgetary participation and locus of control in the United States. He found that budgetary participation was found to have a positive effect on those individuals who felt that they had a large degree of control over their destiny but it had a negative effect on those individuals who felt that their destinies were controlled by luck, chance or fate.

Frucot et al. (1991) also examined the relationship between budgetary participation and the locus of control. But their study was conducted in the developing country of

Mexico which provides a cultural contrast to the United States. Although their study involved higher level managers while Brownell's study involved middle managers, the results of the two studies were broadly the same.

In the Mexican study the internally oriented managers (high level managers) were found to be more positively affected by budgetary participation than the externally oriented managers, which was the case with the United States' middle managers.

The external locus of control could develop as a result of managers' religion or culture. For example, in societies where people believe that success is in the hands of God, the people would be more externally oriented. And, in societies with high uncertainty avoidance involves the unwillingness of employees to take personal initiatives which are neither encouraged nor rewarded within organizations. Employees are dependent on the authority structures and develop an external orientation Mendonca et al., (1990).

Nevertheless, Kanungo et al. (1990) argued, and rightly so, that the locus of control beliefs in developing countries tends to be more external, indicating more of a sense of fatalism in the internal work culture.

With this assumption, one could argue that in developing countries the external locus of control could have an effect on the extent of use of accounting information by managers. One would expect that the externally oriented managers do not actively seek to better their organization's position or condition or to increase the frequency and kind of information they normally received about the results of their organization's activities, and hence are low users of accounting information and place no importance on accounting figures.

In our study, we did not examine the locus of control as a separate factor, but we included it in our discussion regarding the social and cultural factors.

However, western managers and accountants did not consider the social and cultural factors as critical in the application of western management and accounting techniques in Saudi Arabia (see Chapter Nine) .

CHAPTER EIGHT

ORGANIZATIONAL CHARACTERISTICS AND THE DEGREE OF SOPHISTICATION OF MANAGEMENT ACCOUNTING TECHNIQUES

8.1 The Literature Review

The Theory of organization started to receive the attention of the members of the accounting profession by the mid 1960s. Golembiewski (1964) was among the first authors to point to the adaptation of accounting to organization theory. He stated:

"..... it seems appropriate that organization theory receive considerable attention by members of the accounting profession which is presently in the throes of rethinking its scope and methods."

Many early theories of organization were universal in nature in that they specified the best way in which a particular task could be organized regardless of other circumstances. The classical management theorists viewed organizational structure as an independent variable and believed that there was a one best way to structure an organization. Thus, both scientific management theory and administrative theory are full of prescriptions about how organizations should be structured to achieve the highest level of efficiency. Since the 1960s organizational and management theorist have begun to look at organizational structure as a variable that is dependent upon other factors. Some have indicated the importance of technology as a determinant of structure (Woodward 1965, Perrow, 1967) others have found the effects of size to be more pervasive (Pugh et al 1969) and others have emphasized the

relationship between the organization and its environment (Burns and Stalker 1961, Lawrence and Lorsch 1967). Management accounting has been closely linked with the questions of organizational structure. Traditionally, management accounting has emphasized a "universalist" or "one best way" approach. The accounting system is seen as closed to its environment with clearly defined goals and objectives. The increased attention from the accountants to the theory of organization coincides with the development of contingency theories of organization structure while the accounting researchers adapted it to management accounting.

This could be considered as the main reason for the movement away from a universalistic approach toward a contingent approach. The contingency approach is based on the premise that there is no universally appropriate accounting system which applies equally to all organizations in all circumstances. It attempts to identify specific aspects of an accounting system that are associated with certain defined circumstances and demonstrate an appropriate matching. It is both descriptive (in explaining why organizations have adopted a particular accounting system) and prescriptive (in explaining the type of accounting system that ought to be operated in a particular set of circumstances).

In applying contingency theories to management accounting the researchers have sought to uncover the impact of size (Merchant, 1981), technology (Daft and McIntosh, 1981), environment (Hayes, 1977, Govindarajan, 1984), management style, (Hopwood, 1972, Otley, 1978), ownership (Jones, 1985) and organization structure (Bruns and Waterhouse, 1975, Merchant, 1981) on the design of budgets and other organization control.

Although there is a large body of literature supporting contingency theory it is not without its critics. In a number of papers Otley (1980, 1983, 1987) has reviewed some key contributions of a behavioural and organizational nature to the development of management accounting. He believes that contingency theories represent one of the most significant developments in management accounting. However, Otley had made some reservations specifically mentioning the fact that studies applying contingency theory to management accounting have completely adopted contingency theory from organizational theory including its weaknesses. He argued, that this is an over-simple theoretical model which has given misleading results. The critical weakness of work to date lies in the tendency of contingency theories to overlook the fact that accounting systems design is but one part of the design of an overall organizational control system and this prevents the prescriptive potential of contingency theory. Management accounting systems are considered as an integral part of an organization's fabric and are closely interwoven with organizational structure and processes to enhance organizational control (Waterhouse and Tiessen 1978). This is due to the fact that management accounting systems provides information for the coordination, integration and control of the organization. Therefore, the management accounting system is an important part of the overall control package of the organization. The application of contingency theory to management accounting information systems has had a much slower development than its application to organization theory. The complexity of the interrelationship among the contextual variables of the contingency theory seems to be the major reason behind the scarcity of empirical research in management accounting. As late as 1986 Chenhall et al stated:

"Although considerable emphasis has been placed on potential benefits of contingency theory applications to accounting

research, only a few empirical investigations exist perhaps empirical research is scarce because of both the complex interrelationships among contextual variables and the difficulties in developing theories of how these complex interactions influence the design of MAS (management accounting system)."

The approach which we have used in this research is to study the general feature of management accounting systems in its organizational and environmental context. This is to identify which of the contextual variables may have an effect on the design and the use of the management accounting system in the participating companies.

8.2 The Organizational Structure

Most theorists believe that organisational structure is developed as a response to the problem of control. Basically, control can be achieved by the type of organisation structure adopted. By adopting a particular structure certain kinds of contact and relationship will be encouraged, but others will be discouraged. An essential aspect of organising is the segmentation of organizational activities. Segmentation can be considered as a means of enabling the organization's environment to be sub-divided into parts that are manageable by the organisation's decision makers. (Chenhall et al 1981.) The notion of segmentation as a structural response to environmental circumstances has been developed through the concept of differentiation. This term was used by Lawrence et al (1967) to refer to the tendency for managers of organizational sub-units to develop their own ways of organising work in order to cope with their part of the organisation's total external environment. Differentiation is only one design problem facing the organisation. The other side of the same coin and another design problem is integration. Integration refers to the extent

to which collaboration and cooperation exist between different sub-units that are required to achieve a unified effort.

Lawrence and Lorsch (1967) found that the most successful firms that is in terms of the commercial success were those which achieved the required differentiation and were then able to integrate the diverse units. The degree of differentiation and integration required differed as between industries and firms within industries according to the diversity and turbulence of environments faced. The most difficult integrative tasks arose when units had a high degree of inter-dependence and also operated in turbulent environments. Inter-dependency is also another important aspect of organisation structure which we will discuss later.

However, the way in which organisations differentiate and integrate their activities can affect the managerial decision and control process. For this reason, management accounting systems which are designed to provide information for decision making and control must be consistent with the broad intent of the structure (Chenhall et al 1981).

8.2.1 Differentiation and Integration

Organisations differentiate itself into sub-units so that each faces a more homogeneous and manageable environment. Achieving effective integration and coordination depends on an understanding of how and why the organisation was initially differentiated. The degree and type of inter-unit integration depend on what is needed to make the set of sub-units function as a whole. The choice of methods to achieve integration is thus another decision that the planning and control system designer must make.

Among the alternative means that can be used to achieve coordination are by prior planning, by standardisation, by information interchange through transfer pricing or by ad hoc committees and coordinators. (Dermer 1977). There are several ways in which organisations may differentiate themselves. Differentiation occurs in two directions: the vertical specialisation of activities represented by the organisational hierarchy (see section 8.2.3 below) and the horizontal differentiation of activities, called departmentalisation. The vertical differentiation is represented by the hierarchy moving from the president to the vice-president, divisional managers, plant managers and supervisors and finally to the operative levels. The vertical differentiation establishes the managerial structure whereas the horizontal differentiation defines the basic departmentalization. Taken together they set the formal structure of the organisation.

The three primary bases of departmentalisation are function, product and location.

All the companies which participated in this study were found to be functionally organised. In most of the companies the functions were:

1. Production department
2. Personnel department
3. Financial department

A Marketing (or sales) department was found in only one of the joint venture enterprises and five of the Saudi owned and managed enterprises. These are the companies which sell their product internally. The majority of them are the only seller of the product in their industries. The rest of the joint venture enterprises and Saudi owned and managed enterprises which are exposed to

international markets do not have such a department. For these companies advertising and distribution activities were found outside these organisations. These activities were found to be handled by Sabic and its foreign partner for all petrochemicals companies, and by Samaric and its foreign partner for all petroleum companies. In general all the companies which participated in this study have a very simple segmentation. In other words they have a low level of differentiation.

There is no doubt that accounting has a role to play as an integrative device between sub-units. For example, Gordon and Miller (1976) argued that effective accounting information systems can serve as powerful co-ordinative devices, particularly if the degree of organisational differentiation is quite high. However, as we indicated earlier the level of differentiation in all the companies which participated in this study is low. In organisations with a low degree of sub-unit differentiation Chenhall et al (1981) argue that managers' decisions can be guided or directed by rules and routines, by specifying through the formal hierarchy who is responsible for particular actions. Therefore, accounting has less role to play as an integrative device in organisations with a low level of differentiation.

8.2.2 Interdependency

Differentiation is not the only factor that causes integration problems for the organisation. Another important organisational characteristic that poses structural design problems is the type of interdependence between activities. Interdependence means the extent to which departments depend upon each other for resources or materials to accomplish their tasks.

Thompson (1967) argued that, the organisational structure and form of co-ordination depend upon the internal interdependence of the organisation. He defined three types of interdependence that are widespread in the modern organisation:

1. pooled
2. sequential
3. reciprocal

The first is pooled with each part not necessarily directly dependent upon and supportive of the other parts, but supportive of the organisation as a whole. The parts are interrelated only to the extent that they share financial resources from a common pool, for example banks branches.

The standardization of operating procedures has been suggested as a tool for coordination particularly in a stable environment and managerial accounting systems should focus on standards costs (Sathe et al 1987).

Sequential interdependence is the second type. One part of the organisation produces outputs which become inputs for another part. This is direct interdependence with a specific order of interrelationship. The parts also make a contribution to the organization as a whole.

The third type of interdependence described by Thompson is reciprocal where the outputs of each become inputs for the others. This is also inclusive of pooled and sequential interdependence, as there is also a pooled aspect to sequential. Hospitals are considered as an example of this type of interdependency. As the organisation moves from pooled to sequential interdependence, coordination becomes more difficult.

Several accounting researchers have identified interdependence across departments as a potentially important organisational variable for future management accounting studies (e.g. Otley 1980, Chenhall and Morris 1986).

More recently Macintosh and Daft (1987) conducted a study which focused on departmental interdependence and control system design. They viewed the accounting system as part of an organisational control package. They selected three elements of the control systems namely, the operating budget, periodic statistical reports, and standard operating policies and procedures. Their findings indicated that departmental interdependence is related to the emphasis placed on each management control system. Under conditions of pooled interdependence the findings indicated that managers tended to use standard operating policies and procedures more than budgets and statistical reports'. For sequentially interdependent departments the findings indicated that managers tended to use budgets and statistical reports more than standard operating policies and procedures.. But under condition of reciprocal interdependence the role of all three control systems seemed to diminish.

However, when we included this organizational dimension as a variable, we were expecting that all the petrochemical companies would be managed by Sabic and all the petroleum companies would be managed by Samarec . And that was an indication of interdependency for at least some of the petrochemicals or the petroleum companies. But in reality they were all found to be totally independent of each other. Therefore interdependency as a structural factor was largely irrelevant.

8.2.3 The degree of centralization, standardization and formalization

Centralization refers to the hierarchical level that has authority to make a decision. It refers to the extent to which decisions are taken by superior managers rather than subordinate managers.

Formalization is the extent to which procedures, rules, instructions and communications are formalized - that is reduced to writing (Pugh et al 1969).

Standardization refers to the extent to which similar work activities are performed in a uniform manner (job description).

These dimensions of the organization structure are considered as an important element of organizational control (Child 1987).

The Burns and Waterhouse (1975) study showed that where decision making was generally centralized, less complex accounting controls were used, such as standard cost-variances. Where on the other hand, a bureaucratic control strategy was followed, accounting controls were not necessarily more complex, but managers at different hierarchical levels perceived that greater control was exercised throughout the organization and that they participated more in the budgeting process. This result has led them to suggest that a decentralized and structured organization operating in a stable organizational environment seems particularly well suited to the use of budgetary control.

Gordon and Narayanan (1984) examined the effects on management accounting system design of perceived environmental uncertainty and organizational structure acting singly and in combination. They found strong correlations between these three variables but after they control the effect of

the environment, information systems and organization structure are not significantly related.

This finding has led Gordon and Narayanan to suggest that:

" Organizational structuring and characteristics of information sought by decision makers are complementary strategies in responding to their perception of the environment. "

Nevertheless, Otley (1987) believes that it is difficult to disentangle the direct effect of organization structure on the accounting system.

The findings of our study indicate that the Saudi owned and managed companies are relatively more standardized and more centralized than their counterparts of the joint venture companies, but relatively the same degree of formalization.

However, we have indicated earlier in this section that all the participating companies are functionally organized. In a functionally structured organization where one manager is responsible for all the activities, one would expect a fairly high degree of centralization would be the manager's chosen approach (Child 1984). In general, this was the case with all the participating companies. The centralization was generally the approach but the joint venture companies were found to be a lot less centralized compared to its counterparts of the Saudi owned and managed companies. In other words, they have the tendency to delegate authority to lower level.

With regards to standardization, all the participating companies indicated that they use a manual of procedures except one of the Saudi owned and managed

companies. And in regard to the extent of detailed description of employee tasks in the manual, the Saudi owned and managed companies appear to have a more detailed description of employee tasks than the joint venture companies where most of them seem to prefer outlining the most basic tenets except two companies.

The implication of these findings indicate that in general there is a relationship between these two organizational dimensions namely centralization and standardization and the sophistication and the role of management accounting systems. This is due to the fact that the joint venture companies which were found to have relatively a more sophisticated accounting systems and the accounting in these companies has a role in decision making and control compared with their counterpart, were found less centralized and less standardized.

Nevertheless, this is a tentative result, due to the fact that the link between these dimensions and management accounting systems is very complicated and relatively new area of enquiry (Child 1984), therefore these factors should be studied in more depth and with a larger sample.

In addition, the task of studying the relationship between management accounting systems and structure involves a consideration of the contextual factors both within and outside the organization such as technology, environment etc. These contextual factors will be discussed later in this chapter

8.3 The Organizational Size

Organisational size has been considered by many writers as an important variable affecting both structure and the control system. Most of the writers in accounting in developing countries argued that in developing countries, companies tend to be smaller in size and employ a simple technology and so are relatively less complex than companies of the more developed countries. Accordingly, they claim that size is one reason behind the low level of accounting practice in developing countries. However, one could argue that small companies can employ a complex technology. In addition many developing countries in recent years have developed a variety of industries with high technology and which are large by world standards.

In the west numerous empirical studies have been conducted by organisational theorists evaluating the relationship of size and organisational structure.

Organisational size usually defined as number of employees has received strong support as a contingency theory variable. Child (1973) among many other organizational theorists defended number of employees as the most appropriate measure of size by observing ((...it is people who are organised)). Studies have usually found the structural dimensions of job titles, number of departments and levels of hierarchy to be strongly affected by organisational size. Decentralisation of authority, formalization of rules and co-ordination have also usually been found to be affected by size. * Accounting researchers, also used size as a contingent variable. For example Merchant (1981) examined budgeting from a contingency theory approach and used size as a contingent variable. His result showed that managers in the larger decentralised and more diverse firms participated more and had greater personal involvement in budgeting, than did those in small firms, who had

fewer formal communications with superiors and subordinates and saw budget performance as an important part of the corporate reward system. The larger firms also showed a significantly higher association of performance and budget variables. Performance was associated with participation in the budgeting process, the importance placed on meeting budget targets. Although not specifically a contingency theory study Lander et al (1984) included the effect of organisation size in their study of the activities of management accountants. Accountants in large firms had higher levels of education and higher earnings. Accountant in large firms were more likely to be specialized, while those in small firms were engaged more in data collection and duties that overlap into other functional areas. Accountants in small firms spent more time preparing reports and were more likely to be involved in decision making. Large firms were more likely to have a treasurer's department with less accountant involvement in cash flow and working capital forecasts. In conclusion, the role of management accountants differed in organisations of different sizes. Accountants in large firms are more involved in analysis and planning.

It is clear that size should influence the degree of sophistication of the management accounting system . The relationship is not down to size per se but rather that size is a proxy for organizational complexity and it is the desire for improved management accounting systems in complex organisations that are should expect to observe . However , this research was never intended to say anything about size since size was a factor to be controlled for in the research design . Moreover , as it turns out , the sample companies are not complex in organisational terms . Thus although there are clear differences in management accounting systems between the joint ventures and Saudi owned and managed companies these are to be explained by the environment rather than the attempted controlled variable -size .

8.4. The Organizational Technology

The importance of technology has been extensively discussed by organisational theorists as a determinant of organisational structure. For example Woodward (1958, 1965) conducted the first important empirical study which examined the relationship between technology and structure in 100 English manufacturing firms. These firms were classified into three levels of technical complexity: unit or small batch, large batch or mass production and continuous process. According to this study, structure, technology and the success of the organisation were correlated. Otley (1987) argued that the distinction between different types of production technique as defined by Woodward (1965) is a factor that has long been recognized as influencing accounting information system design. The nature of the production process determines the amount of cost allocation rather than cost apportionment that must take place. In job-order costing the measure of production output is well defined and only limited allocation and averaging are required because a large proportion of total costs can be directly associated with specific jobs, by contrast, in process costing extensive allocation and averaging are required because the bulk of total costs are incurred jointly by a mix of final products (Otley 1987).

As indicated earlier in Chapter (3), Perrow (1967) identified four distinct types of technology - these are routine, technical, professional and craft and research.

He suggested that each type of technology could best be served by distinctive organisational arrangements designed to suit the special needs of the task. Perrow's typology is broad enough to include all types of organisations, where as most other research had focused on manufacturing such as Woodward (1965). In our study we used Woodward's because our study focused on

manufacturing industries. Nevertheless according to Woodward (1965) and Perrow (1967) classifications, all the companies which participated in this study could be classified as simple routine technology industries. Chenhall et al (1981) has argued that one would expect to find a high reliance on budgeting and cost accounting for decision making and control. This however, is arguable. It could be argued that with simple technologies a limited management accounting information system is required since predicting consequences from managerial action choices is unproblematic and furthermore control is relatively straight forward.

However, as with size, this research was not designed to compare technology as an explanatory variable for observed differences in management accounting systems since an attempt was made to control for it in the research design. As has been said there are differences in management accounting practice but these can in no way be attributed to technology.

8.5 The Organizational Environment

Environmental factors have also been invoked to explain differences in the use made of accounting information. Environmental factors can be characterized in terms of a certainty continuum. Indeed, with certainty there could be no demand for management accounting information.

Competition is one of the factors that contribute to an uncertain or turbulent environment, and may take the form of price, marketing or product competition. Products can be divided into two general classes: differentiated products and commodities. For differentiated products to be successful an emphasis is required on developing a product, a method of distribution, or some other feature that is perceived as being unique to the industry. And for commodities to be successful an emphasis is required on decreasing costs. In

other words, the lower the costs the more competitive the commodity. Therefore one could argue that product competition is most relevant to differentiated products and price competition is most relevant to commodities (Anthony, 1988).

Khandwalla (1972) was one of the first accounting researchers to examine the effect of the external environment on management control practices. Khandwalla emphasized the effect of competition on control by stating:

"The greater the competition, the greater the need to control costs and to evaluate whether production, marketing, finance are operating to expectations."

His study examined price competition, marketing competition and product competition as perceived by presidents, marketing executives and controllers of the firms and their relatedness to control methods. Overall competition was connected to the use of controls. Price competition was connected to the use of controls, but in general had little or no effect, while market competition had a modest positive effect and product competition had the greatest effect. Output price is one of the easiest variables to change and it requires minimal information from a management accounting system. The only information required is a costing system and cost control.

Hence if price competition was the only dimension to competition we would expect to see a relatively unsophisticated management accounting system.

On the contrary, it is not surprising to find that product competition has the greatest effect on a control system due to the fact that in product competition the competition would involve strategies such as modifying a product or

developing a new product and this in turn would require many activities such as research and development, manufacturing and marketing and these activities require coordination and control.

Also Gordon and Narayanan (1984) emphasized the intensity of competition as an environmental factor which causes uncertainty. They argue that the more intense the competition facing the firm, the less control the firm exercises over its environment. The findings of their empirical research indicated that as decision makers perceive greater environmental uncertainty they tend to seek external, non-financial and ex-ante information in addition to conventional cost information.

Similarly, Chenhall and Morris (1986) observed a significant association between environmental uncertainty and broad scope (external information which include both financial and non-financial) and timely information, the greater the uncertainty, the more managers sought broad scope and timely information. These studies focus upon the uncertainty in output markets. Of course, there may also be uncertainty in input markets. This turned out to be unimportant here. Input risk was negligible.

All the companies which participated in this study share the same degree of predictability and stability regarding their inputs of materials, labour and capital. All the companies were found to be highly automated with labour force considered as a minor input. Given that, very cheap labour was available in neighbouring countries this might seem a surprising result. However, the government of Saudi Arabia has enthusiastically involved supporting these companies and many others with interest free loans and subsidies. Hence, in relative terms capital was cheaper than labour and would explain the relative lack of labour as a input. Also, raw materials are readily and cheaply provided.

Importing spare parts and additives from abroad were found to cause no concern due to the strong financial ability of these companies.

Turning to output and considering competition as an environmental factor we can categorize the surveyed companies into three groups:

1. Three of the Saudi owned and managed enterprises and one of the joint venture enterprises were found to be the only seller of their products in the internal market (monopoly), and their sales price is less than their costs.
2. Three of the Saudi owned and managed enterprises were found to enjoy government protection against outside competitors.
3. Eight of the nine joint venture enterprises and three of the nine Saudi owned and managed enterprises were found to be exposed to international markets.

It appears that the first and second groups of the companies are operating in a relatively stable environment. The third group, however, seem to operate in a relatively uncertain environment. All these companies sell commodity products with a high degree of homogeneity. The third group of the companies which are exposed to international markets were found to face severe price competition, particularly the petrochemical companies. In such conditions, one would expect that the control system would emphasize cost control (Anthony, 1988).

Notwithstanding, it has been stated in Chapter 5 that management accounting systems in the joint venture enterprises are more sophisticated than those of the Saudi owned and managed enterprises. In regard to their environment, our

finding showed that only one of the joint venture enterprises seems to operate in a relatively stable environment while the rest of the companies are operating in a relatively unstable environment, because they are exposed to an international market. In contrast, there are six of the nine Saudi owned and managed enterprises which operate in a relatively stable environment. Therefore one could argue that generally speaking, there is a correlation between the sophistication of the management accounting techniques and the role of accounting in decision making and control and the competition as an environmental factor. Of course, this cannot be a complete analysis since the prediction for the joint ventures would be a management control system that focused upon cost control, (which is a traditional view of cost accounting) while for Saudi owned companies the environment does not influence the control system .

8.6 The Organizational Goals

Every organization has one or more goals. In nearly all business organizations an important goal is to earn a satisfactory return on investment. Other goals are to provide employment stability to provide a good working environment, to serve the community and society to reduce risks and so on.

Corporate goals or objectives can have far reaching effect upon organizational structure. For example Chandler (1962) found that:

“Decisions to expand the volume of activities to set up distant plants and offices to move into new economic functions or become diversified along many lines of business, involve the defining of new basic goals... a new strategy required a new or at least

refashioned structure if the enlarged enterprise was to be operated efficiently".

Most successful organizations consider growth to be a desirable goal because it is likely to attract investors, fulfil the personal ambitions of senior employees and attract better staff. Growth may be achieved by increasing market share, entering new markets which are complementary to existing activities or by diversification.

Nevertheless, three of the Saudi owned and managed companies were found to emphasize market share as their main goal. This was due to the fact that these companies are facing a sharp decrease in demand. Another three Saudi owned and managed companies were fully owned by the government and found to seek no profit, because the prices were controlled by the government. Their main goal is to meet the demand for their products. And, they are the only seller in the market. The three Saudi owned and managed companies which are exposed to international market did not emphasize profit. The majority of the joint ventures, however, were found to emphasize profit as the main goal. The emphasis on profit in some of the joint venture companies coincides with price competition. These two factors together seem to correlate with the sophistication of management accounting system and the role of controllers in decision making and control.

8.7 The Organizational Age and Ownership

The relationship between an organization's age and its structure has been investigated by organizational theorists as a contingent variable. For example, Inkson et al (1970) indicated that given no change in ownership, the older the organization is, the more formalised its activities.

In the literature of the contingency theory of management accounting the age of the company is found to be largely neglected Dent et al (1987). However, in this study there was no relationship between the age of the companies and the degree of sophisticated of management accounting systems.

A more important factor is the ownership of the organization. Organization theorists differentiate between publicly owned organizations (government owned) and privately owned organizations. Publicly owned organizations are more bureaucratic but less efficient than privately owned organizations (Khandwalla, 1977). Privately owned organizations seem to allow a high degree of autonomy compared to publicly owned organizations (Pugh et al, 1969) ie they are more decentralised.

Jones (1985) conducted a study which focused on the accounting systems of companies that had recently merged or had been taken over. He studied the accounting system of the companies before and after acquisition of both the acquiring and acquired companies and demonstrated the dominating effect of consistency with the acquiring company's accounting information system. His study indicates the importance of ownership in determining the type of accounting information system utilized by a subsidiary company (Otley 1987).

In our study, however, we have differentiated between the joint venture enterprises and the Saudi owned and managed enterprises. This type of differentiation implies the importance of ownership. It was assumed that the ownership of western companies will affect the degree of the application of western management and accounting techniques. Generally speaking, the joint venture enterprises were found to have more sophisticated management accounting systems and the controllers in these companies have more of a role

to play in decision making and control, compared to the Saudi owned and managed enterprises (see Chapter five and six).

In addition, some of the joint venture enterprises were found to have got more sophisticated management accounting system than others and the controllers in these companies have got relatively more influence on decision making and control. A closer look at the data collected for the purpose of this study will reveal that the joint venture enterprises which have got less sophisticated management accounting system and relatively lower role of controllers in decision making and control, were the companies with only 30% ownership, while the others have 50% ownership. In these companies (30% western ownership) Saudi managers and accountants seem to have a say in managing these companies more than western managers and accountants. Generally speaking, one could infer from this that there is a strong relationship between the western ownership of companies in developing countries , such as those in Saudi Arabia and the role of the accountant in decision making and control.

8.8 Commentaries and Conclusions

In this chapter we have used the contingency approach to the design of management accounting systems. An accounting control and information system will only comprise one element in the control structure of an organization. The contingency theory approach firmly places the design of the accounting information system in the context of organizational responses to a wider environment such as organization structure etc. An effective accounting system, that is, one that achieves organizational control, must be designed to match or fit the particular characteristics of the organization and its environment. Many writers have argued that the contingency theory can enrich our understanding of the workings of management accounting.

Although progress along these lines has been slow, the research and theory-building achievements are impressive (Macintosh 1985). We now have an organized way of relating the features of an accounting system and the circumstances under which it is to operate. We know, for example, that firms operating a routine technology in a stable environment should focus their management accounting systems on efficiency measures such as standard cost and variance reports. By contrast, firms operating in unpredictable environments with non-routine technologies require management accounting systems which feature general performance information and stressing output measurements, Waterhouse and Tiessen (1978). We know more about how elements in the competitive environment require differing degrees of management control sophistication, Khandwalla (1972). In general the body of literature available to us today demonstrates that information provided by the accounting information system and the practices and techniques used to obtain this information should vary according to uncertainty created by various contingent factors such as technology, size, environments etc. Although this has been generally supported in the literature, contingency theory is not without its problems and limitation which has been soundly documented by critics such as Otley (1980), Dent et al (1987). Otley had some reservations regarding contingency theory and management accounting, specifically mentioning the fact that contingent variables are ill-defined, and the dimensions of organizational structure considered differ from study to study.

In conclusion, there is a large body of literature supporting contingency theory. Measure of the contingency theory variables used in this study have been chosen because of their empirical support in the literature.

Notwithstanding, our study did not intend to develop evidence to support the contingency theory but rather to examine the reasons behind the differences in

management accounting practices in the surveyed companies. A decade and a half ago such differences might indicate shortages in management accounting practice and all the blame would be put on the management of such companies.

Our survey result showed that all the companies which participated in this study are functionally organized with a low level of differentiation, and all the companies surveyed used a very similar technology. Although there were different sizes and age of companies in our sample the majority of them differed slightly. However, none of these factors were found to have any effect on the design and the degree of sophistication of management accounting systems. The ownership, goals, and environment of these companies were found to be the most influential factors. This was due to the fact that there are some differences between the Saudi owned and managed enterprises and the joint venture enterprises regarding these three factors. The companies which are fully owned and managed by Saudi nationals were found to have relatively less sophisticated management accounting systems and the controllers in these companies were found to have less of a role in decision making and control. The majority of the joint venture enterprises are emphasizing profit as the main goal while three of the Saudi owned and managed enterprises have mentioned it as an important goal but did not emphasize it as much as some of the joint venture enterprises. In regard to the environment we have found that the majority of the joint venture enterprises are exposed to international markets compared to only three of their counterparts. These companies are facing price competition. In four of the joint venture enterprises, western managers and accountants were found to have a say with their emphasis on profit as the main goal which coincides with price competition as being seen to be the most influential contingency factor on the design and the degree of sophistication of management accounting systems .

CHAPTER NINE

THE MAJOR CHARACTERISTICS OF THE NATIONAL ENVIRONMENTS OF SAUDI ARABIA

9.1 Introduction

As indicated in the literature review, (see chapter 2) the accounting system of the developing countries was either imposed or imported from Western developed countries (UK, USA) . What has become of concern to both academics and practitioners is whether the system can be applied without regard to economical, educational, political, social and cultural conditions of the developing countries, which are plainly different from that of the developed countries .

The current consensus view is that these factors are important and hence inhibit the application and importance of accounting in these developing countries. As a result it has been suggested that each country should develop an accounting system appropriate to its own needs .(for more detail see chapter 2) .

Nevertheless, this study is concerned with comparing the management accounting practice between the Saudi owned and managed companies and the Western joint venture companies operating in the same environment . This would minimize the influence of these factors but not fully control for them .Differences could arise . For example , the joint ventures would be employing accountants with a different accounting education to their counterparts in Saudi owned companies . A highlight on the effect of these factors will be considered in this chapter .

9.2 Economic environment

In applying the research methodology of matched pairs we have attempted to control for some economic factors. However, it is important to appreciate the nature of the economic environment of Saudi Arabia where this study is taking place.

Saudi Arabia is a developing country. In regard to the nature of its economy, it is a free enterprise economy. Until recently the Saudi society was basically engaged in primitive agriculture, fishing and the Hajj (pilgrimage) trade. The little trade and commerce that existed was dominated by small individually owned establishments (Knauerhase, 1975). One person could handle all business activities without help. The owner employed close relatives when assistance was needed. Owner-managers felt little need to keep accounting records. When they did, these records were primitive and on a single-entry basis (Shinawi, 1970).

Since the early 1960s the Saudi government started to recognize the importance of reducing its dependence on the production of crude oil as the primary source of national income. The General Petroleum and Minerals Organization was established in 1962. The objective was to undertake the responsibility of planning and establishing basic industrial projects with a special focus on extractive and other national resources industries. In addition to a direct role in industrialisation the government has provided subsidised financing and offered a protected economy.

In 1975 a sole Ministry for Industrial Affairs was founded which was an indication of government emphasis on industrialization. Hence, the government has taken a number of measures to facilitate industrialization in the Kingdom. In addition to its direct role of establishment and expansion of industrial estates, which the private investors are unable to undertake, a very generous financial support from the

government was provided at a very low interest rate i.e 2 percent on outstanding balances. As a result, the remarkable growth in the number and size of companies was very noticeable .

This rapid growth seems to have brought with it many problems. Among these problems is the shortage in the labour market for skilled manpower including accountants. This was due to the fact that Saudi Arabia has a small population relative to the size of the economy. Much of the economic expansion of the 1970s and early 1980s has necessitated the use of ex-patriot labour. Government's determination to reduce reliance on foreign labour, especially in the areas of technology and science is clearly shown in its investment in and strategy for education. In particular , accounting education appears to have received a great deal of attention. For example, many accounting departments have been established. Indeed, in some regions where there are no economic or business colleges , they have been established in colleges of education.

The protection of domestic industry from international competition is an important device for the industrial development of developing countries. This device was used by the Saudi government. The implementation of such a device sometimes coincides with a very high demand for some products and creates what is known as the "sellers" market. In this situation an overemphasis on the production function will be placed at the expense of other functions such as accounting. This has been the case of the cement industry for the last fifteen years or so.

Another economic factor that seems to relate to a developing economy such as the Saudi economy and has an influence on accounting is the nature of the production of the industries. It is primarily commodities of the natural resources such as oil, minerals and agriculture.

These industries, typically involve simple production processes with a single output. These are not multiple input multiple output organizations which rely upon a management accounting system to provide cost control and the planning control of interrelation and integration.

In sum the Saudi Government has become actively involved in industry (this is in sharp contrast to the west where Governments are arguably withdrawing from industry through their privatisation policy) provided subsidies for inputs, (especially capital) and protected markets for outputs by preventing foreign competition and controlling prices.

9.3 Social and Cultural Factors

Given the evidence in the western accounting literature on the quality of accounting education in developing countries and its lack of impact it is not surprising to find this repeated by western accountants. However, it is possible that the degree of influence in Western culture is inappropriate in an Eastern culture. In other words, the standards that have been set for the level of sophistication in a country such as Saudi Arabia are not those to be found in a country such as the US. In interviewing western managers and accountants this was not the opinion expressed. They were of the view that social and cultural factors were not critical to the application of western management theories and techniques.

This result is surprising, since there are some fundamental differences at play. In a management accounting context differences arise in both the planning and control dimensions and the choice of organisational design. Planning for the future is one area of difference. In developing countries, including Saudi Arabia , there is a widespread belief that no one can influence to any degree the events in the future.

Events occur simply as a matter of nature. This type of belief or attitude toward the future differs from that of Western societies. In Western societies most of the people see themselves as having choices which can influence outcomes in the future. Lane et al (1988) argue that in a situation like this, goal setting would tend to be qualified hesitant and vague and that budget systems would be futile. The feeling of being unable to influence events in the future would in effect complicate the problems of getting managers to work for the objectives of the company, to meet budget objectives or even to take a serious part in planning and control efforts.

A similar problem arises on the control side where Saudis do not like mistakes being pointed out or admit that they have no explanation for variances. This attitude seems to be found in many developing countries as part of the culture. Therefore, personal evaluation of manager's performance in such circumstances must be handled carefully. All criticism in front of others should be avoided. Discussion of a manager's performance should be a very private matter and should be oriented to company objectives and how the manager can help achieve these objectives, rather than to his own shortcomings. Also, with regard to performance evaluation, the relationship between superior and subordinate in developing countries is often a personal one and Saudi Society's culture is not an exception. The predominance of this type of relationship then places participants at a disadvantage in the performance management process which demands a relatively objective and rational focus on job tasks and goals, and on action plans to meet them. This part of the Saudi culture was not only recognised by Western managers and accountants but also affected the policies of recruitment and performance evaluation in some of the joint venture companies. There were three of the nine joint venture companies stating that they did not hire relatives or friends. As one DG stated that in their company they do not hire people from the same tribe. In addition, the performance of new Saudi

employees must be evaluated by Western managers or accountants at first even if the superior of those employees are Saudi nationals.

Another phenomenon in developing countries is the tendency to extreme centralization. Savage (1978) argues that managers in developing countries like most people of these countries, are the products of highly-structured, traditional societies, where all authority is derived from family (or tribe) position and submission to authority is seen as the way to avoid the anxieties of living. Since authority in the traditional society derives from position (as family or tribal leader or as business owner), only the elite are seen to have authority. Authority is a symbol of eliteness and for an official or an owner to give up or delegate authority is "to give up a part of his eliteness." This may help explain why authority is "to give up a part of this eliteness." This may help explain why persons from traditional societies often find it impossible to delegate authority even though they may agree with the concept of delegation as being necessary. Furthermore, persons with tribal authority find it difficult to act in a business subordinate role.

It is difficult to reconcile these fundamental differences in belief, society and culture with the view of western accountants. One possibility is that the lack of literacy so dominates questions of society and culture that the latter do not surface as real issues. Alternatively, there is always the possibility of a less than truthful response from the interviewees. For example, the interviewees may have found it embarrassing to express their real views to the interviewer of the same culture. Above all, the method of discovering information about the social and cultural factors might be more appropriate by observation rather than questioning.

Finally comments were obtained from public accountants in one of the Western consultancy firms in Saudi Arabia. These people have been involved in designing management control systems for many companies in the country including three of

the Saudi owned and managed companies which participated in this study. Of note was the emphasis on the tendency of Saudis toward extreme centralization. One western public accountant stated that in designing the management control system of the three companies they were in favour of decentralization due to its size and complexity. But the Saudi representatives from these companies which were owned by the Government were insisting on the centralization of the system. He stated that even the representatives at the ministry level were in favour of centralization. (The effect of centralization on the management accounting system has been dealt with in Chapter 8.)

9.4 Political and Legal Structure

The political factors are closely interwoven with the cultural, economic and legal factors (Kollaritsh, 1984). A nation's political philosophy can be seen in its degree of nationalism and its policies concerning specific economic activities, social issues and the like. For example some countries emphasize a planned economy, while others emphasize a market economy as the system that underpins economic policies. This would have a direct effect on accounting systems. Because in a planned economy the accounting system would stress macro information and in a market economy the accounting system would stress micro information.

Of course, as indicated in Chapter (3) there is some interrelationship between economic, political and other factors but the interrelationship is beyond the concern of this thesis. What concerns us here is whether there is an effect on management accounting systems from the political and legal structure. In fact we have explained earlier in this thesis that the comparison between the participating companies is in one country which will result in minimizing or controlling some of the factors. As a result this factor can be considered to be minimized as long as these companies are in one country. Particularly, fostering joint ventures was found to be a major priority of

the Saudi government's economic policy and this would help in believing that any possible effect from these factors will be at its minimum level.

In this study of joint ventures and Saudi owned companies the legal structure of corporate status is adopted by both . The implication of this is that there is no legal difference which would create a potential demand for different management accounting systems to be in place . The prediction is that the law is not a variable which will explain any variation between management accounting practices .

9.5 Accounting education

9.5.1 General overview of Accounting Education in Saudi Arabia

In the early decades of the present century, no serious attention was given to formal and widespread accounting education in Saudi Arabia. By 1959, however, the College of Administrative Sciences (initially known as the College of Commerce) at King Saudi University (KSU) was initiated as the first institution of higher education to offer a business curriculum in Saudi Arabia. This was followed by two Business Colleges, one of which is at King Abdul-Aziz University (KAU) (1967) and the other one at King Fahad University (KFU) (initially known as the University of Petroleum and Minerals) (1974). All three Saudi institutions with business curricula offer undergraduate majors in accounting. The medium of instruction at KSU and KAU is Arabic and at KFU is English. In the 1976/1977 academic year the Masters Degree Programme at KAU was initiated and followed by another masters programme in the 1985/1986 academic year at KSU. Moreover, many other accounting departments were initiated in different regions where most of them were part of a College of General Education. All these academic developments were

initiated and sponsored by the government of Saudi Arabia. Therefore, one could argue that Saudi accounting education had taken a major and fast step to meet the needs of the rapid economic development. Saudi students enrolled at the university receive generous financial aid from the government. The government provides for all university students in all subjects including accounting free tuition, monthly allowance, subsidized meals at the university cafeteria, essential medical care, furnished accommodation, free textbooks etc.

Nevertheless, the curricula of accounting has varied somewhat from university to university. The only generalization to be made is that the emphasis is on the technical aspects of accounting (what might be referred to as bookkeeping) while an emphasis on philosophical, theoretical and functional aspects of accounting, especially with respect to the developing countries, is less than desired. This is considered by many writers in accounting in developing countries as a common problem for all developing countries. For example, Perera (1975) describes accounting training policies in developing countries as follows:-

"The approach to accounting has always been one that emphasizes the technical or mechanical aspects of accounting. Practically trained accountants tend to eliminate from serious consideration all abstracts and abstruse concepts of accounting possible because such complexities are not well received or understood by them."

Recently Agami and Alkafagi (1987) have surveyed the accounting educational systems of some middle east countries including Saudi Arabia and have noted this problem and commented:

"Liberal arts education must replace the rigid technical accounting education now dominant in the Arab world. Fewer accounting courses should be required; those that are required should be less procedural and more conceptually oriented. The Arab world needs educated accountants and policy makers who are able to help decision makers; it does not need technicians and bookkeepers."

Therefore, it is important to provide the students with a general education which enable them to respond to the needs of the economy and society more readily and help them to be amenable to changing environments. The general education should emphasize courses such as the role of accounting in economic development, Saudi Arabian Economic Development, accounting concepts which are missing from the curricula of Saudi universities. The emphasis on the intellectual rather the technical approach will produce "thinking" accountants rather than "number crunchers". In this regard Hove (1986) concurred with Scott (1968) who stated:-

"The link between a liberal education for accountants (interdisciplinary approach) and their ability to adapt accounting to a changing environment suggests the possibility that the most important requirement of the accounting of developing nations may not be to acquire more technical expertise in accounting.. Perhaps more important is the education of accountants to be amenable to changing environments."

Another problem concerns the content of the accounting curriculum that is taught in Saudi universities. This is clearly related to the diversity in the backgrounds of the accounting faculty.

Most of the Saudi and non-Saudi faculty in the Saudi universities, received their doctrates from different countries such as the United States, the United Kingdom, and France. Therefore, the accounting systems, methods and techniques taught are oriented toward the accounting environment of the country in which the degree is obtained. This indicates that the accounting training is oriented towards the wrong environment. This is also a common problem for all developing countries.

There is a shortage of qualified indigenous accounting faculty in the Kingdom. More than one-half of the Accounting Faculty in Saudi universities are non-Saudis. Egyptians represent the Primary Nationality Group Teaching at the Arabic-speaking universities and Americans dominate the relatively small faculty at the English - speaking KFU, (Adnan et al, 1986).

Therefore, it is not surprising to find that only a very few textbooks and reading materials which are related to the Saudi Business Environment exist in the curricula for accounting .

Also, one must not forget that the Saudi Secondary School Education System emphasize learning by rote. This gives little practice in analysis and problem solving and the students do not approach the analysis of the facts and ideas in a meaningful way.

9.5.2 Number and Qualifications of Accountants

Information on the number and qualifications of accountants in both the Saudi owned and managed enterprises and the joint venture enterprises is shown in Table 9.1.

An immediate observation that can be made relates to the relative size of the accounting function between the Saudi owned and managed enterprises and the joint venture enterprises. From the table it can be seen that the percentage of total number of accountants to total number of employees in the Saudi owned and managed enterprises (2.90%) is lower than that of joint venture enterprises (3.62%). Thus on average, the Saudi owned and managed enterprises had relatively fewer accountants. In addition, of the Saudi owned and managed enterprises, three companies had the lowest ratio of accountants to total number of employees. These were Company 2, 4 and 5.

This observation matches a previous observation that on average the degree of influence of the accounting function and its accountants in the field of decision making is significantly less for the Saudi owned and managed enterprises than for the joint venture enterprises. Furthermore, it has already been observed that within the Saudi owned and managed enterprises these three companies (2, 4 and 5) showed the least degree of influence for the accounting function and the accountants in decision making.

Table 9.1

	High School or Less	B.Sc in Accounting or Business Admin.	Master in Accounting or Business Admin.	Professional Qualifications	Total Number of Accountants	Total Number of the Company's Employees	Percentage of Accountants to Employees
Companies							
<u>Saudi Companies</u>							
Co.1	25	12		2	39	1235	3.15%
Co. 2	2	10			12	700	1.71%
Co. 3	10	20	1	1	32	620	5.16%
Co. 4	8	6			14	740	1.89%
Co. 5	2	20			22	1230	1.78%
Co. 6	4	6		1	11	400	2.75%
Co. 7	14	34	1		49	2026	2.41%
Co. 8	19	28		2	49	1153	4.24%
Co. 9	16	8		2	26	639	4.06%
					254	8743	2.90%

	High School or Less	B.Sc in Accounting or Business Admin.	Master in Accounting or Business Admin.	Professional Qualifications	Total Number of Accountants	Total Number of the Company's Employees	Percentage of Accountants to Employees
Companies							
<u>Joint Venture Companies</u>							
Co.1	19	4	1	5	29	950	3.05%
Co. 2	27	10	4	3	44	1800	2.44%
Co. 3	11	10	1	1	23	705	3.25%
Co. 4	6	8	4	3	21	806	2.60%
Co. 5	11	7		1	19	240	7.91%
Co. 6	1	9			10	260	3.84%
Co. 7	7	11	2	2	22	750	2.93%
Co. 8	40	25		2	67	1151	5.77%
Co. 9	6	16	3	2	27	548	4.92%
					262	7221	3.62%

However, further investigation of Table 9.1 reveals that the size of the accounting function is not highly correlated with the degree of influence in decision making because Company 3 and 8 of the Saudi owned and managed enterprises have the highest percentage of accountants and still have a relatively low degree of influence in internal decisions on planning and control. While Company 4 and 7 of the joint venture enterprises were found to be amongst those companies which attach a greater importance to accounting and accountants in its managerial decision making despite the number of its accountants being relatively low when compared to other companies. Thus the results of this study do not strongly support a common observation found in the literature of accounting in developing countries, namely that it is a shortage of accountants which leads to their less influential role in the function of managerial decision making.

In addition to the size and quantity dimension there exists a quality dimension. There are clearly difficulties involved in measuring quality but one simple way of dealing with this issue is to look at the education and accounting qualification profile as a proxy for quality. This is also shown in Table 9.1. The table begins with those who hold High School or less and ends with those who hold professional qualifications such as CPA, CA and the like. It is noteworthy that the number of accountants with Masters degrees or professional qualifications in the Saudi owned and managed enterprises was only ten compared to thirty four for joint venture enterprises .

The percentage of those who hold Masters degrees and professional qualifications to total number of accountants was 0.39% for the Saudi owned and managed enterprises compared to 1.22% for its counterpart. The number of employees with High School or less is seen to be very similar in the two forms of organization.

It has been argued in the literature of management accounting in developing countries that highly qualified accountants can increase the role of accounting in management decisions. From the observations made above about the relative qualifications of accountants this study would seem to lend some support to such an argument. However, the results are ambiguous. In Company 1, 2 and 9, the petroleum companies, we observe that they have a relatively higher proportion of qualified accountants but we cannot say that they attach a great importance to the accounting function. As we explained before (see Chapter 6) a linear programming model was found to be used as the main managerial tool for management control. In this production environment, the traditional budgetary control function of management accounting does not provide timely information. Production volumes are highly variable over short periods of time which is inconsistent with say monthly or even weekly reporting. (Of course this is only one aspect of the accountant's role but traditionally this is a very important part of the management accountant's role). This observation however, does not in itself diminish the quality aspect. It could be explained in terms of an industry effect and that if we were to control for the industry effect we would see the quality effect showing through.

Now it could be argued that the simple partition of qualifications from High School to professional is too simplistic as a proxy for quality. A finer partition would be to divide the Higher degrees or professional qualifications into those gained in the West (US or UK) and those gained in developing countries. In the Saudi owned and managed enterprises only three accountants were found to hold western professional qualifications. The remainder had gained their qualifications in their native countries such as India or Pakistan. In contrast, all the accountants in the joint venture enterprises had qualifications gained either in the US or the UK. This finer partition would therefore seem to strengthen the association between quality and influence.

A further refinement on this quality and influence dimension would be to look at the position of the superior qualified staff in the hierarchy of the organisation. In the Saudi owned and managed enterprises only one of the best qualified accountants was found to be the Controller. In fact, in this case he held a Masters degree in accounting from the US. In general, senior positions in these companies were held by Saudi nationals who were neither graduates or professionally qualified.

In proxying for quality, an additional dimension must be that of experience. *Ceteris paribus*, if the controller has a higher degree or professional qualifications but is relatively inexperienced then this must have consequences for the degree of influence in managerial decisions. Pertinent to this aspect has been the Saudi Government policy on Saudization. This policy is a relatively recent response to the difficulties being experienced by Saudi university graduates in finding employment in Saudi Arabia and involves placing a 'qualified' Saudi national in all jobs held by expatriates. In the case of accounting the high positions were held by expatriates and the consequence of the policy was that it made these positions open to Saudi nationals with only a few years experience providing they held a Bachelor degree from Saudi Universities. Given the general criticism of Saudi education in particular this is cause for concern. Adnan et al (1986) pointed specifically towards this point saying:

"The lecture method (in Saudi Universities) essentially results in one-way communication and, hence, does not engender a good learning environment for students. Students' study and learning habits become passive, mechanical and tend to focus on description and techniques. The students do not approach the analysis of the facts and ideas in a meaningful way and so the development of their problem solving skills is impaired."

It is clear that for positions such as Controller the pre-requisite are a good accounting education and experience. The previous comments regarding the quality of Saudi education in accounting and the policy of Saudization ensure that within Saudi owned and managed enterprises the controller and his peers will have little credibility and hence little influence in managerial decision making. During one interview one western accountant commented upon the Saudization of the accounting career:

"I believe this policy will kill the ambition in the Saudi accountants. Saudi accountants do not have to work hard and prove themselves before taking up high positions in accounting departments. They are only waiting for the expatriate to leave to take his position."

Nevertheless in the joint venture enterprises high positions in accounting were found to be held by highly qualified western accountants (from the US and UK). It is almost impossible for Saudi accountants to hold these positions despite the pressure on the companies from the policy of Saudization.

In conclusion, what is evident from the investigation is that accounting in Saudi owned and managed enterprises has little managerial influence because of quantity and quality dimensions. In this study quantity was simply the ratio of accountants to all employees while the quality was proxied by both academic qualifications and experience. In sum in Saudi owned and managed enterprises:

- (i) there are relatively fewer accountants
- (ii) they did not have equivalent qualifications and
- (iii) they had little experience of managing the accounting function and hence credibility in managerial decision making.

There is no doubt that managers' accounting education has its effect on the managerial use of accounting . Many of the Saudi managers admitted that they did not receive formal accounting training or have any experience . The ignorance of accounting was very clear and can be easily extracted from their answers and discussions (see chapter 6) The few saudi managers who have claimed to have formal accounting training do not seem to prove that they are anywhere near that level of their counterparts in the joint venture companies .

Many of the western managers in the joint venture companies were found to have a very good background in accounting. Many of them had been working with leading international companies in the United States . Therefore many of them had formal training and experience . The other point which worth mentioning here regarding managers' accounting education is that the researcher has met with some Saudi engineers who were working as managers in the joint venture companies. They had a very good accounting background . Their good accounting background was not only as a result of the formal training that they had received but also , as a result of the accounting practice in these companies . Many of them stated that managing their budget properly represented an important part of their performance evaluation .

9.5.3 Western Accountants and Managers views and perceptions

As we indicated earlier in the joint venture enterprises, high positions in accounting departments are held by highly qualified western accountants. As a consequence, almost all Saudi accountants in these companies were found to be used as book-keepers. Despite this reality, western accountants claim that they give Saudi nationals every chance to develop adequate accounting knowledge so that they can

have equal opportunity in promotion. This claim has been confirmed by many Saudi nationals who hold high management positions in these companies. These Saudis claim that Saudization is working in all fields including accounting.

The researcher had the opportunity to meet with some of these Saudi accountants some of whom were among the first to join the joint venture enterprises. These accountants stated that they started their training in the US before the factories were built in Saudi Arabia. This training in the US was in similar type factories, was up to seven years duration and occurred in five of the nine joint venture enterprises. They were clearly the best qualified Saudi accountants and indeed had made some progress in promotion but they were of the opinion that they were far from qualified to hold the high accounting positions and hence replace the western accountants. This opinion was based on the following arguments:

1. The training programmes had been conducted by western accountants and had been deliberately set at a low quality threshold to ensure that the recipients of the training were not sufficiently qualified.
2. Saudi accountants were in relatively short supply and of those that were available they held, in the main, Saudi qualifications. These two features together with Saudization implied no filtering out of the relatively poorly qualified and hence Saudi accountants had acquired a poor reputation.
3. Saudization had also another effect, namely, reducing the incentive for success. Since ability was not going to be a factor in their success they had little incentive to acquire the knowledge and skills required for promotion.

These features were not common to the Saudi accountants, western accountants offered similar opinions. This can be illustrated by the following comments:

"They (Saudi accountants) do not seem to have learnt much from their Universities."

Another Western accountant described the background of the Saudi accountants as too technically oriented and put the blame on the teaching methods in Saudi Universities. He stated:

"It seems to me that the methods of learning in Saudi Universities is technically oriented not conceptually oriented."

All Western accountants seem to agree that the most important issue regarding the quality of Saudi accountants is that they lack analytical skills. As one controller stated:

"They are very weak in analysis." "They do not seem to have any analytical skills. Our company has to develop these skills in them."

The development and training of the Saudi accountants in these companies did not go without some complaints and comments from some Western accountants.

One Western controller stated that in his company, one of the means of training Saudi accountants was to widen their experience by rotating them across different sections inside the accounting department. But he claimed it was very difficult to

move Saudi accountants from one section to another. He believed that their deficiency in accounting knowledge was one of the main reasons behind their resistance to the rotation. As he claimed, his company can not do anything to those who refuse to co-operate. He commented:

"Saudi accountants took the job for granted and it is impossible for any of these companies to fire a Saudi national for his bad performance."

In this company however, one of the Saudi accountants refused to move from his section to another and when the controller insisted, he complained not to the DG but to the headquarters in Riyadh, and he got what he wanted.

Another remark pointed out by Western controllers regarding the training of Saudi accountants was their lack of flexibility in the process of analysis. If management reports were not standardized they were often confused.

An example was provided in one of these companies which seems to have recognised the difficulties which Saudi accountants are facing. In this company, the controller believes that the best way of making sure that Saudi accountants know very well what they are really doing, was to ask them to write the accounting procedure themselves. For example, the Saudi accountant who is in charge of cashing cheques must write such procedures himself. In other words, this company started to formalize the accounting procedures for the sake of speeding up the accountants learning, minimizing confusion, and above all making sure that Saudi accountants have no alternative but to follow the written procedure.

Nevertheless, the controller of this company stated that when Saudi accountants have the alternatives of learning several ways of doing something they prefer to learn one way of doing it. In general, what all of these examples illustrate is the fundamental weakness of accounting education in Saudi Arabia.

CHAPTER TEN

SUMMARY AND CONCLUSIONS

The objective of this study was to compare the management accounting practices of the Saudi owned and managed companies and the joint venture companies located in Saudi Arabia.

A literature review was conducted in order to gain a better understanding of the major issues regarding the application of management accounting in developing countries. Accounting systems in developing countries was shown to be imported from western developed countries (UK, USA) and there is no developing country who was able to construct a system of accounting designed primarily to meet its own information needs. It has been argued that accounting systems should be developed conditional upon a number of factors . Accounting systems are not to be constructed independent of differences in political, economical and cultural conditions in the developing countries. As a result, it has been argued that each country should develop its accounting systems in a manner relevant to its needs. Conducting research studies is one approach to the development of accounting systems in a manner relevant to the needs of the society in which it exists. This can be considered as one objective of this research. However, studying the accounting practices of the developing countries by relying only on western accounting theoretical literature might not be as beneficial as comparing accounting practices between the developed and developing countries. This is especially the case given the perceived gap between theory and practice in western developed countries. In other words, evaluating the state of progress in Saudi Arabia against a bench mark found in the western theoretical literature is inappropriate.

The literature of accounting in developing countries revealed that management accounting is at a very low level of usage and the researchers in this field have paid less attention to it compared with financial accounting. (see Chapters 1 and 2).

This study however, is intended to fill part of the gap in the literature of accounting in developing countries by studying the management accounting practice of the developing country of Saudi Arabia and compare it with the western joint venture companies in the same environment.

The research design of the study consists of a list of factors that were considered to have an effect on management accounting systems.

These factors can be divided into two groups.

The first group includes the national environments (country variables) which have been identified by the researchers in the field of comparative management and highly recognised in the field of accounting in developing countries.

These variables are:

1. Economic conditions
2. Education
3. Social and cultural factors
4. Political and legal structure.

The second group includes the contingency variables which have been originally identified by organisational theorists and recognised by western management accounting writers to have an effect on management practices. These factors are:

1. Organisational characteristics (size, technology, environment, structure etc.)
2. Management philosophy

The research was designed to control for some of these variables . For example , locating the study in one country minimized the impact of multi-country variation . Matching companies by industry and to some extent size minimized the effect of those factors . Any differences , if any , in the implementation of management accounting systems would then be explained by the non-controlled factors such as accounting education , social and cultural factors and management philosophy .

10.1 Summary

The summary of the findings is as follows:

(i) The levels of sophistication of management accounting techniques;

The budget was found to be widely used by all the participating companies. However, the control reports were found to be two to three months late in three of the Saudi owned and managed companies and one company did not prepare control reports at all. In contrast, all the joint venture companies prepared control reports on time. Moreover, at least four of the Saudi owned and managed companies did not compute budget variances while all the joint venture companies were found to compute variances.

The Saudi owned and managed companies did not use accounting data for performance evaluation, instead they used non-financial measures such as physical level of activity, attendance, behaviour and the like. While in contrast, the joint venture companies attached great importance to the use of accounting information for evaluating individual manager's performance evaluation.

When the companies were compared in terms of the number of quantitative techniques used for planning and control, it was found that the joint venture

companies tend to use a large number while the Saudi owned and managed companies tend to use a small number of the quantitative techniques.

Also, the use of the computer for performing financial activities in the Saudi owned and managed companies was found to be low compared to the joint venture companies. And the Saudi owned and managed companies were found to use less of the capital expenditure techniques than the joint venture companies.

The role of the internal audit department in the Saudi owned and managed companies was confined to the protection of the company's assets and the reliability of accounting and financial reports. While the internal audit department in the joint venture companies play a major role in the operational efficiency and the overall system of internal control in addition to the protection of the company's assets and the reliability of the accounting reports. There is no doubt that the emphasis placed on the operational efficiency by the internal audit department in the joint venture companies enhanced the managerial use of accounting.

It is clear that the joint venture companies have in place a more sophisticated set of management accounting techniques than the Saudi owned and managed companies.

(ii) The Controllershship function:

Accounting information is considered to have a major role in decision making and control. Managers were assumed to use accounting information for score-card, attention directing and problem solving. And budgetary information is relevant to all three purposes.

However, in the Saudi owned and managed companies, budgeting was found to be used to control expenditure rather than to be used as a managerial tool for planning

and control. As indicated in the previous section, four of the nine Saudi owned and managed companies did not seem to pay any attention to control reports as a form of feedback. For example one of these four companies did not prepare control reports and in three the control reports were usually two to three months late. The remaining five companies which claimed to prepare budget follow up reports were emphasising the control of expenditure in their uses of these reports. This type of practice observed indicates how low the managerial use of accounting is in these companies. In contrast, the majority of the joint venture companies were found to emphasise the use of the budget as a managerial tool (see next section). Therefore, one could argue that it is not surprising to find that the Saudi owned and managed companies do not use accounting information to measure the performance of the individual manager which was found to be emphasised by the joint venture companies.

Nevertheless, on the question of the extent of the use of accounting information for attention directing, the accounting information was found to be used on a limited and occasional basis for this purpose. This was due to the fact that the managers know about many serious problems such as break down and the like before they receive accounting reports. This was the case for both the Saudi owned and managed companies and the joint venture companies.

With regards to the managerial use of accounting information for problem solving purposes, it was found that the managers in the joint venture companies rely mainly on the regular accounting information provided by the accounting department and it is very seldom to find that they ask for special studies for a particular problem. However, the general feeling that was gathered from the responses and comments of the managers and the accountants and the emphasis placed on accounting information by the top management of these companies indicated that whenever there was an alternative to choose from which requires a special study, it would be prepared by the controller department. In contrast, if there is any use of accounting

information for problem solving purposes in the Saudi owned and managed companies it was extremely rare and when it did occur was relatively modest.

The managerial use of accounting is not the only issue that is worthy of attention in the controllership function. The other side of the same coin and another important issue in the controllership function is the role of the controller in decision making and control. The controller in the Saudi owned and managed companies in most of the cases either has no role or the decisions are taken outside the company. But in about three of these companies where the controller is perceived to have a role, his role is mostly an advisory one. The controller in the majority of the joint venture companies is perceived to have role and in some companies he had the major role in decision making and control.

(iii) Management philosophy

It has been argued that the management control function in an organisation is influenced by the style of its senior management. Managers differ as to the relative importance they attach to accounting information contrasted with non-financial data. Also, managers differ in other dimensions. For example, some are analytical others are heuristic. Some exercise tight control, others exercise loose control. These differences in management style are argued to have an effect on the managerial use of accounting information.

Nevertheless, the findings of this study indicate that the managers in the Saudi owned and managed companies were found to place more emphasis on non-financial devices such as production reports monthly narrative reports and informal contact and less emphasis on financial devices such as budgeting and long term planning compared to the managers of the joint venture companies who seem to pay great

attention to financial devices and relatively less attention to non-financial devices. Generally speaking, it was found that the managers in the majority of the Saudi owned and managed companies perceive accounting as a record-keeping function while the managers in the majority of the joint venture companies were found to recognise its important role in the planning and control function.

The study of top management beliefs regarding the design and the use of the budget revealed that:

1. Participation in budget preparation was found to be more emphasised by the joint venture companies and less emphasised by the Saudi owned and managed companies. In the joint venture companies the number of categories of persons participating in the preparation of the budget was found to be far greater than in the Saudi owned and managed companies. In the joint venture companies, the bottom-up process of establishing budgets is more popular and the formal meetings between top level managers and lower level managers was also emphasised in these companies. The managers in these companies were found to emphasise meetings on a monthly or quarterly basis due to the fact that these companies emphasised the investigation of budget variances. In many of these companies each member must meet with his functional vice president to discuss his performance and budget variance monthly and quarterly. While most of the Saudi owned and managed companies did not emphasise such meetings nor the investigation of budget variances.

2. The formal budget approval was found to be given mainly by the board of directors in the majority of the Saudi owned and managed companies, and in one company the budget approval was confined to the controller. However, the board of directors, controllers, presidents and chairman of the board were found to be involved in formally approving the budget in the majority of the joint venture companies. This is a clear indication of the importance attached to the budget in these companies.

The importance attached to the budget in these companies made it an important vertical communication and co-ordination device, particularly the emphasis that was found to be placed on the investigation of budget variances in these companies. In addition the continuous informal direct contact between managers and accountants which was found to be encouraged by many of the joint venture companies, seem to create an effective horizontal communication device. In many of these companies, the accountants visit the factory personally to investigate the reasons behind the physical material variances and then reports his views to the top management. In addition, each manager has an accountant to consult with all aspects of financial matters. There is no doubt that the continuous direct contact between managers and accountants will speed the exchange of information and improve understanding. In addition the managers will be more interested in using accounting information.

In the Saudi owned and managed companies the communication and co-ordination was found to be left to top management committees which consist of chief executives and the heads of functional areas in the firms. The less emphasis placed on budgetary information in these companies appears to make the vertical channel of communication in these companies ineffective and the informal direct contact between managers and accountants in these companies is almost non existent.

On the question of committee management the joint venture companies were found to emphasise the use of committees compared to their counterpart of the Saudi owned and managed companies and in most of the cases many of the members of the committees were found to have a good accounting background.

(iv) Organisational characteristics

Emphasising profit as a main goal in the joint venture companies was found to have a relationship with the role of accounting in decision making and control.

Price competition as an environmental factor also was found to correlate with the degree of sophistication of accounting system and the managerial role of accounting in decision making and control.

There is a strong association between the ownership and the degree of sophistication of management accounting systems and the managerial use of accounting in the organisation. The joint venture companies were found to have a relatively more sophisticated accounting systems and their managers emphasise the use of accounting information in their decision making and control compared to the Saudi owned and managed companies. A very important implication of these findings is that this result supports the argument that has been made in the literature of accounting in developing countries regarding the low level of usage of management accounting in developing countries compared to the developed countries.

(v) Country factors

In setting the comparison in one country an attempt was being made to control for differential country factors . However ,this did not lead to a commonality of economic environment . Saudi owned an managed companies and joint ventures were treated somewhat differentially in economic terms by the Saudi government . Furthermore , joint ventures exposed more of their output to international competition than Saudi owned and hence face different country factors .

The present state of the economy in Saudi Arabia seems to create a kind of a stable business environment in the country for both the input and output dimensions

particularly for the Saudi owned and managed companies. The strong economy of the country coincides with the emphasis on industrialisation placed by the government. Interest free loans were found to be provided and the raw materials for the industries selected were cheap. In addition, protection from outside competitors was also provided by the government.

This type of business environment or economic condition made it easy to make profits. As a result the managers are less enthusiastic about efficiency and effectiveness which are highly dependent on the use of accounting as a managerial tool.

Although western managers and accountants do not believe that social and cultural factors have any effect on the application of western management and accounting techniques in developing countries, the general discussions and comments have indicated that:

1. there is a tendency towards centralisation by Saudi authority.
2. the relationship between superiors and subordinates tends to be a personal one.
3. Saudi nationals do not like mistakes pointed out or admit that they do not know.

However, western managers and accountants admitted that they did not consider social and cultural factors as an issue at all when they designed the accounting and control system.

The percentage of the total number of accountants to the number of employees did not seem to have any simple relationship to the role of accounting in the participating companies. The joint venture companies which were found to have sophisticated accounting systems and accountants and accounting have a major role in the management of their companies were found to have qualified and experienced

accountants. Thus there was a quality dimension to be considered. In the joint venture companies there was little evidence of Saudi accountants in prominent positions.

Western managers and accountants considered the poor progress of the Saudi accountants working in the joint venture companies was due to the poor quality of the accounting education. They believed that the background of the Saudi accountants was too technically oriented not conceptually oriented. However, this is a common problem for developing countries. The emphasis of accounting education in developing countries including Saudi Arabia is argued to be placed on the bookkeeping aspect of accounting rather than the theoretical and philosophical aspect of accounting which includes accounting concepts, the role of accounting in economic development and the like.

Last but not least, the general feeling that was gathered from the interviews with the Saudi managers is that the majority of them lack accounting education and there is no doubt that this would make it difficult for them to make use of accounting information in decision making and control. In contrast, the majority of the managers in the joint venture companies are found to have a good background in accounting and they recognise its importance as a managerial tool.

10.2 Conclusions

In this section the implications of the research are presented.

The findings indicate that in general the joint venture companies have a more sophisticated accounting system and the managers in these companies emphasise the use of accounting information in decision making and control, compared to their

counterpart of the Saudi owned and managed companies. In addition, the accountants in the joint venture companies have a greater role to play in decision making and control.

These findings appear to confirm the argument made in the literature of accounting in developing countries that developing countries lack sophisticated management accounting systems, and that the managerial use of accounting in these countries is at a very low level compared to that of the developed countries.

However, the results of this study indicate that top management is one of the important factors which seems to have contributed to the differences in practices between the participating companies.

The implication of the findings indicate that the top management that emphasises the use of accounting information such as budgetary information will increase the communication between superiors and subordinates and enhance the role of the budget as a co-ordination device. This is what might be considered as an effective vertical channel of communication. The effective vertical channel of communication that was created by the effective use of the budget will also result in an increase contact between managers and accountants in the same level. For example, the investigation of budget variances will put pressure on subordinates who are required to provide answers to their superiors. In many cases this pressure on subordinates leads them to question the correctness of standards and figures in the reports. This will result in a direct contact between accountants and managers. Stated differently, when top management place an emphasis on budgetary information, the vertical channel of communication will be an effective one and the horizontal channel of communication will improve as a result.

Nevertheless, the horizontal channel of communication itself is important and requires the support of top management to make it more effective as the case with many of the joint venture companies which were found to encourage the informal direct contact between managers and accountants. The informal direct contact between managers and accountants is important because it creates a mutual understanding of each other's work. The accountants learn about the technical issues which are relevant to accounting and the managers learn to use accounting information. However, both channels of communication are important because it increases the reliance on accounting in decision making and control.

Another important implication of these findings is that the existence of an effective vertical and horizontal channel of communication in an organisation can enhance the role of the controller in decision making and control if he uses these channels effectively. This is due to the fact that the controller has the opportunity to get the necessary operating data for explanation of variances and discussion of problems with the operating managers through the horizontal channel of communication. Also, the controller has the opportunity to enforce the use of accounting information through the vertical channels (Simon et al, 1954). Therefore, one may suggest that as long as top management has this important role in enhancing the managerial use of accounting and the role of the controller in decision making and control, the top management of the Saudi owned and managed companies should play its role. The required role is placing an emphasis on accounting information such as budgetary information which will in turn motivate middle managers and their subordinates to use accounting information. In addition the top management should encourage the direct informal contact between managers and accountants.

However, it is not the top management alone as a factor that was found to have an effect on management accounting practice in the participating companies but there are other factors such as competition, organisational goals accounting education and

the like which were also found to have an influence on management accounting practice. These factors will be the subject of the remaining part of this section as follows:

1. The majority of the joint venture companies were found to emphasise profit as a major goal and this coincides with severe price competition in the international market particularly for the petrochemical companies. Controlling the costs was the only option for them to compete. These companies were found to have the most sophisticated accounting system of all the participating companies.

In contrast, six of the nine Saudi owned and managed companies were found in a sellers' market position which seems to have led the top management of these companies to emphasise the production function at the expense of other functions such as accounting. The other three companies, although they face price competition as is the case with the joint venture companies but they did not emphasise profit as the main goal. However, at least two of these three companies were found to be better than the rest of the Saudi companies but still lower than many of the joint venture companies. This indicates that there are other factors seen to be more influential than organisational goal and competition.

2. The accounting education for both accountants and managers was found to be an important factor in this study because as indicated earlier (see Chapter 9) the majority of the joint venture companies were found to have a highly qualified accountants and their managers were also found to have accounting skills. In contrast the Saudi accountants were found to be less qualified and have less experience and the managers were found to be either have no accounting education or their skills in accounting are poor.

10.3 Review of the study and recommendations for further research

The social sciences' researchers are well aware of the many methodological problems inherent in the measurement and interpretation of data based on subjective responses and this study was not an exception. Such problems will not be discussed here but a few problems which were peculiar to the study need to be mentioned.

1. Some limitations of the study arise from the cross-sectional nature of the study. This was just a snapshot at one point in time between the relative management accounting systems in place. No inferences can be drawn about the way the relative systems are evolving. Of course this would be difficult to perform at one point in time but in due course (say after five years) a similar study could be drawn to attempt to assess whether systems are coming together or not. One would suspect that this process of evolution would be largely dictated by economic policy in Saudi Arabia.

2. This comparative study was conducted in Saudi Arabia and the joint venture companies do not necessarily represent management accounting practices in the USA or the UK. Therefore a generalisation of the findings should be made with caution,

Nevertheless, this study was broad in scope and exploratory in nature. As such it touched on many aspects of management accounting but in addition an in depth analysis of some aspects were attempted. Therefore, there are some areas where further research and analysis is highly recommended. For example:

(i) Another look at the relatively low degree of importance assigned to the budget in the Saudi owned and managed companies compared to that of the joint venture companies seems to warrant further study.

(ii) The top management of the joint venture companies seems to play an important role in enhancing the managerial use of accounting and the role of accountants in the management of these companies by its emphasis on accounting information and its support to both vertical and horizontal channels of communication. The impediments to the use of accounting information by the top management of the Saudi owned and managed companies and their required role appears to warrant further study.

Last, results might be obtained on how management accounting systems are evolving if a time series research design was used .

Bibliography

Abdeen A. M. and Yavas U. (1986) "Current Status of Accounting Education in Saudi Arabia", International Journal of Accounting, Spring, pp. 155-173.

Agami, A. M. and Alkafaji, Y. A. (1987) "Accounting Education in Selected Middle Eastern countries", The International Journal of Accounting Education and Research, Vol. 23, No. 1 (Fall), pp. 145-168.

American Accounting Association (1976) "Report of the Committee on International Accounting 1974-75", Accounting Review, Supplement to Vol. XLXI, pp. 199-212.

American Accounting Association (1977) "Report of the Committee on International Accounting Operations and Education, 1975-76, Accounting Review (Supplement).

American Institute of Certified Public Accountants (1964) Professional Accounting in Twenty-five Countries, New York: (AICPA).

Anthony , R. N, Dearden , J . and Govindarjan , V. (1992) Management Control System (7th ed.) , Homewood , IL : Irwin .

Anthony, R. N. (1988) The Management Control Function, Boston: Harvard Business School Press.

Appleyard, A. R., Strong, N. C. and Walton, P. J. (1991) "Multi-currency Budgeting by Multinational companies", British Accounting Review 23, pp. 105-121.

Argyris, C. (1952) The Impact of Budgets on People, New York: The Controllershship Foundation.

- Arnold, S. (1992) "Confidence Begins to Show", The Middle East (magazine), August, pp. 32-33.
- Baiman, S. (1982) "Agency Research in Managerial Accounting: A Survey", Journal of Accounting Literature, Spring, pp. 154-213.
- . Belkaoui, A. (1988) The New Environment in International Accounting, Connecticut: Greenwood Press Inc.
- Biggs, J. R., Long, E. J. and Fraedrich, K. E. (1991) "Integrating Accounting, Planning and Control", Cost Management, Spring, pp. 11-21.
- Birnberg, J. and Snodgrass, C. (1988) "Culture and Control: A Field Study", Accounting Organisations and Society, Vol. 13, No. 5, pp. 447-464.
- Blau, P. M. (1970) "A formal Theory of Differentiation in Organisations", American Sociological Review 35, pp. 201-208.
- Briston, R. J. (1978) "The Evolution of Accounting in Developing Countries", International Journal of Accounting Education, 14(1) Fall, pp. 105-120.
- Brownell, P. (1981) "Participation in Budgeting, Locus and Control and Organisational Effectiveness", The Accounting Review 56, pp. 844-860.
- Brownell, P. (1987) "the Use of Accounting Information in Management Control", in Livingstone, J. L. and Ferris, K. R. (editors), Management Planning and Control: The Behavioural Foundations, Century VII Publishing Co., pp. 177-196.

Burns, T. and Stalker, G. M. (1961) The Management of Innovation, London: Tavistock.

Burns, W. H. and Waterhouse, J. H. (1975) "Budgetary Control and Organisation Structure", Journal of Accounting Research, Autumn, pp. 172-203.

Camman, C. and Nadler, D. A. (1976) "Fit Control Systems to Your Managerial Style", Harvard Business Review, January/February, pp. 65-75.

Chandeler, J. S. and Holzer, H. P. (1984) 'Accounting in the Third World', In Holzer, H. P. ed. International Accounting, Chap. 19, New York: Harper and Row.

Chandler, A. (1962) Strategy and Structure, MIT Press.

Chandler, J. S. and Holzer, H. P. (1981) "A Systems Approach to Accounting in Developing Countries", Managerial International 21(4), pp. 23-32.

Chandler, J. S. and Holzer, H. P. (1984) "Accounting in the Third World", In Holzer, H. P. ed. International Accounting, pp. 453-481, New York: Harper and Row.

Chenhall R. H. and Morris, D. (1986) "The Impact of Structure, Environment and Interdependence on the Perceived Usefulness of Management Accounting Systems", The Accounting Review, January, pp. 58-75.

Chenhall, R. H., Harrison, G. L. and Watson, D. J. H. (editors) (1981) The Organisational Context of Management Accounting, Pitman Publishing Inc.

Chetkovich M. N. (1972) "An Appeal for Unity in Establishing Financial Accounting Standards", International Journal of Accounting, Fall, pp. 99-107.

Child, J. (1973) "Predicting and Understanding Organisational Structure", Administrative Science Quarterly, June, pp. 168-185.

Child, J. (1975) "Managerial and Organisational Factors Associated with Company Performance - Part II, A Contingency Analysis", Journal of Management Studies, February, pp. ??

Child, J. (1984) Organisation: A Guide to Problems and Practice, London: Harper and Row.

Choi, F. D. S. (1974) "Breaking the Vicious Circle of Poverty", Management Accounting, June, pp. 25-28.

Choi, F. D. S. and Mueller, G. G. (1984) International Accounting, Englewood Cliffs, New Jersey: Prentice-Hall.

Chow, C. W., Shields, M. D. and Chan, Y. K. (1991) "The Effects of management Controls and National Culture on Manufacturing Performance: An Experimental Investigation", Accounting Organisations and Society, Vol. 16, No. pp. 209-226.

Coater, J. B., Smith, J. E. and Stacey, R. J. (1983) "Results of a Preliminary Survey into the Structure of Divisionalised Companies, Divisionalised Performance Appraisal and the Associated Role of management Accounting", In Cooper, D. J., Scapens, R. W. and Arnold, ed., Management Accounting Research and Practice, Institute of Cost and Management Accountants.

Da Costa, R. C., Bourgeois, J. C. and Lawson, W. M. (1978) "A Classification of International Financial Accounting Practices", International Journal of Accounting Education and Research, Spring.

Daft, R. L. (1989) Organisation Theory and Design, St. Paul: West.

Daft, R. L. and MacIntosh, N. B. (1981) "A Tentative Exploration into the Amount and Equivocality of Information Processing in Organisational Work Units, Administrative Science Quarterly, 26, pp. 207-224.

Daley, L., Jiambalvo, J., Sundem, G. L. and Kondo, Y. (1985) "Attitudes Toward Financial Control Systems in the United States and Japan", Journal of International Business Studies 16 (Fall) pp. 91-110.

Demski, J. S. (1980) Information Analysis, (2nd ed.), Addition Wesley.

Dent, J. F. and Ezzamel, M. A. (1987) "Organisational Control and Management Accounting", In Ezzamel, M. A. and Hart, H. ed. Advanced Management Accounting an Organisational Emphasis, pp. 86-112, London: Cassell Educational Limited.

Dermer, J. (1977) Management Planning and Control Systems: Advance Concepts and Cases, Homewood Illinois: Irwin.

Drury, C. (1988) Management and Cost Accounting (2nd ed.) London, Van Nostrand Reihold.

Drury, C. (1990) "Lost Relevance: A Note on the Contribution of Management Accounting Education", British Accounting Review, 22, pp. 123-135.

Drury, C. (1992) Management Accounting Handbook, London: Butterworth-Heinemann Ltd.

Duncan, R. B. (1972) " Characteristics of Organisational Environmental Uncertainty", Administrative Science Quarterly.

Dunk , A . S. (1992) “ Reliance on Budgetary Control , Manufacturing Process , Automation and Production Subunit Performance : A Research Note “ , Accounting Organisation and Society, Vol . 17 pp. 195 -203 .

Elmore , R. C. (1986) A Contingency Theory Approach to an Empirical Classification of Management Accounting Information Systems,PhD. Dissertation,The University of Mississippi .

Emery, F. and Trist, E. (1965) "The Causal Texture of Environments", Human Relations, 18, pp. 21-32.

Emmanual, C. and Otley, D. (1985) Accounting for Management Control, Berkshire: Van Nostrand Reinhold.

Emmanual, C., Otley D. and Merchant, K. (1990) Accounting for Management Control (2nd ed.) London: Chapman and Hall.

Emmanual, C., Otley, D. and Merchant, K. (editors) (1992) Reading in Accounting for Management Control, London; Chapman and Hall.

Enthoven, A. J. H. (1965) "Economic Development and Accountant", Journal of Accountancy, August, pp. 29-35.

Enthoven, A. J. H. (1973) Accounting and Economic Development Policy, Amsterdam, Holland Publishing Co.

, Enthoven, A. J. H. (1980a) "International Management Accounting - A Challenge for Accountants", Management Accounting, September, pp. 25-32.

, Enthoven, A. J. H. (1980b) "The accountant in the Third World" The Journal of accountancy, March, pp. 76-78.

Farmer, R. N. and Richman, B. M. (1965) Comparative Management and Economic Progress, Homewood, Illinois, Irwin.

Ford, J. and Slocum, J. (1977) "Size, Technology, Environment and the Structure of Organisations", Academy of Management Review, October, pp. 561-575.

Foroughi, T. K. (1981) "Accounting in Developing countries Before and After Social Crises: The Case of Iran", International Journal of Accounting Education and Research, V. 17, Fall, pp. 181-223.

Frank, W. G. (1979) "An Empirical Analysis of International Accounting Principles", Journal of Accounting Research, Autumn.

Frocot, V. and Shearon, W. T. (1991) "Budgetary Participation, Locus of Control and Mexican Managerial Performance and Job Satisfaction", The Accounting Review, Vol. 66, No. 1, pp. 80-99.

Golembiewski, R. (1964) "Accounting as a Function of Organisational Theory", The Accounting Review, April, pp. 333-341.

Gorden, L. A. and Narayanan, V. K. (1984) "Management Accounting Systems, Perceived Environmental Uncertainty and Organisational Structure: An Empirical Investigation", Accounting Organisation and Society, 8, pp. 33-47.

Gordon, L. A. and Miller, D. (1976) "A Contingency Framework for the Design of Accounting Information Systems", Accounting Organisations and Society, Vol. 1, pp. 59-70.

Govindarajan, V. (1984) "Appropriateness of Accounting Data in Performance Evaluation: An Empirical Examination of Environmental Uncertainty as an Intervening Variable", Accounting Organisations and Society, 2, pp. 125-135.

Gray, S. J., Campbell, L. G. and Shaw, J. C. (1984) International Financial Reporting, New York: Macmillan.

Gregory, G. and Piper, J. (1983) "A Study of the Raw Material Reorder Decisions in Small Batch Manufacturing Companies", In Cooper, D. J., Seapens, R. W. and Arnold, J. A. ed., Management Accounting Research and Practice, Institute of Cost and Management Accountants.

Gul, F. A. and Teoh, H. Y. (1984) "Effect of Combined Audit and Management Services on Public Perception of Auditor Independence in Developing Countries: The Malaysian Case", International Journal of Accounting Education and Research, Fall, pp. 95-107.

Haimann , R. , T , Scott , W. G. and Conner , P. E. (1978) Managing the Modern Organization , (3rd edition) Boston : Houghton mifflin company .

Hayes, D. (1977) "The contingency Theory of Management Accounting", The Accounting Review, Vol. 52, pp. 22-39.

Hirschman , A. O. (1958) The Strategy of Economic Development , New Haven : Yale University Press .

Hofstede, G. (1980) Culture's Consequences: International differences in Work Related Values, Beverley Hills, California: Sage Publication.

Hofstede, G. (1984) "The Cultural Relativity of the quality of Working Life Concept", Academy of Management Review, 9, 3, pp. 389-398.

Hofstede, G. H. (1968) The Game of Budget Control, Tavistock Institute.

Holzer, H. P., Norreklit, H. (1991) "Some Thoughts on Cost Accounting Developments in the United State", Journal of Management Accounting Research, March, pp. 3-13.

Hopwood, A. G. (1972) "An Empirical Study of the Role of Accounting Data in Performance Evaluation, Empirical Research in Accounting: Selected Studies", Supplement to Journal of Accounting Research, 10, pp. 156-182.

Horngren, C. T and Sundem, G. L. (1990) Introduction to Management Accounting (8th ed.) London: Prentice-Hall International, Inc.

Horngren, C. T. (1982) Cost Accounting: A Managerial Emphasis (Fifth Edition) London: Prentice-Hall International, Inc.

Horovitz, J. H. (1980) Top Management Control in Europe, Macmillan Press Ltd.

Hove, M. R. (1986) "Accounting Practices in Developing countries: Colonialism's Legacy of Inappropriate Technologies", International Journal of Accounting Education and Research, Fall, Vol. 22, pp. 81-100.

Howell, R. A. and Soucy, S. R. (1987) "Cost Accounting in The New Manufacturing Environment", Management Accounting, August, pp. 42-48.

Hull, F. M. and Collins, P. D. (1987) "High Technology Batch Production Systems: Woodward's Missing Type", Academy of Management Journal, 30, pp. 786-797.

Imhoff, E. A. (1978) "Management Accounting Techniques: A Survey", Management Accounting, November, pp. 41-45.

Inkson, J. H. K., Pugh, D. S. and Hickson D. J. (1970) "Organisation Context and Structure: An Abbreviated Replication", Administrative Science Quarterly, September, pp. 318-329.

Jaeger, A. M. (1990) "The Applicability of Western management Techniques in Developing Countries: A Cultural Perspective" In Jaeger, A. M. and Kanungo, R. N. ed., Management in Developing Countries, pp. 131-145, New York: Routledge.

JaGetia, L. C. and Nwadike, E. C. (1983) "Accounting Systems in Developing Nations: The Nigerian Experience", The International Journal of Accounting Education and Research, Vol. 18, No. 2, Spring, pp. 69-76.

Jaggi, B. L. (1973) "Accounting Studies of Developing Countries, an Assessment", International Journal of Accounting, Vol. 9, No. 1, Fall, pp. 159-170.

Johnson, H. T., Kaplan, R. S. (1987) Relevant Lost: The Rise and Fall of Management Accounting, Boston Mass: Harvard Business School Press.

Jones, C. S. (1985) "An Empirical Study of the Evidence for Contingency Theories of Management Accounting Systems in Conditions of Rapid change", Accounting Organisations and Society, Vol. 10, No. 3, pp. 303-328.

Juchau, R., White, M. and Hopkins, R. (1986) "Tertiary Education Strategies for Accounting in Developing Societies - The Southwest Pacific as a Case Study", International Journal of Accounting, Vol. 21, Spring, pp. 145-160.

Kanungo, R. N. and Jaeger, A. M. (1990) "Introduction: The Need for Indigenous Management In Developing Countries" In Jaeger, A. M. and Kanungo, R. N. ed. Management in Developing Countries, pp. 1-19, New York: Routledge.

Kaplan, R. S. (1986) "The Role for Empirical Research in Management Accounting", Accounting Organisation and Society, Vol. 11, No. 4/5, pp. 429-452.

Khandwalla, P. N. (1972) "The Effects of Different Types of Competition on the Use of Management Control", Journal of Accounting Research, Autumn, pp. 272-285..

Khandwalla, P. N. (1977) The Design of Organisations, Harcourt Brace, Jovanovich.

Kiani-Aslani, R. (1977-78) "Do Corporate Controllers Use Quantitative Tools Currently Taught in Managerial Accounting", Accountancy Journal, Winter, pp. 278-294.

Knauerhase, R. (1975) The Saudi Arabian Economy, New York: Praeger Publishers.

Kollaritsch , F. P. (1984) " Accounting Problems of multinational corporations "In Holzer, H. P. ed. International Accounting, pp.173-203 , New York: Harper and Row.

Kordi, K. A. (1979) The Major characteristics of the Accounting Information Systems in some selected Saudi Industrial Businesses: A Critical Analysis, ph.D Dissertation, The University of Arizona.

Lander, G. H., Holmes, J. R., Tipgos, M. A. and Wallace, M. J. (1984) Profile of the Management Accountant, New York: National Association of Accountants.

Langenderfer, H. Q. (1965) "Management Accounting in the United Arab Republic (Egypt), Management Accounting, November, pp. 47-50.

Lawrence, P. R. and Lorsch, J. W. (1967) Organisation and Environment: Managing Differentiation and Integration, Boston: Harvard University Press.

Lyall , D. Okoh , K. and Puxty , A . (1990) , " Cost Control Into the 1990s " Management Accounting , February pp. 44-45

Lyne, S. R. (1988) "The Role of the Budget in Medium and Large UK Companies and the Relationship with Budget Pressure and Participation", Accounting and Business Research, Vol. 18, No. 71, pp. 195-212.

MacIntosh, N and Daft, R. (1987) "Management Control Systems and Departmental Interdependencies: An Empirical Study", Accounting, Organisation and Society, pp. 49-61.

MacIntosh, N. B. (1985) The Social Software of Accounting and Information Systems, Wiley.

Markell, W. (1985) "Development of Accounting Education and the Accounting Profession in the Third World Countries: Botswana", International Journal of Accounting Education and Research, Fall, pp. 99-105.

Mendonca, M., Kanungo, R. N. (1990) "Performance Management in Developing Countries" In Jaeger, A. M. and Kanungo, R. N. ed. Management in Developing Countries, pp. 223-250, New York: Routledge.

Merchant, K. A. (1981) "The Design of the Corporate Budgeting System: Influences on Managerial Behaviour and Performance", The Accounting Review, October, pp. 813-829.

Merchant, K. A. (1984) "Influence on Departmental Budgeting: An Empirical Examination of a Contingency Model", Accounting, Organisations and Society, 9 (3/4), pp. 291-307.

Mohr, L. G. (1985) "The Reliability of the Case Study as a source of Information" in Coulam, R. F. and Smith R. A., ed., Advances in Information Processing in Organisation, Vol. 2, JAI Press.

Mueller, G. C. (1967) International Accounting, New York: Macmillan Company.

Mueller, G. C. (1970) "Academic Research in International Accounting", The International Journal of Accounting, 6, Fall, pp. 67-81.

Mueller, G. G. (1967) International Accounting, New York: Macmillan Company.

Mueller, G. G. (1968) "Accounting Principles Generally Accepted in the United States Versus Those Generally Accepted Elsewhere", International Journal of Accounting, Spring, pp. 91-103.

Ndubizu, G. A. (1984) "Accounting Standards and Economic Development: The Third World in Perspective", International Journal of Accounting Education and Research, Vol. 19, Spring, pp. 181-196.

Negandhi, A. R. and Prasad J. B. (1970) Comparative Management, New York: Appleton-Century Crofts.

Nobes, C. W. (1984) International Classification of Financial Reporting, Beckenham, Kent: Croom Helm.

Otley, D. T. (1978) "Budget Use and Managerial Performance", Journal of Accounting Research, Vol. 16, pp. 122-149.

Otley, D. T. (1980) "The Contingency Theory of Management Accounting", Accounting Organisation and Society, 5, pp. 413-428.

Otley, D. T. (1983) The Fall and Rise of Management Accounting, The Inaugural Tom Robertson Memorial Lecture, Department of Accounting and Business Method, University of Edinburgh.

Otley, D. T. (1987) "Accounting for Divisional Planning and control" in Livingstone, J. L. and Ferris, K. R. (editors), Management Planning and Control: The Behavioural Foundations, Century VII Publishing Co., pp. 83-119.

Parker, L. D. (1978) "Management Accounting and the Corporate Environment", Management Accounting, February, pp. 15-20.

Parker, L. D. (1984) "A Contingency Model of Accounting Practices in Developing Countries", Accounting Forum, March, pp. 19-33.

Perera, M. H. B. (1975) "Accounting and its Environment in Sri Lanka", Abacus, June, pp. 86-96.

Perera, M. H. B. (1989) "Accounting In Developing Countries: A Case for Localised Uniformity", British Accounting Review, 21, pp. 141-158.

Perrow, C. (1967) "A Framework for the Comparative Analysis of Organisations", American Sociological Review, July, pp. 194-208.

Previts, G. J. (1975) "On the Subject of Methodology and Models of International Accounting", International Journal of Accounting Education and Research, Spring.

Pugh, D. S., Hickson, D. J., Hinings, C. R. and Turners, C. (1969) "The Context of Organisational Structures", Administrative Science Quarterly, pp. 91-114.

Qureshi, M. A. (1974) "Private Enterprise Accounting and Economic Development", The International Journal of Accounting Education and Research, Spring, pp. 125-141.

Rahman, M. Z., Scapens, R. W. (1988) "Financial Reporting by Multinational Enterprises: Accounting Policy Choice in a Developing Country", Journal of Accounting and Public Policy, vol. 7, Spring, pp. 29-42.

Ratnatunga, J., Pike, R. and Hooley, G. J. (1988) "The Application of Management Accounting Techniques to Marketing", Accounting and Business Research, Vol. 18, No. 72, pp. 363-370.

Ronson, G. (1958) "Use of Accounting as an Aid to Management in Industrial Enterprises in Under-Developed Countries", Industrialisation and Productivity, (1), pp. 56-62.

Rotter, J. B. (1966) "Generalised Expectancies for Internal Versus External Control of Reinforcement", Psychological Monographs, 80, pp. 1-28.

Sathe, V. and Watson, D. (1987) "Contingency Theories of Organizational structure" in Livingstone, J. L. and Ferris, K. R. (editors), Management Planning and control: The Behavioural Foundations, Century VII Publishing Co., pp. 177-196.

Saleem, M. M. (1981) Operational Effectiveness and the Use of Accounting Information, Ph. D Dissertation, University of Bath.

Samuels, J. M. and Oliga, J. C. (1982) "Accounting Standards in Developing Countries", International Journal of Accounting Education and Research, Fall, pp. 69-88.

Sandaretto, M. J. (1985) "What Kind of Cost System Do You Need", Harvard Business Review, January - February, pp. 110-118.

Sathe, V. (1982) Controller Involvement in Management, Prentice-Hall.

Savage, A. H. (1967) Management Uses of Accounting in the Manufacturing Industries of Mexico, ph.D Dissertation, University of Texas, Austin, Texas.

- Savage, A. H. (1978) "Planning and Control Problems in Developing Countries", Managerial Planning, July/August, pp. 17-22.

Scapens, R. (1985) Management Accounting: A Review of Recent Developments, London: Macmillan.

Scapens, R. (1991) Management Accounting: A Review of Contemporary Developments, Basingstoke: Macmillan Education.

Scapens, R. W. (1984) "Management Accounting: A Survey", In Scapens, R. W., Otley, D. T. and Lister, R. (ed.), Management Accounting, Organisational Theory and Capital Budgeting: Three Surveys: Macmillan.

Scapens, R. W. (1990) "Researching Management Accounting Practice: The Role of Case Study Methods", British Accounting Review, 22, pp. 259-281.

Schweikart, J. A. (1985) "Contingency Theory as a Framework for Research in International Accounting", The International Journal of Accounting, Vol. 21, No. 1, pp. 89-98.

- Scott, G. M. (1968) "Private Enterprise Accounting in Developing Nations", The International Journal of Accounting, Vol. 4, fall, pp. 51-66.

Scott, G. M. (1970) Accounting and Developing Nations, University of Washington, Graduate School of Business Administration, Seattle.

Scott, G. M. and Troberg, P. (1980) Eighty-Eight International Accounting Problems in Rank of Order of Importance, Sarasota, Fla, American Accounting Association.

Seidler, L. J. (1968) The Function of Accounting in Economic Development, New York, Praeger.

Seiler, R. E. (1966) "Accounting Information Systems and Under-developed Nations", The Accounting Review, October, pp. 652-656.

Shinawi, A. (1970) The Role of Accounting and Accountants in the Developing Economy of Saudi Arabia, D.B. A. Dissertation, University of Southern California.

Simon, H. A. Guetzkow, H. Kozmetsky, G. and Tyndall, G. (1954) Centralisation Versus Decentralisation in Organising the Controller's Department, New York: Controllershship Foundation.

Sterling, R. R. (1977) The Nature and Verification of Theories, Houston, TX: Scholars Book Co.

Tang, R. Y. W. and Tse, E. (1986) "Accounting Technology Transfer to Less Developed Countries and the Singapore Experience", Columbia Journal of World Business, Vol. 21, Summer, pp. 85-95.

Thompson, J. D. (1967) Organisations in Action, New York: McGraw-Hill.

Tomkins, C. (1986) "Commentary On R. S. Kaplan - The Role for Empirical Research In Management Accounting", Accounting Organisation and Society, Vol. 11, No. 4/5, pp. 453-456.

Umapathy, S. (1987) Current Budgeting Practices in US Industry, New York: Quorum Book.

Van de ven, A. and Ferry, D. L. (1980) Measuring and Assessing Organisations, New York: Wiley.

Walker, R. (1985) Applied Qualitative Research, Gower Aldershot.

Waterhouse, J. H. and Tiessen, P. (1978) "A Contingency Framework for Management Accounting Systems Research", Accounting Organisations and Society, Vol. 3, pp. 65-76.

Watson, D. J. H. and Baumler, J. V. (1975) "Transfer Pricing: A Behavioural Context", The Accounting Review, July, pp. 466-474.

Wilson, R. M. and Chua, W. F. (1986) Managerial Accounting: Method and Meaning, Berkshire: Van Nostrand Reinhold.

Woodward, J. (1958) Management and Technology, HMSO.

Woodward, J. (1965) Industrial Organisation: Theory and Practice, Oxford University Press .

APPENDICES

APPENDIX A

Characteristics of Participating Companies

This is a comparative study and as table (A - 1) shows we have categorized the participating companies into two groups . These consist of the Saudi owned and managed companies and the Western joint venture companies located in Saudi Arabia where this study is taking place .

The major characteristics of these companies are as follow :-

(a) The industry type : -

The popularity of technology as a contextual variable has caused classification by type of industry to be largely ignored as a factor in the contingency theory literature . In addition , the result of the empirical study that was conducted by Elmore (1986) showed that industry was not significantly related to the overall management accounting system .

Despite this argument in the literature we have tried to avoid differences in the practice of management accounting wich might result from industry type by selecting where possible companies in similar industries . As a result our selection of the Petroleum industry and the Petrochemical industry was based on the fact that many of the Saudi owned and managed companies and the joint venture companies that are comparable were found in these two industries .

However , the selection of three large Saudi owned and managed cement companies was to complete the number of the Saudi owned and managed companies which fell short by three companies compared to their joint venture counterparts . These three cement companies were found to be the most suitable ones to be included in the

sample due to their technological complexity and size which is similar to both the Petroleum and Petrochemical industries .

(b) Size :-

Traditionally , contingency theory studies define organizational size in terms of number of employees . However , theorists have often suggested that size has usually been over - simplified in contingency theory studies . For example , Ford and Slocum (1977) advocate a more sophisticated measure . The approach suggested by Ford and Slocum would divide measures of size into structural measures and output measures . The number of employees and the amount of assets are classified as structural measures while gross sales is classified as an output measure .

Nevertheless , as indicated earlier gross sales is not a suitable indicator for this study (see chapter 3) . Therefore only the amount of assets and the number of employees were used (the number of employees is presented in table 9.1) . This information enabled size to be controlled but see Chapter 8 in this context .

TABLE A-1: - The Saudi owned and managed Companies :-

Company Name	Paid Up Capital Saudi Riyal in Millions @	Line of Production	Started
Riyadh Petromin Refinery	Not Available *	Oil Refining	1977
Jeddah Oil Refinery	150	Oil Refinin	1968
Petromin Yanbu Refinery	Not Available *	Oil Refining	1983
National Chemical Fertilizer (IBN AL-BAYTAR)	494.7	AMMONIA	1988
Saudi Arabian Fertilizer Company (SAFCO)	200	UREA-Sulphuric Melamine	1969
Arabian Petrochemical Co. (PETROKEMYA)	3055	ETHYLENE POLYSTYRENE BUTENE-I	1985
Saudi Cement Co .	420	CEMENT	1961
Yamama Saudi Cement Co.	885	CEMENT	1961
Arabian Cement Company Ltd .	600	CEMENT	1965

The joint venture companies :-

COMPANY NAME	PAID UP CAPITAL Saudi Riyal in Millions @	LINE OF PRODUCTION	Started	FOREIGN CAPITAL SHARE %
Petromin / Shell Refinery	2000	Oil Refining	1981	50
Petromin /Mobil YanbuRefinery	1800	Oil Refining	1984	50
Petromin Lubricating Oils Co . (PETROLUBE)	15.5	Lubricating Oils	1978	30
Petromin Oil Refinery (LUBEREF)	30	Lubricating Oils	1972	21
Aramco Refinery	**	Oil Refining	1962	*
Saudi Petrochemical Co . (SADAF)	3900	Ethylene -Ethylene Dichloride- Styrene Crude Industrial Ethanol- Caustic Soda.	1984	50
National Methanol Co . (IBN SINA)	1468	MTPA	1984	50
AL-Jubail Petrochemical Co. (KEMYA)	2400	LLDPE	1984	50
Saudi Yanbu Petrochemical Co. (YANPET)	1600	Ethylene-Ethylene Glycol LLDPE-HDPE	1984	50

* Government owned and no public information available .

** Until recently this company was owned by Americans for over 30 years or more, therefore, it has been considered as a joint venture while it is owned by the Government..

Productive capacity may serve as a guide to size .For example , Riyadh Petromin refinery 120 000 Bls per day , Petromin Yanbu Refinery 170 000 Bls per day and Aramco Refinery 450 000 Bls per day .

@ 1\$ =3.75 Saudi Riyal .

Appendix B
Interview Guidelines and Questionnaires

TOP MANAGEMENT INTERVIEW

- 1 (1) To what extent has authority been delegated to the appropriate senior managers for each of the following classes of decision? [Please rate actual, rather than stated, authority.]

	<u>No delegation</u>			<u>Complete delegation</u>			
(a) Development of new products or services	1	2	3	4	5	6	7
(b) The hiring and firing of managerial personnel	1	2	3	4	5	6	7
(c) Selection of large investments	1	2	3	4	5	6	7
(d) Budget allocations	1	2	3	4	5	6	7
(e) pricing decisions	1	2	3	4	5	6	7

- (2) Which of the following best characterises the specification of actual job tasks in your firm?

Tasks are clearly specified
with well established performance
criteria

No formal description
of job tasks exists

1 2 3 4 5 6 7

- (3) Does your firm publish an employee's manual No ---- Yes ----

If yes:

Detailed description of
employee tasks and rights
are provided?

Only the most basic tenets
are outlined , leaving many
questions unanswered

How complete is it?

1 2 3 4 5 6 7

(4) Most operating decisions are made at:

Senior executive level

Lower managerial level

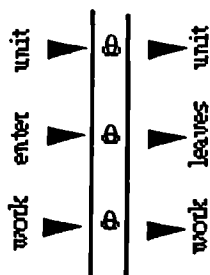
1 2 3 4 5 6 7

- 2 Did you have any formal accounting education, training or experience?
- 3 Could you explain the role of the controllers and accounting information in the following decisions:
- Pricing decisions
 - Investment decisions
 - Production decisions
 - Inventory
- 4 What is the role of the controller in achieving co-ordination between departments?
- 5 To what extent do you use accounting data for the following purposes?:
- attention directing
 - problem solving
 - performance evaluation
- Could you provide me with some examples?
- 6 Could you tell me about the history of your organisation?
- 7 Could you provide me with an organisation chart. Can we discuss it?
- 8 Do you receive accounting reports on time? Are you satisfied with the information provided in these reports?

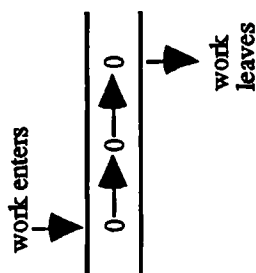
- 9 To what extent do you think that non-accounting information, such as production reports, narrative reports, are useful?
- 10 Can you explain to me the importance of accounting to your company in terms of its usefulness in planning and control ?
- 11 Please indicate how much of the normal work flow in you company flows in a manner as described by each of the following cases:

Almost none of the work			
Little			
A lot			
Almost all of the work			

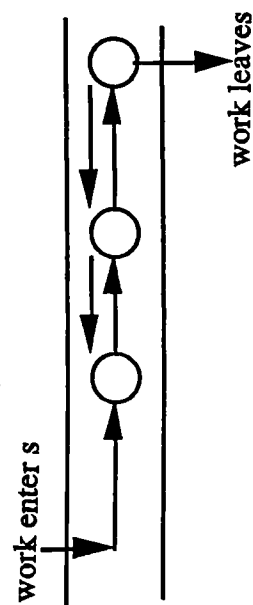
a) Work does not flow between the workers



b) Work flows between the workers



(c) work flows back and forth between the workers



12 Could you please specify the three most important objectives to your Company?

- provide stable employment
- increase market share
- maximise profit
- provide steady dividend growth or earnings per share
- high quality products
- Other (please specify).....

13 Which of the following describes the type of manufacturing process in your company?

- mass production
- process production
- unit production
- large batch production
- small batch production

14 . We would like to know the relative importance top management places on these devices in managing the company's activities.

Device	Importance				
	Not Used	Limited	Moderate	Extreme	No basis for opinion
Annual budgeting system					
Long-range planning system					
Approval system for capital expenditure					
Monthly budget review					
Monthly narrative reports on operations					
Formal goal-setting system					
Performance evaluation and incentive compensation system					
Direct informal contacts					
Task forces and committees					
Other full time employees responsible for interdivisional coordination					

Western Managers Only :-

15. The following are some of the factors which have been highlighted in western literature and are considered important to the designer of accounting and control systems in developing countries.

Could you please give me your comments and also give your opinion according to your experience:

Education: The education systems of developing countries tend to lean excessively toward rote learning through memorisation and drill, which gives little practise in analysis and problem solving.

Social and Cultural:

(1) The people in developing countries believe that success is primarily the result of sheer luck or success is in the hands of God, rather than the systematic application of effort and creative energy.....

(2) Managers, like most people in developing countries, are the product of highly structure, traditional society, where authority is derived from family position, where creativity and innovation are discouraged and submission to authority is seen as the way to avoid the anxieties of living.

(3) The superior/subordinate relationship in developing countries is often a very personal one - the idea of the company is either an abstraction which is not really understood, or the Company is really embodied in the person of the

immediate superior. Thus performance evaluation in the developing countries only rarely motivates improved performance or learning.

.....

.....

16. Did you consider the above factors or others when you designed your accounting and control systems?

MIDDLE MANAGEMENT
PRODUCTION AND MARKETING MANAGERS

- 1 Would you please list each of the financial reports you receive. Please use the Table below:

Name of Financial Report	How often do you receive this Financial Report	Do you receive Report on time? Yes /No

- 2 Can you comment on the accounting reports which you are receiving? Are they complete, comprehensible, useful?

3. What is the role of the Controller in the process of budget setting?
Is he:

- Record keeper ?
- Consultant ?
- Performing all the task ?
- Coordinator ?

4. What is the role of the controller in achieving co-ordination between departments?

5. To what extent is the controller involved in the following decisions :-
- Pricing decisions
 - Investment decisions
 - Production decisions
 - Inventory

6. Do you use accounting data for the following purposes
- attention directing
 - problem solving
 - performance evaluation

Would you please provide me with example ?

7. Have you had any formal accounting education , training, or experience ?

8. Which of the following describes the types of advanced manufacturing technology which are substantially utilised in your business unit. Check all appropriate items.

- | | |
|--|--|
| (a) Computer-aided design | (h) Expert-based systems |
| (b) Computer-aided engineering | (i) computer-aided inspection/test |
| (c) Computer-driven requirements, planning and scheduling | (j) Electronic link to supplier/customer |
| (d) Automated shop floor data collection | (k) Flexible manufacturing (transfer) systems (CIM) |
| (e) Numerically controlled machines | (l) Integrated, highly automated factory systems (CIM) |
| (f) Robotics for welding, painting, pick-and-place | (m) Other types of automation (please comment) |
| (g) Automatic systems for mixing, assembly, material handling, packaging and/or warehouse operations | |

9. What is the role of the controller in the following decisions?

Decisions Areas	Has no role in the decision-making process	His opinion is solicited prior to decisions being made by others	Is a minor participant in decision making	Is a major participant in decision making	Is the sole decision making	No basis for opinion	Decision is not made in the division
	1	2	3	4	5	NB	NM
Advertising	1	2	3	4	5	NB	NM
Promotion	1	2	3	4	5	NB	NM
Distribution	1	2	3	4	5	NB	NM
Acquisition and mergers	1	2	3	4	5	NB	NM
New product development	1	2	3	4	5	NB	NM
Capital investment	1	2	3	4	5	NB	NM
Selection of executives outside the controller-ship area	1	2	3	4	5	NB	NM
Credit policy	1	2	3	4	5	NB	NM
Pricing policy	1	2	3	4	5	NB	NM
Inventory policy	1	2	3	4	5	NB	NM
Settling customer claims	1	2	3	4	5	NB	NM
Stopping customer deliveries	1	2	3	4	5	NB	NM

CONTROLLERS

1 What is the approximate number of employees in your firm?

----- 2000 or over

----- 1500-1999

----- 1000-1499

----- 500-999

----- 250-499

----- 100-249

----- 50-99

----- below 50

2 What education and/or professional training have your employees had? Please use the following Table:

(a) Education	Major	Minor	No. of Employees
Less than High School			
High School			
Bachelor			
Master			
Ph. D.			
Other			
(b) Professional Qualifications, other?			
1.			
2.			
3.			
4.			

3 Do you use profit volume analysis?

Yes -----

No -----

4 Which of the following techniques are used in the planning and control function of the manufacturing operation in your company?

- correlation analysis
- regression analysis
- statistical sampling
- network analysis (perf./temp)
- linear programming
- queuing theory
- inventory models
- game theory
- other quantitative techniques.

5 Are budgets broken down by:

- company or division
- sales territory
- product line
- individual department
- other (specify)

6 Please check any and all of the following persons who participate in preparation of the operating budget for fiscal period:

- production workers
- department or division heads
- shop foremen
- president of the company
- other (specify)

7 Do you use standard costings?

Yes ----- No -----

If yes:

- for material cost
- for labour cost
- for overhead cost

On what basis?

- engineering studies
- average of past historical cost
- estimation based on experience
- outside consultants

8 Please complete the table below with respect to the following four questions:

I In which area does your company make formalised plans or budgets?

II How often is each budget revised?

A = Annually; SA = Semi-annually;

Q = Quarterly; M = monthly;

W = Weekly or less

III In which area do you use variances?

IV How often are variance reports prepared (actual vs. budget)?

D = Daily; W = Weekly; 2W = Every 2 weeks;

M = Monthly; Q = Quarterly.

	I	II	III	IV
What areas does the Budget cover?	Please tick	Revision	Areas of variant	Frequency of reports
1 Sales				
2 Production				
3 Profit				
4 Capital				
5 Purchasing				
6 Cash				
7 Administrative expenses				
8 Other (specify)(e.g.R & D)				
9				
10				
11				

9 Do you use variance analysis to control operations and pinpoint responsibility?

Yes -----

No -----

If yes, which of the following standard cost variances do you usually compute?

- material price variance
- material usage (quantity) variance
- labour rate variance
- labour efficiency variance
- overhead variable expenditure variance
- overhead efficiency variance
- materials mix and yield variances
- overhead fixed expenditure variance
- overhead volume variance
- sales variances
- other (please specify)

10 Which type of variance do you investigate for each budget?

- all variances
- only significant variances

How do you define a significant variance?

.....
.....

other (please specify)

11 How do you handle the reports which show a significant variance?

- written explanation
- oral explanation
- indicate what corrective action is to be taken
- other (please specify)

12 Do you prepare flexible budgets for sale volume for :-

- material
- labour
- overheads
- selling expenses

13 Do you have an internal audit department?

Yes ----- No -----

If yes, what are the objectives of this department:

.....
.....

14 Please indicate the importance of the purpose for which management accounting data is used (1 = extremely important; 5 = not important):

- to measure performance of individual managers or supervisors
- to determine the cost of finished products for external financial statement presentation
- to determine the cost of finished products for pricing and bidding purposes
- to evaluate the efficiency of manufacturing operations

15 What are the methods used for personal evaluation?

- residual income
- variance analysis (budget vs. actual)
- level of profit achieved
- sales target to productivity
- return of investment
- spending the appropriate funds
- other.

16 Please indicate the methods used by your Company for investment appraisal:

- accounting rate of return
- payback period
- net present value
- internal rate of return
- other (please specify)

17 To what extent do you apply computers in your Company?

- financial modelling for budgeting/planning
- spread sheets for budgeting/planning
- capital investment appraisal
- Stock control/evaluation

- credit control simulation models for financial decision-making
- cost behaviour, e.g. regression analysis
- other (please specify)

18 What individuals or groups are involved in formally approving the budget for the Company as a whole?

- Board of Directors
- Executive Committee
- Chairman of the Board
- President
- Executive Vice President
- Financial Vice President
- Controller
- Management Committee
- Planning Committee
- Budget Committee
- Other (please specify)

19 In general, how are specific budgets or goals established (indicate one item only):

- Goals and objectives are established exclusively by members of higher management without consultation with subordinate levels of management.
- Goals and objectives are developed by higher levels of management and are presented to subordinate levels of management for their consideration and comment prior to final adoption.
- Subordinate levels of management are requested to submit goals and objectives relating to their particular function for review and final approval by higher levels of management
- Other (please specify)
-
-

20 Does your Company usually establish specific non-financial budgetary targets for its managers in any of the following areas?

- New product/service development
- Quality of product/service
- Market Share
- Customer relations
- Relationships with suppliers
- Productivity
- Human Resources Development
- Employee attitudes
- Public responsibility
- Balance between short and long range goals
- Other (please specify)
-
-

21 Using the past three years as a point of reference, please rate the extent of difficulty in achieving the financial targets used in your budgets (indicate one item only):

- Almost impossible
- Challenging
- Slightly beyond our reach
- Attainable
- Relatively easy

22 (a) Do you use two separate budgets, one for planning and co-ordination purposes, and the other for evaluation purposes? (indicate one item only):

- Two separate budgets are used
- Only one budget is prepared and it is used for planning, co-ordination and evaluation
- Only one budget is prepared and it is used for evaluation purposes
- Only one budget is prepared and it is used for planning and co-ordination purposes

(b) How frequently do you review your annual budget for possible revision of goals, either for planning or evaluation purposes? (indicate one item only):

- Never reviewed
- Monthly
- Quarterly
- Semi-annually
- Other (please specify)
.....
.....

23 Please indicate which of the following statements best characterise the types of information that, in your opinion, higher level managers in your Company seem to focus on when assessing and evaluating organisational subunits? (indicate one item only):

- They seem to focus primarily on quantitative data; their focus on qualitative data is marginal
- While they focus on both quantitative and qualitative data, more importance is given to quantitative data.
- They seem to focus almost equally on quantitative and qualitative data
- While they focus on both quantitative and qualitative data, more importance is given to qualitative data.
- They seem to focus primarily on qualitative data; their focus on quantitative data is marginal.

24 How frequently do corporate managers formally meet with lower level managers to discuss budget related matters (Indicate one item only):

- Weekly
- Monthly
- Quarterly

- Semi-Annually
- Annually
- Other (please specify)
-
-

25 Which of the following describes the types of advanced manufacturing technology which are substantially utilised in your business unit. Check all appropriate items.

- | | |
|--|--|
| (a) Computer-aided design | (h) Expert-based systems |
| (b) Computer-aided engineering | (i) computer-aided inspection/test |
| (c) Computer-driven requirements, planning and scheduling | (j) Electronic link to supplier/customer |
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| (e) Numerically controlled machines | (l) Integrated, highly automated factory systems (CIM) |
| (f) Robotics for welding, painting, pick-and-place | (m) Other types of automation (please comment) |
| (g) Automatic systems for mixing, assembly, material handling, packaging and/or warehouse operations | |

- 26 Which of the following are used as a basis to assign direct costs in your business's predominantly man-and/or machine-paced environments. Check all applicable items.

	Man-paced Environment	Machine-paced Environment
(a) Standard labour hours		
(b) Actual labour hours		
(c) Standard labour Riyals		
(d) Actual labour Riyals		
(e) Standard machine hours		
(f) Actual machine hours		
(g) Time in machine hours		
(h) Units of production (e.g. pieces, tons or lbs)		
(i) Materials consumed - standard units		
(j) Materials consumed - actual units		
(k) Material consumed - standard cost		
(l) Material consumed - actual cost		
(m) Indirect costs not applied to cost objects		
(n) Other		

27 We would like to know the relative importance top management places on these devices in managing the company's activities.

Device	Importance				
	Not Used	Limited	Moderate	Extreme	No basis for opinion
Annual budgeting system					
Long-range planning system					
Approval system for capital expenditure					
Monthly budget review					
Monthly narrative reports on operations					
Formal goal-setting system					
Performance evaluation and incentive compensation system					
Direct informal contacts					
Task forces and committees					
Other full time employees responsible for interdivisional coordination					

28 Western Accountants only:

the following are some of the factors which have been highlighted in western literature and are considered important to the designer of accounting and control systems in developing countries.

Could you please give me your comments and also give your opinion according to your experience:

Education: The education systems of developing countries tend to lean excessively toward rote learning through memorisation and drill, which gives little practise in analysis and problem solving.

Social and Cultural:

(1) The people in developing countries believe that success is primarily the result of sheer luck or success is in the hands of God, rather than the systematic application of effort and creative energy.....

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.....
.....

29 . Did you consider the above factors or others when you designed your accounting and control systems?