

THE UNIVERSITY OF HULL

**PRIVATISATION IN MALAYSIA WITH SPECIAL REFERENCE
TO CHANGES IN ACCOUNTING SYSTEM**

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by

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ABSTRACT

This study constitutes an attempt to analyse the impact of privatisation upon an organisation. The literature on privatisation suggests that one aspect of the process is the creation of new organisational form. In particular, it is believed that the influence of accounting may increase with the introduction of a new commercial ethos. The study traces this change in a privatised Malaysian Telecommunication Company, using Laughlin's model (1991), and Greenwood and Hinnings' (1988) work on organisational tracks to provide a theoretical framework. The research was carried out as an explanatory case study, using the interpretative approach.

Information was obtained from documents and from interviews, during the course of four visits to Malaysia, including a three-month attachment to the organisation.

To the best of the researcher's knowledge, this is the first such study to be conducted on a public sector organisation in a developing country.

The findings of the study may be summarized as follows:

(i) Accounting emerged as visible in the organisation, with elements of the accounting system increasingly prevailing in the design archetype, with a new emphasis on planning, budgeting, responsibility accounting, accountability, and performance appraisal.

(ii) At the same time, accounting was not able to penetrate into the first level, i.e. the values and beliefs, of the interpretative model, leaving the organisation in a 'schizoid' position (Greenwood and Hinnings, 1988) i.e. tension between the engineering and accounting systems. Colonization change has not taken place, as engineering is reemerging in the organisation because of inherited values, rapid technological advancement of the industry and increasing demand for telecommunication services. The assimilation of financial and commercial values appears to be limited, largely confined to fundamental planning.

In addition to shedding light on the accounting and organisational consequences of privatisation, this research suggests that organisational change should be examined more from the process point of view, as it was found that there are interconnections or interrelations between the first, second and third phases of disturbance to the organisation. Moreover, accounting can no longer be studied in isolation, as it is influenced by the economic, organisational and political context. Finally, the study has assisted in the development of Laughlin's skeletal model.

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ABBREVIATIONS

BP1	Budget Control Form 1
BP2	Budget Control Form 2
CASS	Customer Automatic Service System
CEB	Capital Expenditure Budget
CIS	Costing Information System
CPAS	Capital Project Accounting system
CW	Capital Works
DKM	Duct Kilometer
ECP	Effective Cable Pair
ELC	Exchange Line Capacity
EPU	Economic Planning Unit
ES	East selangor
FAS	Fixed Asset System
FMSU	The Financial Management System Unit
GAAP	General Accepted Accounting Principles
IAS	International Accounting Standards
ICU	Inter-Coordinating Unit
JPM1	Jabatan Perdana Menteri Form 1
JPM2	Jabatan Perdana Menteri Form 2
JTM	Jabatan Talikom Malaysia (Department of Telecommunication Malaysia)
KL	Kuala Lumpur
OECD	Organisation for Economic Cooperation and Development

PJ	Petaling Jaya
PKM	Pair Kilometer
PPBS	Programme and Performance Budgeting System
PROMPT	Project Management Philosophy Techniques Training Tools System
PSC	Public Services Commission
PSD	Public Services Department
PWD	Public Works Department
SISKIS	Material Planning and Control System
STM	Syarikat Talikom Malaysia (Telecom Malaysia Company)
WS	West Selangor

CHAPTER ONE

Aims and Methodology of the Study

1.1 Introduction

Since the 1980's privatisation has become a popular policy throughout the world, replacing the public enterprise boom of 1960's and early 1970's. Influenced by Reaganism-Thatcherism and the Chicago School, most governments in the world are either selling off publicly-owned assets or are about to do so (The Economist, 1985).

There are various definitions of the term 'privatisation' but fundamentally it is a transfer of public assets to private firms or individuals (Thiemeyer, 1986) leading to a reduction in the activities of the public sector.

Malaysia is also following this policy, due to the government's realisation that public expenditure has become too high and the public sector too large. This policy was also expected to assist in improving standards of efficiency and service, thereby contributing to a more rapid growth of the country as a whole (Little et al, 1989).

For the government, the fiscal impact of privatisation includes a reduction in government

expenditure through the sale of government assets, reduction in the number of government employees as these employees join the privatised organisation and a reduction in other related expenses.

The impact of privatisation has been substantial. Exposure to the discipline of market forces has led to increased measures of efficiency for the enterprises concerned (Hemming and Mansoor, 1988). Other impacts include reduced political interference, changes in property rights, liberalisation so as to foster competition and new roles for regulators of the industries concerned.

As was commented by Lapsley (1993, p. 1):

"The process of privatisation has impacted not only on the structure of economies but also by the creation of new organisational form".

It is on this area of new organisational form that this research is concerned. In particular because it is believed that accounting can become more influential in the organisation, with the introduction of a new ethos along commercial and financial lines.

However, whilst privatisation has caused some organisations to make fundamental changes in their direction and objectives, others have undergone only cosmetic change, and yet others may be in a state of inertia or rebuttal (Laughlin, 1991).

How, then, do we trace the processes of change that are taking place in the organisation as a result of the impact of privatisation?

This thesis attempts to answer this question by examining one particular organisation, a telecommunication company, in a developing country, Malaysia. The organisation has been transformed from a government Department to a public limited company as a result of privatisation.

The choice of organisation as the focus of study was influenced by a number of factors. One such factor is the economic growth of recent decades, whereby the country has been transformed from an agro-based developing country into an industrially-based economy, with its overall Gross Domestic Product (GDP) increasing by more than eight percent per annum from 1988-1992 (Financial Times (U.K.), August 31st 1993). One reason for this favorable economic growth was the industrialisation policy adopted by the government in the 1970s and 1980s, in accordance with which many incentives were introduced to encourage foreign investors, for example tax holidays, pioneer status etc. This led to an influx of foreign investors coming into the country, especially in the electronics-related sectors, where it increases from M\$959 Million in 1985 (Sixth Malaysia Plan (1991, p.135) to M\$29,800 Million in 1990 (FEER, 6th Feb 1992 p.38). To attract these foreign investors, proper infrastructure

and services were needed, one of the most important being the telecommunication services.

Telecommunication services have been run by state-owned Departments in a monopolistic environment in most countries, including Malaysia. But because of rapid technological advancement and the linkage to computers and information systems, additional funds were needed to expand and improve the services, and it became necessary to consider alternative policies for its telecommunication services. When the privatisation policy was adopted officially by the Malaysian government in 1983, it was decided that the state-owned telecommunication Department would be the first government Department to be privatised. With the limited funds available and with the drive towards industrialisation through participation of foreign investors, it was felt that the participation of the private sector in this industry would speed up the expansion of the telecommunication services and contribute to development in Malaysia as a whole. It was also believed by the government that the organisation would be injected with a new ethos of initiative, efficiency and entrepreneurship.

It is to explore the impact of this transformation that the Telecommunication Department in Malaysia was chosen by the researcher. In addition, the research was facilitated by the researcher's Malaysian origin, and

personal experiences of the organisation in question, as will be explained later in this chapter.

1.2 The Objective of the Research

The particular objective of the research is to study the impact of privatisation on the accounting system of a public sector organisation in Malaysia which has been transformed into a public listed company. The study focuses on accounting from an organisational point of view. In particular, the study aims to contribute to an understanding of forces that either influence accounting change or help to shape the different forms that accounting can take (Hopwood, 1983, pg 288). As was said by Broadbent & Guthrie, 1992,

"The changes have, therefore, redefined the 'public sector' and have disturbed the cultural orientations and the perceptions of those involved in the various organisations as to 'what they are about'. Organisations once geared towards the production of a service now often have to answer to 'profit' elements as well. These developments have given increased standing to costs and to new systems and symbols of accountability. New accounting visibilities have been created. The changes can, therefore, be argued to have strong links to accounting and an interest in them by accounting researchers (too few in number to date) is not surprising" (p. 4).

Only limited research has been done on examining accounting from an organisational point of view in the developed world (Broadbent & Guthrie, 1992) and none (to

the best of the researcher's knowledge) for a public sector organisation in a developing country.

The research uses an *interpretative approach* (Burrell and Morgan, 1979; Denzin, 1983) and *explanatory case study approach* (Yin 1989, Scapens 1990), using the Laughlin model (1991) to provide a theoretical framework. Specifically, it looks at the following:

(i) How did the changes occur, from the public sector days up until the present ?

(ii) Why did the changes take place ?

(iii) What were the consequences and trends that emerged as a result of these changes?

(iv) What was the typology of organisational change: *rebuttal*, *reorientation*, *colonisation* or *evolution* (Laughlin, 1991)?

(v) Do any differences exist compared to the features of the Laughlin model, and extensions to the model? If so, why?

1.3 Research Methodology

1.3.1 The research method used in the thesis

The research method used is a case study approach. Specifically, utilizing an explanatory case study (Yin 1984, Scapens 1990), it aims to explain the reasons why particular types of accounting system existed and were in practice under the different types of environmental influences (which this study, following Laughlin (1991), refers to as *disturbances*). The models of Laughlin (1991)

and Greenwood and Hinings (1988) are adopted as the referential analytical framework, and serve as guides to the subject: to highlight areas of significance for discussion; to make possible understanding and explanation of the reasons for the changes that took place; and to map the organisational tracks and movements of the organisation, arising from the disturbances that occurred (These models, and the rationale for their use, are discussed in a later chapter). The case study concentrates on one organisation in a developing country, Malaysia, as a single unit of analysis (Scapens 1990). This organisation has undergone the processes of change through privatisation.

However, several other reasons led to the adoption of a case study approach in this research. The first is related to the topic itself, which concentrates on the accounting system and change that took place as a result of privatisation. To study the processes of change in an organisation, the approach is to focus in depth on understanding the *content*, *context* and *process* of organisational change (Pettigrew, 1987). In this respect, as explained below, the data collection framework was based on Pettigrew's framework (1987).

The second reason is related to the use of Laughlin's model (1991) as the analytical framework for this study. As Laughlin (1991), said,

"These models are intentionally embryonic and skeletal, requiring detailed case studies to amplify their nature" (page 209).

The thesis is, therefore, in part intended to assist in the development of Laughlin model.

Thirdly, the study focuses on the influence of the accounting system throughout the organisation, in relation to three phases of disturbance that affected the particular organisation under study. And it was felt that the case study approach was particularly appropriate in such a process-dependent setting.

Finally, as mentioned earlier, too few cased-based studies have been conducted on public sector organisations, viewing accounting from the organisational point of view (Broadbent & Guthrie, 1992).

1.3.2 The Location of Research

The empirical study was carried out at a Company (formerly a government Department) known as Telekom Malaysia (hereafter referred to as Jabatan Talikom Malaysia (JTM) translated as Department of Telecommunication, Malaysia, for the period before privatisation; and Syarikat Talikom Malaysia (STM) translated as Telecommunication Company of Malaysia since privatisation). The organisation was privatised on 1.1.1987, being the first government Department to be transformed after the government announced its privatisation policy in the early 1980's.

Initially, STM was not receptive to the idea of such work being undertaken by the researcher, as it would involve the use of confidential and potentially sensitive information about the company's performance. However, after protracted correspondence, negotiations and a letter addressed directly to the Executive Chairman, the researcher was granted official approval for an industrial attachment in the organisation for the purpose of carrying out the research work. The attachment was for a period of four to six months over a period of three years.

The choice of the object of the case study, was influenced by the following considerations:

A single organisation was studied because the researcher was interested to explore intensively the effects of privatisation on the accounting system of an organisation, from an organisational point of view, especially as few or no such studies have been conducted in developing countries to date (Broadbent & Guthrie, 1992). This led to the decision to use the *explanatory* case study approach (Scapens 1991, Yin 1989) and the *interpretative* method. Review of literature on studies from the organisational point of view showed that many accounting researchers have adopted this methodology successfully, including Dent (1991), Ansari and Bell (1991), Hopwood (1987), Berry et al (1985), Covaleski and Dirsmith (1983, 1986), and Boland and Pondy (1983).

This particular organisation was selected because it is a significant organisation with a total staff of 21,358 (in 1979), 27,707 (in 1982), and 29,577 (in 1992) (Annual Report of JTM 1979 and 1982, and STM 1992) and has been in existence since 1957. With this strength in staff size, it is possible to identify clearly various changes that took place with the three levels of *disturbance* in the management set-up and overall responsibility areas.

Yet another reason for choosing this organisation was the fact that the telecommunication industry is undergoing a period of rapid change, in Malaysia as well as around the world in general, as will be seen in the Chapter Four. Along with this change came the government privatisation policy, which required the organisation to undergo transformational change. This reinforces the interest in studying how external disturbances affect the organisation and in turn affect the accounting system, and the budgeting system in particular, on which the study concentrates.

Another reason for choosing the organisation concerned was the fact that since it was the first government Department in the country to be privatised, knowledge gained from research on this topic may be useful for further privatisation implementation in the country of the researcher.

1.3.3 The Researcher And His Relationship To The Object of Research

The researcher has been exposed to the organisation concerned, i.e JTM/STM, from the early 1980s.

From 1982 to 1985, the researcher was supervising students from the Department of Accounting, Mara Institute of Technology, Malaysia, on industrial attachment at the accounting department of JTM, undergoing familiarisation with the accounting system of a government Department (at that time, JTM was still under the government). This was in fulfilment of a requirement that students preparing for the Advanced Diploma in Accountancy must complete a six months industrial attachment in a particular organisation.

Since some of the accounting and finance personnel of JTM/STM were colleagues and students of the researcher, when he carried out the investigation during the three phases described later in this chapter in Section 1.3.5, it was possible to obtain information and evidence outside office hours, such as over lunch time or during weekends, thus presenting a more balanced picture. The researcher has maintained contact with some of these people through correspondence and telephone, making it possible to obtain additional information as and when needed. This was an important element in making it feasible to adopt the *interpretative approach* to analyse the case study.

Another important point to mention is the fact that the researcher has had direct experience in a government budgeting system, such as that practised by JTM. The researcher held the post of course coordinator at Mara Institute of Technology, Malaysia from January 1982- July 1984, and from August 1984 - August 1988 headed the Department of Accountancy.

As course coordinator, the researcher was involved in the preparation of the yearly budget for the course for which he was responsible. Later, as a Head of Department, which was a full cost centre with a student population of about 1500 and 70 staff members (administrative and academic), the researcher was directly responsible for the departmental budget, which involved the preparation of yearly and supplementary budgets, the budget examination exercise for defence of the departmental budget, budget allocation, monitoring and controlling the departmental budget. Since the organisation was a government Institute of Higher Learning, the budgeting system practised was similar to that of JTM.

This experience, together with that of supervising students doing industrial attachment at the organisation concerned and the contact with former students and peers working in the accounting and finance department of JTM/STM, enabled the researcher to more easily adjust to the company culture and become familiar with its workings. Furthermore, the selection of an organisation

in Malaysia, having a majority staff consisting of *Malays*, (the same race as the researcher) made it easier to become absorbed into the culture of the organisation concerned. This facilitated information-gathering from the line managers, in the sensitive areas where the research took place.

1.3.4 The data collection framework

The method used in collecting data for the case study was based largely on Pettigrew (1988). The outline of the analytical approach to change is as shown in Table 1.1.

"Guiding such a view is a meta analytical framework which contends that theoretically sound and practically useful research on change should involve the continuous interplay between ideas about the context of change, the process of change, and the content of change together with skill in regulating the relations between the three" (Pettigrew et al, 1988, p.2).

Based on Pettigrew's framework (1988), the company becomes the unit of analysis, with three levels of data collected for analysis to explain the changes that took place from the period 1971 to 1992, when three disturbances were identified.

The first level of data is *industry-level*. The type of data collected at this level relates to the technological, economic and political changes that influenced the organisation. The concept of public

sector/public enterprise, private sector and privatisation are discussed as they affect the organisation. This is considered as an *external context* (Pettigrew 1988) for change, *disturbances* in which affect the organisation. The *disturbances* also contribute in clarifying the reasons why change took place with respect to the accounting system, in particular the budgeting system of the organisation, when it was transformed from a government-Department to a fully public listed company.

Second are *Department/Company-level* data. The type of data collected at this level relates to the historical development of the Department from the time of its inception until it became a privatised company. The organisational structure of the Department/Company, its emphasis and its mission/purpose under both environments are also described and analysed. These data were taken from the Department/Company archival records, financial statements and other literature on the Department/Company and also through personal interviews with relevant staff of the organisation, especially those who had worked under both environments, i.e. under JTM as well as STM. The aim was to determine and identify organisational changes, which would further explain and clarify the changes that took place in the accounting system of the Department as a result of its transformation.

The third and final level of data relates to the *accounting system of the entity (first as a Government Department and later as a private company)* and

specifically to analysis of the *budgeting system*. Collection of this involved tracing the accounting and budgeting system from its early days to the present form, and the changes that took place with this transformation. Data on this were collected from a variety of sources. Four visits were made to the organisation concerned during the four years of study. Interviews with key personnel were carried out to gain insight into members' perceptions, opinions and views of the accounting system, particularly the budgeting system, of the organisation as a government Department and later, as a commercial entity. Observations were made of the accounting system in practice under the new environment. It was also possible to interview staff who had also worked in the old organisation. Finally, existing and past records were referred to, so as to capture data which were not available in other ways.

1.3.5 Phases in carrying out the investigation.

The research was carried out over a period of four years, during which the researcher returned to Malaysia four times to obtain primary and secondary data, as well as to be attached to the organisation for a period of three months, and further visits were made at various intervals during the four year period of study.

1.3.5.1 The initial phase

The researcher went to Malaysia in February 1990 with the aim of finding a suitable organisation to carry out the research work. He visited a number of organisations, one of them being JTM/STM. In JTM/STM, the researcher met former colleagues and students whom he interviewed and with whom he held informal and discussions on the organisation and their work. Through these contacts, he met the General Manager - Corporate Accounts, Executive Director (Operations) and three Accountants and interviewed them also. The researcher identified JTM/STM as an appropriate and interesting subject of research because of the changes in the company, especially with respect to accounting, the role of which had expanded after privatisation. During this visit, internal materials related to the topic such as the accounting system of the organisation, the past and present organisational structures, internal reports, annual reports, consultants' and auditors' reports on the feasibility of privatising the organisation and newspaper cuttings on the topic, as well as on the topic of privatisation in general, were collected and brought to the U.K. for further use by the researcher.

1.3.5.2 The second phase

Since the research work involved confidential information, the researcher wrote formally to the Executive Chairman of STM to obtain his permission to have access to the organisation and to be attached to it for the purpose of research work. At the request of the Senior General Manager (Administration), the researcher

returned to Malaysia to discuss with STM personnel the possibility of carrying out the research using the case study method. In STM, he met the GM Corporate Accounts, GM Corporate Finance and AGM Corporate Finance. This second visit to Malaysia in Spring 1991 led to the researcher spending one and a half months in STM, during which he studied the accounting system of the company as a whole through interviews and discussion with the accounting personnel. A total of 10 personnel from the accounting and finance group was interviewed by the researcher. It became apparent that it would be more feasible to concentrate on one major area of change in the financial and accounting system, as the accounting and finance group was a substantial division within the organisation and too large to study *in toto*.

Upon coming back to U.K. and after discussion with the researcher's supervisor, it was agreed that the researcher should concentrate his study on the budgeting system, due to the apparent impact of change after privatisation, referred to earlier. Laughlin's (1991) model of *accounting and organisational change*, which concentrated on looking at accounting within the organisational context, was found suitable for use, together with that of Hinnings and Greenwood (1988), as the analytical framework. The researcher met Professor Richard Laughlin to discuss the use of his model. Correspondence was also maintained with an Accountant in the organisation, to make available further information as required.

1.3.5.3 The third phase

The researcher went back again to Malaysia in October 1991 to do an intensive attachment at the company for three months. Most of this time was spent interviewing, observing and looking at the files and records and concentrating on the budgeting system before and after privatisation. The industrial attachment was necessary to enable the researcher to become part of the organisation (interview with Laughlin in October 1991) so that data could be *collected through casual conversations and by simply "being around"* (Dent 1991).

During the JTM period, the Department was directly under the federal government. Thus, the process, control and monitoring of the budgeting system involved not only JTM administrators but also other central agencies like the Federal Treasury Department, Economic Planning Department and Implementation Coordinating Unit of the Prime Minister's Department, Ministry of Post, Energy and Telecommunication. Therefore, the researcher approached these agencies to find out more about the related topics during JTMs days. Interviews were held with the personnel who were directly in charge of JTM as far as the budget was concerned. Th number of persons interviewed from other organisations in Malaysia is shown in Table 1.2.

With respect to the organisation itself, the researcher was able to interview 27 participants (14

engineers, 10 from the accounting and finance group at both the HQ and Central Region and three from other divisions in the organisation) who were directly involved, in one way or another, in the budgeting system, during JTM days, under STM, or both. As shown in Tables 1.3, 1.4 and 1.5, the interviews were conducted at various levels within the organisation, i.e. from the top management level to the non-executive level. This was important to an understanding of why *disturbances* effected changes in the budgeting of the organisation, since various levels of personnel were involved. As was said by Scapen (1990),

"if accounting researchers want to exploit the full potential of case study methods to understand management accounting, they must be prepared to study accounting practices at various levels within the organisation and the relationship between the various groups of managers" (page 278).

The interviews made use of a semi-structured approach, the structured component of which served as a guideline for consistency and cross-referencing (The interview guidelines is shown in Appendix 1). The researcher was allowed complete freedom to choose whom to interview. Interviews averaged from one to two hours in length and were spread over the three months period. Most were tape recorded and transcribed later. Informal and casual discussions were held at lunch times and weekends, especially with the researcher's peers and former students, in order to obtain a clearer picture of the situation. Thus, the evidence was validated by adopting a

variety of approaches; this process is known as *triangulation* (Denzin, 1970).

Other than the above, evidence was also collected from the Department files of records of JTM Budget Committee Meetings and other related files, classified documents such as Business Plans, Monthly Management Reports and other relevant reports. In assessing and analysing the accounting systems of JTM, the researcher was able to obtain the detailed report made by the Consultant appointed by the government to study the feasibility of privatising the Department in 1982. The study was carried out jointly by Kleinwort, Benson Limited, Arab-Malaysia Merchant Bank Berhad, and a local auditing firm, Hanafiah Raslan & Mohamad. The report was completed in late 1984 and was published on 28th December 1984. Other information obtained was from the Annual Reports of JTM and STM, articles and newspaper cuttings, both local and international, and also central government agencies' reports.

Thus the process of triangulation took place through:- the interpretative approach, where various documents were used as mentioned above and semi-structured interviewing, which is an open-ended approach, was carried out; and a conventional empirical approach was also partially used, whereby outcome evidence was used to validate the other approaches.

While engaged on the industrial attachment at STM with the Laughlin analytical framework in mind, the researcher found that commercial and financial influences were being felt not only in budgeting, but also in marketing and customer services, a division mainly managed by engineers who were formerly from JTM. Therefore, the researcher interviewed some of the engineers working in this division to find out more about the changes that took place with privatisation.

1.3.5.4 The fourth and final phase

The researcher went back again to Malaysia in May 1993 to collect further evidence on the organisation under study for a period of three months. Most of the time was spent on observing and holding in-depth interviews with the engineers and accountants, using a structured interview schedule. A total of 31 participants (25 engineers, four accountants and two from other division in the organisation) were interviewed during this period of stay. The purpose of the interviews was to obtain evidence on any change in the orientation of values and beliefs of the engineers from engineering criteria to commercial and financial criteria as a result of the processes of organisational change taking place from the JTM days to the post privatised era. In looking for this evidence, the Capital Works Programme of the Local Network Development in the Central Region was taken as an example, concentrating on the Capital Projects done by the engineers in the local network areas in planning

for new exchanges and following through the capital investment approach using Pike and Dobbins (1986) to trace the dynamics of the changes that took place from JTM's days up to the post-privatised era.

1.3.6. Data Analysis

In analysing the data collected for the research work, Laughlin's model (1991) was used as an analytical framework. The study analysed changes in the accounting system longitudinally, i.e. from 1971 to the present. However, the main focus was to look at changes in the budgeting system.

Most of the data from the JTM period were obtained from former staff of JTM or through interviews with these personnel. Photocopies were made of any document found to be useful for analysis of the research study. Most data relevant to the research during STM's time were photocopied and brought back to the U.K.

With respect to interviews conducted, most of the interviews were recorded on a tape, then transcribed manually by the researcher himself, to ensure that all information obtained was recorded and transcribed for the research analysis. A different file was kept for each interview. However, a few personnel did not want their interviews to be taped. For these cases, handwritten notes were taken during interviews and transcribed afterwards.

Each interview question was analysed separately and a summary of the responses on each question was produced so as to look for pattern of answers and to see whether any trends emerged. Cross-referencing of notes was made to look for emerging trends and the flow of information taking place.

As mentioned earlier, in analysing these data, Laughlin's model (1991) and Hinnings and Greenwood's (1988) movement of tracks were used as guides to study the pattern of changes that took place and to establish the emerging trends.

1.3.7 Overall validity and reliability of the research.

As stated earlier, the study was conducted with the aim of understanding the changes in the accounting system arising out of privatisation of a government Department to a public listed company. The study concentrates on looking at accounting from the organisational point of view, trying to understand and analyse the changes that took place in an organisation as a result of different levels of disturbances (Laughlin, 1991).

In undertaking this study, the case study approach seemed to be the best available option, as detailed analysis could be performed. The study not only describes the changes taking place but also seeks to explain why

these changes happened. It does not analyse the changes in a snapshot manner, but rather studies them longitudinally, i.e. through the various levels of disturbance which affected the organisation (the same sort of study done by writers like Pettigrew, Dent, Laughlin etc). By analysing the processes of change, the researcher was able to document the unfolding of certain significant events and to establish the trends taking place.

This case study is not intended as the first step in a scientific sampling process, but as an aid to understanding, in line with the interpretative approach taken.

1.4 Limitations of the research

The researcher faced a number of constraints during the process of undertaking this research:-

(a) Certain information/data are not available, especially for the JTM period. For example, actual excess cable (ECP) pair figures for the Central Region are not available. However, the number of ECP for JTM as a whole are available from 1975 to 1986 in the annual report. Thus comparison was made based on these figures.

(b) Most of the files for JTM could not be traced, since as soon as the organisation was privatised. New files were opened and the old files removed. Discussion

with certain officials revealed that although most of the old files had been stored rather than destroyed, because they had been moved from one place to another, they had been misplaced. Some of the files, however, had been given to the National Archives, and the researcher was able, as a result, to obtain access to a few files pertaining to the research. In the absence of detailed documented figures, the researcher had to rely on information/data given during indepth interview, and lastly,

(c) some information, such as numbers of waiters for STM as a whole and certain other information , could not be obtained because of the company policy of confidentiality.

1.5 Layout of the Thesis

The thesis is organised into eight chapters.

Chapter One constitutes an introduction discussing the background, objectives, methodology and limitations of the study.

Chapter Two reviews and describes the roles of Public Sector / Public Enterprises as compared with those of the Private Sector, with particular reference to the financial and accounting aspects. These issues are reviewed both in general terms, and as related specifically to Malaysia. The concept of privatisation,

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the aims of privatisation policy and the privatisations which took place in Malaysia under the New Economic Policy are then discussed.

Chapter Three reviews the literature on accounting and organisational change. The analytical framework used in this research is presented and explained.

Chapter Four reviews and describes the Telecommunication industry in general, and in particular, the Telecommunication industry in Malaysia. The chapter presents an overview of the history of the organisation under study, from its formation up to the present stage.

The next three chapters concentrate on the empirical research. Chapter Five discusses the processes of change taking place out of three phases of disturbance. The chapter then discusses the role of accounting and finance before and after privatisation, focusing especially on the changes that took place as a result of the third phase of disturbance.

Chapter Six describes and discusses the role of the budgeting system before and after privatisation, as a detailed illustration of where evidence of organisational change may be found.

Chapter Seven analyses the dynamics of change during the three phases of disturbance in the organisation studied, with particular reference to the capital

budgeting system, focusing on the Local Network Development unit at Central Region.

Chapter Eight presents an analysis of the outcomes of the work directly related to the engineers on the capital budgeting system of the Local network Development unit at Central Region in order to show the extent to which changes in values and beliefs took place among the engineers. The findings are linked to Laughlin's model and the outcome of the research explained in detail by reference to the model used.

Chapter Nine summarises the findings and relates the findings of the present research to those of previous research work in the field.

Table 1.1 – Data Collection Guidelines

Level of data collected for Analysis	Concentration of analysis	Types of data collected
I. Industry	External context for change	Technological, economic and political changes; Public sector/public enterprise, Private sector and privatisation.
II. Department/ Company	Internal context for change	Historical development, organisational structure of the Department and the company.
III. Accounting system and specifically on the budgeting system	Contents & processes of changes that took place.	Origination and changes that took place and leading to the position before privatisation as a background and from 1987- to date (concentration on the dynamic of change taking place)

Source: Pettigrew et al (1988)

**Table 1.2 - Number of person Interview
from Other Organisation in Malaysia**

<u>name of the organisation</u>	No. of person interview
Privatisation Task Force, Prime Minister's Department	2
Department of Civil Aviation	3
ISIS	2
EPU, PM's Dept.	2
Federal Treasury, Ministry of Finance	3
Ministry of Telecommunication	3
JTM, the Regulatory Body	3
National Institute of Training (INTAN)	2
Port Klang Authority	3
MAS	5

Table 1.3 - Overall Number of Research Participants in STM

	AT REGION		AT HQ		TOTAL		
	JTM/STM	STM	JTM/STM	STM	JTM/STM	STM	TOTAL
Senior Management	1	0	1	2	2	2	4
Middle Level Mgmt.	15	0	17	2	32	2	34
Executive Level	10	4	1	5	11	9	20
Non-Executive level	8	0	1	1	9	1	10
	34	4	20	10	54	14	68

Table 1.4 - Research Participants (Engineering and other Based)

Engineering Based

	At Region		At HQ		TOTAL	
	JTM/STM	STM	JTM/STM	STM	JTM/STM	STM
Senior Management	1	0	1	1	2	1
Middle Level Mgmt.	11	0	10	0	21	0
Executive Level	9	0	1	0	10	0
Non-Executive level	5	0		0	5	0
Total	26	0	12	1	38	1

Other Based

Middle Mgmt. Level	2	0	1	0	3	0
Executive Level	0	2	0	0	0	2
Total	2	2	1	0	3	2

Table 1.5 - Research Participants (Accounting and Finance Based)

	AT REGION		AT HQ		TOTAL	
	JTM/STM	STM	JTM/STM	STM	JTM/STM	STM
Senior Mgmt. Level	0	0	0	1	0	1
Middle Mgmt. Level	2	0	6	2	8	2
Executive Level	1	2	0	5	1	7
Non-executive Level	3	0	1	1	4	1
Total	6	2	7	9	13	11

CHAPTER TWO

Public Sector/Public Enterprise, Private Sector and Privatisation; and their Relations

2.1 Introduction

Since the company under study began as a public sector enterprise, and was subsequently privatised, it would be helpful to have some understanding of the nature of each type of enterprise, of the rationale for privatisation, and its impact. This chapter accordingly discusses these issues, both in general terms and with specific relation to the Malaysian context. This is intended to shed light on the JTM and STM environment, and on the organisational culture prevailing at each stage.

The chapter begins by comparing the public and private sectors:- in general; from a management perspective; and from a financial accounting and reporting, and management accounting perspective. The characteristics of each sector are discussed and the social, economic and political differences between them analysed, to provide a clear basis for the identification of changes, especially in the accounting system, that

take place when an entity shifts from being a public sector/public enterprise to a public listed company.

Public enterprises in Malaysia can be classified as follows: a) government departments b) public corporations normally referred to as statutory bodies, and c) government companies. The Malaysian Telecommunications Department (JTM) before privatisation came into the first category. To facilitate understanding of JTM's role at this time, this chapter discusses public enterprise in general and specifically in the context of the Malaysian environment. The reasons for their formation, their failure to achieve objectives, and the problems created for governments as a result, are explored.

One method governments have adopted to overcome the problems of the public enterprises was privatisation. The following section accordingly looks at privatisation in general, defining it, explaining its rationale and objectives and looking at the arguments for and against privatisation. The chapter goes on to focus specifically on privatisation in Malaysia, looking at forms of privatisation, constraints and problems, and stages of privatisation. Finally, the impact of privatisation is discussed, particularly the increased importance of accounting within the organisation and its influences on the overall organisational structure, which will be explored in depth in later chapters of this study.

2.2 Differences between Public and Private Sector - General and Management Perspectives

Since the present study is concerned with privatisation and the change from a public enterprise to a private sector enterprise, this section reviews studies related to the differences between the public and private sectors.

Drucker (1973), in support of his view that the public sector enterprise is not very different from the business enterprise, argues that,

"the public enterprise faces similar if not precisely the same challenges in seeking to make work productive. It does not differ significantly from a business in its social responsibility, nor does the public enterprise differ very much from the business enterprise in respect to the managers' work and job, in respect to the organisational design and structure to top management. Internally the differences tend to be differences in terminology rather than substance" (p. 45).

According to Drucker (1973), the only significant difference between the public and private sector enterprise is their source of finance. Businesses are paid to satisfy the customer; they are only paid if they produce what the customer wants and what he is prepared to purchase. Satisfaction of the customer is therefore the basis of performance and results in business. In contrast, public sector entities are paid out of budget

allocation; their sources of revenue are not tied to what they achieve. As a result, performance in the public sector is judged on the ability to maintain or increase one's budget allocations.

Other writers, such as Rainey, Backoff and Levive (1976) disagree with Drucker. In reviewing studies on the differences between public and private sector organisations in the United States, Rainey, Backoff and Levive (1976) found that several authors agreed on the differences rather than similarities between public and private enterprises. These differences relate to factors such as environment, organisation-environment interaction and internal structures and processes.

With respect to environmental factors, differences exist in the degree of market exposure, legal and formal constraints and political influences. The public sector is seen to be less exposed to market forces, leading to less incentive to reduce costs, operate efficiently and to perform effectively. This may lead to less allocative efficiency, lower availability of market indicators and information such as monthly / quarterly management reports.

As for administrative procedures and spheres of operations, the public sector is seen to have more constraints, as administrators have little or no flexibility in making choices on procedures and

operational methods. The public organisation is seen to have a greater tendency to multiply formal specifications and controls. There are also more external sources of formal influence where these sources of influence are fragmented. Politically, a public organisation is seen to have greater need for support of constituencies and have greater diversity and intensity in respect of external informal influences on decision-making.

With respect to organisation-environment interactions, the studies reviewed by Rainey, Backoff and Levive found that the services rendered by the public sector are closely monitored. Public servants performed their services with more fairness, responsiveness, accountability and honesty. With respect to coerciveness, the study found that the public sector was more likely than the private sector to be subject to coercive powers from the government.

With respect to internal structures and processes, the study found great differences exist between public and private sectors. The public sector is seen to have multiple and diverse objectives and evaluation and decision criteria, leading to vagueness and intangibility of objectives. Further, the studies found that the goals in the public sector tend to conflict with each other and that more trade-offs exist. With respect to authority relations and the role of the administrator, public officers were found to have less autonomy and flexibility

in decision-making and weaker and more fragmented authority over subordinates, since subordinates can bypass them and appeal to alternative authorities. Added to that are the constraints of the merit system available in the public sector. Public officers were also found to have greater reluctance to delegate authority, more levels of review and greater use of formal regulations. This could be because of difficulties in supervision and delegation and also because of the vagueness and intangibility of objectives and evaluation and decision criteria. The public sector officer is expected to make politically and professionally sound decisions, whereas private sector managers need be concerned only with the professional implications of their decisions. This does not mean that private sector managers are not concerned with the political implications of their decisions, but rather that a public officer must combine administrative expertise with political adroitness (Stockfish, 1972).

On organisational performance, the studies reviewed by Rainey, Backoff and Levine found that public organisations tend to be more cautious and rigid and less innovative. Moreover, public officers have greater difficulty in devising incentives for effective and efficient performance and surprisingly lower valuation of monetary incentives by the employees. Instead, the public sector officers place more emphasis on non-monetary rewards such as job security, involvement in important affairs and 'power and glory'.

In terms of personality, needs and values there was some evidence that differences exist between the private and public sectors. According to the studies reviewed, public sector officers show lower work and need satisfaction, lower organisational commitment, higher need for achievement and lower need for affiliation. Frankel and Manner (1980) found that public sector managers are concerned about unemployment, social welfare and equity and are less concerned than private sector managers about the profitability of the economic enterprise.

In the private sector, management is about doing the thing right, since the profit motive is a clear, high-level goal and the leadership has to consider customer satisfaction. In achieving this, the management need to look at product development and market research and to consider the long term effects. In contrast, in the public sector, aims are primarily political, with the motive of getting reelected. Even though there is professional training and experience, this does not necessarily provide a guide as to the right thing to do.

Bank (1990) further stated that government activities are concentrated where the market is non-existent; hence, resource allocation cannot be driven solely by efficiency, considerations, and cost-benefit

analysis has to be carried out differently than in the private sector.

2.3 Differences Between Public and Private Sector - Financial Accounting and Reporting, and Management Accounting

2.3.1 Nature of public sector accounting

Public sector accounting is different from accounting as implemented by the private sector. Most public sector entities are budget-financed, receiving funds from the central government after the budget examination. Public sector organisations are subject to various rules and regulations from the central government about matters such as the level of funding, pricing policy, purchases of items, especially capital expenditure items, and other factors which limit their free market operations.

Since the public sectors are budget financed from the central government, their powers are thus obtained from the Parliament and their responsibilities are ultimately to Parliament. However, according to Henley et al (1989), below this authority lies a variety of networks, both formal and informal, which influence the way the public sector organisation works. These include federal government ministers, civil servants, elected

members of Parliament, the appointed board and other pressure groups. Thus, the public sector organisation has to a certain extent to be aware of the influence of these groups of people, which could lead to changes in its activities. From this one could also conclude that the interested parties who use the accounting information in the public sector are more numerous and diverse than users in the private sector, since the latter include only the shareholders, creditors and employees of the organisation, whereas in the case of the public sector, in addition to those already mentioned, are politicians, taxpayers, electors and the service recipients (Glynn, 1987).

2.3.2 Objectives of public sector accounting

According to the Report of the Committee on Not-for-Profit Organizations, 1972-73 quoted by Henke (1988, p.93), the primary objectives of accounting in the public sector organisation should be designed:

"1. To provide the information necessary for faithful, efficient and economical management of an operation and of the resources entrusted to it. This objective relates to management control.

2. To provide information to enable managers to report on the discharge of their responsibilities to administer faithfully and effectively the programmes and use of the resources under their direction; and to permit all public officials to report to the public on

the results of government operations and the use of public funds. This objective relates to accountability".

However, according to Henley et al (1989, p.9) the the objectives and functions of public sector financial reporting includes 'compliance and stewardship, accountability and retrospective reporting, planning and authorization information, viability, public relation and source of facts and figures'.

Both the above statements of the objectives of the public sector seem to emphasise management control and accountability. The question then arises whether the above objectives are being practised by public sector organisations. From the studies done, most public sector organisations do practise accountability, but they lack systems of management control, especially with respect to management accounting systems and reporting. Much of management accounting in the public sector, has been concentrated on the requirement of budget preparation and control only (Pendlebury 1989).

2.3.3 Differences between public and private sector accounting and reporting practices

The differences in the accounting and reporting practices between the public and private sector lie in

the fundamental differences in the economic, legal and political environment of the entity (Ingram et al 1991).

From the economic point of view, a private sector company is profit-oriented, and its operation lies in the market and competitive environment. Thus costs, quality of the products and profits are important factors to the organisation, because this information is reported back to the owners who have a vested interest in the performance of the organisation and demand a satisfactory rate of return on their investment.

In the case of the public sector, the economic environment is totally different from that of the private sector. The prices of goods and services are often set by an authority which is beyond the control of the public sector organisation. Thus the prices are not determined by the forces of supply and demand, as in the private sector environment. Because of this, such enterprises do not compete in a market of a competitive nature.

As was commented by Ingram et al (1991 p. 5),

"many of the unique features of governmental and nonprofit accounting and reporting result from the special needs these organizations have for controlling resources and costs and for providing accountability in the absence of market forces".

The public and private sector also differ in their legal and political environments. In the case of the public sector, authority to spend the budget comes from the federal government and it comes with strings attached, especially from a political point of view. Usually, additional funds from outside can only be obtained with legal constraints on their use. The rules or laws as to authority for action are usually derived from a political process. Accountability and reporting practices are influenced by political demands, as mentioned earlier, rather than the accounting information being used to monitor the performance of the organisation, as in the case of private sector organisations. Thus, in government accounting and reporting, the main purpose is to comply with laws, regulations and political agendas, whereas in the private sector, the purpose is to comply with the Companies Act and shareholders' requirements. Henke (1988, p. 4) defined public sector organisations' operating objectives as,

"to provide socially desirable services without the intention of realizing a profit. Nonprofit organizations have no ownership shares that can be sold or traded by individuals and any excess of revenues over expenses or expenditures is used to enlarge the service capability of the organization. They are financed, at least partially, by taxes and/or contributions based on some measure of ability to pay, and some or all of their services are distributed on the basis of need rather than effective demand for them".

In contrast, the private sector is driven by profit objectives. Shares are transferable and traded in the open market in the case of public limited companies. Profits made by the company are often shared by staff through declaration of bonuses. Some are retained in order to be used for the expansion of the company and some are given to the shareholders in the form of dividends.

2.3.4 Management Accounting

While both private and public sector organisations are influenced by economic considerations, public sector organisations must also consider social and political factors. Thus according to Han (1991) management accounting in the public sector should concentrate on the three objectives of the value-for-money criterion: economy, effectiveness and efficiency which he defines as follows:

"Economy is concerned with obtaining and using quality and least-cost input factors to yield maximum results. Effectiveness refers to the degree to which the set of predetermined objectives is achieved i.e., reaching the goals set. And efficiency is indicated by the productivity ratio of input/output" (p. 7).

It is difficult to achieve these objectives. One way to do so may be to use standards and budgets to compare with the actual data, for both accounting and non-

accounting information. However, in order to implement this method successfully, the organisation needs to have a sound accounting system and management information system, in order to be able to produce reliable and accurate management accounting reports. This will in turn help the managers of the public sector organisation with proper decision-making, planning and control of the organisation. According to Anand (1988, p. 263-5), management accounting reporting in the public sector should possess the seven characteristics of comprehensiveness, reliability, validity, relevance, output-relatedness, decision-integratedness and timeliness. Han (1991) added four further properties: acceptability, comparability, responsibility and exceptionality. He further stressed that management accounting in the public sector should provide an adequate information flow in respect of direction, size, frequency and quality. Size refers to the importance and quantity of information; frequency refers to the speed of flow and intervals within it; and quality refers to the reliability and relevance of the information.

However, as yet, management accounting in the public sector is being practised minimally and it is only from the 1980s that government have looked at it seriously (Pendlebury 1989). Public sector organisations, especially in the developing countries, often do not prepare management accounting reports. Where reports are prepared, they are often insufficiently detailed and

produced only once a year for the purpose of meeting the external audit requirements and for statistical requirements. This is because, as stated earlier in this chapter, there is no proper guideline on monitoring and performance measurement. Often, there are no posts for management accountants in public sector organisations. The role of the public sector accountant is custodianship rather than management. The planning and monitoring of the performance of the organisation is usually done by non-accounting personnel.

In contrast, management accounting systems are implemented fully in well-managed private sector organisations. This is partly because the objectives of private sector organisations are clearly and explicitly expressed by the top management. Added to that is their competitive environment, whereby performance is assessed on profitability and the daily movement of the company share price in the Stock Exchange, in the case of a public listed company. A reliable management accounting reporting system therefore becomes necessary to facilitate measurement of each unit's performance within the organisation.

2.4 Public Enterprise

Having discussed the differences between the public and private sector in general and in management and

financial accounting reporting, let us now discuss the concept of public enterprises and why governments are moving away from this approach to the concept of privatisation. This discussion is important to the present study since the organisation under study by the researcher originally fell into the category of public enterprise.

Public Enterprises have been established by governments all over the world, whether they practise a capitalist or socialist system of economy. Jones (1982) defines the public enterprise as a hybrid organisation which requires a multi-disciplinary perspective. As an 'enterprise' it sells its output and therefore performs functions such as production, marketing and finance. As a 'public' organisation, it is owned and controlled by the government or its representative. Thus it has to report directly or indirectly to bureaucrats, politicians and the public at large.

2.4.1 Reasons for establishing Public Enterprises

The reasons why governments establish public enterprises differ from country to country, according to the political, economic and social situation. Abdul Rahman (1982) lists two main reasons why governments establish such enterprises. The first is ideological; through the establishment of these enterprises certain

activities are brought under government control which suits their concept of an economic system. The second reason is pragmatic and dependent on situational considerations, whereby the government establishes public enterprises to facilitate economic development, defence, security and strategic needs, to improve efficiency, and for administrative, social and political reasons (Hashim, 1986).

2.4.2 Problems of managing Public Enterprises

Public Enterprises have many problems; not only those related to the management of any organisation, but some problems that are unique to themselves. These problems include:

(i) Conflicting goals

Most public enterprises have dual roles to play, which sometimes conflict with each other. The dual roles are with respect to policy, where the organisation depends on government, and in business management, where it must play a role like that of a private sector organisation (Hashim, 1986). This was also commented by Anastassopoulos (1984), where he highlighted that Public Enterprises also tend to have several diverse goals to pursue. Most common and yet always in conflict are the socio-economic and financial goals.

This dual role is problematic, since running the organisation to meet government-imposed social, national and economic objectives, may conflict with the practices and objectives of a commercial entity. This leads to the organisation having unclear objectives and directions when compared to the private sector.

(ii) Cultural differences between managers of public enterprise and the officers of the ministries concerned

The second problem relates to the cultural differences that exist between the managers of the public enterprises and the controllers of the ministries concerned. Since their motivations and behaviour patterns differ, according to the characteristics of their work, differences exist between the two which cause the management of public sector to become frustrated and demotivated. This to a certain extent affects the performance of public enterprises (Heath 1983).

(iii) Measuring performance of the Public Enterprise

Measuring the performance of the public enterprise has been a problem because of the conflicting and diverse roles it has to play. However, in the final analysis, the amount of resources put into fulfilling these conflicting roles needs to be justified and controlled by the

government. Some believe that public enterprises should be treated the same as those in the private sector, since government regulations affect both sectors. Others disagree, saying that the managers of public enterprises have less power than their private counterparts, especially with respect to resource allocation and choice of strategy (Kingshott, 1975). Furthermore the public enterprises are not subjected to pressure from the stockmarket movement and their financing charges are lower than those of the private sector, since loans are being guaranteed by the government.

(iv) Regulation and control of Public Enterprises

Another problem faced by the public enterprise is with respect to regulation and control. Being a public enterprise, the organisation is given autonomy from the government in running the organisation. However, at the same time it must be accountable to the government for its activities. The main problem here is to keep a balance between autonomy and accountability. In recent years, there has been constant government interference through increased supervisory control and additional regulations issued to the public enterprises. This has indeed created an imbalance between autonomy and accountability and has hampered the smooth running of the organisation.

2.4.3 Public Enterprises in Malaysia

Public Enterprises in Malaysia were established during the colonial days and the early post-independence period in the 1950s and 1960s in the agriculture, social and physical infrastructure sectors. The main reason for establishing these agencies was basically for the development of the country.

However, the rate of establishment of Public Enterprises increased tremendously in the early 1970s as a result of the implementation of the New Economic Policy which was introduced to restructure the society and correct the imbalance of the economy according to racial composition. By establishing the Public Enterprises, the government hoped to play an active role in the industry and commerce sector.

According to Zakaria, A.H. (1984), there are three types of organisation in Malaysia that fall under the definition of public enterprise. They are:

- (i) Enterprises managed by government departments which are required by law to keep their accounts on commercial lines, like telecommunications and civil aviation;
- (ii) Public corporations or statutory bodies established under the different statutes both at federal and state levels; and
- (iii) Government companies established under the Companies Act 1965, such as Malaysian Airline System.

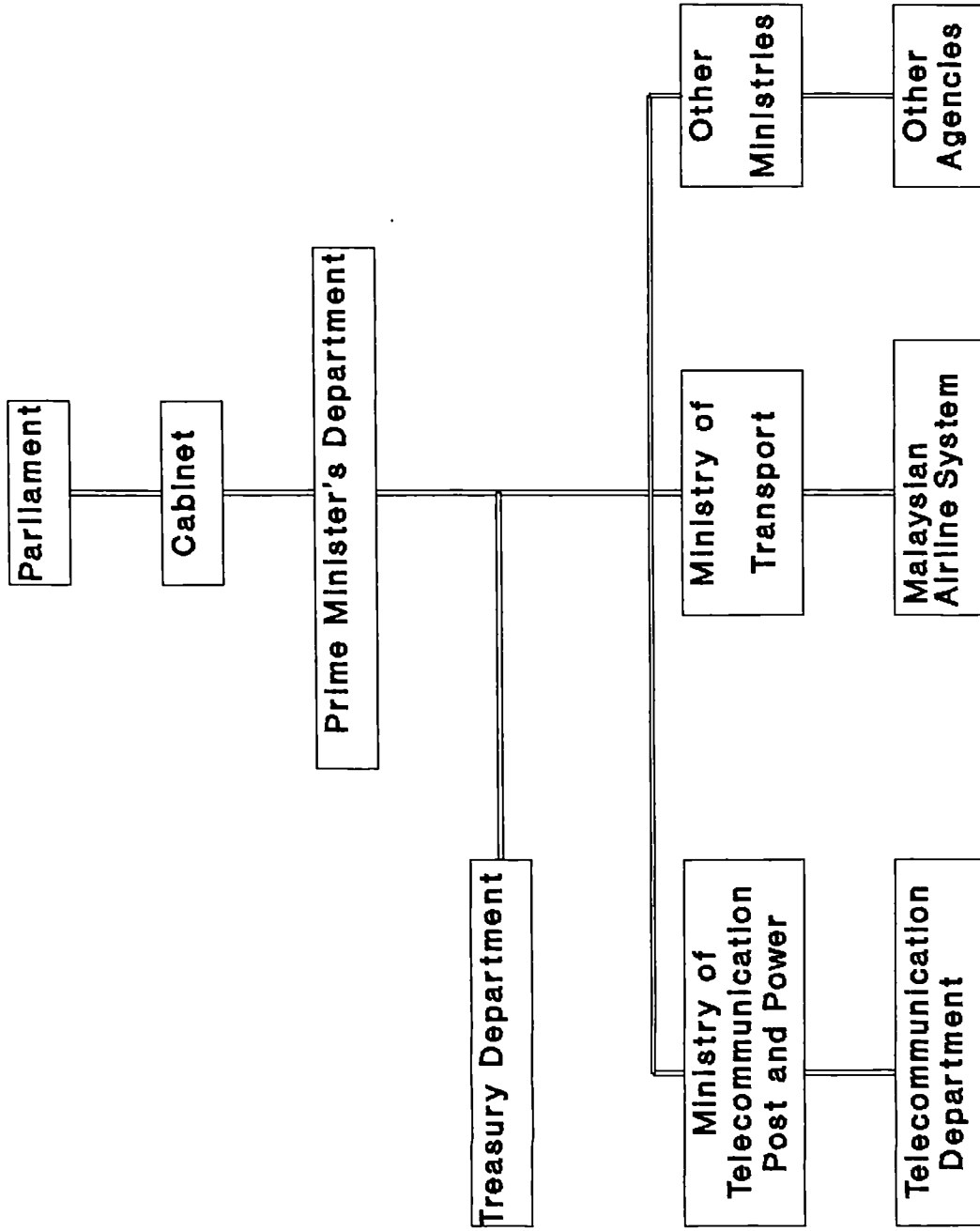
The distinction between the three types is important, since private sector orientation and work values already exist in types (ii) and (iii), and it might be expected, therefore, that privatisation of these categories would present fewer problems of cultural adjustment than privatisation of category (i) organisations. It is this category (i) into which the company under study fell before privatisation.

2.4.3.1 Relationship of Public Enterprise with government's organisation

Figure 2.1 shows the relationship between the Public Enterprise and the government's organisation. In order to co-ordinate, monitor and evaluate the activities and performances of the Public Enterprises, each enterprise is answerable to a particular ministry. Telecommunication Department, for example, used to report to the Ministry of Telecommunication, Post and Works.

The Chief Executive Officer or Director-General was usually appointed from the civil service, but in technical Departments such as the Telecommunication Department, the appointment might be made from personnel within the organisation, by the ministry concerned. The Chairman and between six to twelve of the board members were also appointed by the ministry. These board members were usually selected from within the government structure, such as representatives of relevant ministries

Figure 2.1 - Relationship of Public Enterprise with Government's Organisation



Source: Ahmad, A.S. (1986)

or organisations. However, since the early part of 1980s, there was a slight change in the appointment system, with a few professionals from the private sector being appointed to the board. Nonetheless, overall, the government thinking and approach still dominated the board meeting, since the majority of its members were government representatives. With this approach, the government, through its representatives, was well informed about the activities of the public enterprises.

2.4.3.2 Reasons for the poor performance of Public Enterprises in developing countries, including Malaysia.

Aylen (1987) attributes the poor performance of most government enterprises in developing countries when compared to the private sector to the fact that they follow the **Bureaucratic Model** rather than the **Market Model** (see Table 2.1). As was stated by Aylen (1987, p.16):

"It is not ownership but rather market environment, firm organisation and management incentives which determine the performance of companies".

However the market model does not exist in the case of public enterprises in developing countries, as shown in Table 2.1.

TABLE 2.1 : Public Enterprises in Developing Countries

MARKET MODEL	BUREAUCRATIC MODEL
Financial autonomy with emphasis on profitability.	Finances overlap with budget. Losses accepted for social reasons.
Clear commercial and social objectives.	Confusion about objectives and political interference in decisions.
Operating independence Performance monitored by outputs.	Close scrutiny of input decisions (employment, investment) and attention to politically sensitive outputs (prices). Lack of concern with overall enterprise efficiency.
Potential competition from domestic rivals and imports.	Tariff barriers and import licencing to limit competition. Legal restrictions prevent market entry by potential domestic competitors.

Source: Ayles, *Lloyds Bank Review*, Jan, 1987
p. 19.

According to Puthuchery (1984), the reasons why the public enterprises' performance in Malaysia is unimpressive are:-

(1) There is a general pattern that most of the public enterprises operate under high gearing ratios. This is due to the fact that most public enterprises receive their funds in the form of loans either from the federal government or from an international agency such as the World Bank. In addition, the public enterprises

easily obtain loans from local commercial banks, which are owned by the government. There is a close link between the two parties, since both are owned by the government. Thus, even though the interest rate on these loans taken by the public enterprises is low, because the amounts borrowed are so great, the result is high financial expenses which could lead to reduced profits, or even losses for some public enterprises.

(2) There is no proper planning and control with respect to the evaluation of proposed capital investment. The approval of the capital investment is made without proper guidelines as to its viability. No detailed study as to the returns on the capital investment are made. There is also an absence of expertise and experience available. In short, most capital investment projects are launched without adequate pre-investment studies as to their viability, and with a lack of managerial and technical know-how.

(3) The public enterprise managers seem not to know what they are expected to do and do not know how to measure their performance, since there are no proper guidelines and monitoring on this matter. Rajandram (1990) claims that the failure of some Public Enterprises in Malaysia is due to diffusion of controlling authority, weak financial discipline, and casual and indifferent decision-making. He goes on to say that managers in these enterprises have too many bosses to report to, including

the board of directors, the parent company, the controlling department or statutory body or ministry, and central agencies such as the Treasury and Economic Planning Unit of the Prime Minister's Department. In many cases, the board of directors is found to be not effective, being influenced by one strong personality and autocratic in character. In other cases, there is a general lack of experience and professionalism.

As a result of the above mentioned points, coupled with the conflicting roles of public enterprise, it is not surprising that the performance of these public enterprises is unimpressive. Further, the lack of systems of control and monitoring, and guidelines as to what they are expected to do and methods of performance measurement, leads to loose accountability within the organisation. A tremendous amount of discretionary power is given to managers, which sometimes leads to misuse of power for personal gain (Puthuchery, 1984).

Some public enterprises blame the social role that they are expected to play, especially when the investments they undertake fail to realise the expected profits or to meet the expected target date for services to be rendered to the general public. According to Puthuchery, (1984),

" In such cases one usually finds that the financial costs involved are too high to justify the social benefits."

From the above discussion, we can see that the role of public enterprises in trying to achieve both social and profit objectives has to a certain extent resulted in an unsatisfactory outcome for the government. For this reason, governments all over the world are reviewing the role of the public enterprises and are looking for alternatives. One popular alternative advocated by various governments is privatisation, that is the transfer of some of the activities which are run by the government through the transfer of a public enterprise to the private sector. This may be done by forming government owned companies (i.e. through corporatisation) and then privatising the entity by way of various methods such as contracting-out, buy-out, or selling some of the equity through issue of shares to the public at large or through employees' share schemes.

In Malaysia, the government has been keen to return to its original or traditional areas of responsibility and leave the commercial activities in the hands of the private sector (Rajandram, 1990). This altitude has been reflected in the recently-released Privatisation Master Plan and in the privatisation of some public enterprises.

2.5 PRIVATISATION

Privatisation is the transfer of government investments to the private sector or the rolling back of activities of the state to the private sector. Hemmings and Mansoor (1988, p.1) defined privatisation as:

"a transfer of ownership and control from the public to the private sector, with particular reference to asset sales"

As identified by Pirie (1985-86), the techniques of privatisation available are quite extensive. They include: selling the whole; selling a proportion of the whole; selling to the workforce; giving to the public; contracting out the service to private business; and withdrawal from the activity.

At the present time, Privatisation is favoured by many government over the world. Dieter Bos (1986, p. 25-33) identified four theoretical reasons for this popularity. They are:-

(i) Ideologically, capitalist replaces the socialist ways of thinking in the sense that privatisation will lead to wide-spread ownership of shares.

(ii) Economically, greater efficiency is predicted because private sector discipline will receive priority in all planning and actions.

(iii) Financially, the government receives money from the issue/sale of shares of the

enterprise concerned and expects relief from its obligation to finance public enterprises' deficits.

(iv) The trade union movement is expected to be weakened as a result of the privatisation, since the privatised enterprise is expected to be less inclined to give in to trade union pressure to increase wages.

Heald (1982) identified two main elements of privatisation. The first is that referred to above, namely denationalisation, i.e. the sale of the government's department or enterprise assets/shares; the second is liberalisation, i.e. the relaxation or abolition of statutory monopoly powers.

2.5.1 PRIVATISATION IN MALAYSIA

Privatisation began in Malaysia in mid-1983 when the Malaysian Prime Minister announced the adoption of this policy by the government. This policy was adopted as a result of rising public sector budget deficits, poor performance of some government agencies and the need to stimulate the growth of the economy through participation of the private sector (Md. Salleh, 1991).

In essence, Privatisation in Malaysia not only includes the transfer of the government investment but also the transfer of the government's responsibility for providing goods and services to the private sector. Thus it not only involves the transfer of public enterprises

but also includes the transfer of departmental entities or statutory bodies to the private sector.

According to the Economic Planning Unit, Prime Minister's Department, Government of Malaysia (1985 p. 17-18), the objectives of privatisation include the following:-

"Privatisation has a number of major objectives. First, it is aimed at relieving the financial and administrative burden of the government in undertaking and maintaining a vast and constantly expanding network of services and investments in infrastructure. Second, privatisation is expected to promote competition, improve efficiency and increase the productivity of the services. Third, privatisation, by stimulating private entrepreneurship and investment, is expected to accelerate the rate of growth of the economy. Fourth, privatisation is expected to assist in reducing the size and presence of the public sector with its monopolistic tendencies and bureaucratic support, in the economy. Fifth, privatisation is also expected to contribute towards meeting the objectives of the New Economic Policy (NEP), especially as Bumiputra entrepreneurship and presence has improved greatly since the early days of the NEP and they are therefore capable of taking up their share of the privatised services".

The first four objectives are commonly cited by countries worldwide as a rationale for privatisation. The fifth objective is unique to Malaysia.

Since privatisation started in 1984, 32 projects have been privatised, out of which 22 were government

enterprises (Tsuruoka, 1990). Of these, eight were new projects, six were privatised through divesture of ownership by the sale of shares to the public (Sports Toto, Malaysian Airline System, Malaysian International Shipping Corporation, Tradewinds, Cement Manufacturing Sarawak) or by way of private placement (Klang Container Terminal). The others were privatised in other ways, including leasing, management contracts and through corporatisation. Some of the projects were the North Klang Straits Bypass, Jalan Kuching - Kepong Highway Interchange, Water Supply to Labuan, Kuala Lumpur Roads and Interchange, North-South Toll Expressway, Labuan Beaufort Interconnection, Commercial TV Station (TV3), City Hall's waste disposal. The Malaysian Telecommunication Department came into this last category.

2.5.1.1 Constraints and Problems

In privatising the public enterprises in Malaysia, the government encountered a number of constraints and problems. They were:

(a) Administration

Since the enterprises were run as non-commercial enterprises, some information, especially financial information, was not available in an organised manner for

analysis purposes. As an example, a precise appraisal in terms of profit and loss was normally not possible.

(b) Legal problems

Some laws, drafted before privatisation of government Departments was envisaged, created unintended obstacles to the privatisation programme. Certain Departments undergoing privatisation were subject to their own specific legislation. The Department of Telecommunication, for example, operated under the Telecommunication Act 1950 (Revised 1970). All the employees of government departments and statutory bodies (with the exception of employees of government-owned companies) come under the pension scheme and are eligible to receive their monthly pension allowance after retirement, as they were serving the government at the age specified in the service contract. These rights and benefits of the employees are covered in the Pension Act. At the same time, article 147 of the Constitution protects the existing pension rights of employees. Even land is an issue, as it is controlled by the various states rather than the federal government, which controls most of the enterprises to be privatised.

(c) Valuation of assets

Because of improper record keeping, and poor management control, valuation of assets may take some time to achieve.

(d) Resistance from employees

Because there is a higher degree of job security in the government compare to the private sector, there is bound to be resistance from the employees of the enterprise to be privatised. In order to overcome this problem, the government has imposed two conditions to protect the interests of the employees upon privatisation: no employees will be retrenched as a result of privatisation, and all employees of the enterprise to be privatised will be offered terms of service no less favourable than those currently enjoyed by them. As from December 1990, nearly 100,000 employees (which represent 13% of the current work force of the public sector) is expected to be transferred. And nearly half of that number have already been transferred to the privatised companies (Tsuruoka, 1990).

Table 2.2 - Stages of Privatisation of Government Department / Statutory Body in Malaysia

Commercialisation	Corporatisation	Divestiture	
government department	self accounting	state-owned corporation	private sector

entity

company

Source: Privatisation Masterplan (1991 p. 43),
Government of Malaysia.

2.5.1.2 Stages of Privatisation in Malaysia as shown in Table 2.2

According to the Privatisation Masterplan, the privatisation of Malaysian government Departments is a three-stage process:

1st stage

The department concerned will pass through the commercialisation stage, where user charges, commercial accounting and performance are introduced for the first time. This is when the department will be classified as a self accounting entity.

2nd stage

The department or statutory body concerned will become a state-owned corporation through the process known as corporatisation. This stage involves the transfer of all the assets and liabilities from the government department concerned to a government-owned company formed under the Companies Act, 1965. The government-owned corporation will from now on conduct itself along commercial lines.

According to the Privatization Masterplan (1991), several changes will take place at this stage in order to improve productivity and efficiency. These include

"replacing bureaucratic administration with commercial management; introducing clear financial and operational performance targets and commercial accounting; and replacing centralised production-oriented decisions with consumer and market driven decisions" (Privatisation Masterplan, (1991, p. 44)).

3rd stage

At this stage, ownership of the government-owned company will be changed from the public to the private sector by one of several methods : public floatation, private sale, management buy-out or employee share ownership plan.

In the privatisation exercises implemented so far by the Malaysian Government, the period taken to complete the process has differed from one entity to another because of the different methods used.

2.6 Impact of Privatisation

The impact of privatisation have been claimed to have been substantial. The exposure to the discipline of market forces is said to have led to increased efficiency of the enterprises concerned. Other suggested impacts

include reduced political interference, changes in property rights, liberalization so as to foster competition and new roles for the regulator of the industry concerned (Hemming and Mansoor 1988).

To the government, the fiscal impact of privatisation includes a reduction in government expenditure through the sale of government assets to the privatised organisation, reduction of the number of government employees when these employees join the privatised organisation and reduction in other related expenses.

In this study, our concern is to analyse the impact of events arising out of privatisation, not to evaluate the event of privatisation itself. Whether or not privatisation is an appropriate course of action for governments to take, is a matter outside the scope of this research. However it is believed that as a result of privatisation, accounting is likely to have become more visible and to have made an impact on the organisation under study, as a result of the change in the mission/objectives of the company. The present research is intended to reveal whether that is, in fact, the case.

2.7 Summary

In this chapter, the differences between the public and the private sector in general and from an accounting

point of view were discussed. The chapter also discussed the concept of public enterprises, reasons for their establishment, and problems associated with them in general and specifically in Malaysia. These issues were highlighted to aid understanding of the organisation under study, JTM, which fell into this category.

It was found that failures and weaknessness of the public enterprises caused the government to look for alternatives, one of which was the introduction of the privatisation policy.

The research which the researcher has reviewed so far, especially with respect to differences between public and private sector organisations suggests that there are substantial differences in culture and methods between the two sectors, such that members of the company might have difficulty in accepting the new culture, especially since the organisation was originally a fully government Department, i.e. fell under category (i) of Zakaria's (1984) definition of Public sector and was in the first stage as discussed in section 2.5.2.2. In the adjustment to the new culture, it seems likely that changes might be seen in the role and influence of accounting, which could increase in importance. This possibility will be explored by means of an in-depth study of accounting in JTM as a government Department, and after privatisation.

To provide a theoretical framework for that study, the following chapter will review literature on accounting from an organisational point of view, and explain the analytical model to be used.

CHAPTER THREE

Literature Review and Analytical Framework

3.1 Introduction

This chapter reviews literature on organisational change and explains the rationale for the selection of Laughlin's model as a framework for determining the process and impact of change in the accounting system of the organisation under study. Literature on accounting change from an organisational and other points of view and previous research on accounting and culture are also reviewed.

The chapter then explains in detail the analytical framework used, i.e Laughlin's model (1991) and the typology of change under the model, and also discusses other literatures used by Laughlin such as Levy (1986), Greenwood and Hinings (1988) etc in developing his model.

3.2 ORGANISATIONAL CHANGE

3.2.1 Literature on organisational change

Before we consider literature on accounting in its organisational context, it is important for us to review work done on organisational change itself. As Laughlin (1988a, p. 3) put it,

" starting looking at change in organisations more generally is the most meaningful way to understand accounting change".

Goodman and Kurke (1982) review thoroughly organisational change, whether concentrated at the individual, group, organisation, or organisational-environment interface. They define change in organisations as widely as possible so as to embrace all change in an organisational context, and not just planned change.

Olmosk (1972) identified a number of change strategies, on the basis of their underlying assumptions, the needs of participants, and the power set-up of the group concerned. He outlined the strengths and weaknesses of each including any issues or questions ignored or suppressed by particular strategies. The work is basically descriptive, aiming to aid in the recognition of the strategies being used, and hence, the adoption of new strategies as appropriate to a particular situation. However, there is no general analysis of the dynamics of the change process.

In reviewing the literature on organisational change, Goodman and Kurke distinguish two categories of change: planned organisational change and adaptation. They refer to planned organisational change as 'a set of activities and processes designed to change individuals, groups and organisation structure and processes' while adaptation 'concerns modification of an organisation or its parts to fit or to be adjusted with its environment'.

In summary, study of planned organisational change deals with the basis of change, concentrates on change within the organisation and emphasizes the process of actually creating change. The literature concentrates on the methods and techniques of change. Literature on adaptation focuses on sources of change, primarily looking at the population of organisations and at organisation-environment interfaces, and tending to theorize about the processes and outcomes of change.

Most of the work written about organisational change concludes that change occurs through change agents and / or environmental pressure. This leads a few writers to look at this topic from a different angle, that is away from context-free description of change techniques to more processual studies of change over time (Laughlin 1991). One of the major works done on longitudinal studies is by Pettigrew (1985) who undertook processual and contextual studies on organisational change in a company, ICI, over a period of 20 years.

3.2.2 Literature review on the various organisational change models and rationale for selecting Laughlin model (1991)

According to Van de Ven (1992), research on the studying strategy process of change requires the definition of the meaning of process; clarification of the theory of process; and design the research process which will be consistent with the definition and theory of process.

Writers have presented a variety of organisational change models which can provide a theoretical framework for study of organisational change. A brief overview of a selection of such models is presented here.

An important influence on organisational change theory has been Smith's (1982) article viewing change as part of the organisational life-style. Smith identifies two types of change: morphogenesis, the type of change that occurs in natural evolution, where the 'genetic code' is altered and the change is acquired and reflected in all future generations; and morphostatis, where change is superficial and often impermanent, or where it occurs as a natural expression of the developmental sequence. The influence of these ideas can be seen in the work of Pettigrew (1985), Smith and Tranfield (1988) and Laughlin (1991), discussed later.

The organisational development model sees change as proceeding by small, incremental adjustments, and as synonymous with growth. Typically, strategies for change are advocated which seek to ensure consensus among the key parties affected by means of widespread employee participation. In reality, however, organisational change is often achieved coercively.

Dunphy and Stace (1988) challenge the organisational development model with an all-encompassing process model, in which organisational approaches to change are classified by type and mode, as follows:

Type 1: Participative Evolution - Incremental adjustment, achieved by collaborative means. This approach is used when the organisation is in 'fit' but needs minor adjustment, or where the organisation is out of fit, but time is available and change is favoured by key interest groups. These conditions are more prevalent in times of stability or steady economic growth.

Type 2: Charismatic Transformation - Large scale discontinuous change, achieved by collaborative means. This is used where the organisation is out of fit, time for extensive participation is lacking, but there is support within the organisation for radical change.

Type 3: Forced Evolution - Incremental adjustment achieved by coercive means. This is used where the

organisation is in fit but needs minor adjustment, or where it is out of fit, time is available, but key interest groups oppose change.

Type 4: Dictatorial Transformation - Large scale discontinuous change, achieved by coercive means. This is used when the organisation is out of fit, there is no time for extensive participation and no support for radical change, yet such change is necessary to the organisation's survival and mission fulfilment. This type of change is more common in turbulent, recessionary times.

Pettigrew (1985) criticises much research on organisational change as being preoccupied with the intricacies of particular changes, rather than the variety and mixture of causes of change and the contexts in which they occur. He advocates research which is contextualist and processual in character.

Smith and Tranfield (1988) consider the management of change within the organisation, specifically the extent to which the management hierarchy supports innovation and is prepared to accept and identify the structural and cultural changes which accompany rapid technological change. They contend that morphostatic change is effective where the technology requires only an incremental adjustment, such as skills training, within an overall system which remains the same. In contrast,

morphogenic change produces a logically different order from that which came before. It comes into play when the technology does not make the system more efficient, but transforms it. It requires a vision of the future horizon toward which the organisation is moving. Because it is generally seen as uncomfortable and generates high levels of insecurity, there is often reluctance on the part of managers to inaugurate it, and resistance elsewhere in the organisation.

Greenwood and Hinings (1988) explain organisational change in terms of movement along 'tracks' between and through various analytical positions, delineated on the basis of coherence (or otherwise) between beliefs and values, on the one hand, and structures and processes, on the other. It is this relationship between beliefs and values and the structures and processes through which they are implemented and reinforced, which constitutes the 'design archetype' of the organisation.

Laughlin (1991) draws and builds on the work of several writers in his model of organisational change. Like Greenwood and Hinings, he uses the concept of tracks to trace change in the design archetype, but he extends the analysis to two layers of the organisation, between which the design archetype is considered to fall. The first of these is the invisible, abstract 'interpretative scheme', which includes beliefs, values and norms, mission and 'metarules' (see Section 4.5). The second is

the 'sub-systems', tangible organisational elements in which change can easily be identified. Laughlin's change typology identifies five positions, from inertia to evolution, according to the extent to which change penetrates the three layers of the organisation.

In summarising the literature on organisational change and in support of the adoption of Laughlin's model (1991), it can be said that much of Smith and Tranfield's (1987) work is derived from traditional organisational change literature. adopting a rather prescriptive attitude and seeing organisational change as 'programmable'. Greenwood and Hinings (1988) focus on the design archetype, but since they do not follow the changes through to the interpretive scheme or sub-systems, their model does not adequately reflect the distinction between first and second-order change. Pettigrew shares Laughlin's concern for the dynamics of change but Pettigrew's work is largely descriptive and does not provide a clear theoretical framework for the researcher. Laughlin (1991) draws on and brings together previous ideas about organisational change (for example the concept of first and second order change, tracks, design archetype) adding the extra dimensions of 'social' elements of organisational life and 'hidden' elements of the change process.

As was mentioned in chapter 1, the objective of the research is to study accounting change in an

organisational context. Laughlin's model (1991) which is a skeletal model, was found to be an appropriate model for this research work for the following reasons:

(i) Since the study relates to change and its dynamics in the organisation arising from three levels of disturbance over a period of time, the framework used needs to enhance understanding of the process of change that took place and continues to take place. This is relatable to the three elements classified by Laughlin, namely, the interpretative scheme, the design archetype and the sub-system.

So far, to the best of the researcher's knowledge, the only studies using this model are Broadbent (1992), Laughlin (1991) and Gray et al (1992), which all relate to changes in accounting, looked at from an organisational point of view. All of the previous studies are done in the U.K. and reflect changes taking place as a result of disturbances generated by the government and its privatisation policy, a situation similar to the one reviewed in the present study. Thus, use of the model selected is intended to add to the literature in this area, and apply the model for the first time to the case of an organisation in a developing country.

(ii) Since the researcher was given access through industrial attachment in the organisation, in particular in the Finance and Accounting sections, this meets the

requirement for using Laughlin's model, that the researcher be as close as possible to the organisation under study and if possible, to be a participant observer within it.

(iii) As pointed out in the outline of the research method (Chapter One), the study uses the interpretative approach and analyses the changes that took place arising from three phases of disturbance. This empirical study therefore aims to enrich the theoretical model selected, since Laughlin's model (1991) is an outline or skeletal model, which needs to be filled out with discussion and analysis. This methodological approach, which is derived from Habermas's critical theory (Laughlin 1987), is in line with Laughlin (1991) and Broadbent's (1992) argument that in using the model,

"The aim will be to use the theoretical insights provided by the models of change as a basis for understanding the situation studied. At the same time, the empirical findings have the potential to extend the theoretical model. It must be stressed that the case is not meant to provide a site in which the theoretical model is tested" (p. 344).

(iv) Laughlin's model was selected to provide a clear understanding of the movement of organisational tracks in the organisation under study arising out of the three level of disturbances. In analysing this movement, the work of Greenwood and Hinnings (1988), which was used

extensively by Laughlin (1991), was also used by the researcher.

3.3 ACCOUNTING CHANGE FROM THE ORGANISATIONAL AND OTHER POINTS OF VIEW

3.3.1 Introduction

Accounting is not a system by itself. It is part of the overall organisation structure and is becoming "actively drawn upon in the construction of new organisational forms and boundaries" (Hopwood, 1990).

More and more research is being done to broaden our understanding about accounting in its organisational context (Hopwood 1987; Roberts & Scapens 1985). New studies about accounting relate to its historical as well as its economic, social and organisational contexts (Scapens 1990). This is an important point to note as accounting does not exist in isolation, rather it exists within an environment and is subject to changes when the environment changes. The accounting system changes due to pressure from within and outside the environment. This explains why accounting nowadays is being studied not only from organisational but also from economic and social points of view (Tomkins et.al, 1980; Roberts and Scapens, 1985; Berry et al, 1985; Laughlin, 1991). Laughlin (1991) acknowledged that accounting is shaped by

these environmental influences, and can no longer be viewed solely as a technical, context-free phenomenon (Hopwood, 1983).

Indeed, this was recognized by Hopwood as early as 1974, when he stated that the accounting system

"has to be interpreted and used, and the beliefs and motives, the pressures and expectations, and the demands of the organisational environment which prevail on these eminently social processes make the final effectiveness of the accounting system dependent upon the whole human fabric of the enterprise. It cannot be viewed in technical isolation", (p. 14).

3.3.2 Accounting in an Organisational Context

Much of the work on accounting in an organisational context started in the early 1970s. The initial idea came from Horngren, 1972 who stressed the importance of a close relationship between organisational design and accounting system design. Later Hopwood (1978) stressed the importance of the operation of the accounting system and use of accounting information as an organisational process worthy of study in its own right.

Hayes (1983) saw management accounting as an artefact of the organisation and argued that organisational theory provides a context for explaining and understanding management accounting. He emphasised

the ambiguity and changeability of the organisational setting, and the uncertainty of goals. In such circumstances, he argued, managerial accounting facilitates action in the organisational setting. He added that this is done through an organisational language, mythology, basis for rationalisation, imageing and experimentation.

Earlier studies show that change in accounting was the result of the growth of modern business, where accounting was no longer seen as a technical phenomenon but rather as a 'cohesive and influential mechanism for economic and social management of the post-industrial society' (Gandhi, 1975).

Ansari and Bell (1991), in their case study of one company in Pakistan show that accounting practices are the result of the culture and world views of the individuals, and it was culture, rather than economic rationality or power, which determined the important business decisions. They cited as examples the influence of family and status considerations, rather than merit, in making senior appointments, the lack of separation of treasury and control functions; and the inability to confront perceived inequities in reward sharing such that rewards are based on needs and not performance.

A further study related to rationality was that by Ansari & Euske (1987) who in a longitudinal study over a

period of two years of cost accounting data used in 14 military repair facilities in the US, found that accounting systems are dynamic. Over time, reasons for using cost data changed from technical-rational to socio-political and institutional. They concluded that in the public sector, besides accounting data, other instruments and symbols are used within the technical-rational model.

The third study related to rationality was provided by Boland and Pondy (1983) in their case study of a university budget, where they found that accounting functions symbolically as well as objectively. Their study emphasized that accounting systems change and that change is not only guided by rational reasoning but is part of a layer of organisational dialectic.

With respect to changes in the accounting system, Laughlin (1988) in his work on a case study of the accounting system of the Church of England, looked at this issue by using Habermas' critical theory (1984). He concluded that the social context shapes the technical practices of accounting; specifically, in the context studied, religious work provided the central and 'sacred' ideologies which shaped accounting (taken from Brunsson's work (1985)).

Hopwood (1987) in his article entitled 'Archaeology of Accounting Systems' where issues of the process of accounting change are addressed, utilized geneological

analysis to determine how accounting systems developed in three companies. He argued that accounting is responsive and adaptive to changes and, over time, it becomes fixed firmly in the structure and awareness of the organisation. He concluded that accounting influences the pattern of organisational visibility, significance, structure and action.

Dent (1991), traced the change in a railway company from what he called a 'railway culture' to a new economics-driven culture. He concluded that accounting acts as a formal communication and language system, enabling change to happen and dominate as a core objective of the organisation.

Thus, studies on accounting in its organisational context see organisations as emergent social processes which are created by individual participants. This is because these participants have social selves which act in ways that reflect their visible definitions of the situation. Furthermore, their actions are intrinsically endowed with subjective meaning; their actions are always considered to be intentional. Therefore, studies in this area look at explanations of issues being investigated by focusing on norms, roles, values and expectations of organisational members, whereby they decide on certain alternatives in line with ongoing actions and interactions. Thus, in the case of the accounting system of the Church of England, Laughlin (1988b) found that

social context shapes the technical practices of accounting while Dent (1991) in the case study of the effect of introducing business managers (i.e. business elements) in a railway company, found that accounting led and played a dominant role in the process of cultural change.

3.4 Accounting and Culture

According to Schein (1985 p. 19-20), culture is defined as:

"a pattern of basic assumptions invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration - that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems".

Hofstede (1986, p.1) summarizes this idea when he defines culture as a form of collective mental programming by which categories of people are distinguished, one from another.

Kilmann et al (1985, p. ix) defined culture as

"the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes and norms that knit a community together - i.e. the way things are done around here".

The above three definitions have in common the element of belief that certain things are done in a particular way, i.e. that there is an accepted system, shared by the majority of members of a particular group. This notion can also be applied to the organisation, where the term corporate culture is often used.

As was defined by Tunstall (1985) a company's culture is its set of shared values, behaviour patterns, norms, symbols, attitudes and ways of conducting business. He argues that it is these, rather than its products or services, which differentiate one company from another. Corporate culture has become a popular topic in study of the organisation as it is believed that the right kind of culture facilitates effective and efficient management (Schein, 1985).

It is often argued that '*strong*' cultures are more likely to be related to effectiveness than '*weak*' cultures, and that a strong culture can be deliberately created (Schein, 1985; Ouchi, 1981; Deal and Kennedy, 1982; Peters and Waterman, 1982).

Most of the literature on organisational culture has portrayed culture as a new phenomenon which can help the management to manage the company effectively. As a result, managements have begun to explore how to change the culture of organisations so as to make them more

competitive (Ouchi, 1981; Peters and Waterman, 1982; Deal and Kennedy, 1982).

Studies on this issue have been done by various writers/researchers. Pettigrew (1979) suggests that since leaders are the 'creators' of culture, cultural change is accompanied by a change in leadership; thus leadership succession is the essential ingredient in cultural change.

In contrast, O'Toole (1979) argues that culture is embedded in organisational structure such as a company's reward system or hierarchy of authority. Thus, the key structures supporting a given culture must change for a culture to change. Others, like Ouchi (1981) and Peters and Waterman (1982) believe that culture can be changed by developing a new set of values or '*management philosophy*', which is then inculcated into the employees. The process of change will involve the development of new company goals and ideals and need both old and new employees to integrate the new set of beliefs.

The creation of new symbols as a change strategy has also been discussed by Peters (1978). He argues that leaders can change culture by changing their activities, agendas or interpersonal styles to reinforce new behaviours. Thus, management of symbols and their accompanying meanings becomes the agent of cultural change.

According to Dyer (1985) values are the evaluations people make of situations, acts, objects and people. They reflect the organisation's general goals, ideals, standards etc, for example, 'sales growth'; 'aggressiveness'; 'career employment'; 'promote from within'. They are often expressed in statements of organisational identity or management philosophy.

According to Dent (1991 p.7), the process of cultural change in organisations has been poorly understood. Though there are many ways and possibilities for a change in culture to take place, in his research work he conceptualises cultural change as disconnection of organisational action from one culture and its reconnection to another (cf Greenwood and Hinings, 1988; Hedberg, 1981). He further stress that organisational culture usually emerges and unfolds over time (Pettigrew 1985, Feldman 1986); cultural change is sometimes likened to a political process; sub-cultures compete with one another for legitimacy and dominance (Pettigrew, 1985); and culture may also be imported from outside the organisation through new disturbances or actions (cf Starbuck and Hedberg, 1977) e.g. out of privatisation policy.

3.5 Laughlin's Model of Organisational Change (1991)

Laughlin (1991 p. 1) developed a model of organisational change in which he stressed that

"organisational change can only be understood by tracing the process, track or pathway a disturbance/kick/jolt takes through an organisation".

According to Laughlin (1991), organisations are change-resistant, especially where there are strong elements of ideology, i.e. beliefs, values and norms. Therefore, it is only through a 'disturbance' / 'kick' / 'jolt' / 'noise' that a change happens in the organisation. The degree of change that takes place will depend on how strong the 'disturbances' / 'kicks' / 'jolts' are and these 'kicks' may follow different 'tracks' (Greenwood & Hinings, 1988; pp 294) or pathways for a period of time before settling down to a particular track where the changes are said to occur. If the resistance to change is strong, there may be a reversion to the original track or a strong tendency to inertia (Miller and Friesen; 1984).

The types of change described by Laughlin are 'inertia' (no change), first-order change and second-order change. Basically, first-order change or morphostatic change involves an appearance of difference, while the underlying situation remains much as it has always been.

In contrast, the second-order change or morphogenetic change

"penetrates so deeply into the *genetic code* that all future generations acquire and reflect these changes" (Smith, (1982 p. 318)).

Using Laughlin's model of organisation as shown in Figure 3.1, organisations will be conceptualized as being an amalgam of an 'interpretative scheme', a 'design archetype' and 'sub-systems'.

'Sub-systems', as basically tangible organisational elements, are easily identified. Thus it is relatively easy to identify the tangible organisational changes taking place in the organisation resulting from privatisation such as increase in fixed assets arising out of increase in capital expenditure, increase in number of staff, increased equity and increase in the number of activities / projects.

According to Greenwood and Hinings (1988 p. 295), a 'design archetype'

"is a set of ideas, beliefs and values that shape prevailing conceptions of what an organisation should be doing, of how it should be doing it and how it should be judged, combined with structures and processes that serve to implement and reinforce those ideas".

The 'design archetype' plays an important role in the sense that it is between the 'interpretative scheme' and the 'sub-system', from which come the set of ideas, beliefs and values of the organization and the tangible organizational elements according to which the organization's structural arrangement and processes can be described, resulting in the latter having pattern and coherence.

The concept of an archetype, taken from Miller and Freisen (1984), was derived from the idea that organisations operate according to a limited number of outlines of structure, strategy and environment. They further stressed that organisational designs should be considered in terms of the patterning or coherence of component elements because the structural attributes and processes of an organisation frequently have a coherence or common orientation forming an archetype.

Greenwood and Hinings (1987) defined interpretative schemes as containing beliefs and values about domain, organisational form and criteria for performance evaluation. They suggest that it is the coherence between these beliefs and values on the one hand and structural arrangements and processes on the other, which provides a basis for the delineation of the organisational design archetype (Greenwood and Hinings 1988). They further provide clear examples of how organisational form is derived from the underlying ideas and beliefs, from their

studies of 27 municipal organisations in the UK from 1967 to 1983. In their study, they identified two competing interpretative schemes, namely the professional bureaucracy model and the corporate bureaucracy model. These alternative conceptions of domain (community governance versus local administration) and of evaluative criteria (analytical appraisal of programmes versus professional judgement and discretion) hold implications for organisational form.

The interpretative scheme, according to Laughlin (1991) is divided into three levels, namely, beliefs, values and norms; mission/purpose; and metarules (the meaning of which will be explained later in the chapter). Laughlin adopted this from Ranson et al (1980), building on the work of Schutz (1967) and Giddens (1979) who called these values and beliefs an 'interpretative scheme'. However, other writers have used different names/terms such as 'ideology' (Brunsson 1985), 'life world' (Habermas 1984), 'culture' (Smircich 1983), (Allaire and Firsirotu 1984).

Bartunek (1984, p. 355) identified 'interpretative schemes' as:

"the cognitive schemata that map our experience of the world, identifying both its relevant aspects and how we are to understand them".

She went on to suggest that such schemes operate as shared basic assumptions about why events happen as they do and how people are to act in different situations. Such assumptions are not always explicit, however.

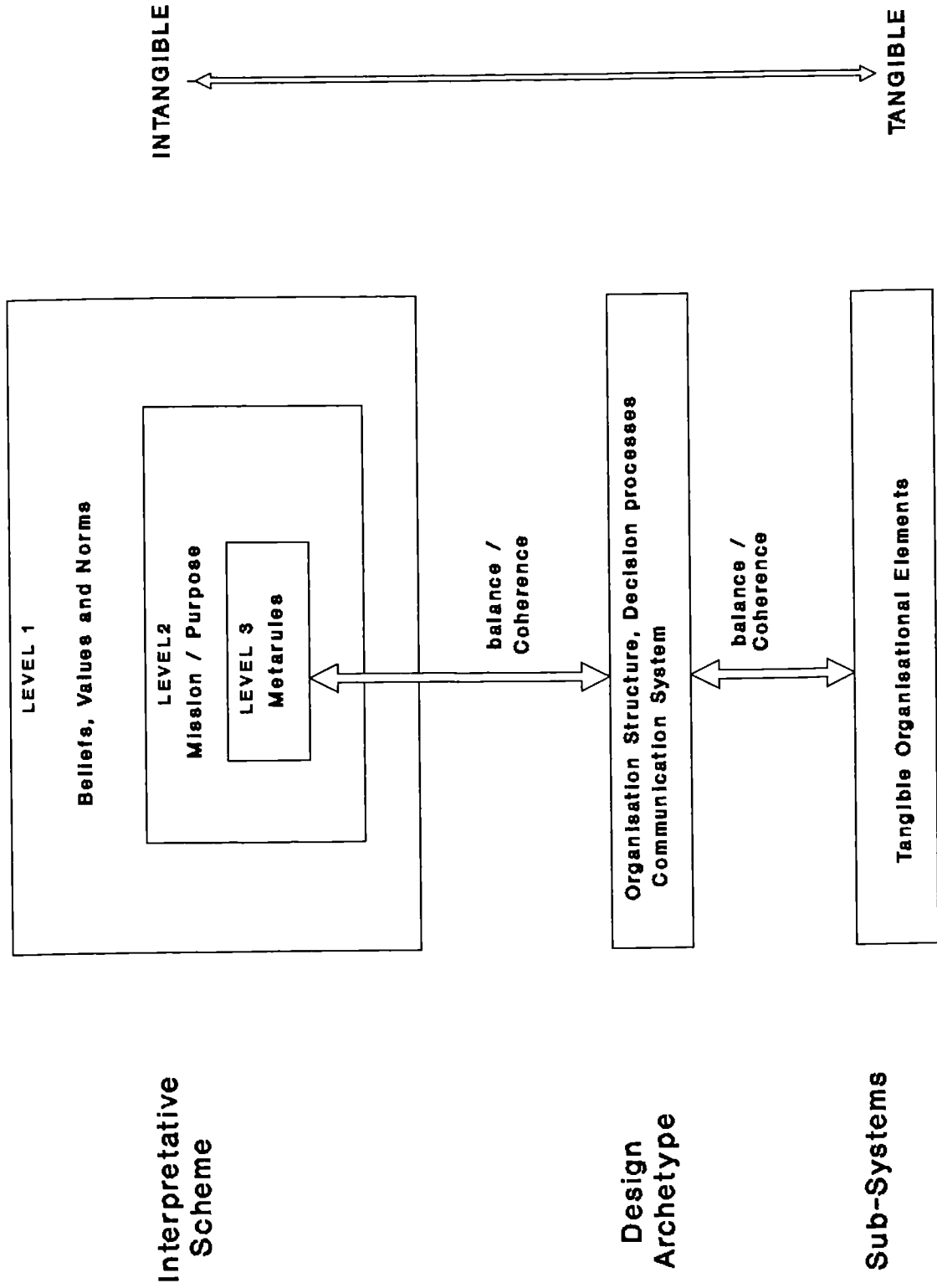
The 'Interpretative scheme' from Figure 3.1 is considered to be 'intangible' (Laughlin 1991) or 'unnoticed' or 'abstract' (Levy, 1986). This means it is difficult to express clearly, though nonetheless, very real and something that will hold together a particular organisation. In order to clarify the nature of these invisible elements, according to Smith (1982) and Morgan (1986) we have to resort to 'metaphors'.

3.5.1 Definition and Characteristic of First and Second- Order Change

Smith (1982), borrowed from biology the terms morphostatis (First-Order Change) and morphogenesis (Second-Order Change). He defined morphostatis as encompassing two type of change: those that enable things to look different while remaining basically as they have always been; and those which occur as a natural expression of the developmental sequence, i.e. the natural maturation process.

This kind of change, first-order change, does not affect the system's core and happens as the system naturally grows and develops.

Figure 3.1 - Laughlin's 'A Model of Organisations'



Source: Laughlin (1991, p. 211)

Second-order change, in contrast, is defined by him as a form of change which penetrates deeply into the genetic core, to the extent that all future generations acquire and reflect those changes. Because the change is in the very essence and core of the organisation, it will be maintained without any special action or effort. It is not reversible.

The characteristics of First-Order and Second-Order change in organisations are shown in Figure 3.2. According to Levy (1986), there are four dimensions of elements in the organisation. He classified them as 'core processes', 'organisational culture', 'organisational mission and purpose' and 'organisational paradigm'. The '*core processes*' include the organisational structure, management throughput and decision-making processes, recognition and rewards and communication patterns; the '*organisational culture*' includes the organisation's beliefs, values and norms, together with symbolic action and elements such as myths, rituals, ceremonies and the style of management and relationships; '*Organisational mission and purpose*' includes more clearly programmes for direction of action. It also includes statements about 'what business we are in' and the strategies for achieving the organisational mission, goals and policies. The 'organisational paradigm' includes 'metarules', propositions or underlying assumptions which, though not tangible or explicit, shape the perceptions, procedures

Figure 3.2 - THE CHARACTERISTICS OF FIRST AND SECOND-ORDER CHANGE IN ORGANISATIONS

<u>FIRST-ORDER CHANGE</u>	<u>SECOND-ORDER CHANGE</u>
Change in one or few dimensions components, or aspects	Multidimensional, multicomponent change and aspects.
Change in one or a few levels (individual and group level).	Multilevels change (individuals groups, and the whole orgn.
Change in one or two behavioral aspects (attitudes, values).	Changes in all the behavioral aspects (attitudes, norms, values, perceptions, beliefs, world view, and behaviors)
Quantitative change	Qualitative change
Change in content	Change in context
Continuity, improvements, and development in the same direction	Discontinuity, taking a new direction.
Incremental changes	Revolutionary jumps
Logical and rational change	Seemingly irrational change based on different logic
Change that does not alter the world view, the paradigm.	Change that results in a new world view, new paradigm
Change within the old state of being (thinking and acting)	Change that results in a new state of being (thinking and acting)

Source: Levy (1986, p. 11)

and behaviour of the organisation. The model is as shown in Figure 3.3.

According to the model, changes in the paradigm will result in a change of mission, culture and core processes; whereas changes in the mission will result in change of the culture and core processes but will not necessarily change the paradigm; changes in the culture will result in change in the core processes but not necessarily in the paradigm and mission; and lastly, changes in the core processes will not necessarily lead to changes in the organisational paradigm, mission and culture.

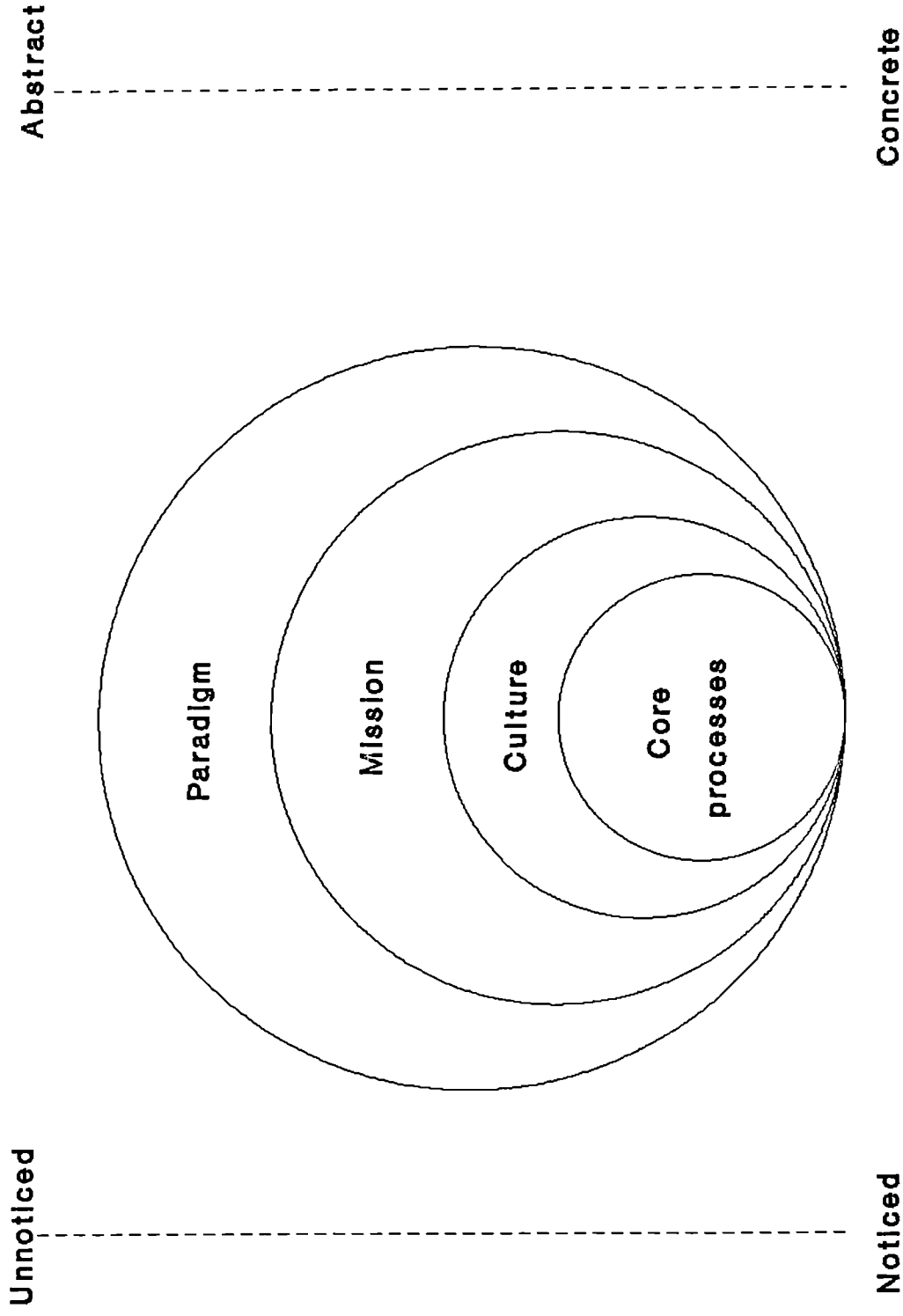
Thus, according to the model, in order for second-order change to take place, the change must happen in all four dimensions, namely in core processes, mission and purpose, culture and organisational paradigm. According to Levy (1986, p. 19),

"the less visible the dimension, the deeper the change and the greater the possibility that the change will be irreversible".

3.5.2 Organisational Tracks

Laughlin's model of organisation (in which he identified five types of organisational change) makes use of the concept of organisational 'tracks' from the work

Figure 3.3 -The Content (What) of Second-Order Change



of Greenwood and Hinings (1988). 'Tracks' are defined as the mapping, reason, nature and cause of movements and the absence of movement between archetypes.

In developing the language of 'tracks', two points must be noted. The first point is that when mapping and explaining the movement of the tracks, one should study the movement of the organisation over a period of time. This is because organisations do not pass through transitions nor do they have the same set of stages and nor do they depart from similiar positions or have common destinations. By studying the organisation change over a period of time, it is possible to see various possibilities of movements from radical transformations to abortive shifts between design archetypes up to the absence of change. The second point to note in developing the language of tracks, is that interpretative schemes become important since they will strengthen or support the design arrangement. The presence of the interpretative scheme will help to explain why organisations facing the same 'crisis' may be moving along different tracks.

Greenwood and Hinings (1988), classified tracks according to the movements of the organisation between and through several analytical positions, as follows:-

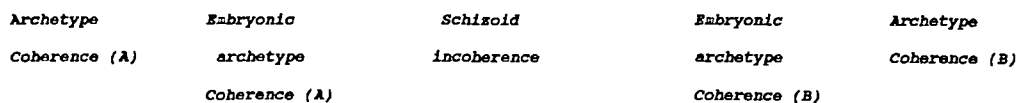
(i) 'archetype coherence', where structures and processes of the organisation design consistently reflect

and influence the ideas and values of an interpretive scheme.

(ii) 'embryonic archetype coherence', where structures and processes consistently reflect the ideas and values of an interpretive scheme but structures and process in the design elements are in disagreement.

(iii) 'schizoid incoherence' where tension occurs in the structures and processes as a result of the presence of inconsistent and contradictory ideas and values.

The several analytical positions can be shown diagrammatically below:-



According to Greenwood and Hinings (1988), the study of organisational tracks involves monitoring the movements between these five analytical positions as shown above. An organisation that moves from one coherence position to another is said to be in the process of 'interpretive decoupling' and as it moves to another alternative position it is said to be in the process of 'interpretive re-coupling'. The number of possible variations of movement from one position to another is large, but for the purpose of the paper, the authors visualised four types of tracks, namely, 'track A - Inertia'; 'track B - Aborted Excursions'; 'track C -

Reorientation' (Transformation) subdivided into (i) linear progression, (ii) oscillation, (iii) delayed ;and '*track D - Unresolved Excursions*' as shown in Figure 3.4.

(i) Track A: Inertia

In this case, the organisation remains within the status quo. The organisation demonstrates consistency and upholds attachment to one interpretive scheme. There could be some structural process change, but that will only affect the design archetype. There is no interpretive decoupling as the beliefs and values of the organisation remain strong and intact.

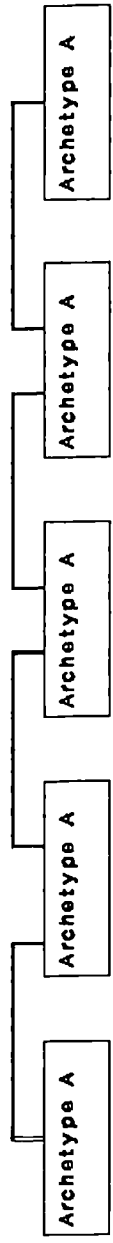
(ii) Track B: Aborted Excursion

This is the case of an unsuccessful excursion. The track moves from the original 'archetype A' to the 'embryonic archetype A' and according to the definition, at this stage the organisations structures and processes are in disagreement with the introduction of any new ideas and structures. For whatever reasons, eventually it will move away from the 'embryonic archetype A', back to its original position, i.e. 'Archetype A'.

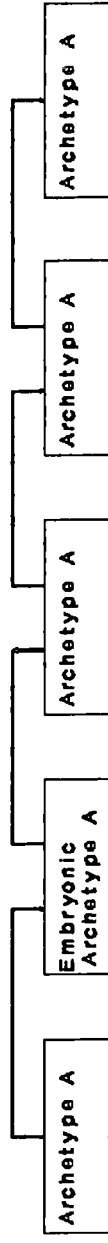
(iii) Track C: Reorientation (Transformation)

Figure 3.4 - Configurations (tracks) of Interpretive Decoupling and Recoupling

TRACKS A. Inertia

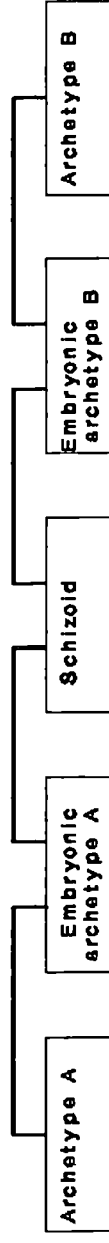


TRACK B. Aborted Excursions

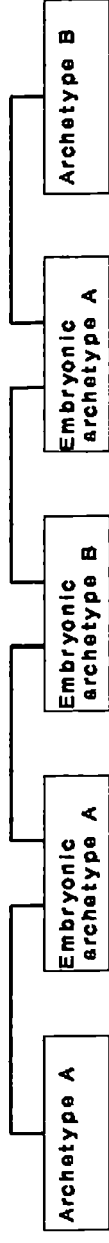


TRACK C. Reorientation (Transformation)

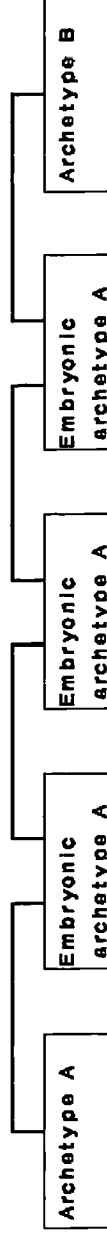
(i) linear progression



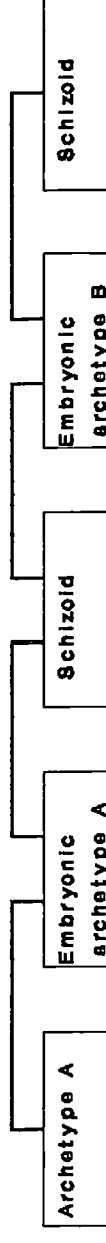
(ii) oscillations



(iii) delayed



TRACK D. Unresolved Excursions



In this case the organisation decouples (moves) from one position to another position, i.e. re-couples. This takes place when one system of ideas and values loses its credibility. It is then replaced with a new interpretive scheme which carries a different set of structural and process elements from the earlier one.

On this track, the organisation could transform in any one of the three ways described below. Under linear progression, the organisation moves from the 'embryonic' position to the 'schizoid' position and then settles to a new 'archetype B'. The process of change may take place over a long period, but the change happens in an ordered and consistent manner. In practice, however, this process does not take place except, perhaps, in a planned organisational change (a topic discussed by many authors, including Levy, 1986). Other types of change under track C are 'oscillation' and 'delayed' as shown in Figure 3.4. In both these cases, an organisation may stay for a short or long period of time in a particular position before moving eventually to the new 'archetype'. In this case, the process of change does not occur in an orderly and consistent manner; this phenomenon is more common in practice than the linear progression (Greenwood and Hinings, 1988).

(iv) Track D: Unresolved Excursions

This is the case where the organisation remains in an intermediate position over a long period of time, due to tension between two contradictory sets of ideas and values. The process of decoupling takes place, without the recoupling stage being completed.

Figure 3.5 : Laughlin's Typology of Organisational Change

Type of Change	Effects on Types of Change
No Change	(i) 'inertia'
First Order Change (Morphostatic)	(ii) 'Rebuttal' (iii) 'Reorientation'
Second Order Change (Morphogenesis)	(iv) 'Colonisation' (v) 'Evolution'

Source: Laughlin (1991).

3.5.3 Typology of change under Laughlin's model

As is shown in Figure 3.5, within Laughlin's typology of organisational change, there are three main alternatives : no change, first order (or morphostatic) change and second order (or morphogenetic) change.

In the no-change situation, the organisation is in the state of 'inertia'.

Under the first-order change, two different types of pathway or tracks can happen, i.e. either 'rebuttal' or 'reorientation'. Under this first order change, the pathway or track will move from one archetype to another

without affecting the 'interpretative scheme'. Basically, this change will involve a shift of the sub-system and the design archetype, changes in the latter being the most extreme. This type of change is considered as cosmetic change, since it is morphostatic in nature.

Under the second order (or morphogenetic) change, the pathway or track will shift and affect all the three elements in the model shown in Figure 3.1 : not only the 'sub-systems' and 'design archetype', but also the 'interpretative scheme', being the core elements that hold together the beliefs and value system in a particular organisation.

Let us now consider Laughlin's typology of organisational changes in detail.

(i) No change - 'inertia'

This is where the organisation remains in the status quo, in the sense that the organisation consistently demonstrates and upholds attachment to the present system of beliefs and values which hold it together. This is the same as Greenwood and Hinings's (1988) concept of inertia, discussed in relation to organisational tracks.

(ii) First Order Change - Rebuttal

This is where disturbances occur and involve some changes in the design archetype but the changes are not successful. This is similar to what Greenwood and Hinings (1988) called an 'aborted excursion' track and what Smith (1982) called 'repetition'. According to Greenwood and Hinings (1988), as shown in Figure 3.4, the track moves from the original 'archetype A' to the 'embryonic archetype A' but at this stage the organisation structure and processes are in disagreement with the changes. With the original 'archetype A' remaining strong, the organisation moves back to its original 'design archetype' after a period of time. Thus, the excursion is unsuccessful.

(iii) First Order Change - Reorientation

This is where the excursion results in a successful change, but only in the 'design archetype' where there are some changes in the internal organisational structure, decision process and/or communication system. The 'interpretative scheme' or core elements of the organisation however, remains intact. This is similar to what Smith (1982) called the 'development' model of change and what Greenwood and Hinings (1988) called 'reorientation'. Laughlin (1991) departs from Greenwood and Hinings in referring to this type of change as transitional change, whereas the latter referred to it as transformational change.

(iv) Second Order Change - Colonization

This is the situation where the change happens in all three elements namely the 'sub-system', 'design archetype' and 'interpretative scheme'. The reason for this type of change is related to the work of Jurgen Habermas on societal development (see Laughlin (1987) and Broadbent et al (1991)). In the Habermas model (1984) of social evolution, the modern society can be theoretically defined as consisting of 'life worlds', 'steering media' and 'system'. Broadbent et al (1991 p. 3), describing the Habermas model of societal development, explain these terms as follows:

"In broad terms 'life worlds' are the communicatively formed (over time) life experiences and beliefs which guide attitudes, behaviour and action. 'Systems' on the other hand are expressions of these life worlds in terms of functionally definable, tangible organisations. According to Habermas, these economic and administrative 'systems' are guided to follow life world concerns. At the same time these systems are held together, despite differences of function and nature, by what he calls 'steering media' such as money and power."

Since modern society is expected to grow and become very complex in nature, there is a possibility that the 'life world' changes over time, with the 'steering media' acting as disturbances, along with the 'system' change. This change will lead to internal colonization (as Habermas calls it). Laughlin related these ideas to the

micro life world such as in the case of the organisation. Thus, for second order change to happen, the change can take place initially in the 'design archetype' and 'subsystem' elements, leading eventually to change in the 'interpretative scheme'. According to Laughlin, this type of change is similar to that which was described by Greenwood and Hinings as a 'reorientation' or 'transformation' track. In this situation of change, arising out of the environmental disturbances, there is a small but powerful group who successfully lead the way to a real change in all the three elements, both visible and invisible, in the organisation. This may result in the existing participants who are change-resistant either leaving or accepting the new value system and staying in the organisation. The change under 'colonisation', if successful, could result in what Laughlin (1987) calls 'positive' inner colonisation, in the sense that the real change is accepted by the participants, which in a way is beneficial to the organisation.

(v) Second Order Change - Evolution

In this type of change, the shift occurs initially in the 'interpretative schemes' which are assumed to be chosen and accepted by all the participants in the organisation, openly and without force. Thus, along the line, there will be a shift in the 'design archetype' and 'subsystems'.

3.6 Summary

This chapter has presented a review of literature on organisational change, and on accounting from the organisational point of view. It was shown that Laughlin's model provides an appropriate analytical framework for the study.

It is considered important to study change from an organisational point of view, as few studies so far have been conducted on this area; in particular, there is a lack of research on organisations in developing countries.

The next chapter overview the telecommunication development and describe briefly the history of the organisation along its network development, organisational and management structure, its services provided to the customers, the two environment and financial development.

CHAPTER FOUR

Description of the Industry and the Organisation

4.1 Introduction

This chapter provides background information necessary to an appreciation of the nature of the organisation studied, the disturbances affecting it, and the changes to be analysed in later chapters.

We begin with an account of the transformation which has affected the telecommunications industry worldwide, in recent years: far-reaching and rapid technological advance, accompanied by economic expansion; deregulation and liberalisation, sometimes to the extent of privatising the industry; and the development of new products and services. The study of telecommunications company must inevitably take account of this worldwide development and transformation, as it constitutes a source of environmental disturbance, and may well have implications for the role and status of both engineers and accountants.

Having examined the international context in which this study takes place, the chapter goes on to consider the situation of the telecommunications industry in the country of study, Malaysia. Not only is the Malaysian telecommunications industry affected by worldwide developments, but it is also the target of specific government policy, as it is seen to play a significant role in the country's social and economic development.

Finally, an overview is presented of JTM (known after privatisation as STM), the company in which the empirical study takes place, looking at the organisational environment, management structure, services provided and financial developments, from 1968 to the present.

4.2 Development of the Telecommunications Industry as a Whole

The telecommunication industry, which is traditionally run as a government monopoly organisation, has transformed itself into a lucrative and profitable enterprise due to technology and economic changes. These changes have led to many entrepreneurs becoming interested in having a share in the industry, which has led to fierce competition. As was said by Carr (1990 p. 1),

"Until recently telephone companies were little more than glorified postmen - fetching and carrying messages. Now technology and competition are snapping at their heels".

4.2.1 Reasons for the transformation of the Telecommunication Industry

The reasons for this transformation are as follows:-

(i) Technological change in the industry

The Telecommunications has developed from reliance on simple technology to adoption of the most advanced technology as the result of the computer revolution (Rohwer 1985). In the early days, data-processing machines were built out of single transistors wired together on circuit boards, and telephone calls were switched electromechanically; thus, the computers and telephones were not linked to each other. However, with the changes in the technology, both use microchips and run according to computer programs; thus, they are linked to each other and have become technology twins.

Because of this linkage, developments in computer technology brought developments in telecommunication equipment, resulting in improved price performance and creation of new markets within the industry. Also, with this new development in the industry, the functions of processing information and transmitting information overlapped with each other, to the extent that most

managers in the telecommunications industry now say that they are in the business of 'information movement and management' rather than 'the phone company' (Rohwer, 1985).

This rapid technological change, i.e. from analogue to digital, has brought more effective ways to cope with the increase in traffic volumes and lighter, cheaper and more mobile means of telecommunications are created (Johnstone, 1990). Another new development with respect to the technological change is the development of an interface called Integrated Services Digital Network (ISDN), which offers customers a wider range of voice and non-voice messages such as data, text, images and video services, which are transmitted through the same lines as an integrated system. This is possible because the transmissions can be connected by using electronic 'bits-binary' digits.

(ii) Deregulation, Liberalisation and Competition

The telecommunication industry in most countries is run or has been run by the government, either directly or indirectly, through the formation of a public enterprise as a public monopoly industry. This is because of the high capital investment needed to run the industry, to provide for economies of scale, and social and national security (Hashim 1986). However, with the rapid changes

in telecommunications technology and the linkup with computerisation and information systems, governments have been forced to deregulate the industry by opening up certain types of services to allow new entrants to the industry, thereby creating competition. Some government like the U.K., USA, Japan and Malaysia, to name a few, have gone further by privatising the organisation though the government still usually maintains a majority stake in the newly- privatised company.

Other reasons which have led governments to deregulate are the increased automation in manufacturing industry, the transformation of office automation and also the pressure from consumer groups, particularly corporate users, who have ready access to a wide range of information, e.g. factor prices, exchange rates, movement of shares prices and the like, as a result of this rapid change in technology. The result has been a free and continuous flow of information which gives more integrated and efficient markets.

The telecommunication sector as a whole is not a monopolistic industry. The sector can be classified into three parts:-

- (i) supply of equipment
- (ii) the running of networks
- (iii) the supply of services

When we say that most telecommunication industries are monopolistic in nature, this is usually in the

running of the network, which is usually the preserve of the government or its agency.

So far, the USA has liberalised in this matter, in the sense that there is a free entry in all the three areas. The UK has also followed the same approach, the government having allowed another company, Mercury Communications, to compete with British Telecom in the running of networks, while there is no restriction in competing for the supply of equipment and services. In Asia, Japan is the most liberalised with respect to all the three parts of the telecommunication sector. In 1985, the Japanese government privatised the former state monopoly, Nippon Telegraph and Telephone, and allowed two other companies to compete for internal long-distance calls. In 1989, it issued licences to two other companies to compete for international calls (Johnstone, 1990). It also has a large number of operators competing for other services, including mobile phone and value added services (see below). In Malaysia, before privatisation, i.e. under JTM, the government liberalised the supply of telephone equipment such as telephones and teleprinters, as early as July 1984. The government also contracted out the construction of the network on a large scale to the private sector under the turn-key projects from 1982 onwards, as will be discussed in a later chapter of this thesis. The liberalisation of other services, including Value added services started in 1985 with radio paging, for which four private companies were issued licences. By

1987, the number of licences issued for this service had grown to thirty-two.

Overall, the deregulation of the industry has resulted in the strong growth of domestic telecommunications business as well as export-earning technology in countries such as USA, Britain, and Japan. Other countries are following suit, either by relaxing regulations or by privatising state-owned industry, thereby dismantling the monopoly power of this industry. As was said by one of the top officials in Asia (Johnstone 1990, p. 39),

"Countries which insist on maintaining their monopolies will inevitably fall behind".

With liberalisation of the telecommunication industry, there exist competitors among service operators, especially in the new services of the industry. Thus, with the change in the economic environment and expanding technological capabilities of the telecommunications industry, the monopoly enterprise can develop and maintain the actual physical infrastructure, whereas new entrants to the industry can provide new services such as VANS to customers by attaching computer nodes that communicate with subscribers using the network developed by the monopoly enterprise.

Initially, liberalisation of some services of the industry (resulting in the entry of new service operators, thereby creating competition) was a threat to the monopolistic telephone enterprise. However, eventually, it turned out that such threats became opportunities to the monopoly enterprise. It can be seen in countries that have adopted liberalisation, that this policy provides the owners (i.e. the government) with the incentive to restructure their organisations or privatise in order to adapt to the market environment.

As was reported in the Economist (October 5th 1991, p. 6), in a survey of Telecommunications:

" As with technology, so with the economics of the industry: new patterns of demand have made increased competition unavoidable. The impact on both prices and products has been dramatic. Business customers in competitive America, Britain and Japan can now rent private lines, for example far more cheaply than their counterparts in continental Europe, where the industry is largely in the grip of state-owned monopolies".

(iii) New Services

With the improvement in the technology and deregulation of the industry by the government, new products and services are being developed, in more imaginative, productive and cost-saving ways. The new

products/services include mobile phones and outdoor cordless telephones, which are cheaper and lighter.

Other new services include value-added network services (VANS). VANS is a network that acts as an interface between people sending messages to each other over telephone lines. According to Johnstone (1990), VANS originated as an offshoot of computer time-sharing networks (via which remote users would send data for processing at a central location). The providers of VANS are computer makers, telephone companies, systems integrators, software houses and independent networks, while the services they provide under VANS include messaging through electronic mailing system, protocol conversion between incompatible computers and terminals, data collection, user management packages such as accounting and statistics packages, and facsimile interfacing. The benefits of these services are greater efficiency and lower costs in message-handling and storage, such as customised billing, a 24-hour service, and streamlined production, added to which there is no need for in-house specialists.

(iv) Economic expansion

Economic expansion is one of the reasons for the development and transformation of the telecommunications industry, especially in Asia (Westlake, 7 March 1991). This, together with deregulation, has resulted in a high

growth of demand for both the basic services and sophisticated products such as digital networks, mobile communications, dataline and so on.

Table 4.1 shows the number of main telephone lines per 100 people in the Asian countries, where as far as Malaysia is concerned, it has improved from 4.3 (in 1982) to 8 (in 1988).

Table 4.1

Main telephone lines per 100 people

	1982	1988
Japan	35.9	41
Hong Kong	28.2	38
Singapore	25.3	35
Taiwan	16.5	33
S. Korea	11.3	25
Malaysia	4.3	8
Thailand	0.8	1.8
Phillipines	0.7	1
Indonesia	0.3	0.5
India	0.4	0.5

 Source (1) OECD (1990)

(2) International Telephone Statistics, 1984

(v) Privatisation

Privatisation is one of the changes that are taking place in the telecommunication industry of many countries in the world (The Economist, Feb 2 1991). The reasons why the national monopoly of the telecommunication enterprise has been or is in the process of undergoing privatisation differ from one country to another. In some countries,

the reasons include the proceeds received for the government treasury, and government inability to afford to modernise the enterprise without private sector participation, especially with the rapid technological change.

Privatisation is also adopted as an answer to the poor performance of state-owned enterprises and, in some countries, in order to change the attitudes of workers (Campbell-Smith, October 5th 1991). However, in general, the rationale for privatising the telecommunication industry is to increase efficiency and responsiveness, creating new markets for the industry, to generate more funds from the private capital and to reduce the burden of funding from the government sector, especially in an industry where changes are vitally needed in order to keep up with a fast-growing technology.

4.3 The Telecommunication services industry in Malaysia

4.3.1 Background

The telecommunication services in Malaya started as early as before the second world war, during the British rule, when postal, telegraph and telephone services were under the control of the Superintendent Engineer. In 1895 there were 21 telephone lines in Kuala Lumpur. From then, the telecommunications system progressed rapidly and in

1908, a Department was created to merge postal and telegraphic services. The two services were separated during the Japanese occupation. After the second world war, the two services remained separated and in 1946 the Malayan Telecommunications Department was formed to regulate and provide telecommunications services in Malaya. Following the formation of the Department, the Telecommunication Act 1950 was enacted, which formally spelled out the powers of the Department.

After independence, the government decided to take over the department from the British government. On 1st July 1968 the Malaysian Telecommunications Department was formed to incorporate the Malayan Telecommunications Department, the Sabah Telecommunications Department and the Sarawak Telecommunications Department, which existed until 31st December 1986. In 1987, STM was incorporated.

4.3.2 Factors influencing the development of the telecommunication sector in Malaysia

The factors influencing the development of the telecommunication sector are as follows:

(a) Maintaining and improving the telecommunication services

Telecommunication is an important factor for the development of a country. When the British left Malaysia after Independence, the telecommunication infrastructure was in good condition, and the government continued to

maintain and improve the telecommunication sector, allocating a substantial sum of money for purchase of the latest equipment and modernisation of the department to keep up with changes in technology. From 1966 to 1970 a total of M\$196 million was spent on telecommunications representing about 12.7% of the total expenditure for transport, communications and utilities (Fong, 1989).

Government appreciation of the role of telecommunications in the development of the country, can be seen from the budget allocation to the sector in successive 5-year plans, shown in Table 4.2. The revised allocation for 1971-1975 was M\$515.55 million, followed by M\$1,200 million for 1976-1980, a total of M\$2900.44 million for 1981-1985 and original allocation of M\$9572.38 for 1986-1990. This is attributable to the rapid increase in demand as a result of the industrialisation policy and growth in the commercial and financial sector of the economy, thereby increasing the standard of living of the country, as well as modernising telecommunications.

Table 4.2:- Original and Revised Allocations For the Telecommunications Sector under the various Malaysia Plans (M\$Million)

Year	Original Allocation	Revised Allocation	Actual Expenditure
1966-70	142.50		146.20
1971-75	298.30	515.55	494.91
1976-80	1080.00	1200.00	1112.67
1981-85	1399.52	2900.44	2400.48
1986-90	9572.38	4210.9	
1991-95	5391.3		

Source : 1st-6th Malaysia Plan, Government of Malaysia

(b) New Economic Policy and Industrialisation

The second factor relates to the New Economic Policy (NEP) whereby the government decided to diversify its earlier concentration on agriculture to cover industrialisation also. The process of industrialisation was achieved by allowing foreign investors to come in, especially in export-oriented industry. To encourage the desired foreign investment, the government offered concessions such as pioneer status, and undertook the building of infrastructure in new locations for foreign investors to set up their industries, including telecommunication services. Thus, in the early part of the 1970's, there was an influx of foreign investors into the country to take advantage of the generous pioneer status granted to them and the relatively cheap labour

force available. As a result of this, there was tremendous demand for telecommunication services such as telephone, telex and other related services. The industrialisation policy has been successful up to the present time, especially with respect to the electronics industry. Foreign companies have set up companies in Malaysia and engaged in the production or assembly of television sets, receivers, radios and other household electrical goods, for both local consumption and export. Table 4.3 shows the increase in the demand for telephone lines from 1971 to 1987, including the number of potential subscribers on the waiting list (waiters).

Table 4.3:- Total Demand Including Waiters for Telephone Lines From 1971-1986

Year	Number of Subscribers (Customer)	Number of Waiters	Total Demand
1971	110,019	11,924	121,943
1972	121,603	13,674	135,277
1973	136,494	20,591	157,085
1974	149,458	35,085	184,543
1975	169,538	48,306	217,844
1976	194,359	65,303	259,562
1977	227,564	76,438	304,002
1978	271,010	84,247	355,257
1979	325,154	105,699	430,853
1980	395,640	133,609	529,249
1981	488,675	149,945	638,620
1982	585,378	189,808	775,195
1983	700,097	199,831	899,928
1984	849,129	190,542	1,039,669
1985	958,598	332,000	1,290,598
1986	1,042,827	348,000	1,390,827

Source : Taken and calculated from Department of Telecommunications (JTM) annual reports from 1971-1986.

(c) Improvement in the standard of living of the country

As mentioned earlier, the increase in demand for telephones tends to correlate with the growth of the economy, ie the increase in per capita income. In

Malaysia, economic expansion and regulation of certain types of services in the telecommunication industry have led to increase in demand for basic telephones and non-basic products. As can be seen in Table 4.1, the telephone lines per 100 people in Malaysia increased from 4.3 in 1982 to 8 in 1988 and increased to 11.6 in 1992 (STM Annual Report, 1992). The number of subscribers, increased from 395,640 in 1980 to 1,131,719 as shown in Table 4.3; and further to 2,091,578 in 1992 (STM Annual Report, 1992).

At the start of the Sixth Malaysian Plan, the government and the privatised company (i.e. STM) allocated \$5,350 million for network development. With these developments, the number of telephone lines per 100 people in the country is expected to go up to 13 by 1995 (Sixth Malaysian Plan, Government of Malaysia, 1991).

4.3.3 Network development

In the 1960s, cable schemes and microwave radio links facilitated the introduction of a subscriber trunk dialling system and operator-assisted trunk calls in major towns and villages of Malaysia. However the 'crossbars' used for local and international exchanges were limited in function and failed to match the demands for telephone service.

Since the 1970s, there has been development of more sophisticated exchanges to cope with the increasing demands for telephone services. In 1980, the first fully electronic exchanges, which marked the beginning of computerization of telephone services, facilitated the introduction of international subscriber dialling (ISD). In 1984, another development was the introduction of MAYPAC (Malaysian Packet Switched Public Data Network) and in 1985 there was the introduction of ATUR (Automatic Telephone Using Radio). Since then, development efforts to improve telecommunication networks have been progressively carried out. It was at the stage of developing fibre optic technology that the Malaysian Telecommunications Department handed over to STM.

STM continue to modernise and expand its telecommunications network to take advantage of the latest developments in telecommunications. Much of its investment has been in the digitalisation of the network, such as the introduction of digital microwave and fibreoptic systems in STM's trunk and junction longlines network. Half of the existing trunk and junction circuits are being digitalised, enabling STM to offer better quality and more cost-effective services. The earth satellite station in Kuantan has been replaced with a digital fibre-optic submarine cable which will further improve the quality of international services. STM is also contemplating constructing an ASEAN optic fibre that will provide links to all the six ASEAN countries.

The long-term focus is on the development of Integrated Services Digital Network, which would enable voice and non-voice messages such as data, text and image to be transmitted through the same lines. Figure 4.1, under the title of 'Development in the Telecommunications Sector' summarises the developments of telecommunications in Malaysia which have taken place from 1967 till to date.

Figure 4.1 - Developments in the Telecommunications sector

From 1967-1970

Extension of microwave system linking major west and east coast towns with the rest of the Peninsular. Also, installation of automatic exchanges. Kuantan Earth Satellite Ground Station completed, making possible direct dialling between major towns in Peninsular.

From 1971-1975

Subscribers Trunk Dialling (STD) extended to some rural areas of the peninsular (i.e. about 70% of Peninsular Malaysia). Automatic Telex exchange introduced for Kuala Lumpur, Kuching, Kota Kinabalu and Penang. Kuantan Earth Satellite modified for INTELSAT-TV Satellite.

From 1976-1980

Expansion of microwave system in Peninsular Malaysia, Sabah and Sarawak to a total of 380,000 miles of circuits. Direct satellite link between Peninsular Malaysia, Sabah and Sarawak, enabling simultaneous TV broadcasting. Expansion of international telex, telegraph and telephone service. Proposal made on the installation of 'A' type Satellite Earth Station in Malacca which would cover 18

countries and provide 160 satellite earth circuits. Participation in ASEAN telecommunication network involving laying of undersea cables.

From 1981-1985

Microwave trunk telephone network extended in Peninsular Malaysia connecting all major towns. Direct telecommunication links established to various countries using satellite and submarine cables. Commissioning of: (1) new international telephone exchange using computer controlled equipment - ISD to 65 countries; (2) Commonwealth Indian Ocean submarine cable linking Penang and Madras; Asean Malaysia-Singapore-Thailand submarine cable; and Penang-Medan submarine cable. Introduction of videotax, telefax and ATUR.

From 1986- 1990

Telephone network increase to 1.58 million. With Privatisation, a shift from basic telephone services to advanced business services to support the move towards higher value-added manufacturing and service-oriented activities. Data services, such as Malaysian Packet services (Maypac), Circuit Switched Services (MAYCIS) datel, telefax and Mobile Radio Communication services such as the automatic telephone using radio (ATUR) system, Trunked Radio and paging system experienced rapid growth.

With total investment of M\$4,000 million in the network infrastructure and about 266,000 trunk and Junction circuits digitilised, total ELC capacity increased to 2.3 million lines. In terms of regional and international integration, an fibre optic cable link between Kuantan and Kota Kinabalu was implemented as part of the ASEAN submarine cable system to meet the demand for improved telecommunication services. Telecommunication services expanded to rural areas. The ELC increased from 1.8 million in 1985 to 2.7 million in 1990 and ECP from 2.2 million to 3.7 million throughout the country. Increase in rural payphones from 250 to 6770 during the Fifth Plan period.

From 1991-1995

A total of M\$5350 million is invested by STM in the subsector for the digitalisation of the domestic and international networks, the commissioning of the digital microwave network running from north to south; and the launching of the Integrated System Digital Network (ISDN) on a commercial basis. With these developments, the ELC is targeted to increase from about 2.54 million in 1990 to 3.43 million in 1995.

With regional development and international integration, about M\$1020 million expected to be invested on Switching and building new exchanges, as well as upgrading the exchanges from analogue to digital. The digital microwave transmission will continue to be expanded and the fibre optic system will be implemented to enable high speed digital links between exchanges and for trunk links nationwide. As for the international network, M\$475 million will be spent on digital switching and cable and satellite facilities to support the rapid growth in international traffic. In addition, new, fully digital international telephone gateways will also be implemented. The extension of telecommunications services to rural areas will continue with an investment of M\$1390 million.

Source : Malaysia Plan, various issues (i.e 1971, 1976, 1981, 1986, 1991), Government of Malaysia, Government Printers

4.4 Brief history of JTM/STM

4.4.1 Organisational and management structure

4.4.1.1 The early days

Since the Department was started by the British in 1874, most of the technical and managerial staff were naturally British expatriates, while the lower-rank staff, consisting of technical assistants, technicians and clerks, were Malaysians. Thus, in the period from 1946 to 1957, there was an urgent need to train more Malaysians, especially at the technical and managerial levels.

After the formation of Malaysia in 1963, the telecommunications department came under the control of the Ministry of Works, Telecommunications and Posts at federal level. The Posts and Telegraphs Departments in Sabah and Sarawak were combined into one region, directly under the control of the Regional Director of Telecommunications, who in turn reported to the Secretary-General of the Ministry of Works, Telecommunications and Posts. The Act was amended in 1968 to incorporate these changes.

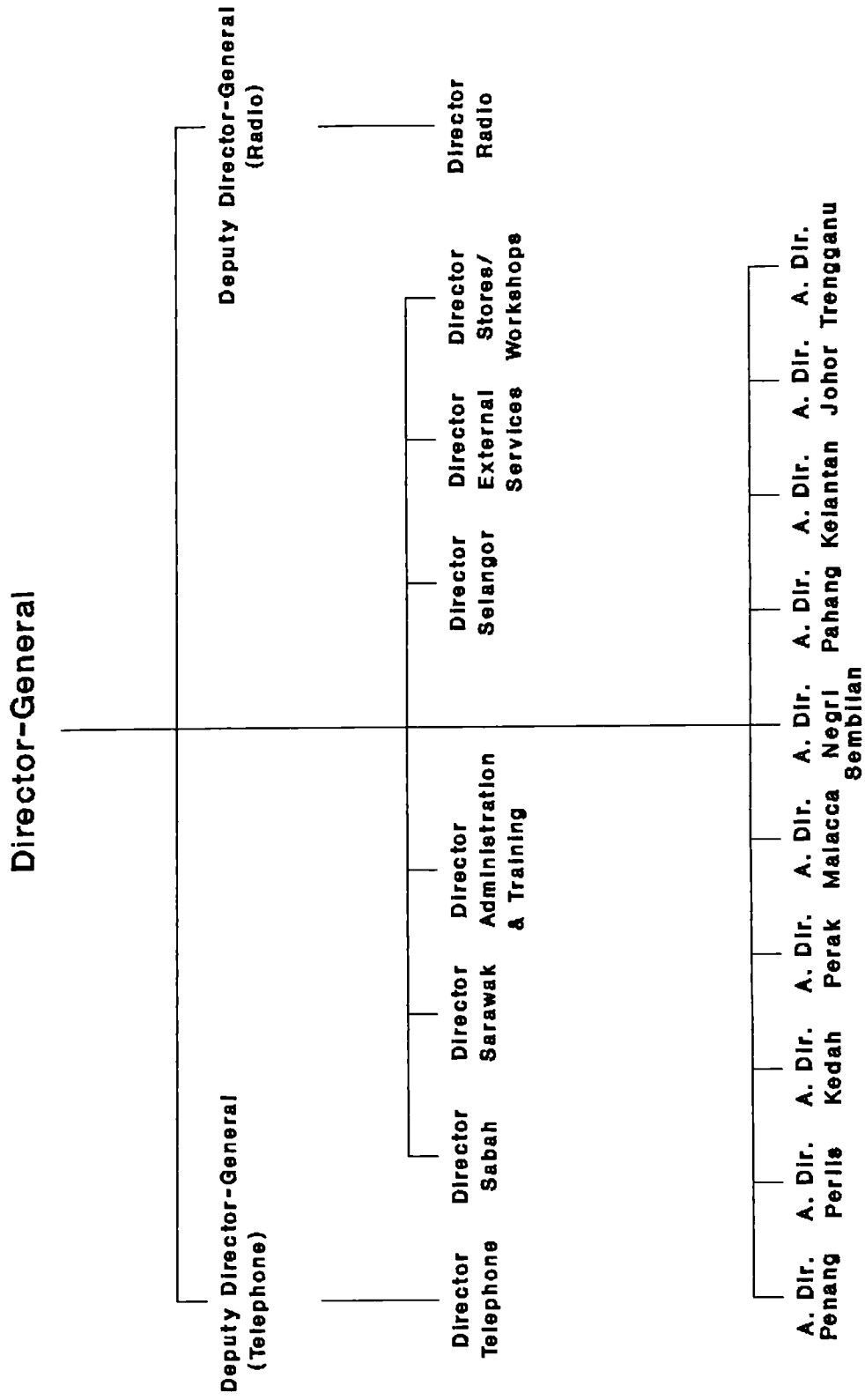
4.4.1.2 From 1968-1977

Manpower development and training were the main priorities. Many staff were sent abroad to acquire professional qualifications and many more were encouraged to take the London City and Guilds Examinations, with a view to creating more qualified Malaysians at the technical and managerial levels. By the late 1960s, there

were enough Malaysians to fill the technical and managerial posts in the department. Among the new posts created (after changes in the organisation in order to meet the rapidly-expanding demands of the telecommunications industry in the late 1960s) were those of Director-General, Deputy Director-General and several directors at the top level (see Figure 4.2 for the organisational structure of the department from 1968-1977) Under the directors, there was a group of Controllers of Telecommunications, each having his own responsibilities. The controllers were assisted by the Assistant Controllers who were qualified professional engineers. Below them, in a descending hierarchy, were the Technical Assistants, the technicians, and maintenance and installation staff. (Fong C.O., 1989).

In the early 1970s, when the government allowed foreign investors to enter the country and also to take part in the running of some businesses, demand for telephone, telex and other related services grew rapidly. However the telecommunications Department had not foreseen these demands or the new direction in the economy towards export-oriented industrialisation and services. The changes in the organisational structure of the Department in the 1960's, had not taken the above trends into account, and there was a shortage of staff, especially in the technical sections. To overcome this problem, the Department decided to employ new recruits and organise crash courses for them.

Figure 4.2 - Organisational Structure of JTM from 1968 - 1977



A. Dir. - Assistant Director
 Source : Annual Report, JTM 1977.

Despite the increase in the number of staff, the installation targets could not be met, and complaints were made by the general public and the business community about the inefficiency of the Department, especially with respect to the long waiting period to obtain lines and repair work, and lack of attention paid to overcharged bills. These problems were also attributed to continued shortages of equipment and cables. Problems also arose in relation to land acquisition for telephone exchanges since the Department had to obtain permission from the various state governments. This could be a lengthy process, taking up to two years. moreover, state governments were often reluctant to give permission for a land use from which they would receive no revenue.

4.4.1.3 From 1978-1986

In order to solve these problems, the government made drastic changes to the Department in 1978. The first change was with respect to the ministry itself. The government decided to split it into two Departments. With this change, the Telecommunication Department came under the Ministry of Energy, Telecommunications and Post. The second change was with respect to the Department, where extensive reorganisation was made. Instead of dealing with 13 states separately the government decided to regroup into seven regions: Central Region consisting of

Federal Territory and Selangor; North Region consisting of Perak, Penang, Kedah and Perlis; South Region including Negeri Sembilan, Malacca and Johor; East Region including Pahang, Terengganu, and Kelantan; Sabah Region; Sarawak Region and External Region. (Malaysia, Telecommunications Department Annual Report 1979). The rationale for creating regional offices was to delegate some of the authority, thereby giving greater regional autonomy so that certain decisions could be made faster by the Regional General Manager without going through Headquarters.

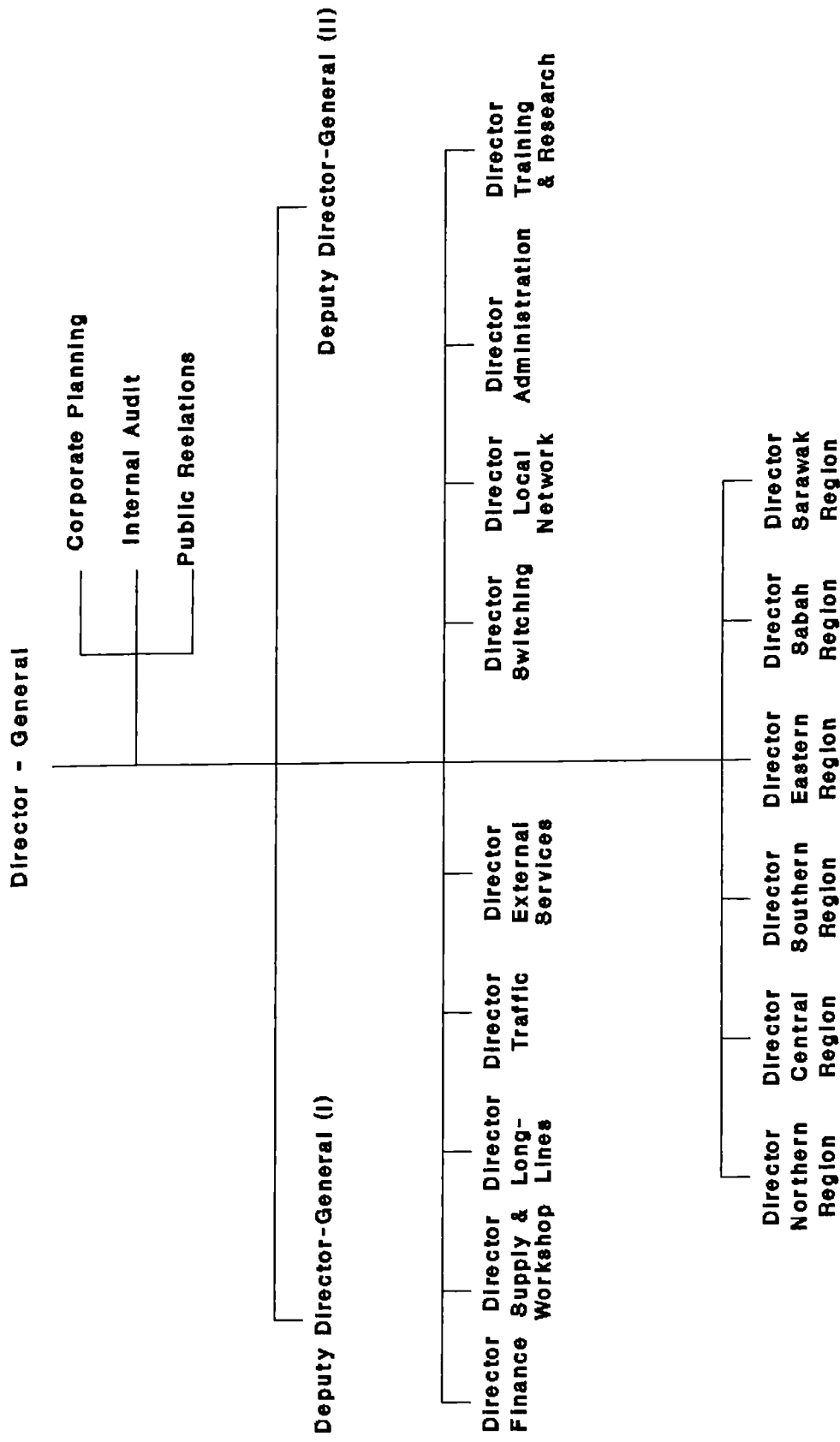
As at 1978, The Malaysian Telecoms Department (JTM) administrative structure as shown in Figure 4.3 was made up of three divisions :

- (1) National Headquarters
- (2) Regions
- (3) Districts (Areas office and Telecom Shop)

The function of National Headquarters was to administer the overall operation and development of the telecommunications network in line with its responsibility to provide an efficient and effective domestic and international telecommunications service. This involved planning, control and coordinating between regional and district offices.

The Director General was the head of the Department. He was directly responsible to the Ministry of

Figure 4.3 - Organisational Structure of JTM from 1978-1986



Source: Annual Report of JTM 1983

Telecommunications and was assisted by two Deputy Director Generals. The National headquarters was divided into eight divisions, each headed by a Director who reported either direct to the Director General or to one of his Deputies.

The divisions were as follows:

- i) Administration
- ii) Training and Research
- iii) Switching
- iv) Local Networks
- v) International
- vi) Stores and Workshops
- vii) Traffic / Public Relations
- ix) Finance and Accounts.

The Regional Headquarters was responsible for the administration of telecommunication services in the regions, including linking with national and overseas networks. Other functions included planning, engineering, operating and maintaining the telecommunication services in the region concerned. Each region was divided into development, operation and accounts divisions. There were six geographical regions: North, Central, South, and East regions of Peninsular Malaysia, and Sabah and Sarawak.

A Regional Director headed each region. He came under the guidance and close supervision of the national headquarters. Each region was further divided into districts. The district office came under the control of area controllers who were responsible for day to day running of operations, maintenance and engineering of the local offices.

With the privatisation of the Malaysian Telecommunications Department, the administrative structure of the Department was reorganised by the newly formed company (STM) in 1987.

4.4.1.4 From 1987 to date

STM organisational structure, as shown in Figure 4.4, consists of:

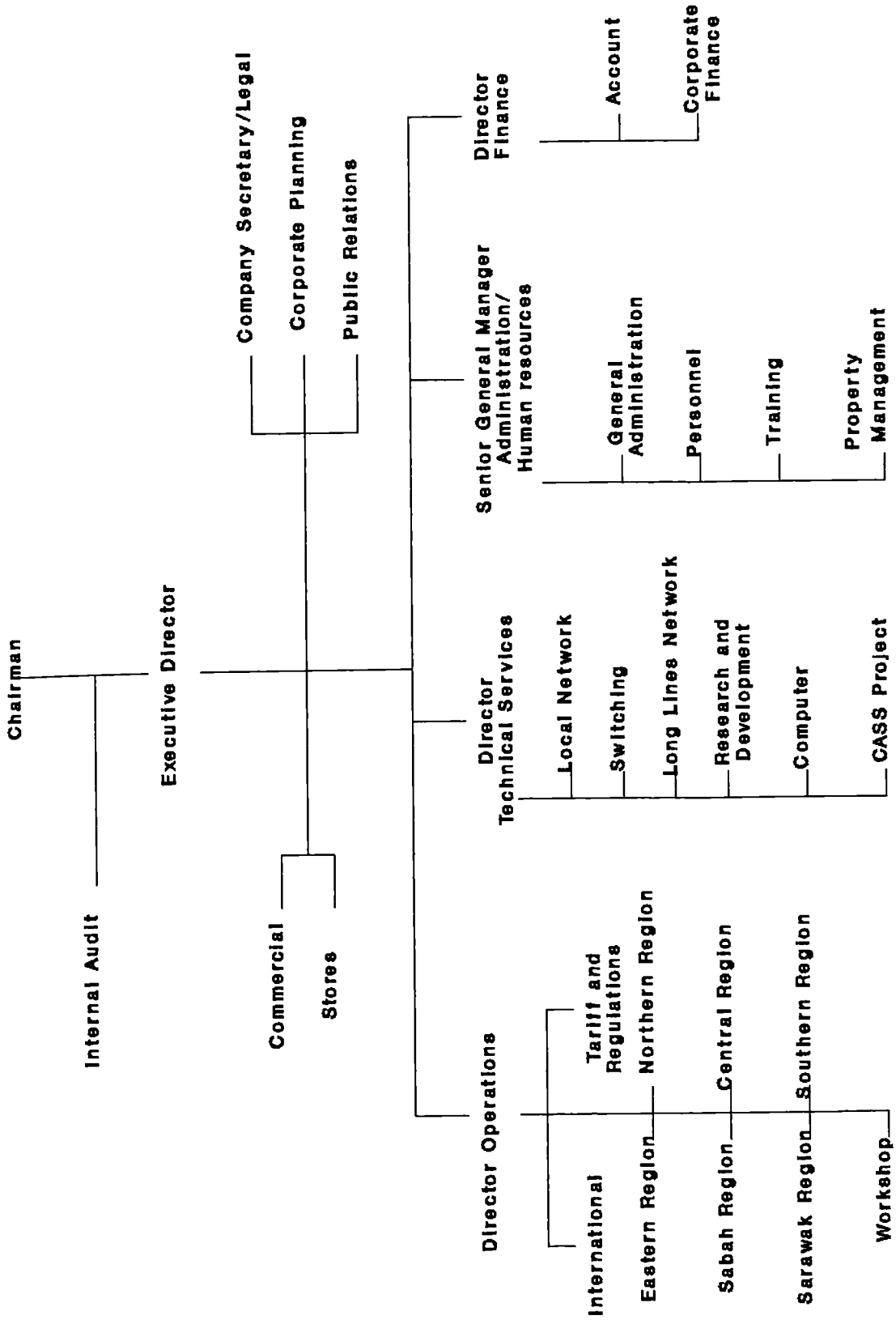
- 1) National Headquarters
- 2) Regional Headquarters
- 3) Local Headquarters
- 4) Counter Services, and six main regions (Central, North, South, East, Sabah and Sarawak)

Headed by the Chairman and Executive Director, the overall corporate headquarters organisation of STM as shown in Figure 4.4 is divided into four main divisions:-

- i) Operations
- ii) Technical Services
- iii) Administration and Human resources
- iv) Finance

The reorganisation above was initiated to transform a government department into a market-driven and customer oriented company, operating the nations telecommunications service and at the same time to provide motivation for its employees. As shown in Figure 4.4, the organisational structure at that time was functionally and regionally structured, and did not emphasise marketing or the optimal use of infrastructure.

Figure 4.4 - Organisational Structure of STM From 1987-1988



Source: Company Document

However, in 1989, the structure was reorganised, to meet changing demands. Under the new structure, as shown in Figure 4.5, the post of Chairman was expanded to Executive Chairman with four divisions reporting to him, namely:

- 1) Internal Audit
- 2) Corporate Affairs
- 3) Human Resources
- 4) Finance

As from 1/1/1991, the post of Director of Finance was upgraded to Executive Director, reflecting the increased importance and role of finance and accounts in the organisation.

Reporting to the Executive Chairman is the Executive Director who heads the four sections:

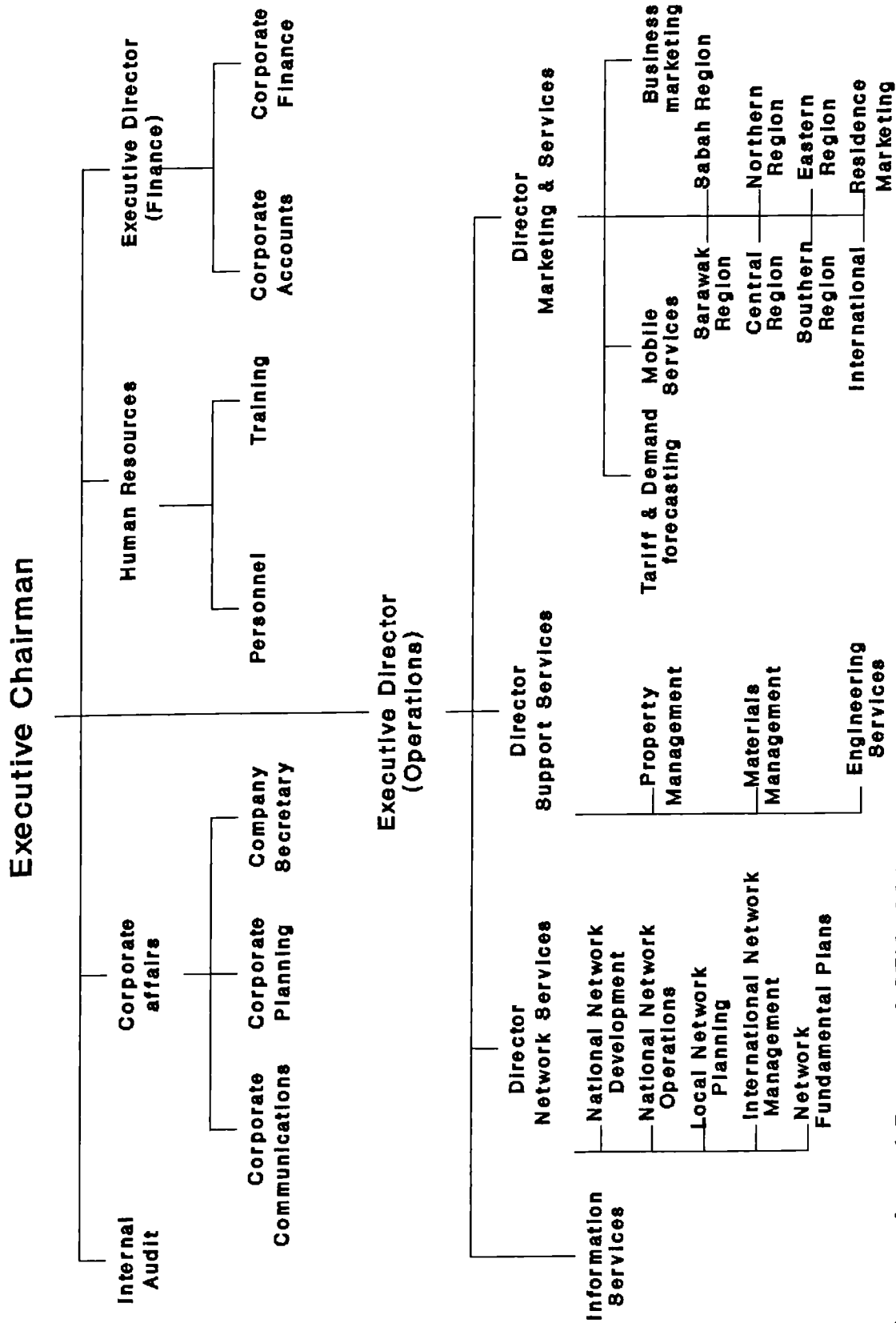
- 1) Customer Services and Marketing
- 2) Network Services
- 3) Support Services
- 4) Information systems

4.4.2 JTM / STM Services

The Malaysian Telecommunications department is engaged in the activity of establishing, maintaining and providing telecommunications and a variety of related services, both within Malaysia and internationally. JTM services can be divided into five categories:

- 1) Voice Communication (Telephone, Public Payphones)
- 2) Text Communication (Telegram, Telex, Telefax, Biorfax)
- 3) Data Communication (Datel, MAYPAC)
- 4) Radio Communication (ATUR, Karfon, Radio Call

Figure 4.5 - Organisational Structure of STM from 1989 to date



Source: Annual Report of STM 1989

Service (HF), Radio Maritime Service, Radio Paging Service)

STM, as well as improving the above services, introduced new services in line with its mission to provide quality and efficient service to its customers.

These include:

- 1) Private Leased Lines
- 2) Customised Services (Customer Automated Services System).
- 3) Other related services such as rural services, international services.

Table 4.4 shows the growth of telecommunications services in 1990 and forecast figures for 1995 (Sixth Malaysian Plan, Government of Malaysia, 1991). Of these increases, not all are provided by STM. The government has allowed other telecommunication company to enter the market as will be discussed in Chapter Five.

Table 4.4 : Growth of Telecommunications Services by Types in Malaysia

Type of Service	Subscribers Average		Annual Growth
	1990	1995	
Telephone	1579634	3028446	14%
Telex	8115	6280	-5%
Cellular (ATUR)	87000	250000	24%
Paging	36000	160000	35%
Maypac	1125	2640	19%
Trunked Radio System	1250	12000	57%
Datel	5678	21702	31%
Leased circuits	15071	39574	21%
Telefax	36716	120000	27%

Source: Sixth Malaysia Plan, Government of Malaysia (1991).

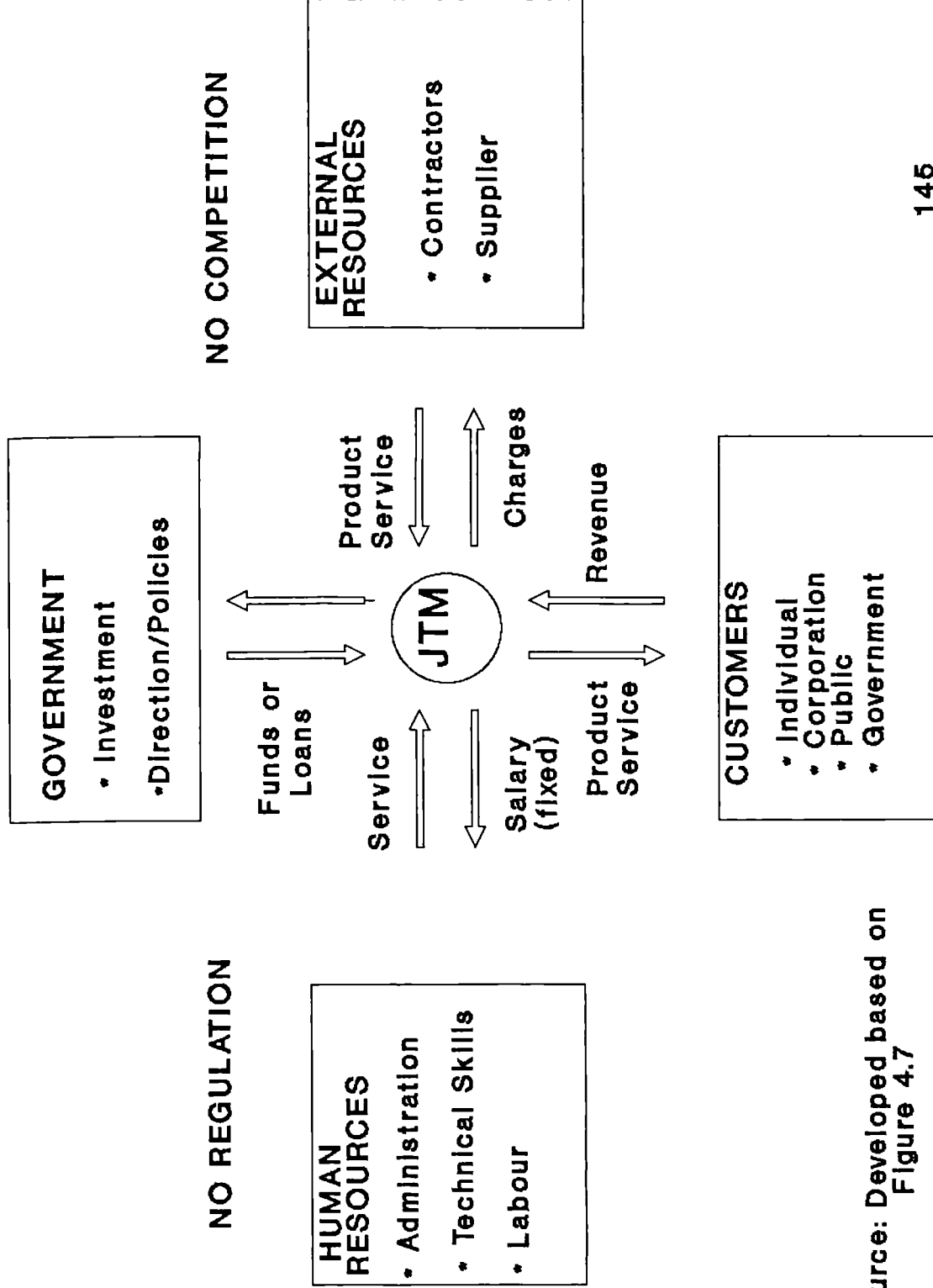
4.4.3 Environment of the Organisation before and after Privatisation

The environment of the organisation before and after privatisation is shown in Figures 4.6 and 4.7. As can be seen from these two figures, the main changes that took place are as follows:

i) Under JTM environment, the main owner of the Department was the government. Thus the policies / direction in running the Department came directly from them. Funds were either provided by the government in the form of loans or loans taken from the financial institutions with guarantees from the government. This changed when the Department was privatised, and the shareholders became the owners of the newly privatised company. The funds still come from financial institutions through short-term or long-term borrowings but without guarantee by the government. However, since the government still hold a majority stake in the company, it still influences the company's direction and policies through its representation on the board.

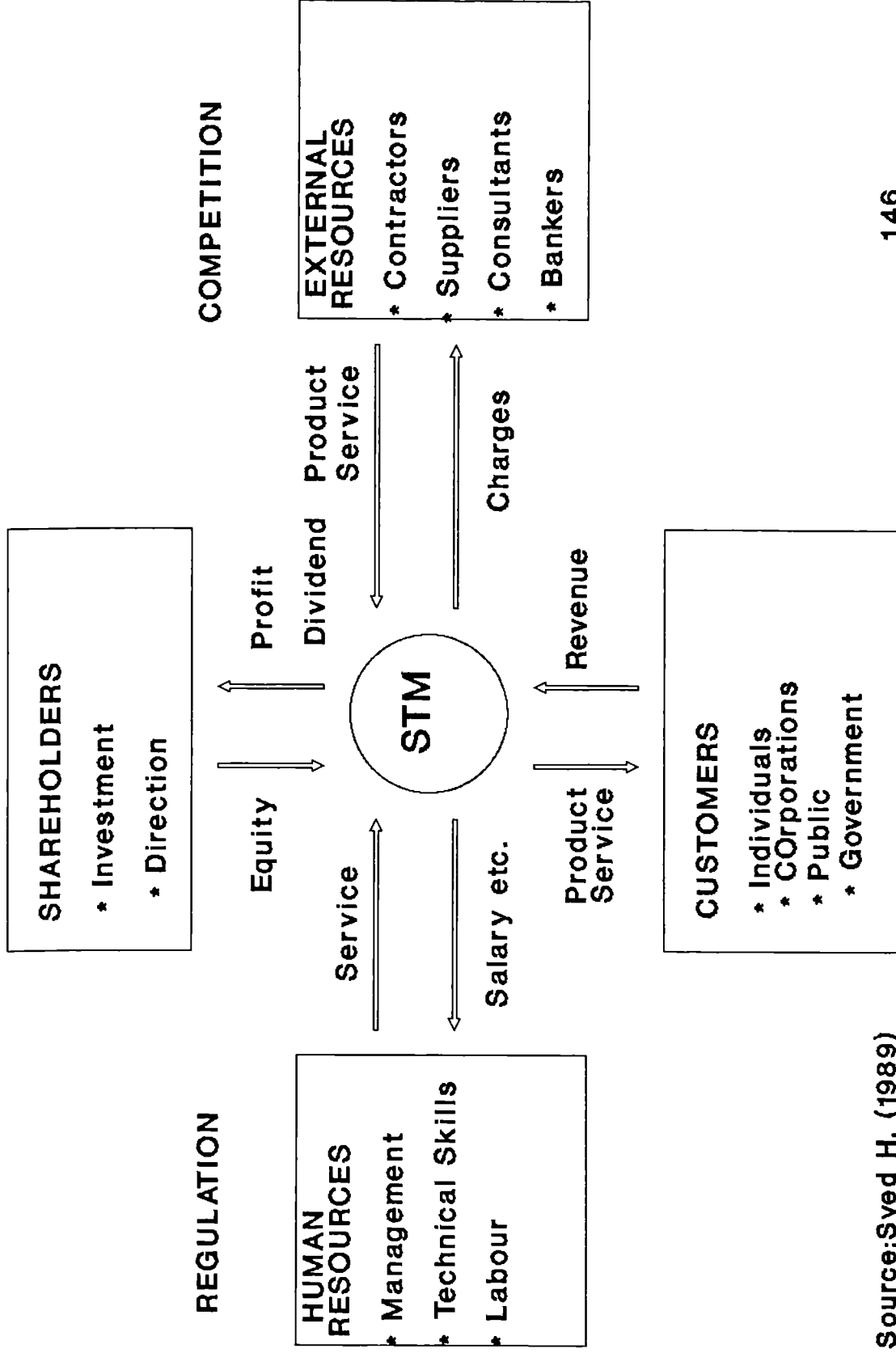
ii) With respect to Human Resources, under JTM, the workers were subject to the standard government conditions of services. Under STM environment, the employees are governed by trade union rules and regulations, and conditions of service for non-executive employees depend on negotiations between the unions and

Figure 4.6 - Environment of Government Department (JTM) before Privatisation



Source: Developed based on Figure 4.7

Figure 4.7 - Environment of Company (STM) after Privatisation



Source: Syed H. (1989)

the management of the company. However, for executives and above, the condition of services are usually tied to performance.

iii) Overall, under JTM, the emphasis was service-oriented whereas under STM, it is driven by profit motives, as shown in Figures 4.6 and 4.7.

4.4.4 Financial Developments

With respect to accounting systems, a major change took place regarding the loan agreement with the World Bank to finance certain telecom projects. In compliance with one of the conditions of this agreement the government decided to install a commercial system of accounting as from April 1971 to replace the traditional Treasury Accounting system (Malaysian Telecommunication Instruction, 1971). Another reason for changing to a commercial system was the fact that the department is a revenue generating organisation. It was found that under the traditional treasury accounting system, the department was over regulated and thus was not able to respond quickly enough to meet customer demand for services. Under the new system, the objective was not only to make the department self-sufficient but also to earn a targeted rate of return on capital of at least 8% every year.

TABLE 4.5:- JTM: REVENUES, EXPENDITURE AND FINANCING FROM THE FEDERAL GOVERNMENT FROM 1972-1986 (M\$'000)

YEAR	OPERATING EXPEN- DITURE	DEVELOP- MENT EXPEN- DITURE (1)	TOTAL EXPEN- DITURE	TOTAL REVENUE	OPERATING PROFIT	(1) - (2)*
1972	86438	89285	175723	133012	46574	-8816
1973	91806	78861	170667	159432	67626	-11235
1974	110666	119746	230412	186158	75492	-44254
1975	130,546	203112	333658	221413	90867	-112245
1976	144841	210013	354854	282528	137687	-72326
1977	189176	288243	477419	301459	112283	-175960
1978	204855	358904	563759	364268	159413	-199491
1979	240039	380972	621011	432631	192592	-188380
1980	299146	637848	936994	523362	224216	-413632
1981	363570	696579	1060149	636089	272519	-424060
1982	426856	749129	1175985	771677	344821	-404308
1983	682085	1036790	1718875	950057	267972	-768818
1984	722622	1603300	2325922	1231968	509346	-1093954
1985	844052	1805464	2649516	1430715	586663	-1218801
1986	992823	1511575	2504398	1558699	566876	-944699

Source: Taken and calculated from Department of Telecommunications Annual Reports from 1971-1986.

Note:- * Total amount of financing obtained from the federal government.

TABLE 4.6 :- GROWTH IN REVENUE OF JTM (M\$'000)

YEAR	TELEPHONE	TELEX	TELEGRAPH	MISCELLANEOUS	TOTAL
1976	193663	22923	37165	28776	282528
1977	214120	47377	20131	19830	301459
1978	260228	55493	17386	26040	364268
1979	319544	70322	23674	19089	432631
1980	369136	86903	23722	23701	523362
1981	490557	82516	33562	29454	636089
1982	596789	101467	48761	22660	771677
1983	739631	128457	85224	17562	970894
1984	956316	118494	38778	118380*	1231968
1985	1136348	86418	79679	127945*	1430715
1986	1279145	83949	57717	137888*	1558699

Notes: * Miscellaneous earnings for 1984, 1985, 1986 included the amount billed the local network turnkey contractors for materials supplied from JTM stores.
 Source : Annual Reports of JTM from 1976-1986.

As can be seen from Table 4.5, the objective of self sufficiency was not met from the initial year, that is in 1971 when the Department was made a self- accounting entity following commercial principles, until 1986, just before privatisation. Even though the revenue of the Department increased over the years, (especially the telephone revenue as can be seen in Table 4.6) so did the total expenditure (operating and development expenditure). Thus, the Department could only cover the operating expenditure and part of the development expenditure, and had to rely on government for its development expenditure over the years from 1972 to 1986.

4.5 Summary

In this chapter, the telecommunication industry and the organisation was described and discussed. With respect to the industry, it has grown as a result of many factors. These include technological change, deregulation, liberalisation and competition, new services and economic expansion. In addition, the development of the telecommunication sector in Malaysia was influenced by government policies such as NEP and industrialisation. Other factors included improvement in the standards of living of the country which demanded improvement in telecommunication services. It was also pointed out in this chapter that when the environment changed through privatisation, differences emerged with

respect to the objectives and purposes of the organisation.

After having describe the organisation i.e. analysing the context of the organisation, and following Pettigrew's data collection framework shown in Table 1.1 of Chapter One, the next three chapters will analyse the content and process of change. We begin in Chapter Five by analysing the three phases of disturbance that affected the organisation in general, with special focus on the third phase of disturbance, the privatising of the organisation. In particular, the role of accounting before and after privatisation will be examined.

CHAPTER FIVE

The Process of Change arising out of the Three Phases of Disturbances; and the Role of Accounting and Finance Before and After Privatisation

5.1 Introduction

The information presented in the previous chapter corresponded to the first level of Pettigrew's data framework, whereby the researcher examines the external context of change. In this chapter we move on to the second and third levels of Pettigrew's framework, the internal context and content of change, taking data from Department/Company and System levels respectively.

The chapter discusses the process of change happening from the time of JTM up to STM, arising out of the three phases of disturbance. JTM began as a government Department, formed in 1972 with a loan from the government. The Department was directed to follow commercial principles and required to meet a return of 8% on capital.

Using Laughlin's model of organisational change, the first phase of disturbance came from the liberalisation of the telecommunication services. This liberalisation took place for many reasons, arising out of the New Economic Policy (NEP), the shift from an agriculture based economy to one of mixed agriculture and industrialisation, an influx of foreign investments, and rapid technological advancement of the industry itself.

However later, with poor performance shown by the Department through, for example, long waiting lists and under-utilisation of network exchanges, the emergence of new and aggressive 'bumiputra' entrepreneurs in the industry led to the government awarding a major expansion programme of the telecommunication networks to the private sector through turnkey projects. This could be considered as a second phase of disturbance to the Department, in that most of its core jobs were taken away from it and given to the private sector. This led to frustration and demotivation of the staff of the Department since the effect of the turnkey projects was to reduce their chances of promotion and overtime work.

The third phase of disturbance came when the government decided to privatise the Department in 1987. This resulted in a drastic change taking place in the organisation. Privatisation led to an 'invasion' of outside people with a commercial background, who filled

not only top positions, but also positions at middle management, executive and officer levels in most of the non-technical areas especially accounting and finance and as a result, accounting emerged as visible in the organisation.

The Chapter is divided into two parts. The first looks at the company overall (the second level of Pettigrew's framework) while the second narrows the focus, looking at the role played by the accounting and finance division during JTM days to date. This will lay the groundwork for the detailed system-level analysis to be presented in subsequent chapters.

5.2 External Influences Affecting JTM

The introduction of the New Economic Policy directly affected the Department, JTM, through:-

(a) Rapid expansion of the entire government sector including JTM, with a massive intake in the 1970s and 1980s of employees as can be seen from Table 5.1.

(b) Industrialisation through creation and expansion of rural industrial estates and free trade zones resulting in increased demand for telecommunication services. There was an upsurge in demand for telecommunication services arising from:

(i) general improvement of the economy of the country;

(ii) increased urbanization of Malaysia from 27% (1970) to 34% (1980) (Malaysian 1987 Year book);

(iii) a change in the industrial sector to export orientation, (Kennedy, 1991).

Table 5.1 : Number of Staff of JTM from 1972-1984

Type of Group	1972	1978	1980	1982	1984
Group A-Technical	134	279	428	518	604
Non-Technical	61	61	102	193	236
Group B-Technical	465	464	529	675	759
Non-Technical	96	117	191	312	330
Group C- Total	6868	9677	8449	11744	12369
Group D- Total	5485	7649	15588	16368	15946
Total	13109	18247	25287	29810	30244

Source: Annual Report of JTM of various years.

As can be seen from Table 5.1, there was a 131% increase in total staff of the Department (both the technical and non-technical) from 13109 in 1972 to 30244 in 1984. For the same period, group A staff (i.e. executives and above levels) increased from 195 to 840, an increase of 331%, which is higher than the percentage increase in total staff. Furthermore, between 69-85% of group 'A staff' during this period were from the technical group. This comes as no surprise, as the organisation is a technically based company. Even in the non-technical division of the company, more than 75% of staff had engineering qualifications and experience as

evidence shown in the annual report of various years and interview with some of ex-JTM staffs.

The reason for the above trend was that, as the Department expanded, there were many new administrative posts of managerial rank, for which preference was given to internal candidates. Therefore, it was mainly engineers who were selected to fill these administrative posts. However, when it came to filling the vacant posts created by promotion, the hiring process was conducted by the Public Service Department (PSD), and the successful candidates were determined by the PSD personnel rather than by the Department. Because of lack of qualified engineers available at that time, this hiring process took a long time, sometimes more than a year.

This policy on intake of staff brought frustrations to the JTM top management as they could not hire trained engineers. Also, the large intake of unskilled technicians in the 1970s created problems for the Department in coping with the training that it had to provide for them (interview with ex-JTM senior staff, December 1991).

5.3 Weaknesses/Problems in Organisational set-up of JTM as a Government Department

The organisational structure of JTM was briefly outlined in Chapter Four. JTM was a government Department depending heavily on the central government, especially with respect to capital expenditure funds, which were provided in the form of loans from government or other agencies at a 'cheap rate'. It depended fully on the Public Services Department for the approval and creation of new posts as well as recruitment of staff. For accounting personnel, it relied on the Accountant-General's office, whose staff were seconded to the department. The same went for the computer department whose staff were seconded from the Prime Minister's department.

Its service structure was identical with that of the government civil service structure with respect to pay scales, promotion, service scheme and other benefits such as housing loans, car loans and pension scheme. The organisational structure of JTM was divided into the National Headquarters and six Regional Headquarters as shown in Figure 4.3 of Chapter Four, as from 1978-1986.

The function of National Headquarters was to plan, coordinate and control the overall development and operation of the network of the organisation. The objectives laid down by the Department were not only to provide an efficient and effective domestic and international telecommunication service but also to earn a minimum 8% return on capital.

The six Regional Headquarters covered the North, Central, South and East Region in Peninsular Malaysia and Sabah and Sarawak regions in East Malaysia. The function of the Regional Headquarters was to plan, engineer, operate and maintain the telecommunication services in the region concerned. Each was divided into development, operations, and accounts. The regions were further divided into a number of areas. In each area was a controller who was responsible for the services in that particular area.

Problems and constraints existed in JTM at that time, while it was directly under the control of the government. The Department's main problem was its inability to meet customer demands, while at the same time having a highly underutilised network as can be seen in Tables 5.4 and 5.5. This could be the result of poor planning and, to a certain extent, political interference in the decisions on network locations. Also, in a service-oriented government Department, the concepts of demand and financial viability of projects were not the main consideration and in many cases were not taken into account in deciding on the building of networks.

Other constraints were with regard to the funding for capital projects like the network, which came from the Treasury. As discussed earlier, the Department was not able to supplement the funding for its capital

projects from internally generated funds, since it did not make much profit. Thus it was dependent on funds from the Treasury, and therefore subject to Treasury constraints and red-tape. Moreover as a government Department, JTM was not able to increase the tariffs and rental at the prevailing rate in order to reflect commercial conditions.

As for purchasing of equipment, especially computers, not only did this have to be approved internally, but a bigger hurdle still was to obtain approval from the central agency. Because of bureaucratic procedures, this process took a long time. This was one reason why the organisation was not able to computerise many aspects of its administrative affairs.

With respect to recruitment, as was mentioned in the previous section, the Department had no power to recruit its own staff. This was handled centrally by the Public Services Department (PSD). Recruitment under this system took a long time, sometimes running to more than one year, and at times, the suitability of candidates was questionable. Further, the Department had to conform to the rigid and unattractive service schemes of the government. Establishment of new posts had to be approved by outside bodies, i.e. the PSD and the Treasury. Getting new posts established was not too difficult, but employing experienced personnel, especially from the

private sector, was difficult, in view of the problems described earlier.

The secondment of accounting personnel from the Accountant-General's (AG) office usually covered a period of two to three years. This system was criticised by most people from the organisation because it led to conflicting loyalties. Staff from the AG office owed their loyalties to that office rather than to the Department, since they knew that they were only temporarily based there. This was because promotion came within the AG pools. Moreover, in JTM, dominated by engineers, the accountants were looked on as 'alien' to the organisation, in the sense that they were seen as the watchdogs or policemen of the government.

The next problem relates to the temporary period of appointment. No sooner did seconded staff become familiar with the system, than they were transferred to another government organisation by the AG, and were replaced by new recruits who needed to learn the system. Thus, continuity was lost and improvement of the system was difficult. Instead of being solved, these problems were allowed to build up.

In addition to the accountants, accounting officers, book-keepers and key-punch operators were also seconded from the AG. Because of this situation, in order to maintain continuity, clerical staff were also given

accounting functions, as well as their administrative duties. As most of the officers, formerly ex-JTM staff complained:

"It was not fair to give them accounting duties, when no training was given to them".

An example of the effect of this situation on the company may be seen with regard to the bank reconciliation; monthly reconciling was done, but whether or not it balanced was a different matter. The concern was simply to perform the task as required. This is because the work was done by clerical staff who did not understand why it was being done and did not know the implications if the cash book and the bank statement did not balance. As time passed, this resulted in accumulated discrepancies (Interview with the Accountant at the Central Region).

5.4 The Three Phases of Disturbance Affecting the Organisation

5.4.1 The First Phase of Disturbance - The New Economic Policy and liberalisation of the telecommunications industry (1972-1982)

With the introduction of the New Economic Policy, the objective of which was to redistribute the income of the country, the government saw an opportunity to achieve

this objective through the telecommunications industry. At the same time as eliminating some inefficiencies in the Department, liberalisation of some of the services/goods which had been provided exclusively by JTM, provided an opportunity for the expansion of *bumiputra* entrepreneurship.

The first form of liberalisation was the franchising of public pay-telephones by the Department to a *bumiputra* telecommunications firm, Sapura Holdings in 1972. The public pay-telephones in the early 1970s, which were about 2000 in number, constituted a problem for the Department, due to the frequency with which they were vandalised, jammed by uncollected coins or left unrepaired when out of order (Interview with the Assistant Director of Tariff and Rates of the newly created regulatory department (the new JTM)). The local newspapers gave coverage to public complaints about the poor service. Then, a local company proposed to JTM that the management of public pay-telephones be given to a firm which would undertake not only the maintenance works, but also installation and collection. This process, known as franchising, led to the firm taking over the total care of public pay-telephones from JTM. The Department was happy with the proposal since it reduced its responsibilities and allowed it to unburden itself of an operation which was not attractive to the Department at that time.

A five-year contract (which was renewed later) was signed by the Department with Uniphone, a subsidiary of Sapura Holdings, whereby the company would install, maintain and collect from urban public pay-telephones and the revenues earned would be shared on a 50/50 basis in Kuala Lumpur and Petaling Jaya. On this revenue-sharing basis, Uniphone performed well in terms of profitability; moreover, the public pay-telephone service improved tremendously. When the project was successful, it was decided to extend the services to all cities in Malaysia and the contract was renewed for a further five years; because of its good performance, a third five-year term was then granted. By 1990, there were more than 22,300 public payphones in use all over Malaysia (Arab-Malaysian Merchant Bank, 1990). According to the Assistant Director of Tariff and Rates of the newly created regulatory department (the new JTM), after 15 years of services (i.e. the initial five-year period plus two five-year extensions of contract) and after STM was formed in 1987, the government decided to give a 15-year licence to Uniphone to provide public phone services to all the cities in Malaysia (excluding services in rural areas, which STM had to undertake). Under this new term, STM collects M\$35.00 per public payphone line rental per month in Peninsular Malaysia and M\$25.00 in Sabah and Sarawak. In addition to that, the revenues earned would be shared on a basis of 20:80, i.e. 20% to STM and 80% to Uniphone (Arab-Malaysian Merchant, 1990).

However, the government stipulated that Uniphone must provide good services, for example by introducing card-phones, extending research and development and creating more outlets throughout the country. STM management were displeased at the loss of 'ready revenues' from these lucrative services, and the prospect of losses on the rural pay-phone services.

As mentioned earlier, the expansion of the economy increased the migration of population to urban areas and the boost in the industrialisation policy resulted in a tremendous increase in demand for telecommunications services. Because of this increase, the government allocated substantial funds in the Third Malaysian Plan, in order to cater to the demand and also to upgrade and improve the telecommunication networks. This caused the Department, which could not cope with the expansion, to contract out some of its work to the private sector. Thus in 1975, the Department awarded the work of cable installation, valued about M\$3 million, to two bumiputra firms (FEER, 1979). In the same year, another local bumiputra company was awarded the work of installing the switching equipment. This was the second form of liberalisation.

As for the building of the telecommunication networks, jobs such as digging of trenches, laying of ducts, erection of poles and placing of manhole covers were usually contracted out to the Public Works

Department (a different government department under a different ministry) and sometimes to private contractors, while JTM was responsible for the planning of the cable networks and actual laying or hanging of the cable.

With the increase in demand for telecommunication services and allocation of funds provided by the government under the various Malaysian plans, there was an increase in the civil works that needed to be done. The PWD which could not manage the tremendous increase in volume of civil works, began contracting out. The process of approving and awarding contracts to outsiders was lengthy, especially when the applications increased. Thus the Department, with the agreement of the Treasury, decided to introduce a new system whereby works would be awarded to those who registered with the Department/Treasury. This was possible since most of the jobs had the same contract rate and specification. This system, known as the '*Jadual Kadar Harga*' (JKH) (translated as Schedule of Standards and Rates) system (which was introduced in 1975), led to an increase in the number of registered contractors, where jobs were allocated on an equitable basis (interview with former JTM senior staff in December 1991).

It is interesting to note here that most of these registered contractors were formerly ex-senior staff of JTM (holding the posts of director, deputy director general or director general). JTM's top management were

in favour of this since it helped the Department to overcome the problem of the waiting list which had increased over the years. Other reasons were the desire to help 'old friends' and implementation of the NEP policy, since most of the companies were owned by the bumiputra businessmen.

In 1979, the JKH system was modified, with the registered contractors divided into various classes according to their technical capacity and size of their business turnover. The process was the same as the JKH system mentioned earlier, but the firms were categorised into Classes A, B, C, D, E, Ex, and F. (New Straits Times, October 5, 1983, p. 6).

The fourth form of liberalisation was in late 1979 when the ministry announced that cables, telephone hand sets and private exchanges would be provided by the private sectors from 1980 (FEER, 1979). This took place when it was found that some firms in the private sector could supply the equipment if given the licence to supply from the Ministry. JTM at that time was unable to supply the equipment in large numbers, because it could not handle high stock levels, as most of its limited funds had to be spent on construction of the networks.

In order to meet the NEP objectives, the Ministry decided to break the exclusive monopoly rights long held by JTM. Being service-oriented, JTM personnel were quite

happy with the liberalisation of some of their services, as this meant a reduction in their responsibilities.

With the announcement of liberalisation came a rush among telecommunication firms such as Sapura Holdings, Malayan Cables Pemas Engineering and other international firms such as Siemens from West Germany and Marconi Italiana to enter the market. However, most of the foreign companies sought partnership with Malaysian firms in order to gain access to the market (FEER, 1979).

This was followed by liberalisation of VANS where 32 licences for radio paging were issued by the ministry from 1985 to 1987 (interview with the Assistant Director of Tariff and Rates of the newly created regulatory Department (the new JTM)). However most of these licences were given to bumiputra entrepreneur telecommunications companies. Most of these bumiputra entrepreneurs were former senior officers of JTM who had resigned/retired to take advantage of the situation.

Next came the liberalisation of cellular telecommunications. This was given to JTM/STM, Celcom under Fleet groups and other bumiputra companies, notably Sapura Holdings etc. At this stage, licences were issued not only to selected bumiputra companies run by formerly JTM staff, but also to companies indirectly owned by the ruling political parties.

With the liberalisation of the telecommunications industry, some of the business activities of JTM were

taken over by the private sector. This was unavoidable, given the poor performance of the Department, which could not cope with the challenge of running the telecommunications industry as it became sophisticated and faced rapid changes in technology.

The decision to liberalise came from the officials from the Ministry of Telecommunications, who had the final authority. However, at this stage, the Department's top officials were supportive of this move as they had a vested interest: upon retirement, they could join these private telecommunication firms, run by their former colleagues. As will be seen later, most of the work which JTM sub-contracted out was done by ex-senior staff of JTM who joined the small telecommunication firms upon retirement or took early retirement. Some of the younger ones resigned and formed companies to gain these advantages, after acquiring business experience.

5.4.2 The Second Phase of Disturbance - The Turnkey Projects (end of 1983-1988)

In late 1979, the government announced that future telecommunication projects would be awarded on a turnkey basis. The main reason for the government's decision to implement the expansion of the telecommunication networks through turnkey projects was due to the poor performance of the Department over the decade (i.e. in the 1970s). Because of lack of concern for commercial considerations,

and poor planning, projects were not completed on time and also there was a long waiting list. In fact, the aim of the turnkey project was to achieve 'no waiting list by 1985'. As was said by the Minister of Energy, Telecommunications and Post,

"By 1985 we hope to have 1.5 million subscribers. We have to install many more lines. We will have to move fast. We are convinced that there is no other way to achieve these targets but to get the private sector involved on a turnkey basis" (Singh, October 15, 1983,).

Although most staff of JTM disagreed with this concept, the Department had no choice, since the directive came from the top level, i.e. from the Ministry of Telecommunications. The implementation of turnkey projects marked a downgrading of the Department, especially to its engineering staff, because under this concept, the turnkey contractors would be doing the planning, material supply, installation and final handing over to the government, thus taking away the 'core' part of the engineers' operations, namely planning and engineering.

The introduction of the turnkey projects was also in line with the government's intention to modernise the telecommunications industry in Malaysia like those of other countries. At the same time, the aim was not only to attract foreign investment in terms of

industrialisation but also to make the country the financial centre of the region.

The work awarded under the turnkey projects, which cost M\$2 Billion, was with respect to cable-laying, designing of systems and associated works. The other aspects of the telecommunication system, such as provision of exchanges and laying sub-marine cables continued to be undertaken by JTM (New Straits Times, 27th September 1983).

The impact of the implementation of the turnkey projects on the Department was very great. For the lower-rank staff, the introduction of turnkey projects reduced their pay, since overtime was reduced tremendously. For the officers, especially the engineers, the turnkey contractors took away their core function/role and in the end stopped them from moving upward, since this led to a reduction in promotion prospects (Fong C. O., 1989). What increased their frustration was the fact that, as a result of these turnkey projects, they lost a lot of staff who were poached by the four contracting companies, which expanded tremendously upon receiving the turnkey projects. The staff who worked with these contractors were paid three to four times as much as their counterparts in JTM.

5.4.3 The Third Phase of Disturbance - Corporatisation and Privatisation of the Organisation

Privatisation of the organisation had a number of important effects upon the company. First, the employees who had agreed to transfer from JTM to STM moved from a secure government job to a less secure one where rewards were based on work performance. Secondly, the organisation shifted in new directions and adopted new approaches in line with its new mission. Greater emphasis was placed on the need for experienced personnel with a commercial background, and if they were not available within the organisation, they were brought in from outside. Thirdly, the organisation incurred additional expenses. Since it was no longer a government Department, it could no longer benefit from special treatment with regard to postage, road tax for the organisation's vehicles etc, and lost such benefits as housing loans for workers. Fourthly, under the new organisation, STM was evaluated by different criteria, as its main mission had changed to commercial viability. Thus the management of its resources required greater prudence and sophistication in accordance with commercial values. Finally, the company became subject to more stringent service demands. Not only did customers become more conscious of their rights to certain standards of service made mandatory under the STM licence and to exert pressure (e.g. through consumer associations) but also,

STM was monitored by the new regulatory body set up by the government.

5.4.3.1 STM during the period from 1987-1988

The first nine months after privatisation, was a learning stage for the Chairman and the board of directors, since most of them were new to the telecommunication business, with the exception of Dr Syed Hussein. Dr Syed Hussein was a former JTM staff member in the early 1970s, and when appointed to the board as a director, was also the Director of Corporate Planning of Sime Darby, a well-known company in Malaysia. With an engineering degree plus some years working experience, he was able to contribute during the initial monthly meetings of the board. The former Director-General of JTM was appointed as the Managing Director of the new company. However, in the monthly board meetings, it was noticed that things were not moving as they should. Eventually, the government, which was also dissatisfied with the progress being made, decided to upgrade the post of the Chairman to Executive Chairman and appoint Dr. Syed Hussein Mohamed as the executive director (ED) and chief operating officer of STM. This prompted the Managing Director, Daud Ishak, who was supposed to report to ED, to resign with 24 hours notice. Since his resignation, the company has been managed by a top management and board of directors coming from outside.

This is in line with one of the recommendations made by the consultant appointed by the government to look into the feasibility of privatising JTM, that the recruitment of STM's top managers should come from the private sector. With these changes, it was noticed later that in non-engineering divisions such as in the accounting and finance, marketing, information services and legal divisions and to a certain extent within the engineering division, especially at the executive level, more and more people with commercial experience were recruited to fill the newly-created posts, in line with the new mission and objectives of the company.

The recruitment of outsiders for top, middle and executive level posts within STM was an emotive issue to the ex-JTM staff, especially the engineers, almost 99% of whom were from the old organisation, i.e. transfers from JTM to STM. Their dissatisfaction was also due to the lack of JTM participation in the decision-making related to the privatisation process, most of which was done by a committee formed by the Economic Planning Unit (EPU) of the Prime Minister's Department. Both the management and rank and file of JTM felt that they were held in low regard by the government. Some of the managers, (especially the technical group) considered the new organisational structure and the recruitment of the top people from outside as obstacles to their promotion and meaningful participation in decision making.

5.4.3.2 STM as from 1988

Among the first actions of Dr. Syed Hussein after his appointment as Executive Director were to revamp the Budget committee, form the corporate planning department and increase the staff from four to 12. Several important decisions took place along with this expansion:-

(a) a detailed monthly management report was introduced which included both accounting and non accounting corporate performance, prepared under five sub-headings:- financial results, customer growth, ratios, productivity and quality of service, as shown in Table 5.2.

(b) a Business Plan of the company was introduced which incorporated both the strategic and operating planning of the business as a whole. It is prepared on a 1 plus 4 year basis which means that the 1st year is the budget year and the next 4 years are the medium term plan. However the business plan is a roll-over plan, unlike the Malaysian government 5-year plan, which is static but subject to a mid-term review. Many engineers interviewed, who use the business plan, said that the new budget process is very clear compared with that applied in JTM's time, especially for those at the ground level or project implementors. From the Regions' General Managers' point of view, the business plan has made the project managers more accountable in the sense that they

TABLE 5.2 MONTHLY CORPORATE PERFORMANCE.
Summary of STM - June 1989 as an example

	MONTH UNDER REVIEW		YEAR TO DATE		YEAR 1989		1988 AUDITED
	ACTUAL	PREVIOUS YEAR ACTUAL	ACTUAL	PREVIOUS YEAR ACTUAL	FORECAST	BUDGET*	
	BUDGET	YEAR ACTUAL	BUDGET	YEAR ACTUAL	BUDGET	BUDGET*	
1.0 FINANCIAL RESULTS (\$000)							
1.1 Sales	155.385	157.297	137.846				
1.2 Operating Profit			903.846	916.019	824.024	1,882.379	1,693.684
1.3 Profit Before Interest							
1.4 Profit Before Extraordinary Items							
2.0 CUSTOMER GROWTH							
2.1 Telephone DEIs	12.372	11.676	8.899	70.055	51.558	140.109	115.968
2.1.1 Business							
2.1.2 Residential							
2.2 ATUR							
2.3 TELEX							
2.4 MAYPAC							
2.5 LEASED CCT	364	133	207	797	523	1,593	1,482
3.0 RATIOS:							
3.1 Operating Expenditure / Customer (\$)	41.62	44.44	39.94	227.37	256.76	245.45	491.40
3.2 Average Collection Period Month (Telephone Only)	1.18	1.15	1.95	1.18	1.15	1.95	1.66
3.3 Return on Assets (%)	4.08	3.24	2.45	4.08	3.24	2.45	1.97
3.4 Quick Ratio	1.44	1.01	2.35	1.44	1.01	2.35	2.29
3.7 Income / Share	0.06	0.04	0.03	0.27	0.20	0.18	1.51
3.8 Net Assets / Share	4.80	5.14	4.66	4.60	5.14	4.66	0.36
				491.40	491.40	491.40	477.94
				1.66	1.66	1.66	1.97
				2.99	2.99	2.99	2.29
				1.72	1.72	1.72	1.51
				0.48	0.48	0.48	0.36
				5.14	5.14	5.14	4.66

Table 5.2 continued

4.0 PRODUCTIVITY :

4.1 Operating Expenditure Calls Rev **	0,23	0,23	0,22	0,20	0,24	0,23	0,23	0,23	0,23
4.2 Employee 1000 DELS									
4.3 Telephone DELs Employee									
4.4 Sales Employee									
4.5 Faults DEL	0,07	0,07	0,08	0,44	0,39	0,48	0,78	0,78	0,93

5.0 QUALITY OF SERVICE:

5.1 Complaints Received.	34,009	35,263	44,289	204,023	211,260	241,260	423,150	423,150	494,585
5.1.1 Faults									
5.1.2 Metering									
5.1.3 T.O.S after payment									
5.1.4 Rentals & Misc.	541	2,335	955	5,378	14,010	4,492	28,020	28,020	12,058
5.2 Telephone Faults Restoration									
5.2.1 Within 24 hours (%)	91,4	93,0	89,7	92,8	93,0	88,0	94,0	94,0	89,2
5.2.2 Within 48 hours (%)	97,9	97,0	96,9	98,0	97,0	96,1	98,0	98,0	96,6
5.2.3 Within 4 hours (%)	99,8	100,0	99,7	99,8	100,0	99,5	100,0	100,0	99,4
5.3 Operator Services									
Calls answered in 10 sec (%)									
5.3.1 Faults Reporting -100	87,0 +	100,0 +	85,0 +	88,2 +	100,0 +	84,5 +	100,0 +	100,0 +	94,7 +
5.3.2 T/A Trunk Reporting -101	84,6 +	100,0 +	79,0 +	83,9 +	10,0 +	78,5 +	100,0 +	100,0 +	94,4 +
5.3.3 Directory Enquiry - 103	97,5 +	95,0 +	83,7 +	88,3 +	95,0 +	78,1 +	95,0 +	95,0 +	79,0 +
Calls answered in 10 sec (%)									

NOTES : + 1989 Budget was based on 1989 Business Plan Review

** Calls revenue based on telephone, Telex and Atur calls revenues.

know exactly what they have got to do within the approved budget and in a specified period of time and they also know why they must do it, because they know the rationale behind it. Even though the process of the business plan starts from the bottom, i.e. from the project groups, the top management will look at it using the top-down approach and through the process of rationalisation or cut-off procedure. The two will come together during the GMs' Forum to discuss the targeted figures set by both, so as to come to a consensus. In theory, the management follows both bottom-up and top-down approaches but in practice this seldom happens because usually the top management will plan for a higher target. From the company and management point of view, this is a good approach since it would make the staff work harder in order to achieve the targeted figures set by the management. In a sense it would also indirectly inculcates good business practice among the engineers. Before, under JTM, the targeted figures were based on the figures given by a bottom-up approach, with little input coming from the top, and there was no proper system of monitoring and control once the projects were started. This was stated by one of the senior management staff of STM who was in charge of the works programme during that time. As he further said,

"If you set a lenient target, they might achieve it by August, then they could relax and reserve the additional projects or works for the next year, but this does not happen in our

company now, because after the mid-year review, the management might push the target figures up further".

Added to this, the company practices a flexible budgeting system where the project engineers/managers can spend beyond the approved amount and justify this later in order to achieve the targeted figures, as will be explained later in the chapter.

According to one of the assistant general managers in one of the technical divisions, some engineers did not take achieving the target seriously when this system was first implemented, but, when they found that their salary increment was based on their performance, they began to try their best to achieve the targeted figures.

However, one senior officer in corporate planning commented that profit-centres are at present not fully implemented at regional level, in the sense that the regions are not penalised if they do not meet the targeted figures even though the reporting is done on a profit-centre basis, in the sense that performance is analysed according to regions in four areas namely - financial results, customer growth, productivity and quality of service as shown in Table 8.16 of Chapter Eight, as an example, on Central Region. Thus we can see that the company does not practise total accountability as yet, as was said by the same officer:

"It takes time to change the government approach of thinking to a totally commercial approach, especially for the engineers, the majority of whom were ex-JTM staff ".

In the early days of the business plan, if a region did not achieve the targeted figures, it gave the excuse that it had had no part in setting the target in the first place. Later, however, the situation improved. In fact, the regions are now accountable and the sense of responsibility and accountability have increased tremendously, especially compared to during JTM days. Evidence of this will be presented in a later chapter.

(c) Privatisation, brought a change in the objectives of the company from being *service oriented to driven by market and profit motives*, and new accounting terminology emerged. The first change in terminology was to refer to the company's clients as customers, rather than subscribers, reflecting the new emphasis on the market. Indirectly, it aimed to change the attitudes of the staff, especially the ex-JTM staff, so they would see the company as a business entity, rather than a service entity. New terminology also appeared in the preparation of the budget, especially the capital expenditure budget, since this company is a capital-based company where more than 60% of the budget is allocated to capital projects. During JTM's time this budget was called the *capital works programme* whereas now under STM it is called a *business plan*, which again is in line with the new

objectives of the company and the need to inculcate new business habits among the project engineers and other staff, especially those directly involved in the preparation of the budget. Along with the new approach to budgeting came the concept of idle cash, which had not arisen before. Under the present environment, the engineers have to have more of a businessman's attitude, in planning and justifying expenditure. Still related to the business plan, the budget meeting between top management and regions/divisions to finalise the targets and approve the business plan of the respective regions/divisions, is known as *rationalisation*, i.e. to rationalise the budget in order to achieve the objective of the company, but to the project personnel, it is known as the *cut-off* budget meeting.

5.4.4 Discussion of the three phases of disturbances

Various outcomes arose out of government intervention in the 1970s and 1980s which affected the telecommunications industry in general and the Department in particular. The most visible outcome was the decision to increase private sector participation in the industry.

This started with the liberalisation of certain services such as supply of PABX, telex, modern and other terminal equipment or customer premises equipment, paging service, public telephones and rented coin boxes. Some of

these services were provided by JTM but others were given to the private sector after privatisation. As mentioned earlier, the major reasons for liberalisation were the Department's poor performance, increase in waiting lists and unreliable billing system, leading to public complaints (Report on Privatisation of JTM, 1984). Other reasons were the supportive attitude shown by the top administrators of the Department toward encouraging private sector participation in the telecommunication services. Later, as we have seen, these top officials, after retirement, went out to form the same types of business. By highlighting the weaknesses of the Department and the strengths and achievement of their companies, they succeeded in obtaining these government contracts.

The poor performance of the Department during this period can be measured by three indicators:- the number of employees per telephone, which measures labour efficiency; the utilization rate of exchange capacity; and the demand for telephone services by the customers compared to the availability of lines to be installed (Kennedy, 1991).

Table 5.3 : Number of Employees per 1000 Telephone

Year	No. of Staffs	No. of Telephone	Employees per 1000 Telephone
1972	13109	121603	108
1978	18247	271010	67
1980	25287	395640	64
1982	29810	585378	51
1984	30244	849129	36

Source: Annual Report of JTM of various years.

With respect to the number of telephones, the Department was able to supply 121,603 in 1972 rising to 585,378 in 1982, and and further increase to 849129 in 1984 as shown in Table 5.3. However, in terms of labour efficiency as measured by employees per telephone (the lower the number, the more efficient is the organisation) the ratio was 108/1000 in 1972, and it improve form year to year and was in the ratio of 36/1000 in 1984 as shown in Table 5.3. But this was still way below the standard of other advanced countries, for example, in US and Canada the ratio was 6/1000 and for Western Europe it was 9/1000 (Guttman 1984, pp 34).

TABLE 5.4 :- Percentage of Actual Subscribers against Actual Effective Cable Pair (ECP) for JTM as a whole from 1975-1986

Year	Actual Subscribers	Effective Cable Pair	Utilisation Rate (%)
1975	169538	286100	59%
1976	194359	346800	56%
1977	227564	468594	49%
1978	271010	621518	44%
1979	325154	868012	38%
1980	395640	1084635	37%
1981	488675	1119170	44%
1982	585378	1380425	42%
1983	700097	1766982	40%
1984	849129	1967964	43%
1985	958598	2076455	46%
1986	1042827	2529270	41%

Source : Taken and calculated from Annual Reports of JTM from 1975-1986.

As for utilization of exchange capacity using Effective Cable Pair (ECP), Table 5.4 shows that the rate went down from 59% in 1975 to 42% in 1980 and went down further to 41% in 1986. This could have been at least partly due to poor planning, where demand was not taken into account. According to some ex-JTM staff interviewed in December 1991, there was no integrated approach to planning in the sense that there was no input from the marketing and finance groups. This was because there was no real marketing taking place at that time and the

accounting and finance division played only a custodian and paymaster role. In fact, all planning was done by the engineers, who did not look at the financial viability and marketability of projects. This resulted in highly underutilized exchange capacity as certain exchanges were built where there was little demand at that time. Moreover, one must not overlook the fact that sometimes, exchanges were built for political reasons.

Table 5.5 : Number of Waiters for JTM as a whole from 1971 - 1986

Year	Number of Waiters	Year	Number of Waiters
1971	11924	1979	105699
1972	13674	1980	133609
1973	20501	1981	149945
1974	35085	1982	189808
1975	48306	1983	199831
1976	65303	1984	190542
1977	76438	1985	332000
1978	84247	1986	348000

Source: Annual Report of JTM of various years.

With respect to the numbers of waiters i.e customers requesting and waiting for services, as shown in Table 5.5 the number on the waiting list increased over the years from 11,924 in 1971 to 133,609 in 1980 and further to 348000 in 1986. Again, this may suggest poor planning and lack of analysis of market demand. Because this was a government Department, the opportunity loss of revenue earned by the Department was not in the minds of the workers. Also, technically the money did not really belong to the Department as it was put back into the '*Telecommunications Fund*', access to which was difficult, since the Department had to adhere to government procedures with regard to spending it.

The government was also supportive of the new bumiputra entrepreneurs since they provided an opportunity to achieve the NEP. However the *downgrading* of the Department came when the government decided to implement the turnkey projects. Contracts worth about M\$2.0 Billion were awarded to four bumiputra contractors firms owned by former JTM senior officials who were closely linked to the ministry and higher up (New Straits Times, 27th September, 1983).

Because of this decision by the government, the turnkey contractors took away the 'core' jobs, i.e. planning and engineering, from the department. According to one senior official from the former JTM, the award of turnkey projects showed the commitment of the government towards privatising the department. He added, further, that the telecommunications industry had become a political issue.

Under the government's new policy of privatisation in the early 1980s, the organisation was one of the first targets. As was discussed in this section, the early period of privatisation saw major changes taking place. The organisation began to be measured by a different yardstick, i.e. commercial viability. To fulfil the new mission of the company, the organisation was restructured in line with the corporate mission. The reorganisation, which sought to cover every aspect of the company's business, was integrated and concentrated on four key

areas, namely marketing, finance and accounting, engineering and people.

So far, this chapter, in keeping with Pettigrew's data collection framework, has considered the change from JTM to STM from the company as a whole. After a brief consideration of external influences on the company - economic expansion, industrialisation, urbanisation and a new export orientation - we examined the problems facing JTM. It was seen that the company could not satisfy demand, yet capacity was underutilised. These problems were related to poor planning, political interference, and lengthy bureaucratic procedures. The company was financially dependent on the Treasury, accounting personnel were seconded from the Accountant-General's office, leading to lack of continuity and a certain tension between 'insider' and 'outsider', and the service orientation of the organisation took little account of the concept of financial viability.

The three phases of disturbance affecting the company were then discussed. The first phase brought liberalisation of the industry and expansion of *bumiputra* entrepreneurship, with contracting out of work, the registration system, and the breaking of the Department's monopoly. In the second phase, the turnkey system was introduced. The third phase was the stage of privatisation, with less secure jobs where rewards were more performance-related; increased expenses; new

evaluation criteria; more stringent service demands; and a greater emphasis on commercial methods and expertise, achieved by recruiting new personnel from outside, where necessary.

Arising from the third phase of disturbance, accounting started to play a major role in influencing the organisation, as the organisation adopted economic criteria as its major objective. In the second part of the chapter, therefore, continuing Pettigrew's framework, the role of the finance and accounting division is discussed so as to analyse the change that has taken place and continues to take place as a result of this phase of disturbance.

5.5 The Role of the Finance and Accounting Division before and after Privatisation

5.5.1 The Role of the Accounting Division during the 1970s and the 1980s under JTM (before privatisation).

Historically, the Department was set up to provide services to the public, focusing on technical excellence. There was little emphasis on cost, as will be discussed later in this chapter and in Chapter Seven. Because of this situation, accountants did not play a major role in the organisation. Most engineers interviewed indicated

that the accountants' role at that time was little more than that of custodian and paymaster.

Prior to 1971, the Department was directly under the control of central government and as far as accounting practice was concerned, the Department was required to prepare the following statements:

(i) Receipt and Payment statement known as Consolidated Revenue Accounts.

(ii) Consolidated Loan Accounts showing a statement of proceeds and repayments of loans for the capital works programme of the Department.

(iii) Trust accounts providing expenditure figures on the capital works programme of the Department.

(Source: Malaysian Telecommunications Instructions 1965, p. 2).

However, this changed as from 1971, when the Department was made a self-accounting entity following commercial principles. The change was in compliance with the World Bank loan requirement whereby the Department was to provide, as at the end of the year, a balance sheet, profit and loss statement and later a fund flow statement, following Generally Accepted Accounting Practices.

The implication of these changes was that the government was serious in wanting the Department to become a viable entity. This was shown especially by the

government's dictating to the Department the need to achieve at least an 8% rate of return on capital. (Annual Report of JTM, 1982). However, at the same time, the government still insisted on the Department following its financial regulations and procedures in all financial dealings, purchases etc, including the preparation of the yearly budget, which the Department had to submit to the government for approval.

With these changes, the Department was exposed to the commercial environment in its day-to-day operations, whereby revenue, cost and profit must be taken into account in dealing with the Department's transactions. Evidence of this development can be seen in the issue of the Malaysian Telecommunications Instructions (issued, May 1978, p.1) which spelled out the Commercial Accounting system. The main features were:

(1) The system followed the accepted principles of double entry bookkeeping together with normal procedures for incorporating such items as accruals, prepayments, depreciations, provisions and liabilities into the account at appropriate intervals.

(2) A supporting cost accounting system was developed as a vital part of the overall commercial accounting system to determine the costs of the activities performed in the various divisions of the department.

(3) A Budgetary Control System was also being developed which would utilise the information recorded and provided by the Commercial and Costing groups to inform management on the financial aspects of their operations, to

prepare and review annual budgets of expenditure and revenue and to analyse the performance of various areas.

The new system incorporated commercial accounts, a costing system, budgetary control and analysis. The commercial accounts served as a guide in the preparation of balance sheet, analysis of revenue and expenditure and final accounts. With respect to the costing system, it provided management with information on expenditure. It ascertained, measured and recorded expenditure incurred. As for budget preparation and analysis, it was hoped to ensure that all areas of responsibility were involved in formulating the yearly budget in an integrated approach. This is important since under commercial principles the Department needed to prepare not only capital and operating expenditure budgets, but also a revenue budget.

In the final analysis the main objectives of the commercial accounting system were:

(1) to produce at required intervals and at least annually, the results of the financial operations of the business in the form of a profit and loss statement and balance sheet.

(2) to analyse and record the cost and earnings of the business and ensure by the use of control ledger accounts the correct recording and balancing of detailed data in subsidiary ledgers and records.

(3) to provide management at all levels with financial information as an aid to management.

(Source: Malaysian Telecommunications Instructions, issued May 1978, p.1)

All the features/objectives of the commercial accounting system were based on responsibility accounting. Thus under this system, the Department started to introduce areas of responsibility corresponding to the organisational structure of the Department.

Although in theory the commercial accounting system seemed to be a sound system, this was not the case in practice. There were weaknesses in the accounting system of JTM which were brought to light when the Department was at the stage of privatising. As declared by the consultant appointed by the government to determine the net worth of the Department before transferring it to the government-owned companies (i.e. corporatisation) (Report on Privatisation of JTM, 1984), the Department's accounting and control system suffered from the following problems:

- (i) Lack of adequate system of internal control and recording of transactions.
- (ii) Failure to maintain the existing systems by conducting regular control procedures.
- (iii) The use of accounting concepts not in accordance with Generally Accepted Accounting Principles.

(Source: Report on Privatisation of JTM, 1984, pp 26).

Other problems related to fixed assets and stocks held by the Department. With respect to fixed assets, the auditor was not able to identify their records, physical existence and value. This is quite alarming, as fixed assets represented about 70% of the total assets of the Department (Report on Privatisation of JTM, 1984).

Further, there was incorrect capitalisation of plant and equipment. According to the Report on Privatisation of JTM (1984), for plant and equipment, which represented a major expenditure (since this included all completed projects and work-in-progress) the amount capitalised as fixed assets related only to cash-paid items. Thus, depreciation was based on cash expenditure incurred rather than on the accrual basis following GAAP. This also resulted in inaccuracy of the profit and loss statements over the years.

The reason why this happened in the 1970s and early 1980s was that the engineers were in overall charge of the projects. They submitted to the accounts division the figures for capitalisation of assets using the cash basis, since to them an asset only becomes such when expenses incurred in building the project are paid. All this changed when the company was privatised. A detailed discussion of the change in the method of capitalisation of fixed assets, i.e. from cash to accrual will be presented later in this chapter.

With respect to stocks, the auditor had to do a full physical stocktake. The consultant reported that the system of recording of stocktake was not satisfactory. They recommended that the Department should introduce a proper stock recording system immediately to cover all stocks and work-in-progress. From the financial statements, they noticed that the stock levels were quite high, which to a certain extent reflected 'idle cash' and unsatisfactory financial management. As shown in the Department's financial statement (Annual Report of JTM, 1979 and 1983), stock material for cables increased from M\$151 million in 1979 to nearly M\$500 million in 1983. This was due to the fear that unspent money approved to the Department by the Treasury under the five-year plan and yearly budget might be taken over or the Treasury might reduce the amount of the current year's budget by the amount of unspent grant. So the government Department usually either spent early in the year or went in for 'christmas shopping'¹ at the end of the year. This situation could have been avoided, had a satisfactory budgeting system existed in the Department.

According to the consultant's report, reconciliations of bank accounts and inter-agency

¹ It is a common practice in government Departments in Malaysia for this to take place i.e. to spend the Departmental allocation before the new year begins, since all unspent money will have to be returned to the Central Government Treasury Office. Furthermore, since the new year's allocation is usually based on the previous year's expenditure, failure to spend will result in a budget cut in the next year).

accounts were not being done by the Department. In addition, there were no reconciliations between the Kedai Telekom's (Telecom shops') bank statements and their respective cash books as the cash books were not prepared by the Department. As was found by the researcher during the attachment to the organisation, the reasons were as follows:-

(i) During JTM's time, the general clerks performed accounting functions in addition to other administrative functions. Thus they failed to see the importance of doing a basic accounting job like bank reconciliation. The reconciliations were sometimes done, but not always. Even when they were done, no action was taken on any differences that emerged on reconciling between the bank statement and the cash book. Since these clerks did not have basic accounting knowledge, it was found that some of the reconciliations made were incorrect. These discrepancies accumulated over the years. There was little or no supervision over the clerical staff, as there were too few posts of Account Assistants (Division II) to cope with the high volume of work. The low number of Account Assistants was attributable to the system of hiring personnel, for which the Department needed the approval of the Public Service Department. This Department could not see the importance and necessity of more Accounting personnel as no monthly financial statements were compiled and they thought these duties could adequately be performed by the chief clerk, who had

many other functions including checking the reconciliation statements. Also, the Department at that time was influenced heavily by the engineering culture. The engineers' work was given greater priority and emphasis than the accounting work as the accounting role at that time was less influential.

(ii) The Telecom shops were managed by the marketing group, which was comprised basically of technical personnel, so their reconciliation also was spasmodic, inaccurate and not acted upon.

Regarding debtors, according to the Report on Privatisation of JTM (1984), there was a poor system of collection and monitoring, which did not provide a detailed ageing analysis of debtors. Moreover, the debts were quite substantial in amount. The provision used for doubtful debts (5% of total debtors, rather than a provision based on each category of debtors) was unsatisfactory.

Accrued expenses were another problem area. The system did not ensure that the outstanding amounts were shown in the balance sheets as at a particular date. As an example, accrued expenses as at 31 December 1983 increased from M\$64 million to M\$208 million as at 31 December 1987 (Source: Annual Report of JTM, 1983 and 1987). This situation was quite alarming since, as mentioned earlier, most of these figures relate to

capital work projects, where the engineers controlled the sections.

As from 1972, the Department was allowed to borrow from international institutions such as World Bank. The calculation of losses or gains on translation of foreign loans did not follow GAAP. As conveyed by the Report on Privatisation of JTM (1984), had the loans outstanding at 31/12/83 been translated to foreign currency, the department would have had exchange gains of about M\$44 million. A similiar situation existed in suppliers' long-term credit, where a net loss of M\$61,000 would have been incurred if losses on exchange rate of foreign loans had been considered. The failure of JTM to recognise losses or gains on translation of foreign loans was due to its ignorance that the amounts involved could be substantial and directly affect its revenue figures. Thus, the absent of treasury unit in the Department during JTM days, resulted in substantial loss to the Department.

These practices had existed since JTM days, as there was little or no understanding of the importance of 'cost', 'idle cash' and other commercial/financial considerations. This was because the mission/purpose of the organisation was more service and technologically-oriented. Furthermore, the majority of the top management posts were held by the engineers, as discussed earlier in this chapter. Thus the values and beliefs of the top management/regional directors were concentrated on

providing services to the public, especially at that time, when the main aim was to reduce the high waiting list, as discussed earlier in this chapter and in Chapter Two. As was said by the GM of one region, who was also the D/GM of the region under JTM and an engineer by profession,

"During JTM days, we were not bothered how much we made, how much we spent. Our view was more service-oriented, we looked at what we could give and not how to give, i.e. not so much at the financial side".

When the researcher asked about the period after 1972, when the government amended the Act making the Department a self-accounting Department following commercial principles, the reply was:

"Yes, but even so, we were not bothered with the profitability and viability aspect of it. We were more concerned about clearing the waiters and providing services.... The cost part of it was secondary".

From the above, we can see that the values and beliefs throughout the organisation were largely service-oriented, in line with the expected nature of a government Department. As discussed earlier, the influence of accounting and financial values was minimal given the fact that the role of the accountant at that time was purely as custodian and paymaster, with little emphasis on management accounting. The attitudes of

'caution', 'avoiding idle cash', and 'cost saving' played little or no part in the engineers' value system, which was the dominant influence in the design archetype, providing a strong link between the sub-system and the interpretative scheme of the organisation.

With respect to capitalisation of assets, as discussed in section 5.5.1, the engineers' understanding of the accrual concept which is in line with GAAP was non-existent. The influence of the accounting value system was minimal; only the cash aspect of it was being emphasised. As was said by one AGM, who is an engineer by profession,

"Accrual methods of accounting took place with respect to operating expenditure and revenue but not on capital projects. That was our main weakness. We are capital intensive, project-oriented but still we do not take into account the accrued figures".

Many engineers were of the opinion that even though the accounting personnel adopted the accrual system during JTM time, the engineers themselves, especially the project managers who were directly responsible for capitalising the assets, could not see why they should go for the accrual concept. From this, we can see that the accounting influence was minimal during JTM time as it could not influence the top management. The majority were engineers, and the engineering influence and ways of doing things were very strong at that time.

Also, according to the consultant's report, the Department's accounting and management information system were inadequate, especially to meet the needs of a commercial system under a privatised company environment.

From the above, relating to Laughlin model, it can be seen that the design archetype is a crucial link between the sub-system and the interpretative scheme (Broadbent 1992). And out of the first and second phases of disturbance, the engineering system and perceptions became the major elements in the design archetype, which resulted in engineering values and beliefs remaining intact in the interpretative scheme.

But towards the end of the second phase of disturbance i.e. prior to privatisation, accounting did try to reduce the influence of engineering values as a major element in the design archetype. This took place when the Fixed Asset (FA) System was introduced in 1985/1986 after the consultant's report was produced. This was a shock to the engineers, especially project engineers, since with the introduction of the FA system, all completed projects, including those already installed, need to be calculated from the initial date of installation, so that proper assetisation can be determined. This created extra work for the engineers, who felt that they were doing the work of accountants. This, in a way, was where accounting first began to

become part of the design archetype, which is expected to become an important and major element of the design archetype of the Laughlin Model (1991).

5.5.2 The Role of the Finance and Accounting Division after Privatisation.

5.5.2.1 From 1987-1990

Upon privatisation of the organisation, the role of the Finance and Accounting Division became visible and more important with the realisation throughout the organisation of the need to be more bottom-line conscious. As we have seen, the Report on privatisation of JTM (1984), on viability with a view to privatisation had revealed the inadequacy of the accounting and information system. It began to be realised that the management needed more up-to-date financial information to enable it to make better decisions and to ensure timely corrective action in managing the organisation.

Another important factor was the need to improve the billing system over time, so as to reduce the number of billing complaints from the public, which were numerous during JTM's time.

Moreover, under JTM, the Department had adopted a public sector accounting approach in recording its financial transactions. When it became a private company, the earlier approach was not applicable and was replaced

with commercial accounting following the IAS and GAAP, using the accrual method of accounting, which as stated in earlier had not been fully adopted by JTM, especially in Capital Projects/assets. This was a serious weakness in a capital-intensive organisation.

Another factor bringing about a change in the accounting role was financing for the company's expansion, where both debt and equity markets would be major sources of funds. In order to price STM's debt and equities fairly, reliable and up-to-date financial information was needed, on which to judge the risk and return involved in financing the company. With the listing of the company shares on the KLSE, which took place in late 1990, the company would be judged by its financial performance and movement of its share prices. Moreover, from 1991, the company had to pay corporate income tax, requiring it to organise its financial affairs in such a way so as to minimise its tax exposure.

During this period, financial and commercial criteria became more important to the company, and the influence of accounting was felt throughout the organisation, with concentration on the accuracy of monthly accounting information and the business plan. Responsibility for the budget shifted, upon privatisation, from the 'corporate secretariat' section to the accounting and finance group.

The overall financial plan involved commercial objectives, prioritising the following areas:-

(i) concentration for higher growth in total sales

(ii) maintaining strict budgetary control of operating expenditure

(iii) effective management of the loan portfolio, concentrating on repaying/prepaying existing loans, refinancing high-interest loans, and conversion of government loans to equity

(iv) efficiency in capital expenditure and asset utilisation

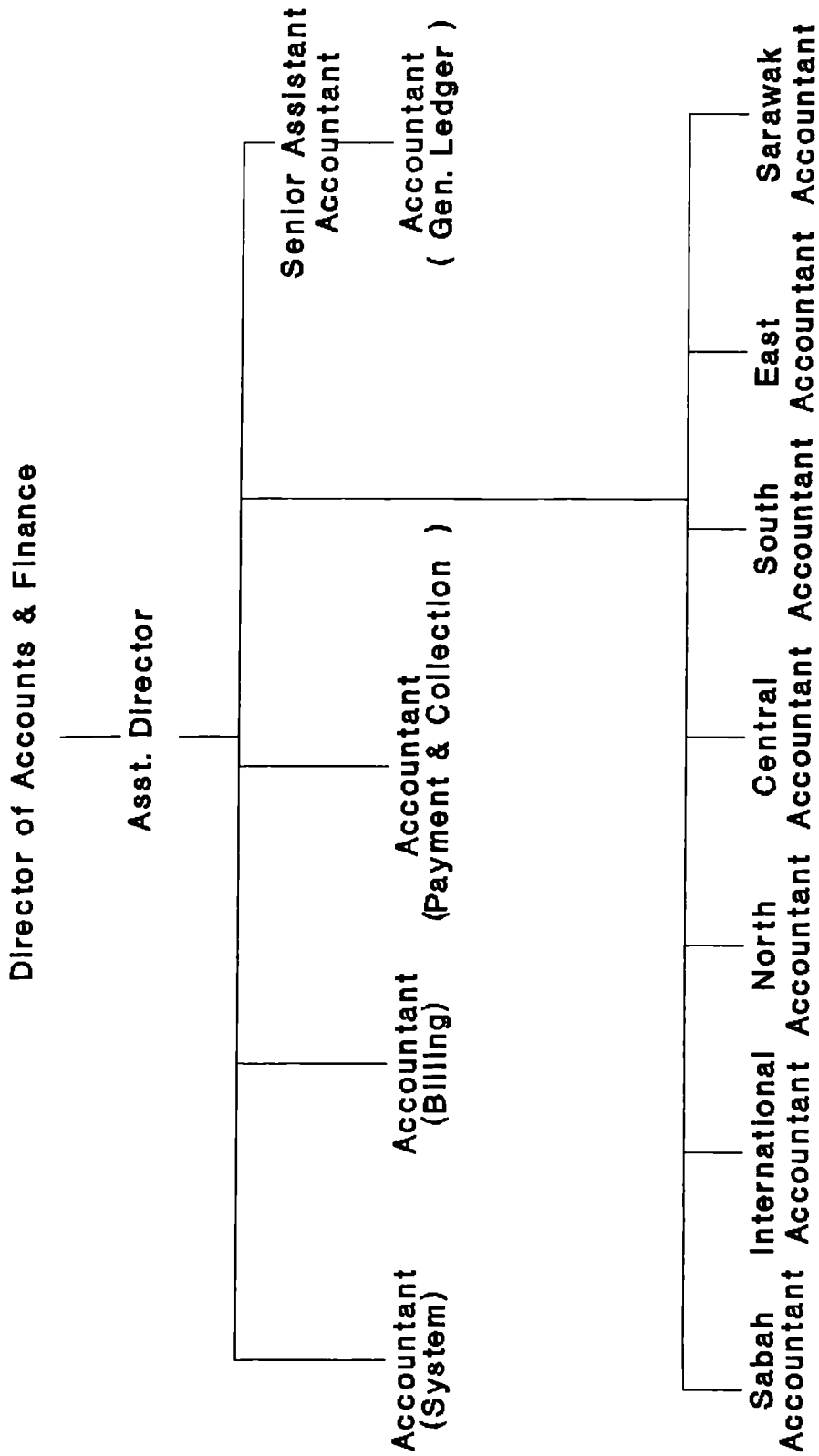
(v) improving accounting and credit control procedures

(Source: Business Plan 1990 of the Company Document, p. 3).

The Accounting and Finance division thus expanded both vertically and horizontally in order to achieve the objectives of the company, which are profit and market driven, and in order to fulfil the need for monthly reporting and monitoring and controlling of the business plan, including variance reporting.

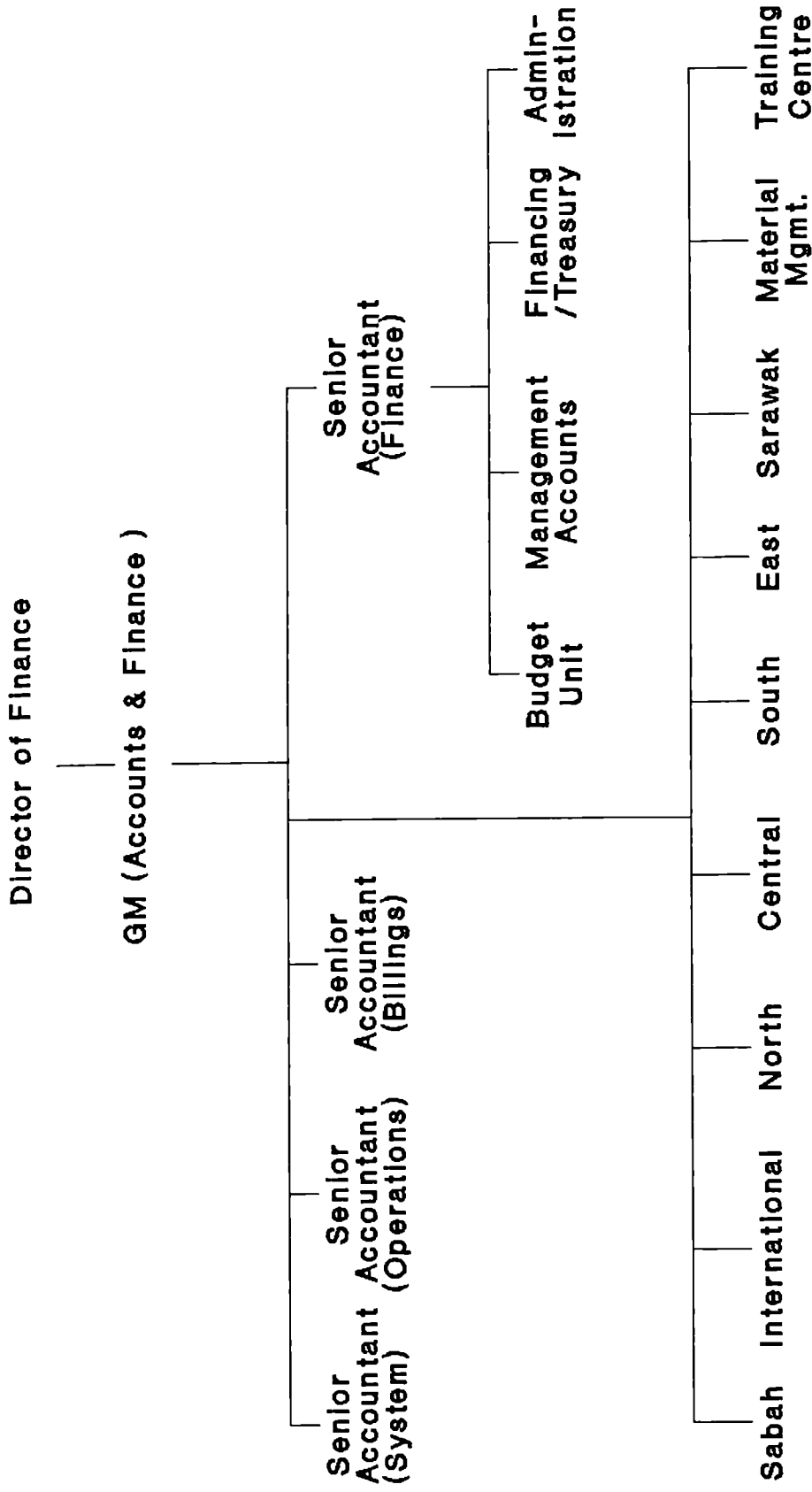
At HQ level, as shown in Figures 5.1 (Organisational Structure of Accounts and Finance during JTM days) and 5.2 (Organisational Structure of Accounts and Finance from 1987-1988) the Accounts and Finance Group was reorganised. The major change that took place was the establishment of Budget, Management Accounting and Financing & Treasury units which did not exist in JTM days, with the exception of budget, which came under

Figure 5.1 - Organisational Structure of Accounts & Finance during JTM days



Note: 1. Under each unit/region, there are several accounting assistants, chief clerks, book-keepers and clerks
 2. Budget Unit was under Corporate Secretariat managed mainly by the engineers

Figure 5.2 - Organisational Structure of Accounts & Finance from 1987-1988



Note - Under each unit/region, there are several accountants, accounting assistants, senior account clerks and account clerks.

Source: Company Document, 1991.

Corporate Secretariat as shown in Figures 6.2(a) and 6.2(b) of Chapter Six. Another major change was that four senior accountants' posts were established, namely, Systems, Operations, Billing and Finance as shown in Figure 5.2.

Because of the importance of the role to be played by Corporate Finance, the Accounts & Finance division was split in 1989 into two separate divisions known as Corporate Accounts and Corporate Finance, each headed by a General Manager and both reporting to the Director of Finance. The Corporate Finance division expanded further from four to seven units, with the separation of Financing & Treasury to become two separate units, and the addition of Risk Management and Taxation units as shown in Figures 5.3(a) and 5.3(b). As can be seen in Figure 5.4, expansion occurred both vertically and horizontally, in the sense that a few accountants were placed in other divisions such as material management, engineering services, property management, training centre and network services at the HQ level, to advise and help in the financial work. All the regional accountants, including the international division, reported directly to the Senior Accountants (Operation) and GM (Corporate Accounts).

Even within the three departments, various sub-units were established, and a number of accountants appointed. The System Department became known as the Policy, System

Fig 5.3 (a) Organisational Structure of Corporate Finance from 1987 - 1988

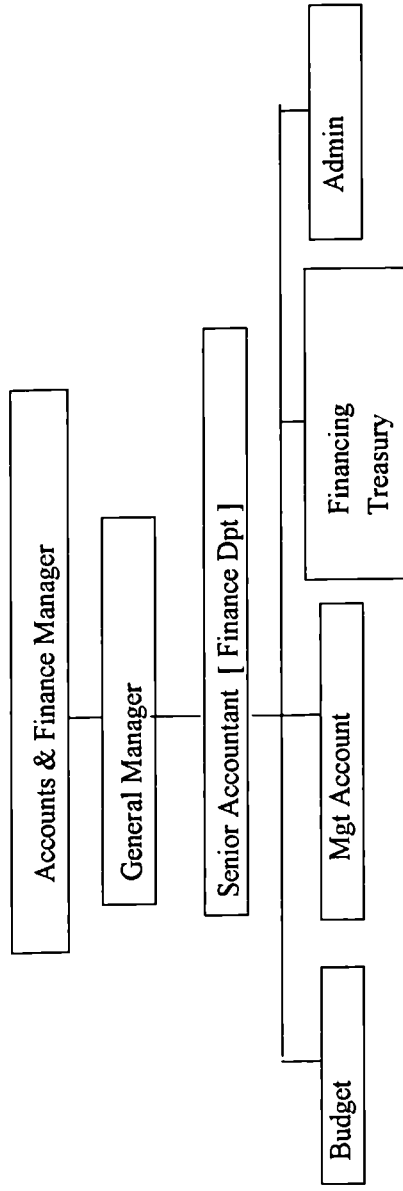
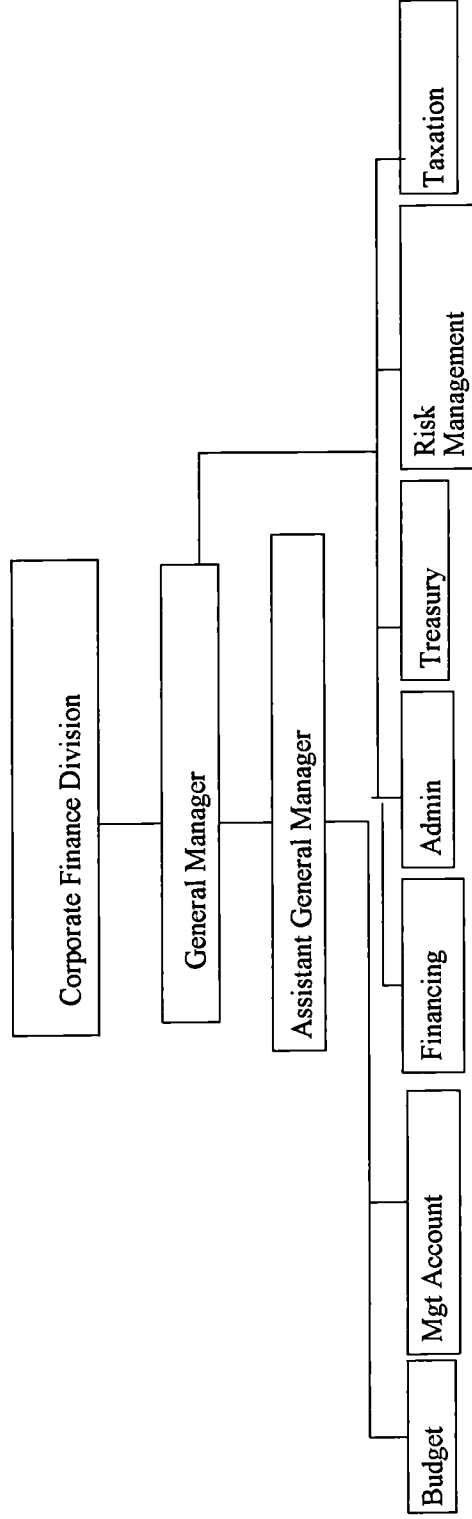
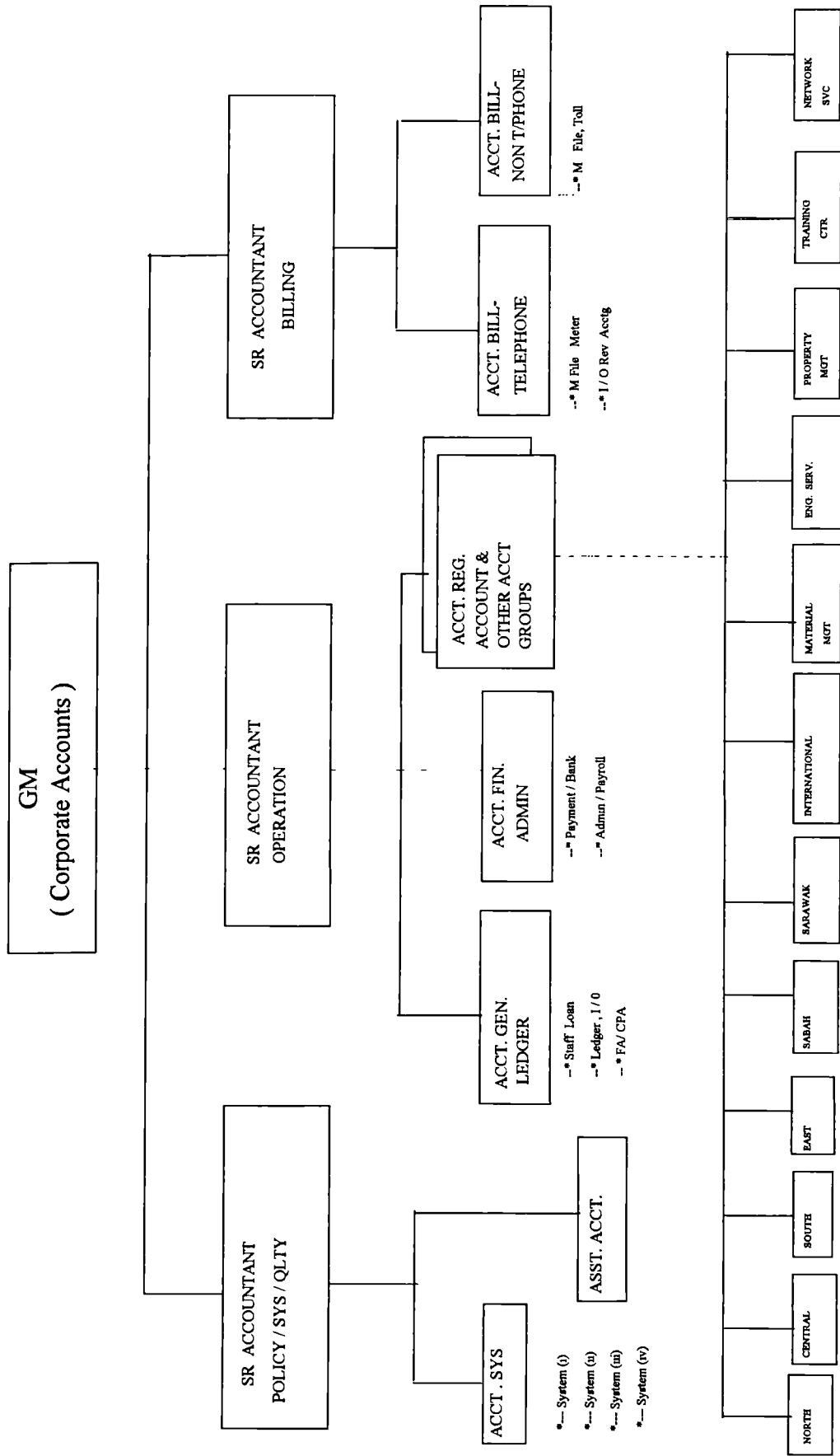


Fig 5.3 (b) Organisational Structure of Corporate Finance from 1989 - 1990



Source: Corporate Finance Division Document (STMD, 1992.

Figure 5.4 - Organisational Structure of Corporate Accounts from 1989 - to date .



Source : Company Document.

and Quality Department, incorporating two units : Account System and Document/Procedure. The Operation Department had two units, known as General Ledger Accounts and Accounts Finance/Administration; it also oversaw the functions of all the regional accounts and other accounts groups. The Billing Department had two units known as Accounting Billing-Telephone and Accounting Billing for non-Telephone.

During this period, there was a change in the accounting system as a whole, in line with the new objectives of the company, i.e. moving towards full commercial accounting. The aim of this change, along with full computerisation, was to enable the system to produce fast financial information in the form of monthly financial and management reports, on which management could assess the performance of the company and monitor and control the business plan.

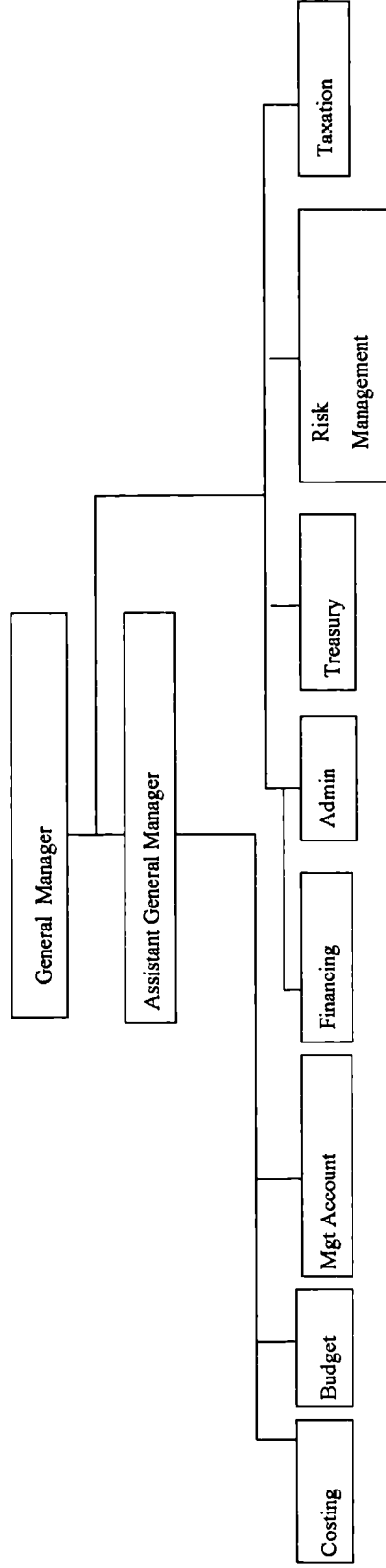
5.5.2.2 From 1991-to date

After the listing of the company on the KLSE, in 1990, the accounts & finance further expanded their influence and functions in the organisation.

As for Corporate Finance, in 1991, as shown in Figure 5.5(a), the Costing Unit was formed when top management, saw the importance of a costing system being established in the organisation. In that connection, a

Figure 5.5 (a) - ORGANISATIONAL STRUCTURE OF CORPORATE FINANCE:

FROM 1991 - 1992



Source : Corporate Finance Division Document, (STM), 1992.

consultant was appointed early in 1992 to work with the Costing Unit personnel and other staff to develop this system.

During JTM days, even though there was some planned form of costing system, it was never fully implemented as there was no sense of need at that time. As one engineer put it,

"I think (the attitude was) basically, why do we want to know the cost? After all, whether the tariff is there or not, you just provided according to what JTM decided and the government would usually agree as long as it was not too high. And also at that time, the government did not ask us the cost of each product line, as the government was not concerned with the changes in the tariff then".

Added to this, since funds were needed to try to reduce the waiting list for telephone services, costing was viewed as an undesirable diversion of funds needed for other purposes.

However, according to one of the accountants, basically the charging rate was based on the Consumer Price Index (CPI) and economic factors which were external to the department and not based on the actual cost. From here we can see that for JTM as a government department, the issue of determining cost was not vital, since it was geared towards service and profit was secondary at that time.

In the absence of a full costing system, variance reports are only concerned with administrative variances, and do not measure the extent of variances as a result of yield and price. It is hoped that this information will be available once the costing system is fully implemented, leading to analysis of technical/project expenditure. According to one senior accountant,

"A lot of savings will take place in terms of technical lines if we insist on total costing method".

The costing system which is to be implemented by the end of the year (i.e. 1993) will be able to capture and identify all the cost elements. The so-called costing/product model aims to facilitate the management decision making process. It is important for the company to know the basic elements of costs like cost per line to install telephones etc, especially when it wants to review its tariff structure. The telecommunication industry is highly competitive, so the Company needs to have a detailed costing system in order to justify changes in tariff to the government and to prevent other companies from taking over their business once their licence expires.

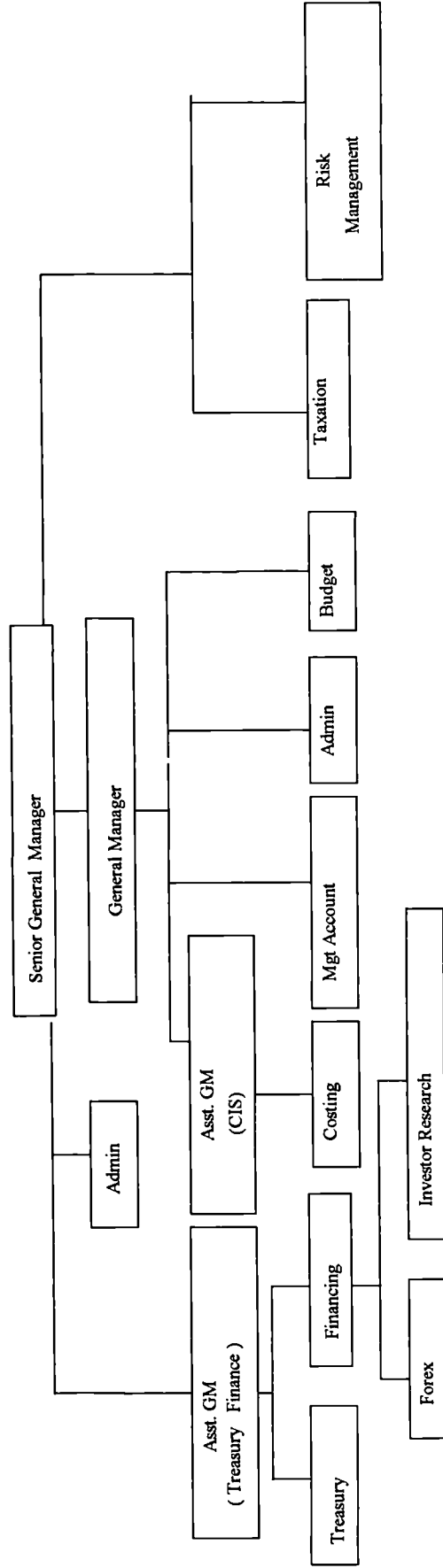
As the costing system is expected to play an important role in the company, the unit's name has been

changed to Costing Information System (CIS) in line with its new functions. In addition to this, the leadership of the unit has been upgraded from a manager to AGM post. The CIS will be implemented by the end of the year with respect to product costing and transfer pricing. With respect to the former, the system will measure the cost per product, and product performance; cost per line, cost per ECP, cost for local calls etc. With respect to transfer pricing, whereby costs of internal services are charged by the service provider to its respective users, the first phase will be the implementation of five cost centres, namely, training school, information system, material management, engineering services and security services.

Corporate Finance further expanded in 1992 as shown in Figure 5.5(b), when the GM post was upgraded to Senior GM, one of the top management posts, and the AGM post was upgraded to GM. Two new AGM posts were created, one in CIS and the other for the Treasury/Financing function which has expanded from two to four units, the new units being Foreign Exchange and Investor Research Units. With these changes in the Corporate Finance Division, its role is felt throughout the organisation, and especially related to budget, management accounting and CIS. This will directly affect the project engineers, as it is expected to tighten their operations, especially with respect to budget and cost efficiency on project implementation.

Figure 5.5 (b) - ORGANISATIONAL STRUCTURE OF CORPORATE FINANCE

FROM 1992 - to date



Source : Corporate Finance Division Document (STM), 1992.

Corporate Accounts has also expanded since it has separated from Corporate Finance. The number of accountants has increased at HQ, regional and area levels, and the division has also appointed some accountants in other non-accounting areas, such as material management, engineering services and property management. Additional staff are also being appointed to the training school, reflecting the increased number of accounting & finance courses being organised for both accounting and non-accounting personnel. This period has witnessed a rapid expansion of the regional and area levels of the accounting and finance group, reporting directly to the Corporate Accounts Division of HQ.

Since timely and accurate financial and management information is needed by the top management as a basis for sound financial management, the company developed a computerised financial accounting and management information system for the usage of the company's management, known as the FAMIS system. FAMIS is an integrated accounting system covering all aspects of accounting, including general ledger maintenance, fixed asset accounting, payroll administration, project cost control, budgeting and cost control and payment system. Another system developed was the SISKIS system, which plays an important role in reducing stock levels and requires the engineers to plan more carefully in advance, as will be discussed in Chapter Seven.

The company also developed an internal control manual known as Financial Instructions, in order to ensure that adequate internal controls in all aspects of the company's management are enforced. In order to make sure that these are followed, the company decided to strengthen the internal audit department from 11 in 1986 to 50 in 1989. With this in mind, an Audit Board committee was formed to ensure proper accountability and sound management of financial transactions in the company. The engineers, especially those involved with the projects, were not very happy and there were many complaints from them to the accounting, finance and internal audit staff. As the GM - Accounts Group said,

"Some of the engineers were saying it is like working under policemen where they have to follow strict instructions with respect to financial matters of the company".

This is probably because during JTM days, they were used to a relaxed environment as far as accounting and finance was concerned. An example of the company's financial instructions under STM is that it provides for penalty costs in critical areas such as failure to process financial transactions resulting in inaccurate information / additional expenditure and could result in disciplinary action being taken. The management view this as very important, as these financial reports play a

major role in decision making by the management and board of directors.

One senior accountant recalled that the engineers were reluctant to let the accountants take a leading role in the company. JTM had been an engineering-based and service-oriented Department, where technical excellence was more important than cost. After privatisation, they wanted to continue to take the lead, especially in business decisions, i.e. where to buy and where to place the additional networks. At present, these decisions are still in their hands but the accounting and finance personnel participate in the decision process, especially when it affects the company financially.

The upgrading of the post of the Director of Finance to ED (Finance) has considerably increased the status of accounting, in the sense that the ED (Finance) is now a member of the Board of Directors, the highest decision makers of the company. According to some accountants, the upgrading of this position to ED (Finance) has made the accounting and finance head more respected. Now, accounting personnel are represented at all levels, vertically from the Board of Directors to the area accountants, and horizontally, in other departments like marketing, credit control, international groups and project division. As an accountant puts it,

"During JTM days, the accountant was like a 'mouse' (i.e. felt like an outsider) but now they are like a 'cat' especially with the introduction of the Financial Instruction".

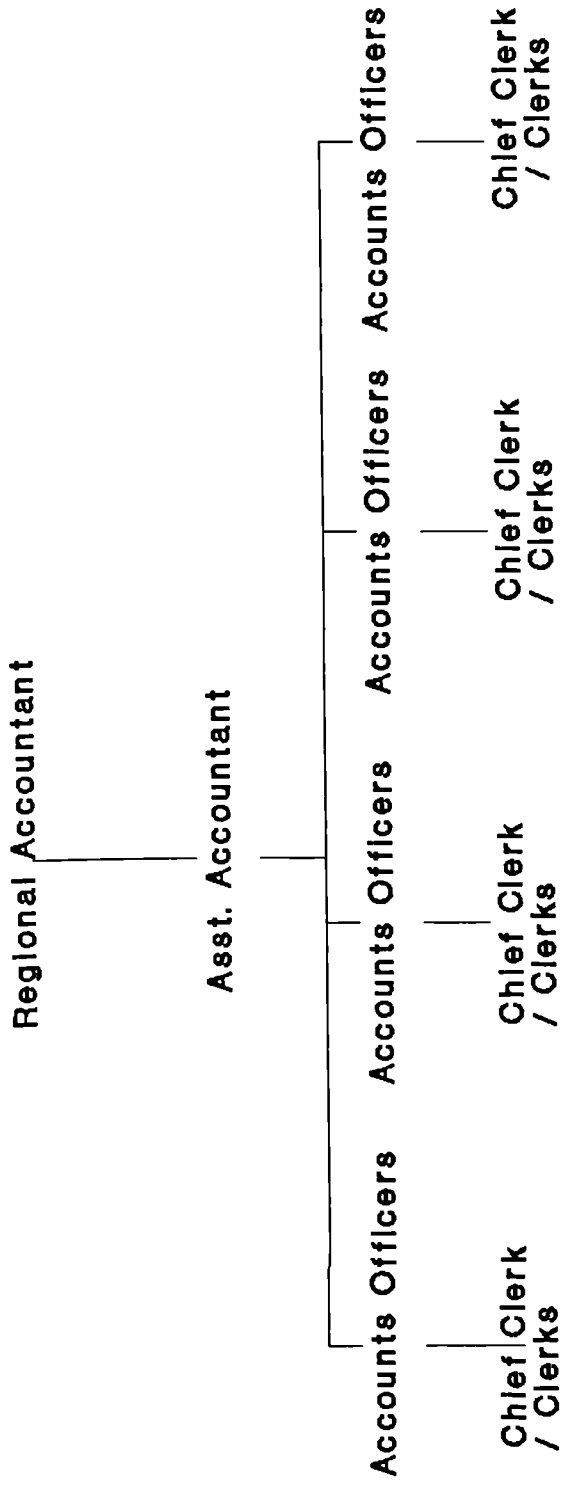
Referring to the Laughlin model, it can be said that the increase in influence of the accounting and finance group throughout the organisation has implanted the accounting system in the design archetype. But whether it can succeed in changing the values and beliefs of the engineers from engineering to accounting and financial values and beliefs which will change the interpretative scheme of the organisation is another thing.

5.5.3 The Regional Accounts and Finance Department

As can be seen from Figure 5.6, the role of the accounts department was basically custodial, i.e. paymaster and collection functions, and ensuring compliance with the budget allocated to each code of expenditure. This restricted role was due to the small number of accounting staff, and their lack of accounting qualifications and training (the researcher saw evidence of this in a list of training programmes carried out by JTM; very few were accounting-related).

When the company was privatised, the regional accounting group's role also changed, with the implementation of the new accounting system, business plan, and monthly reporting system, and also with the

Figure 5.6- Organisational Structure of Accounts & Finance of Central Region during JTM



Note: The overall budget of the region was under the Secretariat Unit of RGM office, where there were several junior accounting staff helping in budget preparation.

Source: Interview with the Accountant at the Central Region

region being made a 'real' profit centre (as compare to JTM days, when the profit centre system did not work properly, due to inadequate monthly reporting). The new role is as follows:-

(i) Issuing and monitoring the annual operating expenditure budget.

(ii) Presentation of the monthly profit and loss statements of the region and explanation of variances with the budget.

(iii) Ensuring proper and correct accounting of the region's revenue & expenditure.

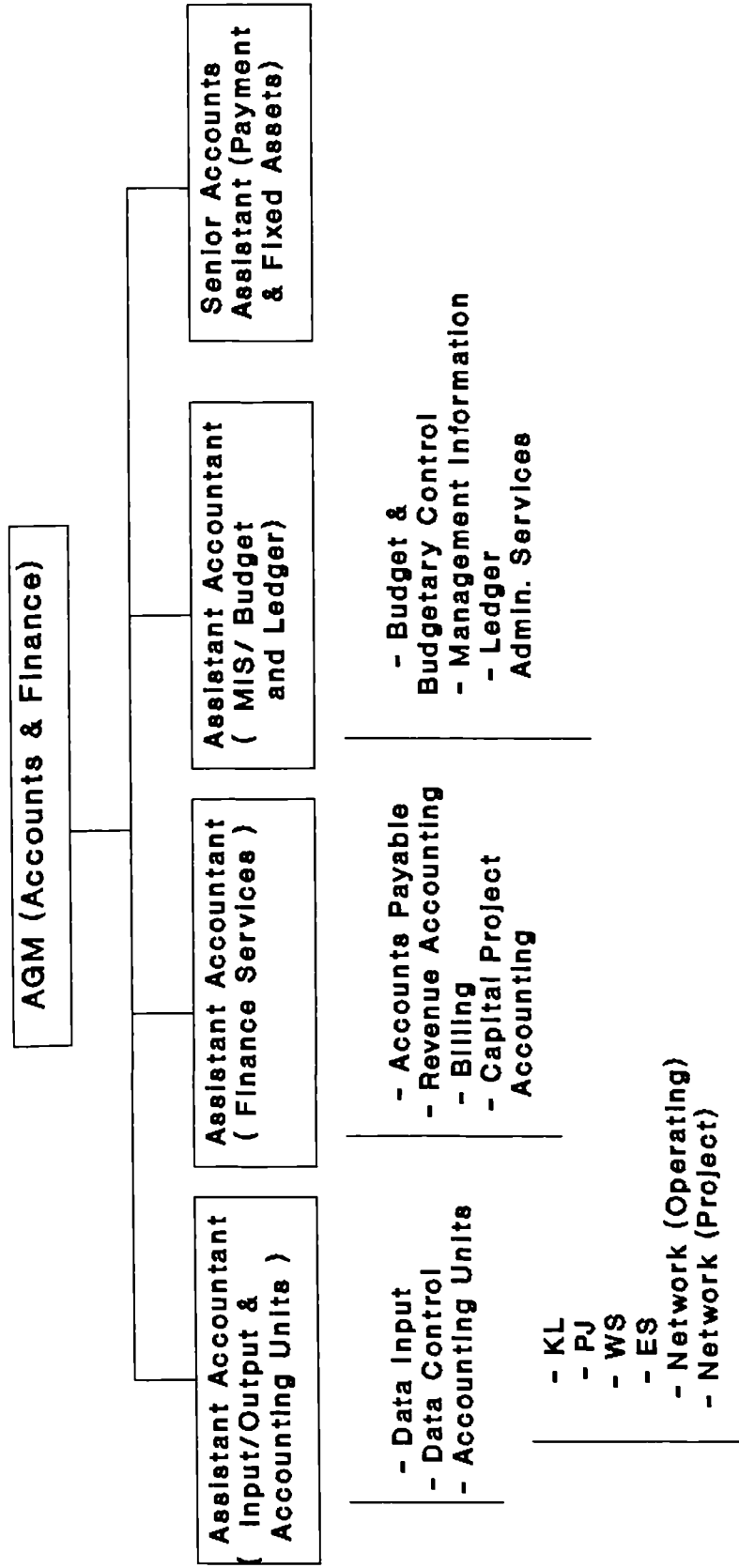
(iv) Maintaining internal check and control within the existing accounting procedures and systems.

(v) Continuous review and implementation of existing procedures.

(Source: Company document and interview with the Central Regional's Assistant Accountant).

With the increase in its role, responsibility and activities, the accounting group was restructured to suit the requirements of the company. Figure 5.7 (organisational chart of accounts & Finance of central region from 1987-1990) shows the expansion. The accountant post was upgraded to AGM level, and new posts were created: three assistant accountants and a senior accounts assistant. Because of the increase in the accounting work at the area level, accounting units were established in 1989, but placed in the accounting department of regional HQ, where some of the clerical

Figure 5.7-Organisational Structure of Accounts & Finance of Central Region fr. 1987-1990



Note: The accounting units were only established in 1989 and are placed in the Regional Accounts & Finance Group. The accounting information at area level is prepared by the accounts personnel but they are under the project manager.

Source: Company Document, 1990.

staff performing area accounting duties still reported to the area manager, an engineer. This created some problems; the accounting and reporting system was running well but some of the information fed in by these clerical staff was incorrect. The accounting department discovered that the personnel who keyed in the information did not understand the difference between the cash and accrual bases of accounting, which affected the accuracy of the information. The personnel concerned had no accounting background, being in engineering, marketing etc. and, although responsible for feeding this information into the system, were not very concerned with accounting.

To overcome this problem, the management decided in 1991 to create a new finance/accounting group to be headed by an Accounts Assistant (i.e. diploma holder) at the area/services level to handle all financial transactions. During JTM time, the accounts department did not exist at area level; all the accounting work was done by the clerical staff and then passed on to the Regional Accountant. According to the GM - Accounts Division,

"With the expansion of accounting personnel at areas / services level, only then could we achieve this monthly reporting; now, when you analyse the monthly management accounts, you know the variances are due to the performance of the company and not because of incorrect financial information".

When these posts were created, the question arose, to whom should they report ? This was quite a sensitive question, since the answer reflects the relationship between the accounting and the engineering groups. But of course in the normal situation the person concerned should report to his immediate superior. Thus the accounts assistant normally reports to the Area Manager, who is an engineer by profession. This reporting system prevailed in all areas of all regions. However after two years, there was a change in this system in the central region whereby the accounts group was directed by the Regional General Manager to report directly to the Accountant at the regional level, because the accountant at the regional level found that the accounts assistant was not only doing the accounting work but also undertaking other tasks like market research and market study under the credit control section. The accountant group at the regional level convinced the RGM that such practice defeated the objectives of forming the area accounts groups. The area manager and the engineers were not happy with the arrangement, but came to accept it as they saw its benefits.

As was stated by one of the Accountants,

"We are lucky because our GM sees the importance of accounting and we for our part have managed to convince him. And now, the accountants in other regions want to do the same but are not successful since they have not got the blessing of their own bosses (i.e.

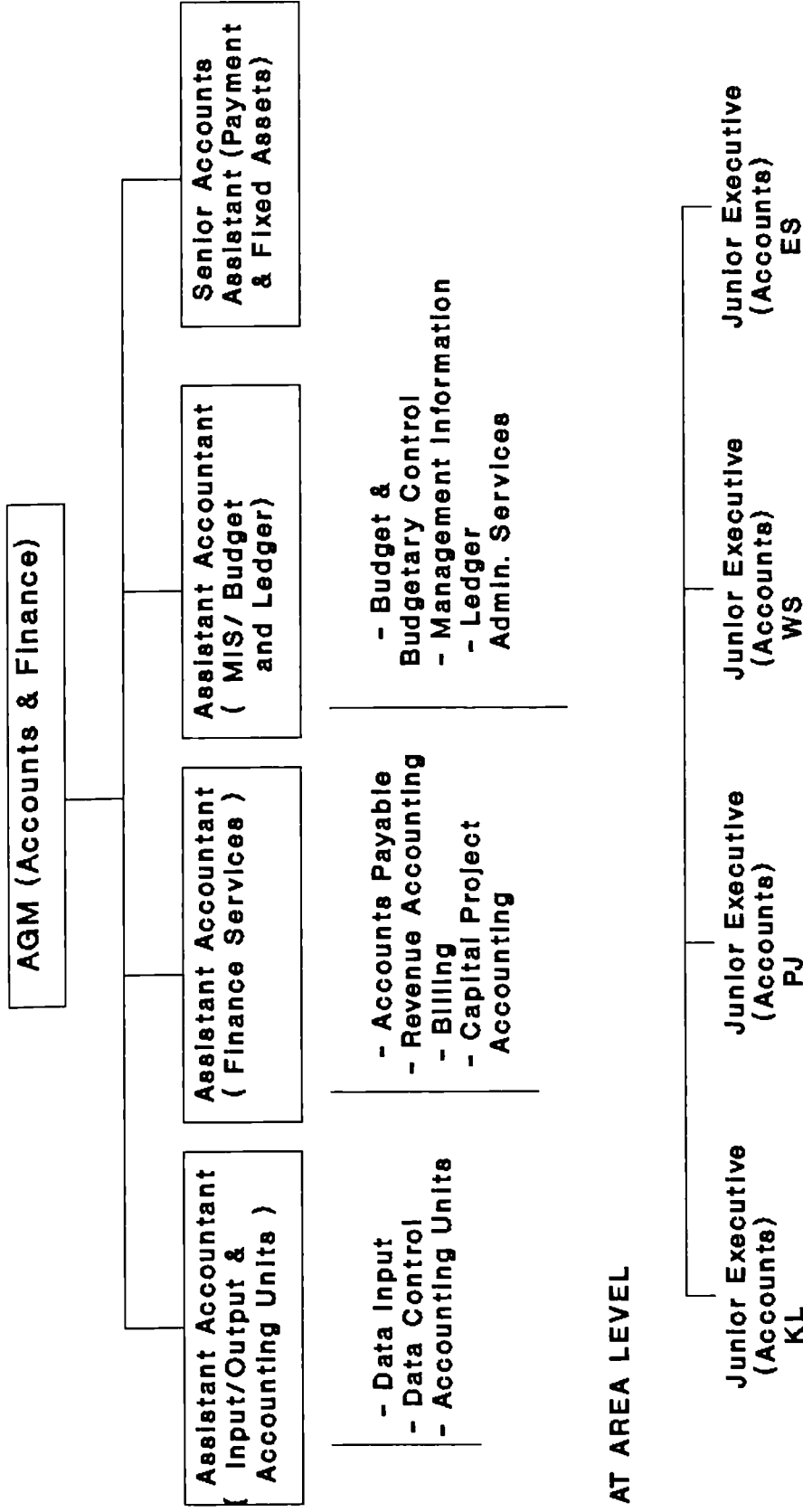
their GMs) who are engineers by profession and probably sided with the engineers".

Later, in 1991, the Accounts Assistant post was upgraded to Junior Executive (Accounts) at area level, as shown in Figure 5.8. With the appointment of a Junior Executive (Accounts) heading the area level, the functions have now expanded to include not only the routine work, but also helping the area manager analyse the various financial reports, e.g. analysing the sales revenue by various exchanges, business subscribers, resident subscribers, analysing the revenue as well as expenditure and highlighting the variances to the area managers. This work is at present handled by the regional accountant, who looks at these issues from the point of view of the region as a whole. The junior executives (Accounts) at the area level are also expected to play a big role in the implementation of the costing system once the system is in operation which is expected to take place by the end of 1993.

5.5.4 The move from a manual system to a computerised accounting system

The organisation underwent computerisation upon privatisation with the introduction of the monthly management reporting and business plan. Since then, the company has realised the importance of the information system. This can be seen from the fact that the company is currently the largest user of information technology

Figure 5.8 - Organisational Structure of Accounts & Finance Central Region fr. 1991-to date



Note: The Junior Executive post was established in 1992 (In 1991, the relevant post was called Accounts Assistant). The Junior Executive of each area report directly to the Accounts & Finance Department of the regional HQ. And under them, there are a few book-keepers and accounts clerks.

Source: Company Document and Interview with Regional Accountant

in Malaysia; about M\$180 million was invested in such technology between 1987 and 1990 (Hashim, 1992).

The following are the systems that have been installed, especially related to producing monthly financial and accounting reports and other non-financial reports which have significance for the purposes of planning, monitoring and control.

(i) SISWANG (OR FAMIS SYSTEM)

This is the acronym for all the commercial accounting systems which comprise general ledger system, capital project accounting system, fixed asset system and accounts payable system. These systems were developed to facilitate the accounts and other divisions so as to capture accurate and timely accounting information in order to provide a true and fair view of the financial statements. The capital project accounting, fixed asset and accounts payable systems are considered as subsidiaries to the general ledger system. Data are updated either daily, weekly or monthly to the general ledger system.

(ii) Capital Project Accounting (CPA) System

This maintains project data, processes project expenditures and monitors project status by means of a status update in the system at the project manager's instruction. All on-going capital projects financial information such as project number, type, description and location; asset type, project budget, project expenditure on current month, year to date and life to date (if the project life is more than one accounting year) expenditures; name of the project manager and cost centre are recorded in this system. The expenditure are categorised into material, labour and incidental. The

system is interphased to SISKIS and other SISWANG system. The key identity in this system is the project number. All completed projects will have their status changed from on-going to completed projects and will no longer appear in the Capital work in progress.

(iii) SISKIS System

The system is to cater for stores control materials i.e. those materials that are procured through the Material Management Division. The system helps the division to properly manage the material requirement so that all requisitions can be met in time and to avoid long storage period. It also helps in proper planning of procurements based on the lead-time for each material and saves the company's cash flow and reduces stock obsolescence. The system also caters for accounting transactions i.e. it can interphase to the general ledger system and capital project accounting system. Therefore, it reduces the data entry input to each system and this also reduces the human error between systems. It also helps with the timely updating of accounting entries.

(iv) Customer Automated Service System (CASS System)

This is a fully integrated computerised system that has a database which enables the coordination of all activities involved in providing the telephone customer service from the day it is requested until the day service is disconnected. Through CASS, complaints from billing have dropped; order processing, invoicing and receipt of payments have been expedited and credit control improved.

(v) Fixed Assets System (FA System)

This is a system which maintains record of assets, and processes the capitalisation,

depreciation, retirements and capital allowances of the fixed assets, including all completed projects.

(vi) Payroll System

This is a system which maintains employee data, processes payroll, labour costing, medical payment and handles staff loans and advances.

(vii) General Ledger System (GL System)

This is a system which maintains the chart of accounts, processes journals and produces audit and control reports. It also produces monthly financial statements and responsibility reports.

(viii) Accounts Payable System

The system maintains vendor data, processes invoices and records payments made to these vendors.

There are two main systems which are scheduled to be completed and implemented by the end of 1993, which are discussed as follows:

(i) Project Management Philosophy Technique Training Tools System (PROMPT System)

This is a project management and control system which will replace the Project Management Control System. The objective are to ensure effective project planning, monitoring and control at all levels, including facilitating effective decision making at senior management level. One of the aim of this system is to maintain the business plan, budgets and financial progress of all the company projects.

In addition, this system is expected to provides interface functions to CPA, AP, SISWANG and other systems.

(ii) Costing Information System (CIS System)

This is a new system which has been developed in early 1992 and is scheduled to be completed by the end of 1993. Out of this, the product costing and transfer pricing will be implemented.

5.6 Summary

In this chapter, the external influences affecting the organisation were discussed, along with the problems facing the organisation as a government Department. The chapter then discussed the three phases of disturbance that affected the organisation, as a result of the change in government policies.

It was found that the organisation was very much influenced by the external environment, i.e. the government's policies on the NEP and liberalisation of telecommunication industry; the Turnkey projects and the privatisation policy. These disturbances led to the organisation being invaded by commercial people, as the objective of the organisation moved from service to profit-oriented.

One of the biggest changes resulting from the change in objective of the organisation, was the increased influence and visibility of finance and accounting in the

organisation. Discussion of the role of finance and accounting before and after privatisation revealed that accounting and finance functions have expanded both vertically and horizontally. The adoption and enforcement of the new company Financial Instructions and the tightening of the internal audit department also appear to have contributed to the increase of accounting influence.

But, how did this change system take place? To answer this question, the researcher will take as an example, the budgeting system. Thus, the following chapter will discuss in detail the budgeting system under the two environments, analysing the changes that took place as a result of the high level of disturbance and in particular the aim of the top management in changing the budgeting system. This will provide the basis for a discussion in one particular development group i.e. Local Network Development group of the central region in chapter Seven dynamics of change is analysed from the three phases of disturbance and Chapter Eight will analyse and discuss the extent to which the new capital budgeting system has affected and changed the value system of the engineers.

CHAPTER SIX

The Budgeting System Under JTM and STM

6.1 Introduction

This chapter describes the changes that took place in the organisation arising from the third phase of disturbance, specifically the changes in the budgeting system of the organisation. Changes to the budgeting system are taken as illustrative of management efforts to create real change. The system is analysed from JTM days, through privatisation to form STM, up to the present. The reason for using the budgeting system for illustration purposes is that in a capital-intensive organisation such as the one in question, the budget system has a real effect on the engineers' work. During the period in question, the capital budget process has undergone a transformation in line with the new commercial orientation of the organisation, and the accounting sphere of influence appears to have increased, which may have brought about change in the engineers' influence and values.

With respect to the JTM environment, the chapter begins by describing the budgeting system of the Malaysian Government (including PPBS, Five-Year Malaysian Plan and the Yearly Budget) which JTM, as a government Department funded from the Federal Treasury, had to follow. The chapter then discusses JTM's budgeting system and the associated monitoring and control procedures.

Then the chapter looks at the budgeting system under STM, upon privatisation of the organisation, describing in detail the business plan, as the budgeting system became known under STM. The capital and operating expenditure and the monitoring and control aspects are discussed. We then describe and discuss the flexible budgeting practice under the business plan. Finally, a comparison is made between the JTM and STM budgeting systems.

6.2 The Budgeting System under JTM

6.2.1. Background

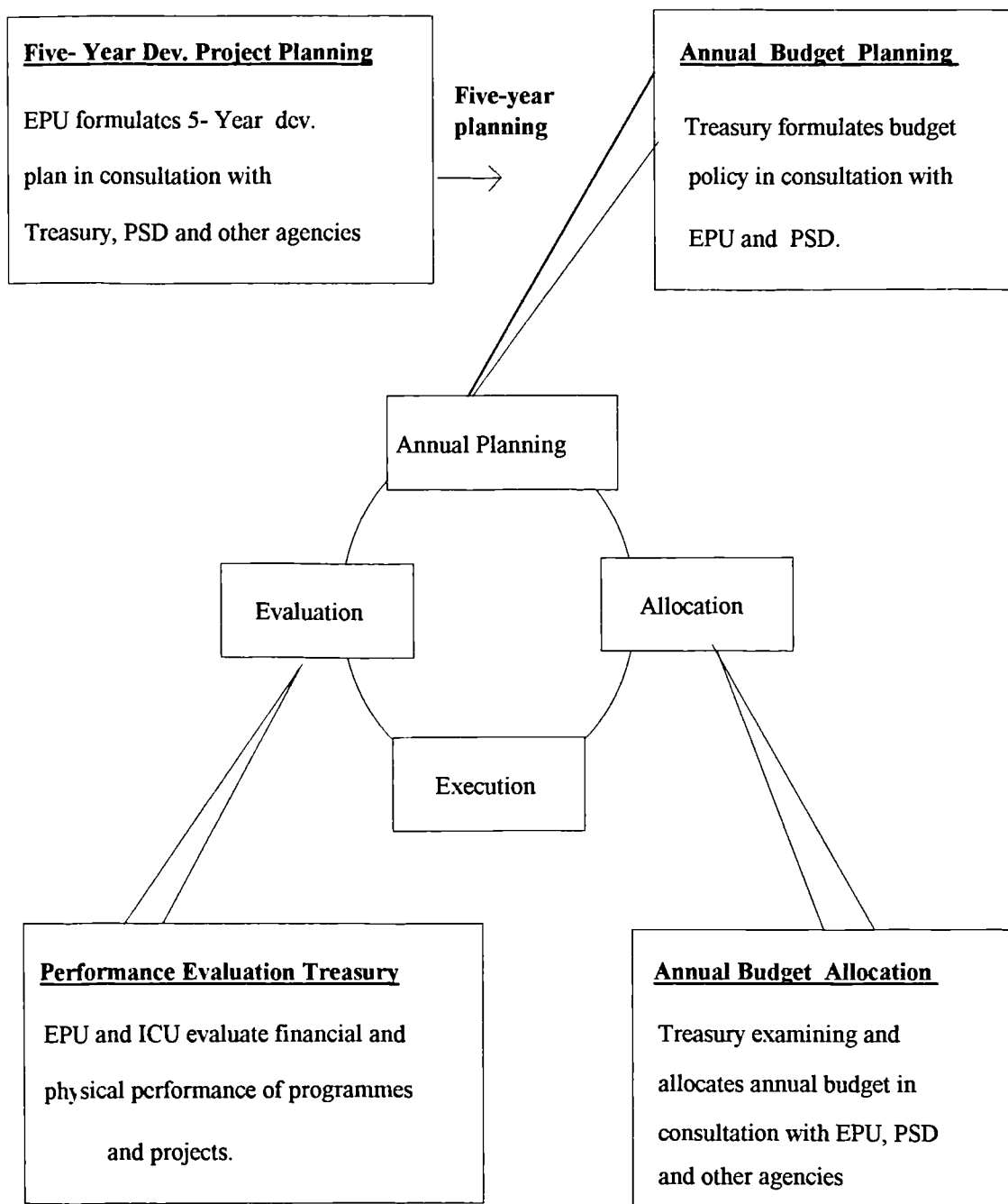
Before we discuss the budgeting system under JTM, it is important for us to review the historical aspect of the budgeting system in Malaysian government Departments, the five-year Malaysian Plan and the yearly budget plan.

In Malaysia, the annual budgets are prepared without annual plans. Instead, they are prepared by the *Government's Treasury Department* on the basis of recommendation from the *Economic Planning Unit (EPU)* which is responsible for formulating the National Five-Year Plan of the government, called the Malaysian Plan. In preparation of the annual budget by the Treasury, the *EPU's* role is to reconcile the allocations of capital expenditure for five years with current expenditure, for annual budgetary purposes. This can be clearly seen from Figure 6.1, which illustrates the relationship between budget, planning and implementation.

6.2.2 Historical Development of Budgeting System in the Government Department of Malaysia.

Before 1969, the budgeting system in Malaysia was inherited from the colonial government. This system, which was based on an *incremental approach* was adequate during colonial days, because the role of the colonial government was primarily concerned with the collection of revenue and the maintenance of law and order. In this system, the main objective was to control, follow the rules and ensure the legality of expenditure. This was done through the itemization of objects of expenditure. The system worked well to facilitate the enforcement of legal accountability (i.e. the process of auditing items of expenditure by the government auditors) but it did not

Figure 6.1 THE RELATIONSHIP BETWEEN BUDGET, PLANNING AND IMPLEMENTATION



Source: MAT,J, (1981).

provide enough useful information for the purposes of planning or management of the programme, i.e. government planning for the development of the country. As was stated by Joon-Chien (1981 p. 291),

"The basic objective of the current government changed from custody to development. It had to undertake new functions and expand the existing ones".

As the role of government expanded, greater demands were placed on the budget and accounting system, to supply relevant information for the purposes of planning and management. In the face of the people's hopes that the government would develop the country, while only limited resources were available, efficient utilization of resources became necessary. This led to the government decision to replace the incremental budget with a new budgeting system which would meet the above criterion. Thus, the government decided in 1969 to adopt the *Programme and Performance Budgeting System (PPBS)*.

PPBS was introduced by the government to answer the following questions needed to monitor progress toward government objectives:

- (a) Why ? i.e. to determine the objectives
- (b) What and How ? i.e. structure and programmes
- (c) How much ? i.e. cost of the programmes

(d) How good is it or What is the achievement in quantified form ? i.e. Programme Achievement Evaluation

(Source : The Financial Management System Unit (FMSU), Treasury Department, Ministry of Finance, Malaysia, 1990 p.1)

6.2.3 PPBS in Government Department in Malaysia

In the early years of PPBS in Malaysia, agencies suspected that the new budgeting system was intended solely to meet the information needs of the Treasury, because they were not consulted as to their views with respect to the system (Joon-Chien, 1981). The budget format of PPBS was determined entirely by the Treasury. Thus, the initial emphasis was on formats, procedures and form-filling. This resulted in much of the information being under-utilised, since the generated data were not necessarily relevant, and because little attention was given to more efficient utilisation and management of resources to accomplish programme objectives.

Overall, only the first two features of PPBS were fully implemented by government agencies. Parts (c) and (d) were not achieved at all because there was no mechanism for the Department to come up with the information (FMSU, 1990).

From the Department's point of view, parts (a) and (b) of PPBS were implemented because these two questions had to be answered by the Department when presenting its

budget proposal to the Treasury. However, after the budget was approved, PPBS was virtually abandoned. The Department reverted to the old method of allocating funds, because no monthly management accounting information was available, thus monitoring of projects was difficult. Any monitoring that did take place was so loose that nobody took it seriously. As was said by one of the senior engineers:

"Even though we had a plan during JTM days, who looked into our plan? If nobody looks into the plan, controlling and monitoring it, I also don't care".

Moreover, accountability of managers did not exist, or existed only at the minimum level. Also, there were no clear lines of authority. There was no implementation at the Department level of the concept of '*let the manager manage*'.

As far as variances are concerned, no one had any interest or purpose in reviewing and analysing them. Thus, under JTM, PPBS only took place in presenting the budget to the Central Agency, because of the rules that all government Departments had to follow in order for their budgets to be approved. However, implementation continued to follow the functional approach. The budget was still full of red tape and centralised at the department level. Decentralisation of authority and responsibility did not take place in any real sense.

(FMSU, 1990). In the absence of programme evaluation and achievement measurement, the following problems were encountered :-

(a) The achievement of the objectives of ministry and Department in terms of programmes and activities could not be measured; and

(b) programmes and activities could not be listed according to priority (FMSU, 1990, p 2).

This created problems for the Treasury (i.e. Federal Treasury) while conducting budget examinations with a view to making necessary reductions in allocations. In an ideal situation, PPBS can work well if there is no constraint on funds involved. However, in the real world, it was not always possible for the Treasury to provide all the funds needed for the programmes that had been impressively formulated. (Abdul Samad, 1981). In this situation, programmes which had been approved might have to be postponed, which rather defeats the object of PPBS. Moreover, some projects were approved for social and political reasons. The commercial viability of projects was not checked but they were approved with respect to service objectives.

6.2.4 The Five-Year Malaysia Plan

Towards the end of a particular Malaysia Plan, normally in the last year, JTM received a circular from EPU and the Ministry containing guidelines on the overall

policy of the government towards the forthcoming Plan. Based on the guidelines laid down in the circular, JTM prepared the overall five-year plan which was required initially to be submitted to the Ministry of Telecoms, Works and Posts and subsequently to the Economic Planning Unit for approval.

Upon receiving the five-year plan from JTM, the Ministry went through all the proposed capital works and in the process some proposed projects might be slashed. This was done after taking into account the objectives of JTM for the coming five years, priority projects, the Ministry's criteria and the overall view of the Ministry.

The plan was subsequently handed over to EPU for approval. EPU examined the plan. During the examination, EPU called the Ministry representatives, and all the Departments under the Ministry, including JTM, for discussion and finalisation of the plan. During this session, proposed projects were agreed and eventually ceilings were fixed for each Department in the Ministry.

The classification used by EPU with respect to project evaluation and approval on the ceiling was as follows:

- (a) projects that would generate income i.e. would bring benefits to the Malaysian economy as a whole;
- (b) projects related to the security of the country;

(c) projects that were directed by the Cabinet;

(Source : Interview with EPU Officer in charge of Five year Malaysian Plan)

After examination of the above inevitably JTM would not get all they asked for. However, once EPU had decided on the ceiling, if JTM was not happy with the decision they could appeal to EPU, who would re-examine the matter. Unless there was government intervention, usually the figures approved initially would be maintained. In this respect, EPU was authorised to have the final say.

On the other hand, JTM could request additional funds during the mid-year plan review, which usually took place at the half-way stage of the Malaysia Plan. From Table 4.2 from Chapter Four, we can see that JTM was given quite a substantial amount during the mid-year review of the plan (i.e. from period between 1971 to 1985).

6.2.5 The Yearly Budget Plan

The yearly budget which was prepared by JTM in accordance with Treasury and Ministerial guidelines was presented to the Ministry of Telecoms, Works and Posts, who vetted it as part of the consolidated yearly budget of the Ministry submitted to the Government Treasury for approval. The Treasury called the Ministry and JTM

personnel for detailed budget examination where final approval took place.

In approving the yearly plan, the Treasury liaised with EPU so that the long term plan ceiling set by EPU was used to monitor the yearly budget asked for. EPU made sure that the yearly budget asked for by the Department was not more than had been agreed under the Malaysian Plan.

However, even though the ceiling of M\$*x* million (as an example) had been agreed by EPU for a particular project, the amount to be approved by the Treasury depended on the financial position of the government, and whether JTM could spend the given amount of funds for particular projects in the coming year. JTM personnel were usually able to convince the Treasury of their ability to spend, given the fact that they used technical jargon, so that sometimes the Treasury people depended on the JTM engineering personnel for clarification. Thus, in defending the budget to the Federal Treasury, the engineers' values rather than those of the accountants, were represented.

However, the financial insecurity of the government was a drawback in JTM's time, since a project might be under way and the money be unavailable, even though it had been budgeted for and approved by EPU. Lack of

government funds would impede the implementation of the projects by the engineers.

6.2.6 The Budgeting Process under JTM

6.2.6.1 The Annual Budget under JTM (from 1.1.1971 to 31.12.1986)

The exercise of preparing the annual budget under JTM, in total, involved :-

(1) the setting of clearly defined objectives specifically related to the department's role as the authority charged with the responsibility for providing adequate and efficient telecommunications facilities in an expanding community;

(2) the planning of specific tasks and the scheduling of these in approved programmes of works which needed to be executed in discharge of its responsibility;

(3) the planning of labour and material resources for the effective implementation of the programmes; and

(4) finally, the all-important tasks of assessing and obtaining the funds which would be required to finance the operations necessary for the achievement of the planned objectives.

(Source: Malaysian Telecommunications Instructions on Budgetary Control Instructions, 1978, JTM, pp 1).

6.2.6.2 The Budget Process

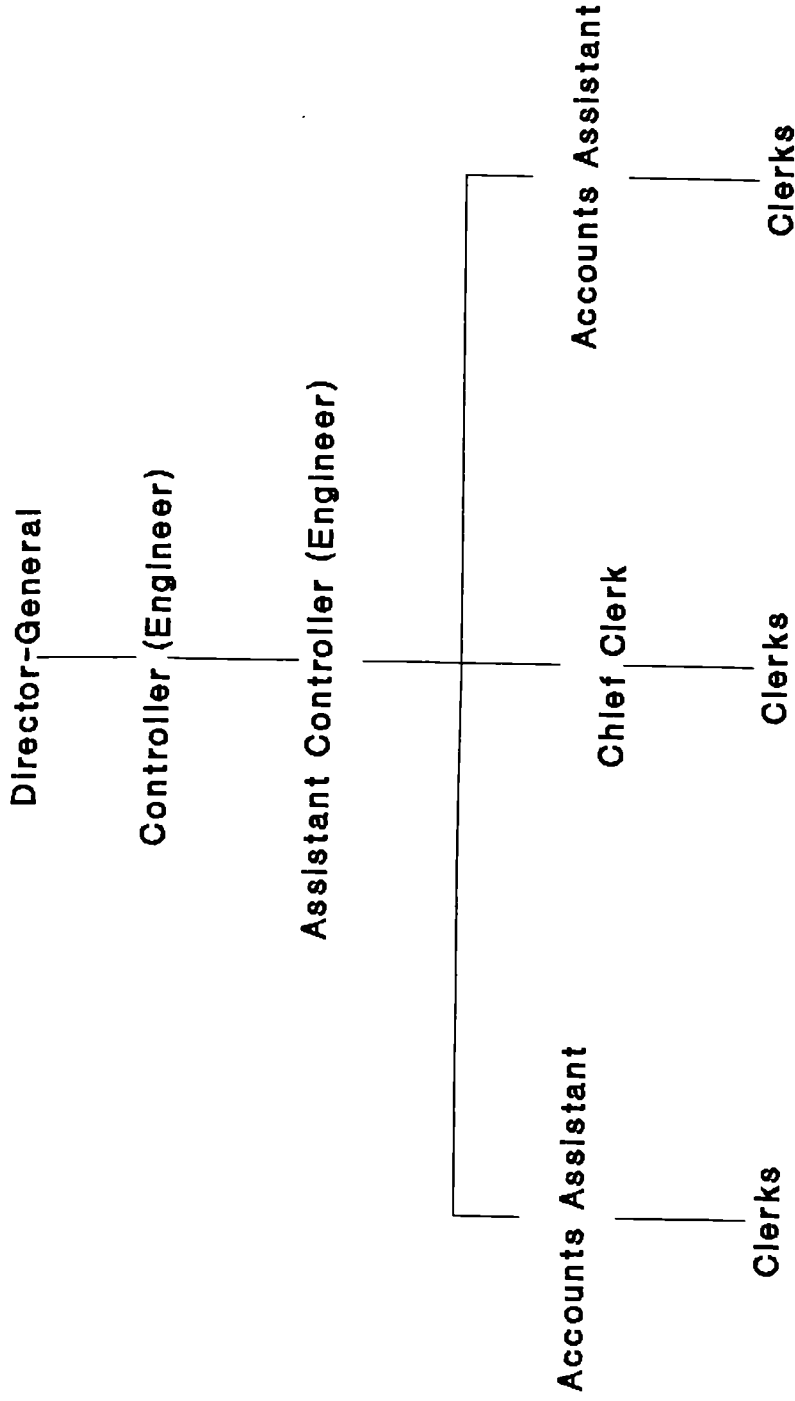
Under JTM, the preparation of the budgets, both capital and operating, strictly followed the directives, rules, procedures, and format of the government budgeting system laid down by the Treasury Department.

Long term planning was usually done by the Economic Planning Unit and Implementation Coordination Unit of the Prime Minister's Department in conjunction with the Malaysian Plan, even though certain inputs came from the Department itself. This plan, which was for five years, was a static budget.

The unit responsible for issuing directives, procedures and circulars on budget preparation to JTM's various department heads was the Budget Unit (from 1972-1980) and was upgraded later to 'Urusetia Korporat' (Corporate Secretariat) in 1980 which in turn reported to the budget committee. The Budget Unit (later known as Corporate Secretariat) was under the control of the engineers as shown in Figures 6.2 (a) and 6.2 (b).

The Corporate Secretariat was formed in early 1980, to function as a 'think-tank' to the Department. This Secretariat played a major role in terms of providing inputs to top management, with respect to organisational issues such as departmental policies, reports which included annual reports and budget reports etc. The Secretariat was also responsible for monitoring the physical and financial progress of all departmental projects and ensuring that the government monitoring system for projects was adhered to by the project implementators.

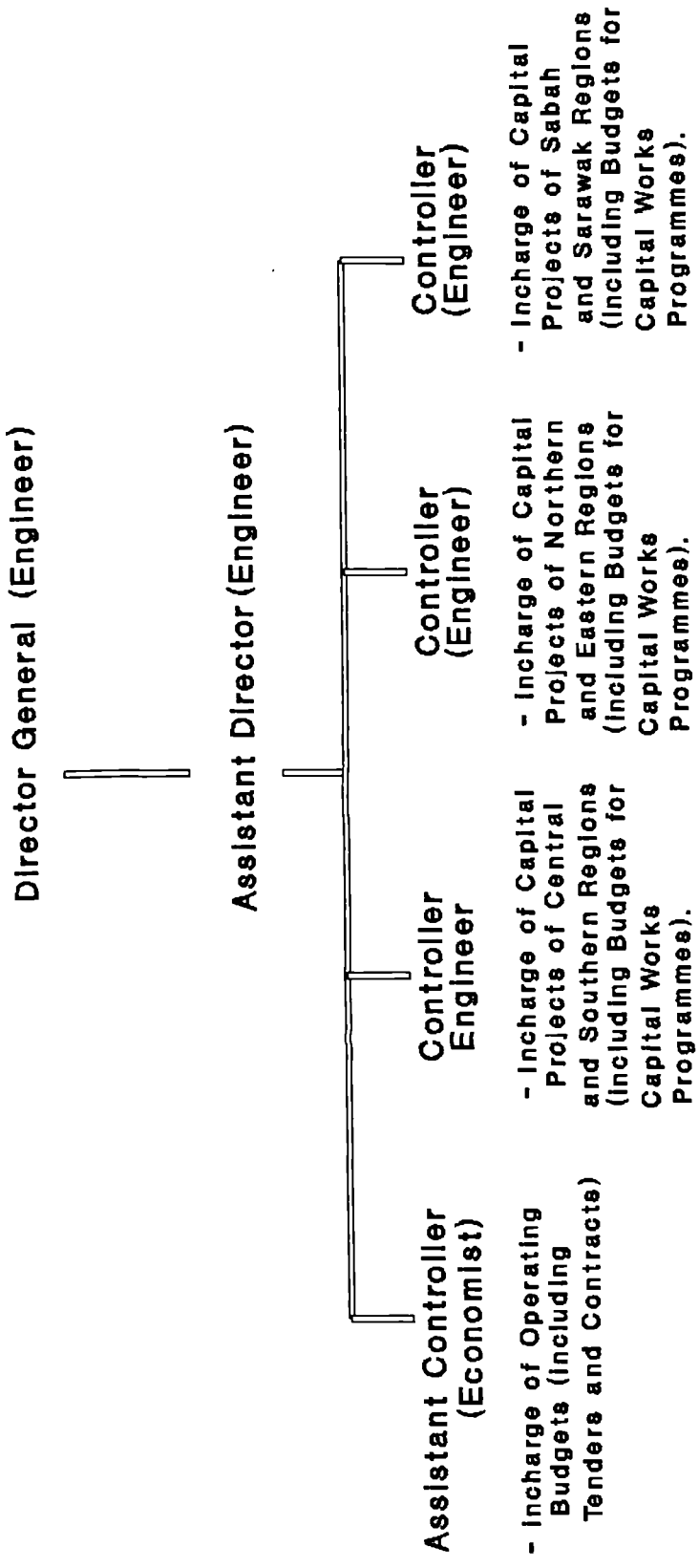
Figure 6.2(a) - Budget Unit of JTM at HQ
from 1972 -1980



Note: The Assistant Controller did the coordination works with the accounting staff of the Accounting and Finance Division on the preparation of Operating Budget. The budgeted Profit and Loss Accounts, Balance Sheet and Fund Flows Statement for the budget year was prepared by the Accounting and Finance Division.

Source : Interview with former JTM staffs.

Figure 6.2(b) - Corporate Secretariat Department of JTM at Headquarters from 1980-1986



Note: The Assistant Controller did the coordination works with the accounting staff of the Accounting & Finance Division on the preparation of Operating Budget.

Source : Interview with former JTM staffs.

The Secretariat was headed by the Assistant Director, an engineer who reported directly to the Director-General. Other members were four other engineers with PhDs and three economists. In preparing the Department's annual budget, the Secretariat was assisted by lower level account officers and senior clerks. The organisational structure of the Corporate Secretariat is as shown in Figure 6.2(b).

As can be seen in Figures 6.2(a) and 6.2(b), the Corporate Secretariat came directly under the Director-General and its members were full-time JTM staff, rather than staff seconded from the Central Agencies Department. This is an important point to note as the full-time staff were considered to be 'internal staff' and thus more loyal to the organisation as compared to seconded staff, who were considered 'outsiders' and more loyal to the Central Agencies Department as discussed in Section 5.3. The Corporate Secretariat was responsible for the overall development of the annual financial budget. Its responsibilities included:-

- (i) initiating action for the preparation of the annual works programme;
- (ii) preparation of Budget Planning Letter and associated budget instructions;
- (iii) preparation of the estimates of revenue in consultation with Director of Accounts;

(iv) co-ordination and consolidation of all area budgets for submission to the Director-General;

(v) submission of Annual Financial Estimates to the Treasury and the Minister of Communications;

(vi) submission of the Annual Statute Paper, for presentation to Parliament, in support of the Government Loan required for the year.

(Source: Department Internal Document - Malaysian Telecommunications Instructions, 1978, p. 6).

From the above, we can see that the engineering influence was very strong in the organisation as the structure of the Corporate Secretariat was dominated by engineers. This gave them a key role in the overall annual financial budget, with the exception of estimates of revenue and forecasted Profit and Loss and Balance Sheet, which were prepared by the accounting group.

The Project Implementation / Progress Card of the capital works programme was monitored by the appropriate Assistant Director in HQ and submitted to the Corporate Secretariat which was responsible for ensuring that the projects were in the works programme and that funds were available for the project specified. It would then allocate the project a number and obtain approval for it from the appropriate HQ Region Director. Copies of the approved Project Implementation / Progress Card were distributed to the regional Director / Controller, appropriate Assistant Director in HQ, and Director of

Accounts Division. One was retained by the Corporate Secretariat. Thus, the capital works programme was monitored by the engineers themselves, in line with engineering values and beliefs. The accounting group played only a minor role, confined to preparing the revenue and forecasted final accounts.

The Budget Committee, a high level committee, was responsible for the overall budget of the Department. This committee was responsible for examining individual departmental budgets, and had the final say with respect to departmental allocations. It monitored and controlled the budget in its monthly meetings.

The budget committee consisted of two Deputy Director-Generals, all the directors in HQ and one Assistant Director of the Corporate Secretariat. The Committee was chaired by the Deputy Director-General(I) and the Secretary, who was the Director of Finance.

6.2.6.3 Timetable for budget preparation

The preparation of the department's budget estimates began each year following the issue of a Treasury circular in February or March, calling for budget submissions for the new financial year by June.

However in practice, budget preparation would begin two years in advance of the budget year. The steps were as shown in Table 6.1(a).

Table 6.1(a) - Process of Budget Preparation Under JTM

1st September (Year- 2)

Regional / HQ Branch / Group Directors / Asst. Directors / Controllers would prepare works programmes and schedules of major material requirements for switching, subscribers network and trunk and junction plant, which the department planned to commence during the coming budget year, based on the five year plan. These work programmes would be submitted to Headquarters by 30th November.

31st December (Year -2)

The Director-General would issue the Annual Budget Planning Letter setting out policy objectives and planning levels for funds. Details of works programmes that had been approved would also be issued with the Budget letter.

1st January (Year -1)

All Regional Directors / Controllers and HQ Branch Directors would receive instructions from the Director Administration Branch to prepare proposals for new staff. The list of proposals for new staff would be forwarded to the Director Administration Branch by 28th February for examination, review and subsequent approval by the Budget Committee.

31st March (Year -1)

Details of new posts approved for inclusion in the budget submission to Treasury would be made known to Regional Director / Controllers, HQ Branch Directors and Corporate Secretariat.

1st April (Year -1)

Preparation of estimates of expenditure based on approved works programmes and new posts. These would be submitted by all involved: Regional / HQ Branch / Group Directors / Asst. Directors / Controllers to Corporate Secretariat by 30th April.

31st May (Year -1)

Preparation of consolidated estimates of expenditure for each Region / HQ Branch / Group. As required by Treasury to support the consolidated estimates, Director, Accounts Branch would have to furnish financial statements of accounts by 15th. June .

June - July (Year -1)

Submission of overall Departmental Budget to Director General for approval and subsequently to Minister and Treasury.

Budget examination by Treasury. Also agreement reached on the proposed borrowings from the Treasury.

September (Year -1)

Review of works programmes to adjust to the agreed level of Treasury borrowings. Preparation of statute paper for presentation to parliament by the Minister of Telecommunications requesting the department's borrowings.

January (Budget Year)

Allocations of funds by Corporate Secretariat to all Regional HQ / groups / Directors / Asst.Directors / Controllers.

(Source : JTM Document on budget preparation issued to all divisions and departments)

(Note : -2 means two years before the budget year; and -1 means one year before the budget year.)

6.2.7 Discussion of the budgeting system under JTM

The budget committee consisted of 12 top managers, of whom all except the Director of Finance were from engineering backgrounds. Thus, the engineering viewpoint i.e. 'as they see it' influenced the decision-making process of the budgeting system under JTM. In fact, at one time, it was proposed during a budget committee meeting that secretaryship of the committee be taken over by head of the Corporate Secretariat. However, this was rejected on the basis of external criteria, as it was standard practice for the head of Finance/Accounts in a government Department to be the Secretary of the Budget Committee (interview with a senior officer of the Federal Treasury Department of the government of Malaysia). Thus, instead, it was agreed that the Corporate Secretariat should form a small committee to make 'working arrangements' to monitor the progress of physical and financial development projects (Minutes of meeting of Budget Committee of JTM, 1983).

From the above, one could see that the role of the Director of Finance was largely nominal. The actual running of the budgeting system was done by the Corporate Secretariat. The Accounts division produced the operating and revenue budgets, while the budget for capital expenditure was prepared solely by the engineers. There

was little or no integration between the two. As said by one of the former officers of JTM,

"I do mine and you do yours".

Whereas the operating budget prepared by the accountants was on an accruals basis, the capital project budget prepared by the engineers was on a cash basis, as the engineers did not fully understand the accrual concept or appreciate its importance at that time. Even though the project engineers had some clerical staff to help them in their administrative and accounting work, they lacked the specialised knowledge to distinguish between the cash and accrual concepts, and were given no proper guidelines. This was a serious shortcoming because capital works formed part of the major expenses of the Department, yet annual depreciation was not properly accounted for.

Since the engineering influence was so strong, the accounting personnel were not able to convince them of the importance of integrating the two types of budget. The same goes with respect to the accrual concept in managing capital projects. As indicated in the Report on Privatisation of JTM (1984), the reporting of capital continued to be based on a cash basis rather than accrual basis, even though the Department was made a commercial Department in 1972, since the engineers were actually in

charge of the overall managing of the budgeting system, from preparation to monitoring and control, which led them to instill their values and belief system right up to the time of privatisation.

Once the budget was approved, the allocation of funds was once again done by the Corporate Secretariat. This committee broke down the total amount for both capital and operating expenditure by quarters and apportioned them to the regions. Even though the total amount approved was known, funds would only be released quarterly in advance. Only at the end of the first quarter, could a request be forwarded for the second quarter's amount. This lack of flexibility in access to funds created problems for the project managers, especially when a project needed to be completed quickly to meet demand in a particular area (Interviews with project managers). It was very difficult to exceed the budget ceiling as nobody wanted to take responsibility for so doing. This contributed to project delays of two to three years, and in rare cases, even ten years. Another reason for the delays was bad planning in the sense that there was no commitment from other units within the Department or other government agencies such as Public Works Department (PWD).

The operating budget, according to an officer who was involved in Budgeting during JTM days was inflexible in that it strictly followed the expenditure code given

by the Treasury. The same did not apply to the capital budget, where the department seemed not to follow what it had initially planned for. For example, in 1979, the Five-year plan for the years 1981-1985 prepared by the top management was changed by direct intervention of the government, which instructed that exchanges be installed in certain estates where no exchanges had been planned. Such intervention was quite frequent.

6.2.8 Monitoring and control of the budget under JTM

For capital projects, the funds were given in the form of loans by the government. Because of this, some form of control was established at the Economic Planning unit (EPU) of the Prime Minister's department to monitor the usage of capital project funds by all government Departments, including JTM. Progress reports in a standard format were presented by the various government Departments to EPU.

The procedures for implementation of projects and submission of progress reports on JTM projects were as follows:-

- a Each project, before it could be implemented, had to be approved by the chairman of the budget committee, through forms BP1 and BP2.
- b After receiving the approval from the chairman of budget committee, the region/division needed to obtain approval of the project from EPU through form JPM1.

c The progress reports were required to be submitted by the region/division using form JPM2 to the Ministry of Energy, Telecommunications and Posts and Corporate Secretariat at Headquarters. The progress reports needed to be submitted quarterly until the project was completed.

(Source: Minutes of meeting of Budget Committee of JTM, 1983).

The aim of the progress report was to make sure that the country's top leaders knew the progress of the projects from time to time. The information was vital for the country which was undergoing economic transformation, the success of which depended on telecommunications infrastructure. However, monitoring did not work well in the case of JTM, since the forms, designed to suit small Departments, were too time-consuming to complete for a Department which had over 4,000 projects at any given time (interviews with a senior officer of EPU of Prime Minister' Department and a manager of Corporate Planning Department in STM who was in charge of coordinating the forms and submitting to EPU). As a result of this, most project managers reported on only a proportion of their projects to EPU. In any case, the monitoring of the project was mainly concentrated on physical aspects.

Monitoring and control of capital projects at JTM was covered by the Budget Committee during the monthly meetings, but the actual monitoring was managed by the Budget Control Unit (later known as the Corporate Secretariat). Since both the Budget Control Unit and

Budget Committee consisted mainly of engineers, engineering values and *'ways of doing things'* dominated the monitoring and control system during this period. The accountants were basically confined to payment and custodial roles. Even though the Director of Finance and other accounting officers were present at both meetings, they were limited to a basically subsidiary role in the meetings at which the progress reports on projects were presented and matters arising discussed.

6.2.9 Discussion on the monitoring and control of the Budget under JTM

Most of the ex-JTM personnel interviewed felt that monitoring and control of the budget under JTM concentrated on the physical progress of the projects, in order to reduce waiting lists. Overall, budgeting was not stringent. The feeling was that *'money was not a problem'*, since JTM could fall back on the government. This was so as the engineering value system was high, as the engineers dominated the functions and control of the budgetary system during JTM days. Moreover, there were no proper monitoring tools to control the budget since there were no monthly management reports and variances were not analysed.

The budgeting process, especially for the capital budget, was based on a bottom-up approach in the sense that the top management relied on the figures presented

by the regions/divisions. Since at that time the emphasis was service-oriented, there was no filtering by the accounting and finance personnel, no study of project viability, and the return/profitability of projects was not known. Monthly accounts were incomplete or non-existent, and profit centres were not fully implemented. This led to difficulty in implementing profit centre responsibility for the region. As was said by one of the General Managers of the Regions with respect to regional profit-centres:

"During JTM days, we were not bothered how much we made and how much we spent. We were more service-oriented, we looked at 'can we give?' rather than 'how to give?' i.e. not so much at the financial side".

He further added,

"Actually when I was in JTM, I never thought about the costing part. Why should I care about the costing part of it? I was concerned more about how to provide the service at whatever cost; that was not my concern".

With respect to the allocation of budget amounts, once the amount had been approved by the government, the projects could be carried out without any further approval. Because of this, there was minimal accountability.

With respect to monitoring of projects, even though there was a budget committee which met every month, the actual progress of the projects was not properly monitored in the sense that the progress report was prepared only once a year. Since there were thousands of projects, monitoring of them all was quite impossible to practise to a satisfactory level. With respect to the progress report submitted to EPU (Prime Minister's department), most project implementators did not adhere to the rules since there were too many projects and filling in the forms was time consuming. According to one EPU official interviewed, many project implementators did not submit the quarterly reports.

With respect to the usage of budgeting reports, most of the project engineers felt that during JTM, planning of the projects was not done as thoroughly as later. Instead the budget reports were used as a reference for budget preparation. After that they were filed and used less frequently. Previously also, projects not budgeted for could still be implemented upon the approval of the division/regional head, especially if they were justified by political considerations.

Because of the above factors, the budget was not seen as of importance to the organisation since there was absence of accountability; enforcement was minimal and further to that, little or no action was taken if the budgeted amount was underspent; the question of idle cash

did not arise. Because of the bottom-up approach to the preparation of the budget, especially the capital budget, most project implementors would inflate the amount by a certain percentage to include a contingencies figure in the annual budget. All these factors led to the project implementors failing to become effective planners.

Here, we can see that because of the greater number of engineers and the status that was given to them, especially in the Corporate Secretariat and the Budget Committee, the emphasis was on engineering values. Decisions were based on engineering convenience and budgets was prepared by adding a percentage increment to the current figures; and there was no appreciation of financial values such as idle cash or the concept of commercial viability in evaluating projects.

Referring to the Laughlin Model, it can be said that there existed a strong element of the engineering system in the design archetype which provided a key link between the interpretative scheme (which possessed strong engineering values and beliefs along with service orientation as an objective of the organisation) and the sub-system.

6.3 Budgeting System under STM - The Business Plan

6.3.1 Background

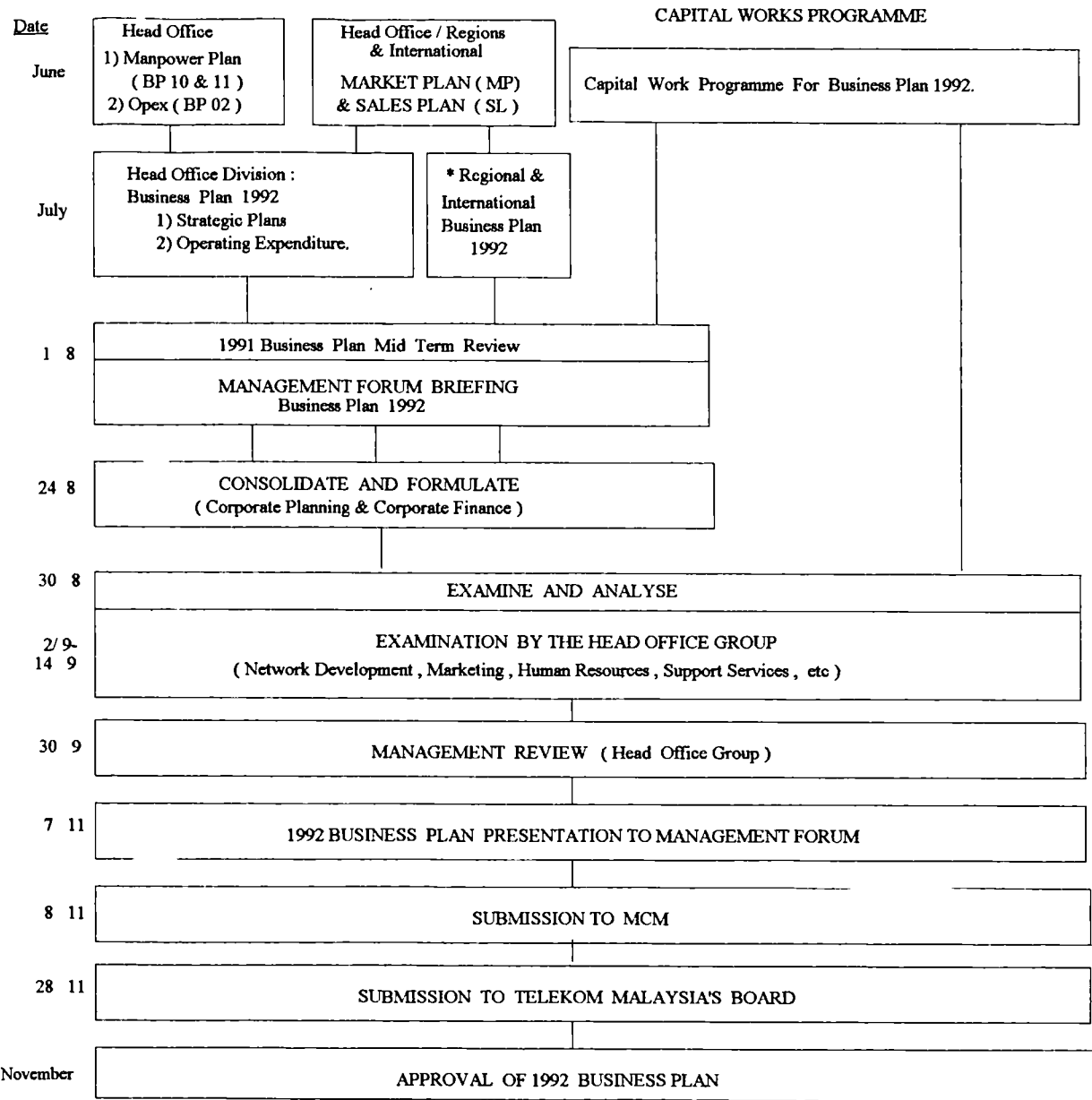
Planning in STM is divided into corporate planning (strategic planning) and operational planning. Corporate planning is a process whereby the Board of Directors determines the organisation's overall objectives and strategies needed to achieve them.

The board of directors is assisted by the Corporate Planning Department which is headed by a General Manager. The task of the Corporate Planning Department is to develop the overall corporate plan and to coordinate the divisional and regional plans. Operational planning is done at regional or divisional levels to achieve their targets or objectives.

6.3.2 The Business Plan Process

The process of preparation of the business plan (i.e. the budget year and four years of business plan) begins each year following the issue of the circular and guidelines by the Corporate Planning Department to all the divisions/regions. This usually takes place in the month of May. These circulars/guidelines include the Business Plan Coordination Timetable as shown in Figure 6.3, notes on the preparation of the business plan, management indication, schedule for the submission of the business plan, format of budget/data to be submitted for the business plan, and responsibility for submission of

Figure 6.3 - Business Plan Coordination Time Table.



* Including the Manpower Plan and Operating of functional group in the regions.

Source: Business Plan, 1992.

the business plan (Company Document - Business Plan Procedure 1992-1996).

The notes on the preparation of the business plan are based on the target objectives and plans which become the theme of the business plan. The guidelines include standard format for data and information submission of the budget for operating expenditure budget, manpower plan budget, capital works programmes budget and revenue budget (both market plan and sales plan). The process of budget preparation under STM (Business Plan) is summarised as shown in Table 6.1(b) below.

According to the Corporate Planning Group, the business plan is derived from the mission statement formulated by the top management. From there, identification of goals through which to achieve the mission statement takes place, by means of political analysis and SWOT analysis, and driven by commercial, financial, technological and business needs.

**TABLE 6.1(b)
PROCESS OF BUDGET PREPARATION UNDER STM (BUSINESS PLAN)**

Date	Department responsible	Main tasks and responsibility
May	Corporate Planning Department and Board of Directors of STM.	The board of directors will determine the business goals for that budget year, and the Corporate Planning Dept. will prepare the board working paper.

<p>Late Corporate May/ Planning early Dept. June</p>	<p>The Corporate Planning Dept. will issue a circular regarding the guidelines on the budget preparation to all RGM/Divisions who are responsible for preparing the budget for their responsibility centres.</p>
<p>June Responsibility centres/ cost centres</p>	<p>The area managers and their subordinates will prepare the budget proposal</p>
<p>July RGM/Head of Divisions</p>	<p>Compiling of proposals from various responsibility centres:- (i) for operating budget coordinated by the Accounting Dept. of the region (ii) for sales and market plan coordinated by the Operation/Marketing Dept. of the region. (iii) for Capital Projects Budgets coordinated by the Network Development Dept. and Local Network Development Dept.</p>
<p>1st Management Aug. Forum Briefing Business Plan for the budget year</p>	<p>Top management brief all RGMS on the business plan for the budget year and discuss the target set by the management on forecast market and sales figures for the telephone direct exchange lines and major services; and forecast gross operating profit based on the target set by the RGMS and Head of International Division. Outcome of this briefing-a compromise between the two targets is reached.</p>
<p>24th RGMS / Head Aug. of divisions</p>	<p>First draft based on the compromise targets of the business plan is submitted to the corporate planning dept./corporate finance dept at HQ.</p>
<p>30th Corporate Aug Planning Dept. and Corporate Finance Dept.</p>	<p>Consolidation and formulation and rechecking of all the figures submitted earlier by the regions and divisions by the corporate finance dept. Then the Corporate Planning dept. will form small groups (i.e. specialised groups) at HQ level to examine and analyse the first draft of the business plan submitted earlier by the regions and divisions.</p>
<p>2nd Examination Sept by the HO to group headed 14th by Corporate Sept Planning Mgr.</p>	<p>First phase of rationalisation where the HO Group visit each region to examine their budget proposal in detail and the RGM is asked to attend this meeting to</p>

<p>and Corporate Finance Mgr.</p>	<p>defend his proposed business plan. Several changes take place at this stage. Other members in this HQ group include Network Development, Marketing, Human Resources, Support Services, etc. This took place from 1988-1990 only.</p>
<p>23th RGMs and Sept Head of Divisions</p>	<p>The complete Business Plan of regions and Divisions, prepared after taking into account revisions made in the first phase of rationalisation, are to be submitted to the Corporate Planning Dept.</p>
<p>24th Corporate Sept Planning Dept. to and Corporate 29th Finance Dept. Sept</p>	<p>These two depts. with the help of HO group will analyse and come out with various scenarios to be presented to the Budget Committee for their review.</p>
<p>30th Management Sept Review by to Budget 30th Committee Oct with the HO Group</p>	<p>Second phase of rationalisation takes place where the Executive Director chairs a meeting with the budget committee and HO group. This is where major slashes take place, especially with respect to capital projects budget. Once this is finalised, the business plan will be presented to RGMs and Divisions at the Management Forum. The second phase of rationalisation will be tied to the forecast sales and revenue plan for the budget year and comparisons are also made with the last year's budget figures and current year's latest actual accumulated figures.</p>
<p>7th Business Nov Plan for the budget year presented to the RGMs during the Management Forum</p>	<p>The idea of presenting the business plan to RGMs is that most of the changes made during the second phase of rationalisation are with respect to capital projects which affect them, and thus they need to be informed on the results of the rationalisation process.</p>
<p>18th Business Nov Plan submitted to MCM</p>	<p>Once the business plan is finalised, it is presented to Management Committee Meeting (MCM), chaired by the Executive Chairman for review, comment and endorsement only. Minor changes take place here, as the detailed part has been done earlier.</p>

28th Nov	Business Plan submitted to STM's Board of Directors	Once the Business Plan for the budget year is endorsed by the Management Committee in the MCM, then it is submitted to the Board of Directors for their approval
30th Nov	Approval Business Plan for budget year	Once the budget has been approved by the STM's Board of Directors, then the Corporate Finance Department / Corporate Planning Department will inform the various regions / divisions of the budget allocated to them for the budget year on the total amount approved.

(Source : Interview with personnel from the budget Unit of Corporate Finance Division and, Corporate Planning Department at Headquarters of the company).

* The dates are tentatively fixed and subject to changes.

The business plan of the company is a rolling plan in which the budget is drawn up for five years. As an example, for the 1992 business plan, the regions/divisions need to prepare the annual budget for the budget year i.e. for 1992 and also for the following four years, i.e. 1993, 1994, 1995 and 1996. When one annual budget year is dropped, another annual year is added to the business plan. This is what is known as a roll-over budget.

Initially the regions/divisions prepare their proposed business plans, which include capital projects, operating expenditure and forecast revenue budgets. Each region is divided into areas, which are responsibility or cost centres, each headed by a manager. These cost centres prepare their budgets and then submit these to their respective regions. Usually in the region, the accounting department is the secretariat and is in charge

of the compilation of the budgets of their various cost centres. At the regional level, until recently, the accounting departments were involved in preparing the operating budgets, whereas the capital budgets were prepared by the network development and local network development groups at the region. The marketing group at the region will do the forecasting of the customer growth and market plan, taking into account factors like historical data, economic indicators, the country's development programme, market orientation and productivity improvement measures i.e. the top-down forecast (interview with regional manager on December 1991).

But as from 1992, the head office has forecast a preliminary set of market and sales figures for telephone DELs and the major services for each region, based on the region's performance for the first six months of 1991. This forecast is used only as a guide by the regions in estimating their revenues for the budget year and the next four years. In addition, the management sets operating profit targets for each region for the budget year. Again, these are used as a guide in preparing the business plan. These forecast figures are sent to the regions in the month of June or early July of the year.

The management's targeted sales and market figures and the gross operating profit are discussed with all the Regional General Managers (RGM) at the August management

forum meeting (a monthly meeting held by the top management with the RGMs on operational and other matters. It is usually chaired by the Executive Director). During this meeting, the RGMs are given the chance to discuss their regions' forecasted figures in relation to the management's target. Usually, after long deliberation and discussion, a compromise is reached between the top management and the various regions on the targeted figures.

Once the targeted figures are agreed, the business plan of each region is consolidated by its secretariat at the regional level from the various sections/areas involved in the capital projects, sales and market plan and operating expenditure budgets including the manpower planning. Then by the end of August, the region submits the first draft of the business plan (consisting of data in the format as given) to the Corporate Planning Department at Headquarters. The Corporate Planning Department passes it to the Corporate Finance Department, which scrutinises the figures submitted by the regions/divisions proposed budgets and consolidates them into a business plan for the company as a whole.

After rechecking, the proposed business plan is given back to the Corporate Planning Department, whose head then calls a meeting with the relevant heads of department (known as the head office group): the General Manager (Corporate Finance), General Manager (Marketing),

General Manager (Network Engineering), General Manager (Support Services), and General Manager (Human Resources). This meeting is held in early September. The aim is to determine ways to rationalise the proposed business plan submitted by the regions/divisions. The Corporate Planning Department separates out specialised areas for scrutiny by small committees, for example human resources, marketing, etc. These committees examine the budget proposals and resubmit them to the main committee. From 1987 to 1990, an initial rationalisation of the proposed budget took place in the month of September, whereby the HQ group, led by the Corporate Planning Manager and Corporate Finance Manager, visited each region in order to examine and rationalise its budget proposal.

This first phase of rationalisation involved examining and questioning the budget plan of the region in detail and looking into the inter-related functions. The regional GM and his team attended a meeting to justify their business plan, especially the number of projects proposed, but also other related capital expenditure, together with their revenue forecasts and operating expenditure budgets.

After streamlining of the budget proposals, by the end of September the regions will submit amended versions to the Corporate Finance/Corporate Planning Departments, based on commitments made after the first phase of

rationalisation with the HQ group. During this first phase of rationalisation, no definite decisions are made and no slashing is done, since this committee has no power to do so.

Upon receiving the amended/revised budgets from the regions, the corporate finance group will again scrutinise them and consolidate them into an updated proposed budget. This will be analysed by the corporate planning department and corporate finance department based on two different scenarios - (i) the rationalised way; and (ii) the most likely way, and presented to the Budget Committee (Management Review) for review and examination. This management review is what is known as the second phase of rationalisation by the top management and usually takes place by the end of September.

According to the Corporate Planning group, the criteria used in determining the business plan, change from time to time. During the period from 1987-1990, the business plan was based on financial need, since clearing up the mess preparatory to listing of the company was the main target, and in determining the CWP for the company, the Capping Approach was introduced during this period. But from 1991-1992, the focus changed to clearing the waiters and future demand, i.e. technological needs, though finance continued to play a major role. But as from 1993, it is more based on the business needs, i.e. a

balance between financial, technological and other criteria.

The Budget Committee is headed by the Executive Director (Finance) (before 1992, it was headed by the Executive Director (Operation)) and its members consist of Director of Finance (up to 1992, where the post was upgraded to the Executive Director post), Director of Network Services, Director of Marketing, Senior GM of Support Services, Senior GM of Human Resources, GM of Corporate Planning and GM of Corporate Finance. This is where the budget as a whole is analysed thoroughly and major slashing is done, especially on the proposed capital projects. The rationalisation (or *cut-off* as it is called by the engineers) is done by taking into account the region's constraints, capabilities, human resources and contract availability. Along with this, the management will review the recommendations made by the Corporate Planning and Corporate Finance groups, who will suggest the confidence level/achievable limits based on the company needs, i.e. analyse the various scenarios. Once the Management Review has agreed on the capital expenditure budget, which constitutes a major portion of the total budget, then the revenue budget is reviewed based on the agreed capital expenditure budget. This is followed by the operating expenditure budget (including human resources budget) which is analysed in order to support changes made in the capital expenditure and revenue budgets.

Once the second phase of the rationalisation has been finalised and agreed by the Management Review, the business plan is presented at the Management Forum to all the Regional General Managers, early in November. This is an important stage as the plan will affect the RGMs. One senior manager commented:

"The pressure is on the RGMs since the regions (including the international division) are the profit centres of the company and thus the finalised business budget will directly affect them more than other divisions which are cost centres to the company, especially with respect to performance measurement".

After being presented to the RGMs, the business plan is submitted at the Management Committee Meeting (MCM). This is the highest level of committee after the board of directors. The Executive Chairman presides over the meeting, and the members consist of the two Executive Directors, Director of Marketing, Director of Technical Services, Senior GM of Support Services and Senior GM of Human Resources. During this meeting, the executive director, corporate planning manager and corporate finance manager brief all members on the proposed business plan. Since most of the members were involved during the second phase of rationalisation, usually there are only minor changes to the business plan at this stage. Once the MCM has endorsed the business plan, it is presented to the board of directors for approval at the

end of November or early in December. Usually, the board is briefed on the proposed business plan by the executive director and after some discussion, the business plan is approved by the board.

As can be seen from the above, the concept of the business plan under STM is very different from under JTM. This reflects the greater status accorded to the finance group in the overall managing of the budget of the company. This can be seen from the formation of the Corporate Finance Department which is now responsible for monitoring the overall budget implementation. The Budget Committee is headed by the Executive Director (Finance) and all new capital projects submitted to the budget committee must first be evaluated for viability by the Corporate Finance group. This has resulted in an increase in the role of accounting and an attempt to change values in accordance with financial considerations. As stated earlier, the aim of the top management is to inculcate sound planning practices and commercial awareness in the engineers.

6.3.3 Capital Expenditures Budget

The capital expenditures budget (CEB) is part of the business plan which is prepared by the regions/divisions. The divisions/regions prepare their own estimates of the number of projects. Under the company environment, these

estimates are tied to the market plan and financial plan, where customer growth and incremental revenues become the major considerations. The capital projects at the regions are usually done by the four network development departments, namely local network development, switching network development, longlines network development and property development, headed by the respective Assistant General Managers of each development group.

Since the CEB is one of the biggest portions of the overall company expenditure, the management has provided some guidelines which project managers should consider when preparing the capital works budget. These are:-

(i) Prioritise the projects based on the return on investment and according to the importance of the projects with respect to improvement of the telecommunication services.

(ii) In the case of a multistate project coordinated and controlled by the HQ network planning group, the region should obtain accurate information to help the project managers to plan and forecast their Capital Works Programmes effectively.

(iii) Project managers should ensure at all times that the implementation schedule for projects and expenditures are accurate and realistic.

(iv) Finally, they should ensure that all the relevant data are recorded accurately and updated regularly in the forms CW01, CW02, CW03, CW04, and CW05 (as shown in Tables 6.2(a) and 6.2(b), and Tables 6.3(a) to 6.3(c)) which become the basis for reporting and monitoring used by the headquarters groups and fulfilling

TABLE 6.2 (a) - CAPITAL WORKS ON CASH EXPENDITURE (FOR ON GOING PROJECTS)

(STM)

**Capital Works Programme 1990 - 1995
Cash Expenditure Information**

Region / Area		State		Asset Account					
Priority No	Subsidiary No	Project name	Project Status	Project Code	Urban / Rural Project	Contract no.	Indent no.	Project Value	Import Tax

The following information is required by the management; Thus records / entry must be filled in the following along with other information :-

- a) Project status.
- b) Project code
- c) Urban or Rural Project.

./...

Table 6.2 (a) - continued

Region / Area	State										Asset Account		
	Actual Expenditure Up to 1987	1988	Total 1989	Total 1990	Total 1991	Total 1992	Total 1993	Total 1994	Total Balance 1995	V.O	New Project		

The following information is required by the management; Thus records / entry must be filled in the following along with other information :-

- a) Project status.
- b) Project code
- c) Urban or Rural Project.

Source: Business Plan Document, 1990.

TABLE 6.2 (b) - CAPITAL WORKS IN THE FORM OF ACCRUAL EXPENDITURE (ON-GOING PROJECTS)

(STM)

**Capital Works Programme 1990 - 1995
Accrued Expenditure Information**

Region / Area		State			Asset Account									
Priority No.	Small No.	Project Name	Project Status	Project Code	Urban Rural No.	**	Project Value	Import Tax	Expenditure to 1987	Expenditure to 1988	Total 1989	Total 1990	Total 1991	Total 1992

Notes: 1- ** Column Quarter 1, 2,3 and 4 for 1989 and 1990 ; Contract and Indent Number are not shown in the above format.

- 2- The following information is required by the management; Thus records / entry must be filled in the following along with other information :-
- a) Project status.
 - b) Project code
 - c) Urban or Rural Project.

Table 6.2(b) - continued.

Region / Area		State				Asset Account						
Total 1993	Total 1994	Total 1995	Balance	Date Start	Actual Date Start	Date FAI done	Actual Value Completed	Estimated Value Completed	Date Expected to complete	Value up to 30/9/89	Date Approved	Reference no

Notes: 1- ** Column Quarter 1, 2,3 and 4 for 1989 and 1990; Contract and Indent Number are not shown in the above format.

- 2- The following information is required by the management; Thus records / entry must be filled in the following along with other information :-
- a) Project status.
 - b) Project code
 - c) Urban or Rural Project.

Source: Business Plan Document, 1990.

TABLE 6.3 (a) - CAPITAL WORKS ON CASH EXPENDITURE (FOR NEW PROJECTS)

(STM)

**Capital Works Programme
Cash Expenditure Information**

Region / Area	Priority	Project name	Project Status	Project Code	Urban Rural	Contract No	State		Asset Account									
							Import Tax	Total 1989	Quarter 1	Q 2	Q 3	Q 4	Q 5	Total 1990	Total 1991	Total 1992	Total 1993	Total 1994

The following information is required by the management; Thus records / entry must be filled in the following along with other information :-

- a) Project status.
- b) Project code
- c) Urban or Rural Project.

Source: Business Plan Document, 1990.

TABLE 6.3 (b) - CAPITAL WORKS ON ACCRUED EXPENDITURE (FOR NEW PROJECTS)

(STM)

Capital Works Programme 1990 - 1995
Actual Expenditure Information

Region / Area	State				Asset Account							
	Project name	Project Status	Project No.	Urban / Rural Project	Contract No.	Project Value	Import Tax	Total 1989	Quarter 1	Quarter 2	Quarter 3	Quarter 4

The following information is required by the management; Thus records / entry must be filled in the following along with other information :-

- a) Project status.
- b) Project code
- c) Urban or Rural Project.
- d) Date expected to start
- e) Date expected to complete
- f) Project Approved date (PKA) .

Continued
TABLE 6.3 (b) - CAPITAL WORKS ON CASH EXPENDITURE (FOR NEW PROJECTS)

Region / Area	State					Asset Account				Reference no			
	Total 1990	Total 1991	Total 1992	Total 1993	Total 1994	Total 1995	Balance	Date	Expected to start		Date	Expected to complete	Approved date

The following information is required by the management; Thus records / entry must be filled in the following along with other information :-

- a) Project status.
- b) Project code
- c) Urban or Rural Project.
- d) Date expected to start
- e) Date expected to complete
- f) Project Approved date (PKA) .

Source: Business Plan Document, 1990.

TABLE 6.3 (c) - CAPITAL WORKS IN PHYSICAL EXCHANGES FORM.

**CAPITAL EXPENDITURE PROGRAMME 1990-1995
PHYSICAL EXCHANGE ACHIEVEMENT.**

REGION	STATE	EXCHANGE	PROJECT NO.					URBAN / RURAL			
			87	88	89	90	91		92	93	94
SCOPE / ACHIEVEMENT		Actual	87	88	89	90	91	92	93	94	95
		Forecast									
TELEPHONE -											
		Demand (Cumulative)									
		Customer (Cumulative)									
EXCHANGE LINE CAPACITY (ELC)											
		Available (1st Of Jan)									
		On going project									
		Proposed project / New									
		Transferable (add / Reduce / stop)									
		Total (31 st Dec)									
EXCHANGE CAPACITY PAIR (ECP)											
		Available (1st Of Jan)									
		On going project									
		Proposed project / New									
		Transferable (add / Reduce / stop)									
		Total (31 st Dec)									

Source: Business Plan Document , 1990.

the above three guidelines for control purposes.

(Source: Company Document, 1989)

Basically the Capital Works Programme has two components:-

(i) 'Exchange Projects': switch network projects, land and building exchanges, and local network projects. These projects are directly related to the total demand and number of telephone customers.

(ii) 'Non-Exchange Projects': 'stand alone' projects, including long distance network, store and works, International and administration buildings and quarters.

(Source: Company Document 1989).

With respect to the calculation of the project cost estimates, the following factors need to be included:-

- (i) inflation rate to be expected
- (ii) exchange rate of foreign currency
- (iii) import tax
- (iv) price variation as shown in the contract.

(Source: Company Document, 1989).

Once the business plan for the Capital Works Programme is approved by the board of directors, all the RGMS/Heads are informed of the total capital expenditure approved for their respective regions/divisions. This is usually less than the amount requested, so the regions/divisions need to prioritise their projects. Even when a project has been approved, before it is implemented, the project manager needs to obtain further

approval under the Project Implementation Approval guidelines issued by the Corporate Planning Department and under the Financial Instructions of the company. This is where the RGM or head of division (or even higher up, depending on the value of the projects to be implemented) has to approve the project to be implemented. The rationale, according to the management, is to make sure that someone higher up, with authority, is accountable for the particular project that he has approved. This is quite justified, given the fact that there are more than 6,000 projects running at any one time.

Again, with regard to preparation of the Capital Expenditure budget by the engineers, the aim is to inculcate commercial / financial values among them. The engineers now need to link new projects to the demand/market plan. Cost estimates have to be made taking into account financial considerations such as inflation rate, exchange rate, import tax and price variation. Under JTM, the Capital Expenditure Budget was prepared as a lump sum. The budget preparation was dominated by engineers, who had little interest in commercial values and saw no need for detailed financial analysis of each individual project. Under STM, the Budget Unit is directly under the Finance Group. Thus, there appears to be an increase in the accounting sphere of influence.

6.3.4 Monitoring and Control of Capital Expenditure Budgets

As already mentioned above, for approval of CEB, there are two steps which all the responsibility heads must follow. First, the region/division needs to obtain annual budget approval from the board on the new projects after the CEB proposed by the regions/divisions has been examined by the budget and management committees. Second, after the CEBs have been approved by the board, approval for project implementation must be obtained from authorised personnel, in accordance with the guidelines issued by the Corporate Planning Division and with the company's Financial Instructions, 1987 (amended 1989).

With respect to monitoring of the projects, once projects have been prioritised by the regions/divisions, taking into account their actual Capital expenditure budget approved by the board, forms need to be completed in the format CW02 and CW04 for accrual expenditures and forms CW01 and CW03 for cash expenditure. Copies of these forms are submitted to the Corporate Finance Department and Corporate Planning Department in order to coordinate with the management reports. To enable close monitoring of accrued expenditures by the corporate planning group, the project managers need to submit forms CW02 and CW04 quarterly. For cash expenditures, monitored by the Corporate Finance Department, forms CW01 and CW03 forms must be submitted monthly.

Another method of monitoring the capital expenditure budgets is through the Project Expenditure Report. This is reported in two ways: first, by information related to cash expenditure and accrued expenditure, as shown in forms CW01.1, CW02.1, CW03.1, CW04.1 and CW04.2 shown in Tables 6.4(a) to 6.4(e); and secondly, form CW05 in Table 6.3(c) to monitor achievement on the installations of the exchange line capacity and effective cable pairs.

Forms CW01, CW02, CW03, CW04 and CW05 become the basis for reporting and monitoring used by the HQ groups. Details of these are as follows:

Form CW01 - This relates to cash expenditure (or cash flow) for on-going projects. Monthly figures for the current year and budget year are shown separately.

Form CW02 - This relates to on-going projects based on accrued expenditure, showing the real value of the physical development of the project. Quarterly figures for the current year and budget year are shown separately.

Form CW03 - This relates to the estimated cash flow of projects which have been approved but not yet started and new projects which are considered necessary to be implemented. Estimated cash figures are shown here on a quarterly basis for the current year.

Form CW04 - This relates to projects which have been approved but not yet started and new/proposed projects based on the accrual expenditure to be incurred. Estimated accrual figures are shown on a quarterly basis for the current year.

Form CW05 - This relates to other information related to the physical exchanges such as total

TABLE 6.4 (a) Summary of Cash Expenditure on Current Projects

STM CAPITAL WORK PROGRAMME
CASH EXPENDITURE SUMMARY - ON GOING PROJECT

AREA / REGION	STATE	87	88	89	Q1	Q2	Q3	Q4	Total	91	92	93	94	95
		(Actual)	(Actual)	(Actual)	(Budget)	(Budget)	(Budget)	(Budget)	(Budget)	1990				
Asset Account														
BUILDING (BP)														
Switching Network Building														
Longline Network Building														
International Network Building														
Store / Workshop Network Building														
Administration Network Building														
Training Network Building														
LAND (LP)														
Switching Network Land														
Longline Network Land														
International Land														
Store / Workshop Land														
Administration Land														
Training Land														
MANAGEMENT EQUIPMENT														
INTERNATIONAL EQUIPMENT														
OTHER ASSET (HP - FROM CWO 1)														
SWITCHING NETWORK (SN)														
TOTAL														

Source: Business Plan Document , 1990.

TABLE 6.4 (b) Summary of Accrual Expenditure on current projects

STM - CAPITAL WORK PROGRAMME
 ACCRUAL EXPENDITURE SUMMARY - ON GOING PROJECT

AREA / REGION	STATE	87(Actual)	88(Actual)	89(Budget)	Q1	Q2	Q3	Q4	Total (90)	91	92	93	94	95
Asset Account														
BUILDING (BP)														
Switching Network Building														
Longline Network Building														
International Network Building														
Store / Workshop Network Building														
Administration Network Building														
Training Network Building														
LAND (LP)														
Switching Network Land														
Longline Network Land														
International Land														
Store / Workshop Land														
Administration Land														
Training Land														
MOVEABLE ASSET (HP - FROM CWO1)														
Project (From CW02)														
Non-Project (From CW07)														
OTHER ASSET (HP- from CWO8)														
SWITCHING NETWORK (SN)														
LONG-LINES NETWORK (LLN)														
LOCAL NETWORK (LN)														
TOTAL														

Source: Business Plan Document , 1990.

TABLE 6.4 (c) Summary of Cash Expenditure on new / proposed / non-implementing projects

STM - CAPITAL WORKS PROGRAMME
 CASH EXPENDITURE SUMMARY - PROJECT NOT STARTED / NEW / PROPOSED

AREA / REGION	STATE										
	1989 (Budget)	Q1	Q2	Q3	Q4	Total (90)	91	92	93	94	95
Asset Account											
BUILDING (BP)											
Switching Network Building											
Longline Network Building											
International Network Building											
Store / Workshop Network Building											
Administration Network Building											
Training Network Building											
LAND (LP)											
Switching Network Land											
Longline Network Land											
International Land											
Store / Workshop Land											
Administration Land											
Training Land											
MANAGEMENT EQUIPMENT											
INTERNATIONAL EQUIPMENT											
OTHER ASSET (HP - FROM CWO 1)											
SWITCHING NETWORK (SN)											
LONG-LINES NETWORK (LLN)											
LOCAL NETWORK (LN)											
TOTAL											

Source: Business Plan Document , 1990.

TABLE 6.4 (d) Summary of Accrual Expenditure on new / proposed / non-implemented projects

STM CAPITAL WORKS PROGRAMME 1990 - 1995
 ACCRUAL EXPENDITURE SUMMARY - PROJECT NOT STARTED / NEW / PROPOSED

AREA / REGION	STATE	89 (Budget)	Q1	Q2	Q3	Q4	Total (90)	91	92	93	94	95
Asset Account												
BUILDING (BP)												
Switching Network Building												
Longline Network Building												
International Network Building												
Store Workshop Network Building												
Administration Network Building												
Training Network Building												
LAND (LP)												
Switching Network Land												
Longline Network Land												
International Land												
Store / Workshop Land												
Administration Land												
Training Land												
MANAGEMENT EQUIPMENT												
INTERNATIONAL EQUIPMENT												
OTHER ASSET (HP - FROM CWO 1)												
SWITCHING NETWORK (SN)												
LONG-LINES NETWORK (LLN)												
LOCAL NETWORK (LN)												
TOTAL												

Source: Business Plan Document , 1990.

TABLE 6.4 (e) Summary of Accrual Expenditure on new projects to be implemented in the following year.

STM - CAPITAL WORKS PROGRAMME 1990 - 1995
 ACCRUAL EXPENDITURE SUMMARY FOR PROJECT TO BE IMPLEMENTED AS FROM 1993.

AREA / REGION	STATE		URBAN PROJECT		
	Project Value	1993	1994	1995	Balance
Asset Account					
BUILDING (BP)					
Switching Network Building					
Longline Network Building					
International Network Building					
Store / Workshop Network Building					
Administration Network Building					
Training Network Building					
LAND (LP)					
Switching Network Land					
Longline Network Land					
International Land					
Store / Workshop Land					
Administration Land					
Training Land					
MANAGEMENT EQUIPMENT					
INTERNATIONAL EQUIPMENT					
OTHER ASSET (HP - FROM CWO 1)					
SWITCHING NETWORK (SN)					
LONG-LINES NETWORK (LLN)					
LOCAL NETWORK (LN)					
TOTAL					

Source: Business Plan Document , 1990.

demand and telephone customers, exchange lines capacity and effective cable lines.

(Source: Financial Instructions (1989) on Procedure of Capital Expenditure of the company).

Once the budget is prepared, monitoring and control become important. In JTM days, these functions were performed by outside bodies such as the Federal Treasury and EPU, and the internal side was dealt with mainly by engineers. In the absence of monthly reports, it was not possible to monitor efficiently. All this changed under STM. We can see that the new procedures introduced were intended to make the engineers more accountable and encourage them to operate on commercial lines. The engineering values which prevailed during JTM days must, under STM, compete with accounting values reflected in the new procedures for monitoring the capital expenditure budget. The new distinction between cash and accrual reporting, for example, reflects the attempt to make the engineers more financially aware.

6.3.5 Operating Expenditure Budget

Operational planning with respect to regions and international divisions is linked to sales figures, since the company uses these regions as profit centres. However, for the divisions at HQ levels it is not possible to use this approach, since they are cost centres, so it is difficult for them to justify

increases. For these reasons, according to an officer in the budget department, slack budgeting seems to take place in the cost centres as compared to profit centres departments/regions. As he continues:

"Slack budgeting does not take place among the regions because expenses are always related to revenues. Thus over the years, they do not inflate the figures. Whereas it does take place among the divisions since they are cost centres and the pressure is not on them. Thus, usually during the budget examination, the budget unit and budget committee will check thoroughly on the proposed budget submitted by the divisions".

The operating expenditure is divided into three main classes, namely, labour, materials and incidental. The budget for total labour is quite straight forward, whereas for material, it will depend on the explanation given. In the case of incidental items, justification is usually needed and the budget holder will have to give supporting details. Table 6.5 shows the breakdown of the three main classes of operating expenditure of the company.

Once the budget is approved and the figures are released to all the regions/divisions, they will need to give a breakdown of monthly estimates from January to December. This process is important, since in monthly reporting, the actual expenditure will be compared against the budgeted monthly figure given by the

TABLE 6. 5- Operating Expenditure of STM grouped under 3 main type of Expenditure namely Manpower, Material and Incidental.

TYPE OF EXPENDITURE

MANPOWER

- Executive - Salaries
- Non-Executive - Salaries
- Allowances
- EPF
- Sosco
- Staff Benefits
- Overtime
- Medical

Total Manpower

MATERIAL

- Equipment & Equipment parts
- Auto Mobile
- Building Parts
- Fuel Gas
- Furniture Fitting Renovation
- Office Machines Equipments
- Stationery
- Uniform
- Publication Photo Microfilms
- Subscribers' Equipment
- Cable
- Other Materials

Total Material

INCIDENTAL

- Transport & Travelling
- Maintenance
- Rental Lease (including Lease Int)
- Electricity
- Water
- Postage Courier Services
- Assessment Quit Rent
- Training
- Insurance
- License & Other fees
- Advertisement
- Corporate Promotions
- Security services
- International Services Charges
- Professional Charges Fees
- Charges and Commissions
- Miscellaneous
- Allocated Charges

Total Incidental

Total Expenditure.

Source: Company Document , 1990.

respective cost centre/budget holder. Thus it is important for the division/region to break-down the budget into monthly figures as accurately as possible, rather than simply divide the annual total by 12. In the case of the region, the break-down into monthly budgeted figures is done by the budget holder, since monitoring by the company is done up to that level only.

We can see that with respect to operating expenditure, the recognition of the regions as profit-centres represent an attempt to introduce new values. Increased operating costs, for example, have to be justified by increase in future revenue. Again, the breakdown of the expenses figures into monthly figures, made possible by the monthly management report as a basis for performance evaluation, shows the top management's desire to instill new commercial values in the managers, especially the engineers.

6.3.6 Monitoring and Control of Operating Expenditure

After the plan has been put into operation, for the operating expenditure to be effectively and efficiently used by the responsibility centres, certain forms of monitoring take place. The monitoring and control of the operating expenditure are carried out in several ways:-

6.3.6.1 Budget Allocation

The operating expenditure budget that has been passed by the budget committee and approved by the board is for one financial year (i.e. from 1st Jan-31st December). During this time, the responsibility centre can spend no more than the amount approved by the board. The responsibility centre heads need to break down the operating expenditure into monthly figures, which become the basis for comparison with actual amounts in the monthly reports, which include variance analysis.

In addition, to increase the effectiveness of control, the responsibility heads divide the allocation into half-yearly amounts which should not exceed half the total allocated in the first six months. If the amount is not sufficient for this period, the responsibility heads should investigate the reasons, and apply for a supplementary allocation, giving proper justification.

Here again, we can see the attempt to introduce a new value system to the individual managers, including engineers, requiring them to manage their operating expenditure in accordance with commercial / financial considerations.

6.3.6.2 Commitment of Expenditure

A vote book is kept by all the responsibility centres in order to control the commitments made from the

allocation amount provided to each of them. When the responsibility head sub-allocates the warrants to the cost centres under him, the vote book holder will credit the vote book with the amount received. When any commitment is made, the vote book balance is reduced by that amount. No expenditure or commitment can be incurred before the allocation balance has been checked and authorised. This system recognises transactions when the company is committed to the supplier, e.g. transactions are recognised when orders are issued.

Again here, the reason for introducing this system was to inculcate the accrual concept of accounting, especially with respect to capital projects. As the company is a capital-based industry, capitalising the projects at the proper time is important as it affects the depreciation of these assets.

In order to achieve proper control in incurring expenses from the allocated budget, the following rules are issued by the Budget Unit (Corporate Finance Division) and Corporate Accounts Division, to which the responsibility head must adhere strictly:-

- a) Initially the expenditure needs to be planned.
- b) The vote book must be checked before any commitment is made.
- c) The vote book must be updated immediately after order or commitment is made.

d) A reconciliation statement must be prepared to reconcile the expenditure in the vote book with the expenditure in the General Ledger System.

e) The accounting head of the region (on behalf of the General Manager) and the Budget Unit for the HQ divisions are responsible in managing the vote book, where they have to authorise the balance and make an analysis on their respective expenditures.

(Source: Company Document (1989) and discussion with the officer's concerned).

Thus we can see the accounting role increasing in making sure that these systems work. The reason for enforcing points (a), (b) and (c) is to avoid over-commitment on the budget allocation. Updating the vote book immediately after the commitment is made, will help the responsibility head in authorising the local purchase order, since the updated balance is known. The updated balance can also be used as a guide to plan for future expenditure.

6.3.6.3 Reporting

Several types of reporting system are implemented by the company for control and monitoring of operating expenditure.

(a) Expenditure Reporting

This reporting is done monthly by each cost/responsibility centre to show the budgeted amount

and the actual expenditure incurred for each item under the three main groups of operating expenditure, namely manpower, materials and incidental, as shown in Table 6.5. The objective of this reporting is to assist the management to measure the cost/responsibility centres' performance and to review the budget. It is the responsibility of the budget holder to make sure that all expenditure is correctly allocated to the appropriate expense centre as shown in Table 6.5 and classified correctly. The expenditure report must also provide sufficient, relevant and timely information in order to assist the management in analysing the report. Table 6.6 shows the monthly expenditure reporting of the company, classified into current month - where the report shows the actual amount incurred (i.e. the accrual system is used which includes not only amounts spent, but also amounts realised but not paid) for the month, budgeted amount for the month and last year's monthly figures for actual amount incurred; year to date - where the report also shows the monthly actual incurred accumulated figures up to the reporting month, budgeted accumulated figures up to the reporting month and last year's actual incurred accumulated figures up to the reporting month; annual budget (current year) and actual amount of last year - where the report shows the amount approved by the board for the current year and the actual expenditure incurred last year.

TABLE 6.6 - Monthly Operational Expenditure Reporting Format for STM as a whole.

**STM
Operating Expenditure for the month of June 1989**

	[Current Month		[Year To Month		1989		[1988		
	[Actual (\$'000)	Forecast (\$'000)	Last Year Actual	[Actual (\$'000)	Forecast (\$'000)	Last Year Actual	Forecast (\$'000)	Budget (\$'000)	[Actual (\$'000)
MANPOWER									
Executive - Salaries									
Non-Executive - Salaries									
Allowances									
Overtime									
EPF									
Staff Benefits									
Medical									
TOTAL MANPOWER :									
MATERIAL:									
(Cash)									
Equipment parts									
Auto Parts									
Building Parts									
Fuel / Gas									
Furniture / Fitting / Renovation									
Office Machine / Equipment :									
Stationery									
Uniforms									
Publication / Photo / Microfilms									
Other Materials									

Continued Table 6.6:

	[Current Month			[Year To Month			[1989			[1988		
	[Actual [(\$'000)	Forecast (\$'000)	Last Year Actual	[Actual (\$'000)	Forecast (\$'000)	Last Year Actual	Forecast (\$'000)	Budget (\$'000)	[Actual (\$'000)	Forecast (\$'000)	Budget (\$'000)	[Actual (\$'000)
(COSTED)												
Customers Parts												
Other Material												
Workshop Charge												
TOTAL MATERIAL												
INCIDENTAL												
Transport & Travelling												
Maintenance												
Rental Lease (including Lease Int)												
Electricity												
Water												
Postage / Courier Services												
Assessment / Quit Rent												
Training												
Insurance												
License & Other fees												
Advertisement												
Miscellaneous												
General Financial Fees												
Total Incidental												
Total Operating Expenditure.												

Source: Monthly Management Report, 1989.

The monthly expenditure reporting by the individual managers for submission to the Finance Division provides further indication that management want to instill financial values. The practice of comparing actual versus estimated figures, and current with previous year's figures, as shown in Table 6.6, reflects the management's desire to monitor closely each item of expenditure. The introduction of such practices may be expected to bring about an increase in the influence of accounting values.

(b) Variance Reporting

All RGMs and Heads of Divisions are responsible for ensuring that variances are reported for use in analysing and monitoring the performance of each responsibility centre. Reports usually show the current month variance, where the actual figures are compared with the budgeted figures for the month concerned. For additional information, previous year's monthly actual figures are also shown. The variances for the year to date are also shown, where comparison is made between actual and budgeted figures to date. Again, for additional information, last year's actual figures to date are also shown. This is as shown in Table 6.7.

Explanation of the differences must be given by each responsibility centre, especially if there is substantial deviation from the budgeted figures. Usually, in determining the cause of variances, the responsibility

TABLE 6.7 - Monthly Profit and Loss Statement for a regional using Profit-Centre basis for Central Region as an example

STM

Income/Expenditure Performance for month of June 1989
(CENTRAL REGION)

	[Current Month			[Year To Month			1989			1988		
	[Actual (\$'000)	Forecast (\$'000)	Last Year Actual	Actual (\$'000)	Forecast (\$'000)	Last Year Actual	Forecast (\$'000)	Budget (\$'000)	[Actual (\$'000)			
SALES												
Business Telephone	36.267	38.508	33.679	207.637	226.575	187.127	435.682	435.682	419.455			
Residential Telephone	16.924	14.759	13.570	98.515	86.492	83.269	209.278	209.278	159.641			
ATUR	2.609	1.344	1.184	10.961	7.536	8.129	24.289	24.289	14.575			
Telex	2.367	2.703	2.473	16.457	16.655	19.626	32.190	32.190	38.700			
Leased Services	3.758	3.262	3.107	19.988	19.269	18.643	43.045	43.045	37.282			
Other Services	399	1.267	163	2.287	6.747	1.724	4.533	4.533	3.806			
Special Services	313	3.086	584	3.500	18.436	3.447	7.652	7.652	9.553			
Miscellaneous	0	0	0	0	0	0						
TOTAL SALES	62,627	64,929	54,760	359,345	381,708	323,965	756,669	756,669	683,012			
OPERATIONAL Expenditure												
Manpower	7.694	7.653	7.117	43.123	45.770	42,088	88.097	88.097	82.220			
Material	3.142	3.272	829	9.582	16.251	9.219	33.876	33.876	18.106			
Incidental	5.379	2.831	2.182	13.302	18.787	12.873	33.228	33.228	35.729			
Total Operational Expenditure	16,215	13,756	10,128	66,007	80,808	64,180	155,261	155,261	136,055			
Operational Profit before provision	46,422	51,173	44,632	239,338	300,900	259,785	601,408	601,408	546,957			

heads will consult with the line managers and supervisors. Variance reporting includes not only explanation of variances, but also the appropriate action to be taken.

The RGMS have to submit the expenditure and variance reporting to the corporate finance department, which is responsible for compiling, evaluating and monitoring the budget as a whole. The report will be discussed at the monthly budget committee meeting with all RGMS, together with capital expenditure, sales and revenue plan and non-financial information.

Here again, we can see that by introducing variance reporting, which did not exist under JTM, the management is making the individual managers more accountable within their area of responsibility. There is a clear aim to instill commercial values, by taking action against those whose spending deviates unjustifiably from the budget. This again is expected to result in a change in emphasis, with accounting role emerging in the organisation and may lead to an increase in commercial values.

6.3.7 Discussion of the monitoring and control of the budgeting system under STM

Control of the budget allocation for operating expenditure has been quite stringent, in the sense that the responsibility unit has to break down the yearly

approved expenditure into 12 months, and is restricted to spending up to half of the approved amount in the first six months of the total budget.

As for monitoring and control through reporting, for the operating expenditure, relevant, accurate and timely reports of actual versus budgeted amounts, provided by all responsibility centres, are important to enable performance to be measured against budget. Preparation of monthly expenditure reports and variance analysis reports enables progress towards objectives to be checked and precautions taken at an early stage. Variances can be brought to the attention of the manager as early as possible, so that necessary action can be taken. In requiring these reports, the management is trying to instill financial discipline in individual managers.

The expenditure reports and variance analysis report are also used by the budget committee in their monthly meeting with the RGMS. From this report, the company's overall performance will be evaluated and summarised. As mentioned earlier, the RGMS and GM (International Division) have an additional responsibility to make sure that their performance targets are achieved every month, so as to accomplish the overall performance of the company for that particular year. This heavy additional responsibility is shouldered by them, since they are responsible for the only recognised profit-centres in the company.

With respect to the monthly reporting of the regions, the Profit and Loss account shows the total sales (and the breakdown of the sales in term of business telephone, residential telephone, ATUR, Telex, Leased Circuits, other Services, and special services). With respect to expenditure, it only includes operational expenditure. Thus for the regions/International Division, the profit is ascertained up to operational profit, before any other provision.

However, for the regions and international division, the monthly reporting includes not only the financial results but also other non-financial information, such as customer growth, productivity, and quality of service. From these monthly regional reports, we can see the changes that have taken place in the regions (such information was not available as on a monthly basis during JTM's time). The orientation and outlook may indicate that changes has taken place from a service approach to a result-oriented approach. Thus, overall, we can see that the monitoring and control system under STM is more stringent, with the aim of making the individual managers more accountable. The managers (especially the engineers) are expected to pay more attention to financial considerations than they did in the past. Thus, this may lead to increase in the influence of accounting and may lead to a reduction of engineering influence since monitoring and control of the budgeting system is

to be based on commercial/financial criteria, as opposed to the engineering criteria which prevailed under JTM.

6.3.8 Discussion on the reporting system

With respect to capital expenditure reporting, the new reporting system incorporates both the cash and accrual expenditure incurred in a separate form and for each project, the demand and market of the actual figures for the previous year are given with estimates for the next five years. The figures are updated daily, using the on-line computerised system. In contrast, under the old system, only current figures were shown and only with respect to the expenditure incurred i.e. cash figures. The expenditure and variances as shown in Tables 6.6 and 6.7 exemplify the new system of monthly reporting, in line with the company's aim of making the individual managers more accountable within their areas of responsibility. Implementing this reporting system, may be expected to increase the influence of the accounting group who prepare and monitor the reports.

6.3.9 Flexibility of the business plan under STM for both the Capital and Operating Budgets

A certain flexibility is provided by the company under the Business Plan approach to the budget, as follows:-

6.3.9.1 Revision of capital and operating budget

For the capital budget, the amounts approved by the board will be on the total value of the projects as a whole, even though the projects could last for more than a year, which is quite common in this kind of industry. Thus, as an example, if a project is worth M\$2 Million and it is expected to be completed in four years, then when it is approved by the board in the budget year, the total value of the project, i.e. M\$2 million is approved. However, the project manager needs to break down the budget over four years. Let us say, for illustration, that it is divided equally, i.e. M\$1/2 Million each year. The flexibility comes when the project is moving faster than scheduled. If additional funds are needed in the second year, then the project manager can use the amount allocated for the third year, without having to ask for a supplementary budget. Again here, the aim is to make the engineers more accountable in their daily work so as to facilitate smooth running of the projects.

For the operating expenditure budget, flexibility arises from the amount approved for a year. The amounts used may be more than the half amount limit approved by the management, if the responsibility head can justify the spending in question. However the revision made should not lead to an overall increase in the year's provision approved earlier by the board.

6.3.9.2 Virement

Virement is defined as a transferring of an amount of budgetary provision for some specified items that are likely to be underspent, to other items in the budget that seem to be overspent.

The use of virement in this company is strictly controlled to avoid the breakdown in the budgetary control that might occur if it were misused. Sometimes overspend may be due to bad management by the person responsible for handling the expenditures. On the other hand, underspending does not necessarily mean that resources have been utilised wisely.

In dealing with virement, the company has set its rules as follows:-

(a) The virement must be for the same type of expenditure or for a different type of expenditure but on the same project.

(b) Virement for the same type of expenditure must have an authorisation from the respective director.

(c) Virement between different projects was not allowed from 1987-1989, but is allowed as from 1990 with the approval relevant officer depending on the amount.

(d) Virement between regions must be approved by Management Committee.

(e) Virement between responsibility centres must have approval from the General Manager.

(Source : Financial Instructions of the Company
1987 (Amended 1989))

From this, we can see evidence of accounting influence, since the rules with respect to virement came from the accounting group, who make sure that the engineers follow them. This is a significant development, considering that under JTM, one problem had been frequent, almost arbitrary, movements from one capital expenditure code to another. This was possible when accounting played only a small role, but under STM, with the increase in the accounting sphere of influence, it is intended that this behaviour should be minimised and eventually stop, especially with the emergence of the internal auditor in the new organisation.

6.3.9.3 Supplementary Provisions

When the responsibility head finds that the approved budget allocated for operating expenditure to his division/region is insufficient to carry out the centre's activities or programme, he can apply for a supplementary budget by submitting a proposal to the GM of Corporate Finance. The Budget Unit within the Corporate Finance Division will analyse the additional amounts requested and submit them to the board for approval.

However, for the capital expenditure budget, if the supplementary amount is needed in order to complete

projects, a proposal must be submitted to the corporate finance division, who will present it to the budget committee for consideration. The Budget Committee will usually ask the technical group at the head office to analyse and make a recommendation on the amount requested. Then it will be submitted to the board for approval.

6.3.10 Discussion of the flexibility of the budget under the Business Plan

Some flexibility is incorporated into the budget to make sure that unexpected events can be tackled by the responsibility head, in the interest of achieving target objectives. However, this flexibility is controlled in order to avoid any misuse of the budget. The control is achieved by asking the head or RGM to submit a supplementary budget proposal if he requires funds additional to the original amount approved earlier. Once this is submitted, it will go through the budget committee for analysis before submission to the board for approval.

Control of virement is quite stringent to avoid manipulation of the budget, for example by deliberately miscoding expenditure from an overspent category to an underspent category. To control this, approval must come from the GM after a request has been made by the unit head/cost centre head, and an explanation given. Usually,

virement is only allowed between items of the same type of expenditure. Virement between one project and another is not allowed, as this would confuse monitoring, and would remove the incentive to good planning. Overall, the management's intention is to make the individual managers behave as 'corporate men', instilling commercial values in them.

6.4 Comparison of budgeting systems under JTM and STM

Overall, one of the major changes that took place in the budgeting process under STM is that objectives are set within the organisation itself. The strategic planning is done by the board of directors and top management and operating planning is done by the regions. This is very different from JTM days, when the strategic planning was done by a central government agency and the operational planning was done by JTM staff.

As was commented by one senior executive of the company,

"During JTM days, our planning system was very much driven by budgeting i.e. using an incremental approach, whereas now, it is driven by corporate strategy".

And with respect to the Budget Unit, being under the engineers, another senior executive of the company commented,

"Under JTM, the budget unit was under the Corporate Secretariat which was controlled by the engineers. But, as its name implies, it was not outgoing and not forward-looking. The process was more or less the same but the corporate evaluation was lacking during that time".

In setting up a strategic plan, the management and the board of directors set objectives and ways to achieve them in both broad and specific terms. Once this is established, a guideline is prepared and circulated to all the divisions and regions involved in the business plan. Thus, through this process, the budget becomes a management control tool, whereby budget authority is delegated to lower-level managers and/or responsibility centres. This makes the division/region heads more responsible and accountable for their divisions'/regions' performance. The process involves participation of all levels of management, as the budgeting process is initiated at the lowest level of cost centres (i.e. at area level) and submitted to the regions, and so on upward. Lower level management are the people who know best what they need to achieve their target. Participation also minimises resistance towards the plans. With the guidelines provided within the organisation, the responsibility heads are always aware

of the corporate level plan, so they can make sure the operational level plan is properly formulated and consistent with corporate objectives. This process reflects the intention of the management to change the value system of the managers and make them more accountable than they were during JTM days.

The availability of the procedures and manual of budget preparation, which is a written record of the detailed procedures to be followed, including the timetable, provides a uniform framework for the regions, so it is possible to coordinate the proposed budget. The plan, in theory, should become more realistic, since there is coordination between the budget secretariat (i.e. the Corporate Planning Department) and the regions, with the Corporate Planning Department acting as an advisor or catalyst in any changes in company policy which affect the budget preparation. This indicates the management's concern with the accuracy of budget preparation and desire to inculcate sound planning and efficient management.

The approach to preparing the budget is completely different from that in JTM's time. The budget, or business plan, is a one plus four roll-over budgeting system. For example, in preparing the business plan for 1992-1996, the current year data (i.e. 1991) become historical data, those for the budget year (1992) will be the most accurate figures, and 1993 figures will be less

accurate but will become a planning variance. For the years from 1994-1996, no detailed figures will be included in the business plan, but only indicative figures which are nonetheless sufficient to indicate to the staff, where the company is heading.

Overall, the business plan which is a new budget system represents a 'result-oriented' approach for line managers. Top management expect these managers to come out with targeted objectives and targeted figures which must show an improvement or growth. If the line managers are not able to produce such figures, then the top management will, through the process of rationalisation, set targets which will eventually be accepted by the regions. Again, the top management is attempting to instill commercial values into the individual managers.

To date, budgets for capital expenditure are still being prepared at the regional level by the engineers. Accountants are still not involved, but the company is planning to appoint project accountants by the end of 1993. The duties of the project accountant which have been specified are firstly, to help in project planning and, secondly, to assist the engineers with project implementation and project costing.

From a financial accounting aspect, the project accountant should be able to advise the engineers on which expenses to capitalise and which items should not

be capitalised and once completed, that the project concerned should be transferred to fixed assets.

From a management accounting and corporate finance point of view, since not all projects can be implemented at the same time, the project accountant should be able to prioritise according to which project gives more present value for the same risk.

As can be seen in the role of project accountant above, the company is recognising that accounting work should be done by an Accountant. Capital expenditure, being a major expenditure, requires efficient management. The company cannot afford the mistakes made during JTM days. Again, we have indications of the finance group expanding in the organisation, and the accountants working hand in hand with the engineers, unlike the situation during JTM days.

Unlike JTM days, the approved budget under STM is closely monitored through monthly management reports. Any deviations are highlighted and management is given responses from the line managers. Any contingencies are specified and carefully monitored. All of the project plans are approved by the management. This is part of the objective of the company to inculcate good planning practice and adhere strictly to it. Once again, it appears that an attempt is being made to instill financial criteria. This, in turn, may result in increased

accounting and financial values which are present in the new design archetype.

6.5 Summary

In this chapter, the budgeting system under JTM and STM environment was described and discussed in detail. It was found that the approaches of the two systems differed as the environment and mission of the organisation differed.

Under the JTM environment, the budgeting system was largely influenced by the Treasury Department of the federal government, the EPU of the Prime Minister's Department and Ministry of the Telecommunication, Post and Energy, which controlled the planning and direction of the organisation. These government agencies controlled and monitored the funds, and made sure that expenditure and operations were in line with the government plan and objectives. The objective was mainly service-oriented, with reducing the waiting-list of the subscribers as a major priority.

When the organisation was privatised, the mission changed to a profit-orientation. Under the company environment, STM had to manage and behave like any other company. For the following reasons, for which evidence has been presented earlier, under STM, the accounting

sphere of influence in the organisation appears to have increased:

(1) Privatisation has brought a change from public sector accounting to commercial accounting.

(2) Changes in organisational structure have given greater prominence to finance and accounting. For example:

a) The Corporate Accounts division has been expanded.

b) A new Corporate Finance division has been created and has expanded rapidly.

c) Regional level accounts have expanded with the new sub-division into areas.

d) There has been an upgrading of accounting post at all levels in the organisation, from the regional accounts assistant (now Junior Executives) to the Director of Finance (now as Executive Director, with a seat on the Board).

e) New accounting posts have been created in line with the expansion of the finance and accounting sector at all levels.

(3) A costing Information System has been introduced as is being expanded and is expected to play a major role with the implementation of the product costing and transfer pricing by the end of 1993.

(4) Computerised accounting system (notably the SISKIS system) are being introduced to improve planning, monitoring and control of stock levels and cash flows.

(5) A new, five-year rolling business plan has been introduced. The business plan process gives greater status to the Accounting and Finance Group in the organisation.

(6) Project planning has been placed on a more commercial footing with the introduction of viability studies.

(7) Cost/Responsibility centres have been more clearly delimited and their number increased, to facilitate tighter control.

(8) The frequency and detail of reporting have been increased, in the interest of closer monitoring of company activities.

This apparent increase in the accounting sphere of influence in the organisation is possible ground for investigating whether engineering values and beliefs have decreased in importance compared to accounting values. This issue will be examined in more detail in the next chapter.

CHAPTER SEVEN

Descriptions and Discussions on the dynamic of Change in the Capital Investment and Project Process in the Local Network Development Group in Central Region of STM

7.1 Introduction

The process of change happening from the time of JTM up to STM, arising out of the three phases of disturbance, was discussed in Chapter Five, while Chapter Six described and discussed the budgeting system under each environment. This chapter analyses the changes in relation to the model used. By analysing the capital budgeting system, it aims to trace the dynamics of change taking place in the organisation out of privatisation, with the emphasis on the period from 1987 onwards.

During this period, dynamic changes took place, associated with the new role of accounting (Hopwood, 1991). With the change in objective from 'service-oriented' to 'profit-oriented' and clarification of the mission, a change was brought about in the commercial way

of running the organisation. Accounting and financial criteria and methods were introduced from time to time in the organisation, affecting the engineers who dominate this technical company. With this change, a new vocabulary of accounting and commercial terms, which had not seemed to be understood or appreciated by engineers under JTM and in the early years of privatisation, began to be appreciated and used by them in their daily work. But to what extent are these accounting, financial and commercial values used? Has there been a real assimilation of the financial and commercial, changing the engineers' values and beliefs along these lines? Or was it a cosmetic change forced upon them by the top management, but leaving untouched the inherited values?

To answer these questions, it would be helpful to look in close-detail at a particular area of activity within the company. This chapter therefore presents a detailed case study of the Capital Budgeting System, as exemplified by the Capital Investment and Project Process at the Local Network Development Unit of the Central Region where the dynamics of change taking place from the three phases of disturbance are discussed, with concentration on the third phase of disturbance. This case study will provide the basis for the attempt, in Chapter Eight, to answer the question posed above.

7.2 Critical Events of Change Taking Place

Laughlin's model is used in this research work to trace the process of change or to map out the movement of tracks of the organisation concerned, arising out of the 'disturbances' that took place from the first phase, to the second phase and later to the third phase, i.e. privatisation of the company concerned.

Initially, with the first phase of disturbance, i.e. the liberalisation of the telecommunication services, no major change occurred to the Department. Only when the second phase of disturbance came, i.e. with the introduction of the turnkey projects, were there some changes in the subsystem and minor change in design archetype, in the sense that major jobs and responsibilities were taken over by the turnkey contractors. The major change only came when the third phase of disturbance set in, i.e. privatisation of the Department. The change is seen in the change in company objective from a 'service-oriented' to an 'economic-driven' motive. This is clearly expressed in the mission statement of STM, which is:

"to provide modern and high quality telecommunication services in a timely manner and at an affordable and competitive price to users and to operate a viable business entity while maintaining good corporate citizenship at all times" (Annual Report of STM, 1989, p 1).

This mission statement is a strong declaration of objectives which have completely changed from JTM days. The focus, in the ideology and culture of JTM, on engineering excellence, was quite strong, as it had been a closed Department for thirty years. However, after privatisation, the rules of the game changed from a service orientation to a market and profit orientation. The government work ethos, which focused on the provision of a public service, which had previously been strong, was no longer valid. Also, the newly privatised entity came under the Company Acts 1965; the emphasis was on working for the shareholders, working for profits. The top management and executives lived and behaved as 'company men' and ultimately the whole ideology of business revolved around '*management*'.

As the mission/objectives of the organisation changed from 'service' to 'profit', certain major events took place:

(i) Financial information acquired importance for decision-making and monitoring purposes. Thus, along the line, the company established financial and non-financial indicators for measuring the monthly performance of the company. During JTM days there was no monthly management report; the 'business' of the Department was then to fulfil the government's political requirements, and the public's social and service needs (see Chapters Five and

Six and also 'the role of Accounting and Finance division' after privatisation in Section 5.5.2).

(ii) The business plan was introduced (see Chapter Six). In the early stage of privatisation, the business plan was very much inherited from JTM practices. However, after two years of privatisation, changes took place step-by-step, in an incremental manner. These changes, which were introduced by the top management, affected the project managers, who were mostly engineers. The changes occurred at various stages: planning, initiation of projects, material requisition, implementation and the assetisation of projects.

(iii) Capital projects (which are part of the business plan) under the old administration were planned to meet service obligations to the public, and in some instances, to meet technological needs. After privatisation, a major change took place in the capital budgeting system, as will be discussed later in this chapter.

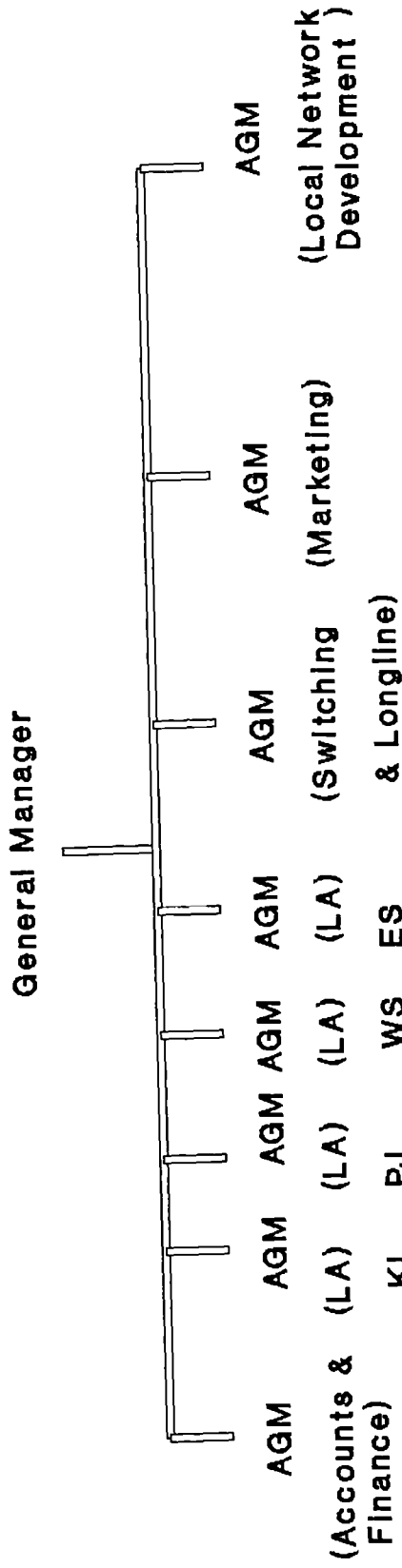
7.3 Dynamics of change in the organisation with respect to Capital Budgeting System

To answer the questions posed at the beginning of this chapter, we now turn to a detailed analysis of the Capital Budgeting System. That system is chosen for

analysis because of its important role in view of the capital-intensive nature of the technical organisation. Moreover the core of this work is done by the engineers themselves. This is an important point to note, in view of our concern with whether accounting (including financial) through the capital budgeting system has produced an impact or has changed the values and beliefs of the engineers, i.e. whether it has affected the interpretative scheme of the Laughlin model (1991).

As we saw in Chapter Two, the organisation of JTM/STM is divided into headquarters functions and six geographical regions, namely Central, North, South and East in Peninsular Malaysia; and Sabah and Sarawak in East Malaysia. The organisational chart for Central Region is shown in Figure 7.1. The role of management in the region is to plan, engineer, operate and maintain services, with the functional guidance and overall direction coming from the headquarters. The Region is further divided into five functions, namely, Finance and Accounts; Switching and Longlines; Marketing; Area Level Operations and Marketing; and the Local Network Development section, as shown in Figure 7.1. It was decided by the researcher to analyse change with specific reference to the Central Region because of its major contribution to the overall business activity. As shown in Table 7.1, as from 1987-1992, the Direct Exchange Line (DEL) which represents the actual demand or number of customers was between 36-37% of the company total, the

Figure 7.1 - Organisational Structure of Central Region (STM) as at 1992



Note: AGM- Assistant General Manager

LA - Local Area (Operations and Marketing)

KL - Kuala Lumpur

PJ - Petaling Jaya

WS - West Selangor

ES - East Selangor

Source: Central Region (STM) Document, 1992.

highest among the six regions. Similarly, the Central Region earned the highest revenue as shown in Table 7.2 from 1987-1992 where the revenues earned by the Central Region was between 36%-38%.

Table 7.1: Direct Exchange Lines (Actual Demand) By Regions in STM from 1987-1992

Year	Central	North	South	East	Sarawak	Sabah
	%	%	%	%	%	%
1987	36	25	18	7	8	6
1988	36	24	18	8	7	7
1989	37	24	19	7	7	6
1990	37	24	19	7	7	6
1991	37	24	19	7.5	6.5	6
1992	36	24	20	8	7	5

Source: Annual Report of STM from 1987-1992.

Table 7.2 Total Revenue for Central Region against STM as a whole

Year	Total Revenue (a) (Central Region)	Total Revenue (b) (STM as a whole)	(a) /(b)
	M\$Million	M\$Million	%
1987	622.2	1644	38%
1988	683.0	1882	36%
1989	783.7	2141.2	37%
1990	913.7	2574.3	36%
1991	1094.9	3004.6	36%
1992	1260.8	3414	37%

Source: (a) - Company Document (Central Region) from 1987-1992.

(b) - STM Annual Report from 1987-1992.

The telecommunication services provided by the organisation have increased over the years, with the advancement of the telecommunication technology, as discussed in Chapter Two. But its core function is still to provide services to the customers on the basic telephone networks, where the major revenue is earned. Before this can be achieved, network exchanges have to be built. This usually involves three network development groups, namely the switching and radio network, long-lines network, and local network development groups.

Because of the importance of the planning and forecasting role carried out by the engineers at LND, because LND represents a major part of the work done at regional level, and also because of the major changes that have taken place in LND, the researcher decided to focus on LND Central Region in analysing the dynamics of change. Yet another reason is the fact that LND is the starting point in building the exchange; proposals start from this group, which identifies growth centres and forecasts future demand. As was said by a senior LND engineer:

"Usually we will identify and propose the building of a new exchange i.e. the starting point is LND. We are the ones who start the proposal. They don't propose the exchange without our backing, since we are the ones down the line who will do the forecasting. We know

where the subscribers are and where the potential subscribers will be, whereas other development networks like switching and long-lines wouldn't know until we inform them".

By taking the LND group in the Central region as the focus of empirical research, it was possible to meet the requirement of the interpretative approach and conduct an explanatory case study, since the researcher was able to gain insight by spending time with the LND project manager and his team.

7.3.1 Local Network Development in Central Region

The organisational structure of the Local Network Development Unit of the Central Region is as shown in Figure 7.2.

The functions of the Local Network Development are:

(i) to provide a network which will enable service to be given on demand during the planned life of the network, with the minimum of additional rearrangements and expenditure;

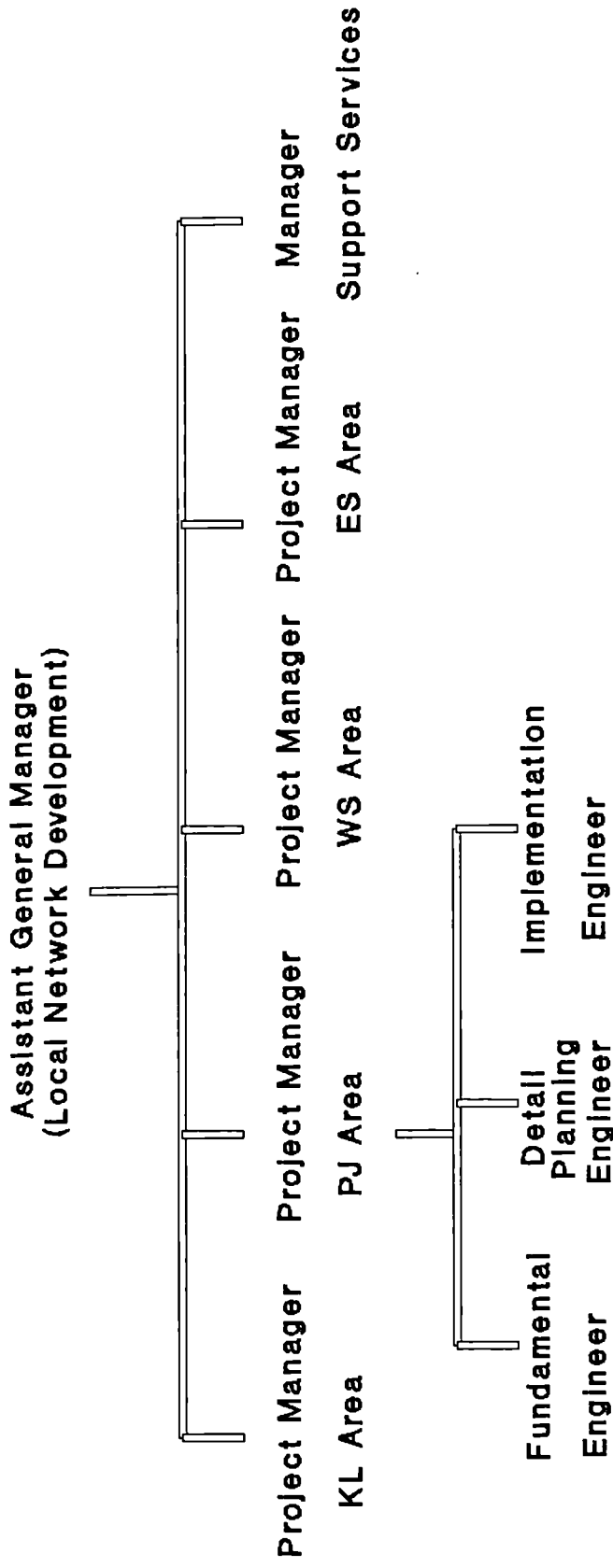
(ii) to keep spare plant to a minimum by deferring provision of plant where this course is economically justified;

(iii) to design all subscribers' lines and miscellaneous circuits to the standard grade of transmission and within the limits imposed by signalling requirements;

(iv) to optimise the utilisation and effectiveness of existing and proposed plant to maximise return on investment;

(v) to ensure that successive instalments of plant involve a minimum of rearrangement;

Figure 7.2 - Organisational Structure of Local Network Development at Central Region (STM) from 1992.



Source: Central Region (STM) Document, 1992.

(vi) to ensure that standard construction is used where practicable and the arrangement of plant is such that maintenance is kept to a minimum.

Source: Company Document 1990

As discussed in Chapter Five, the Local Network Development Section has undergone a change in the sense that during the period from 1972-1974 , most of the work was done by JTM staff with the help of PWDs staff; on occasion, some outside contractors helped on the implementation side, but their contribution was very minor. However, some changes took place from 1975, when the government started to introduce the JKH system whereby all JTM contractors had to register with the federal Treasury. The number of contractors, which was in single digits during the early part of the 1970s, rose to around 30 when the JKH system was introduced. This increase was due to the expansion of work in the telecommunication industry in the country at that time, in line with the government's industrialisation policy, as discussed in Chapter Two.

However, as discussed in Chapter Five, the JKH System lasted only up to 1982. As from 1983, the turnkey system was introduced, work being shared by only five major contractors. This system also lasted only five years, i.e. up to 1988, when the JKH system was reintroduced by STM, which could not cope with the local network development work itself. The government still has

the final say in contracts worth more than M\$500 million since it still owns about 75% of the shares in the company (Annual Report, STM 1992), but the company hopes by the latest measures to avoid a return to the turnkey system. One senior accountant commented,

"We don't want the turnkey system any more because it is very expensive. We are back now to the JKH system and we have raised the number of contractors from 30-40 before turnkey, to 120. We are also training them because some of them lack experience. This is one approach to preventing another round of the turnkey system. With a lot of JKH contractors around, it will be more difficult for the government to force us to go for turnkey contractors, since these people are large in number and some of them are also active in the ruling political party and worst of all, they will be out of work".

Another engineer commented on the turnkey system:

"The turnkey system not only cost more than twice what it would cost if we were to do the work, but they also took our important and core function, which is planning of the network. That was quite a frustrating thing to happen to us, since that is one of the most important functions that we had when compared to JKH system. Under this system, we do everything - identifying the growth area, deciding what system to use, detailed planning and monitoring of projects, and on top of that, we provide the material. They just do the implementation part of it with our people closely monitoring their work".

7.3.2 Capital Investment and Project Process

In analysing the change at micro level, i.e. using LND in Central Region as the case study, the capital investment process used by Pike & Dobbins (1986) was taken as a basis, though some modification was made to suit the organisational approach to the capital investment and projects process, as shown in Figures 7.3, 7.4 and 7.5.

Further to that, analysis is focused on demand forecast, and Effective Cable Pair (ECP) forecast and utilisation rate of all the exchanges in the four areas of Central region from 1988-1992. Demand and ECP forecasting is done by the engineers in the Local Network Planning section of the organisation, where the ECP becomes the output. The demand forecast carried out by the engineers as part of the fundamental planning approach at the Local Network Unit is important, since it forms the background or basis for the design and implementation of the local network. Because of this, it has a direct and important impact on the quality of the local network, technically and financially. This fundamental planning approach was only implemented after corporatisation of the organisation, even though the overall policy and guidelines were there during the 1970s and early part of the 1980s (Interview with the former engineers of JTM).

7.3.2.1 Identifying Growth Centre and Viability Studies

Figure 7.3 - Capital Investment and Project Process at Local Network Development in Central Region from 1972-1982.

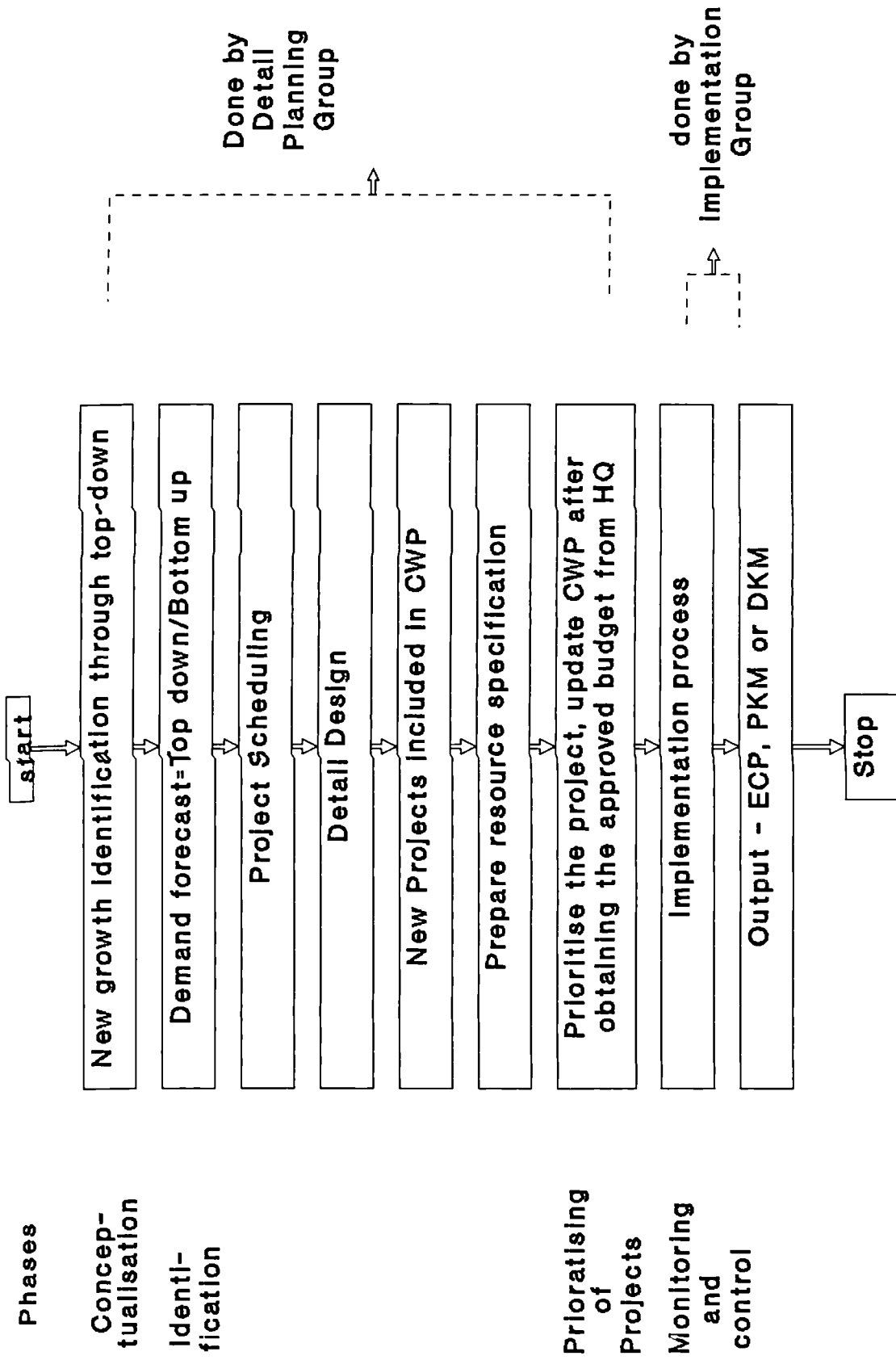
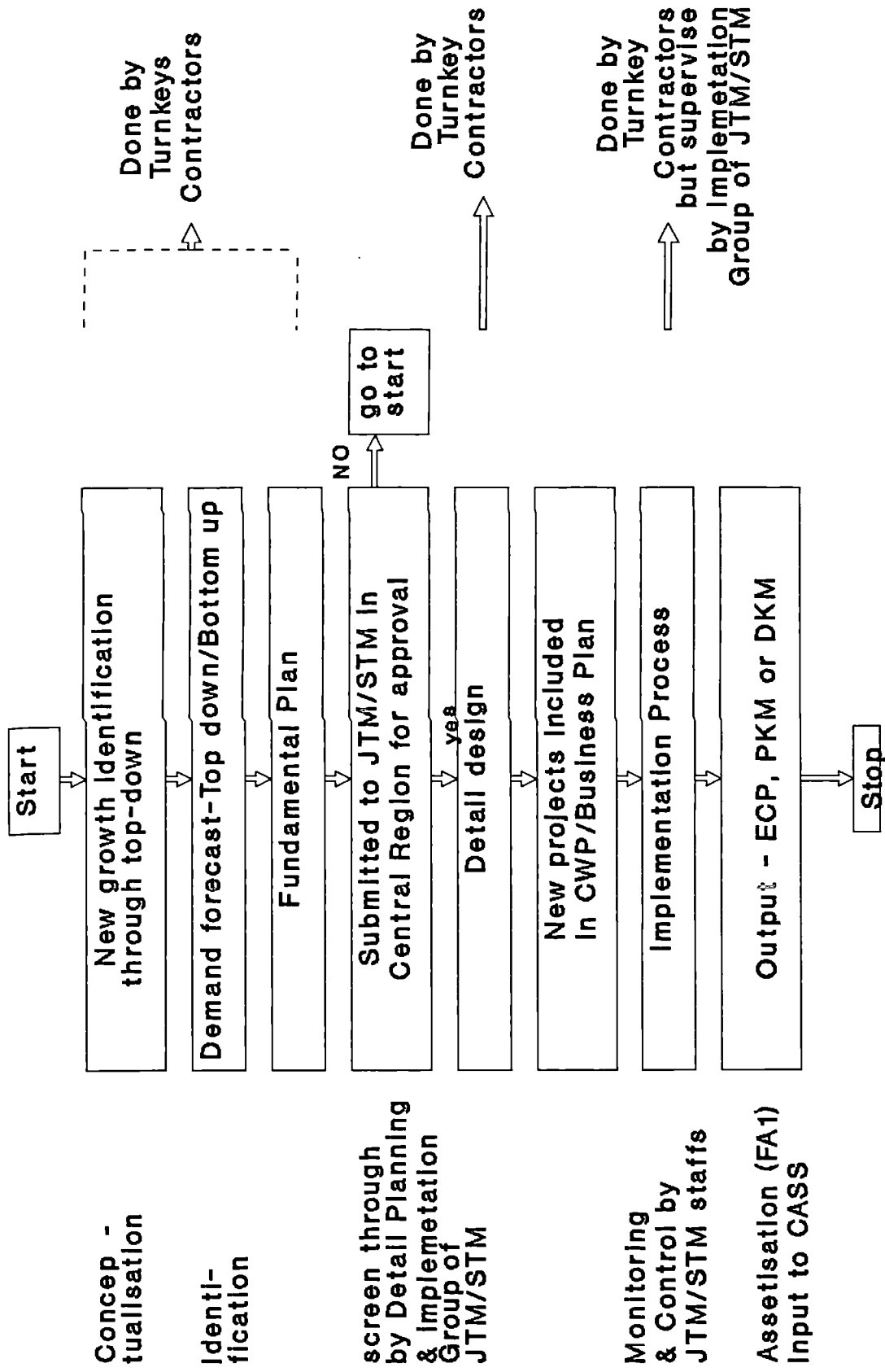


Figure 7.4 - Capital Investment and Project Process at Local Network Development in Central Region from 1983-1988 during Turnkey Era.



Concept -
tualisation

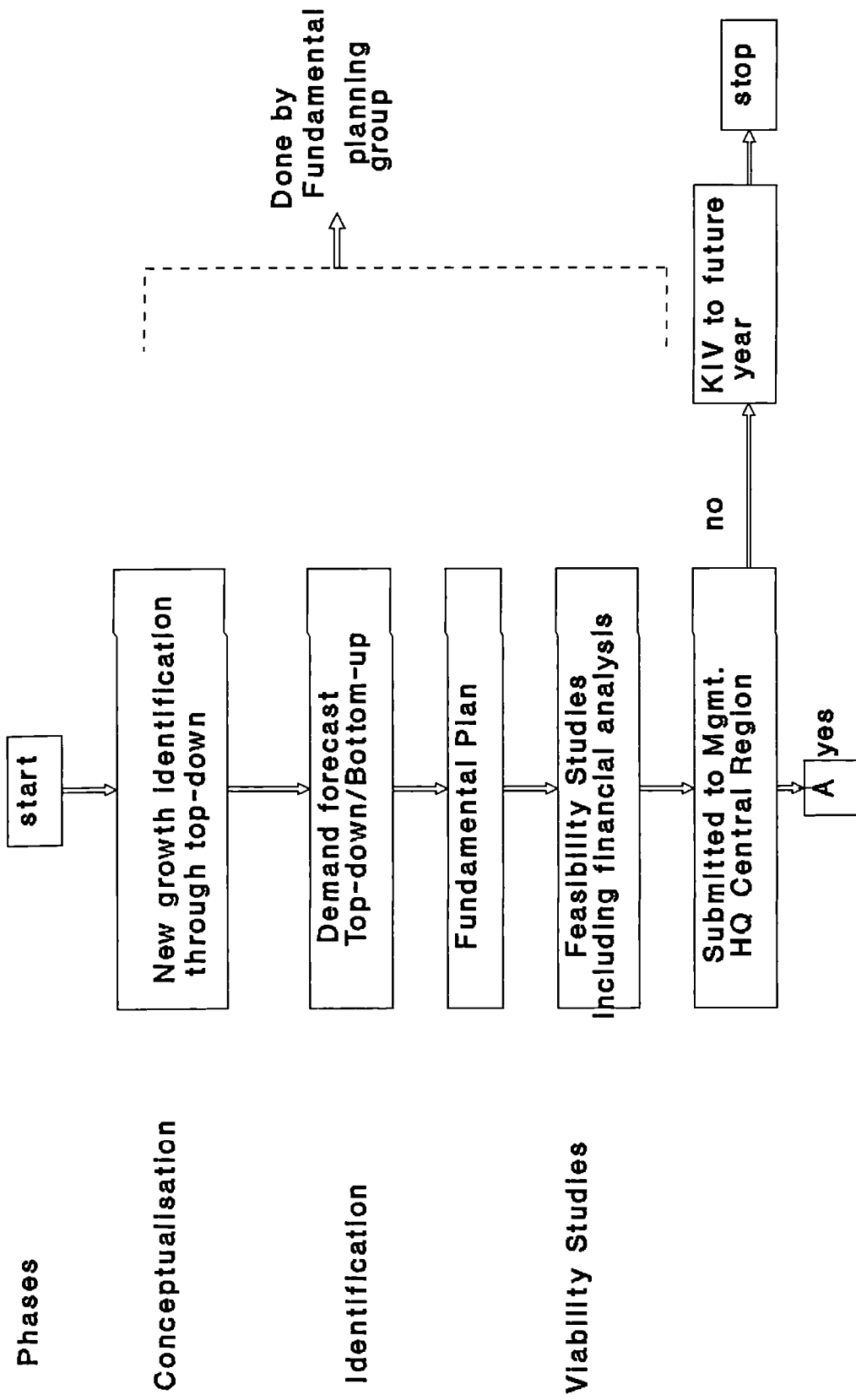
Identl-
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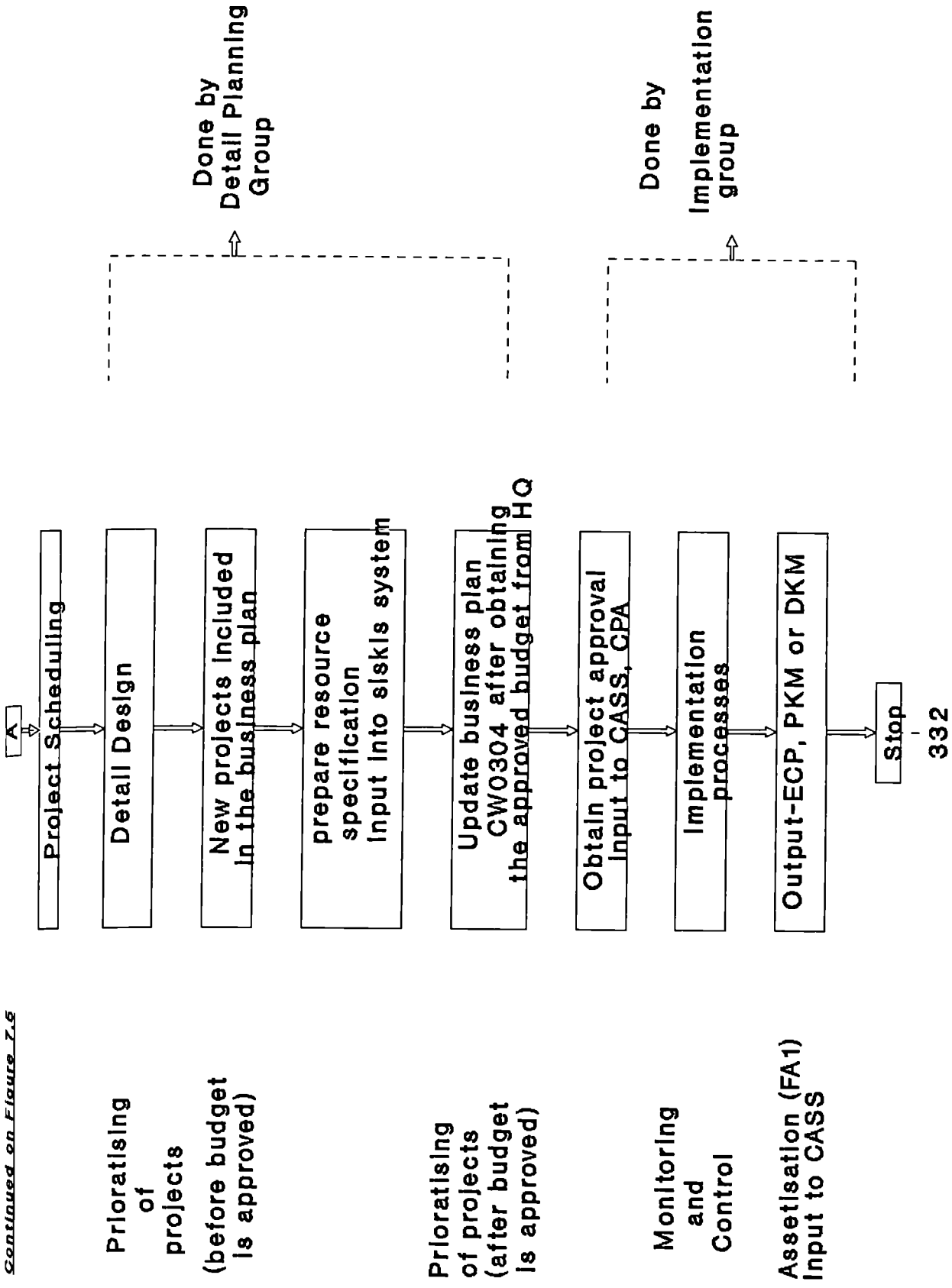
screen through
by Detail Planning
& Implementation
Group of
JTM/STM

Monitoring
& Control by
JTM/STM staffs

Assetisation (FA1)
Input to CASS

Figure 7.6 - Capital Investment and Project Process at Local Network Development in Central Region from 1989-to date.





7.3.2.1.1 Initial Planning and Gathering of Data in identifying the Growth Centre

In planning a local network project, the first phase is to identify the need for a particular project. This is where the gathering of data and information about a particular area to be developed takes place. In identifying the need for a project, i.e. either a new exchange or extension of the present exchange, two types of forecast are done : a top-down forecast and a bottom-up forecast.

(i) Top-down Forecast

The top-down forecast which is carried out by the regional Local Network Support Services with the help of the four area Managers, estimates the total telephone service demand within a region, town or specific exchange area, based generally upon broad statistical projections of population, income and other variables, with little emphasis on the exact location of existing and projected subscribers. In preparing this forecast, it is important for the engineers concerned to have close contact with the district or state officer, since this forecast takes into account the types of economic activity and the anticipated trend and pattern of economic development in the area under study. Other factors taken into account are environmental conditions, settlement and land usage patterns, both existing and projected; demographic trends

including the impact of development plans, government policies and natural growth; and projected increase in telephone penetration among the residential population and in business and residential establishments.

(ii) Bottom-up Forecast

The bottom-up forecast is a forecast based on detailed field studies of the surveyed area, identifying existing and future telephone demand trends at a micro level and is shown in figure 7.6. The following procedure is followed in carrying out this forecast for a particular area:-

(i) The area is divided into blocks for detailed survey.

(ii) A land survey, including property registration and a count of each block, is carried out. This survey identifies all the existing properties, as well as all known development projects.

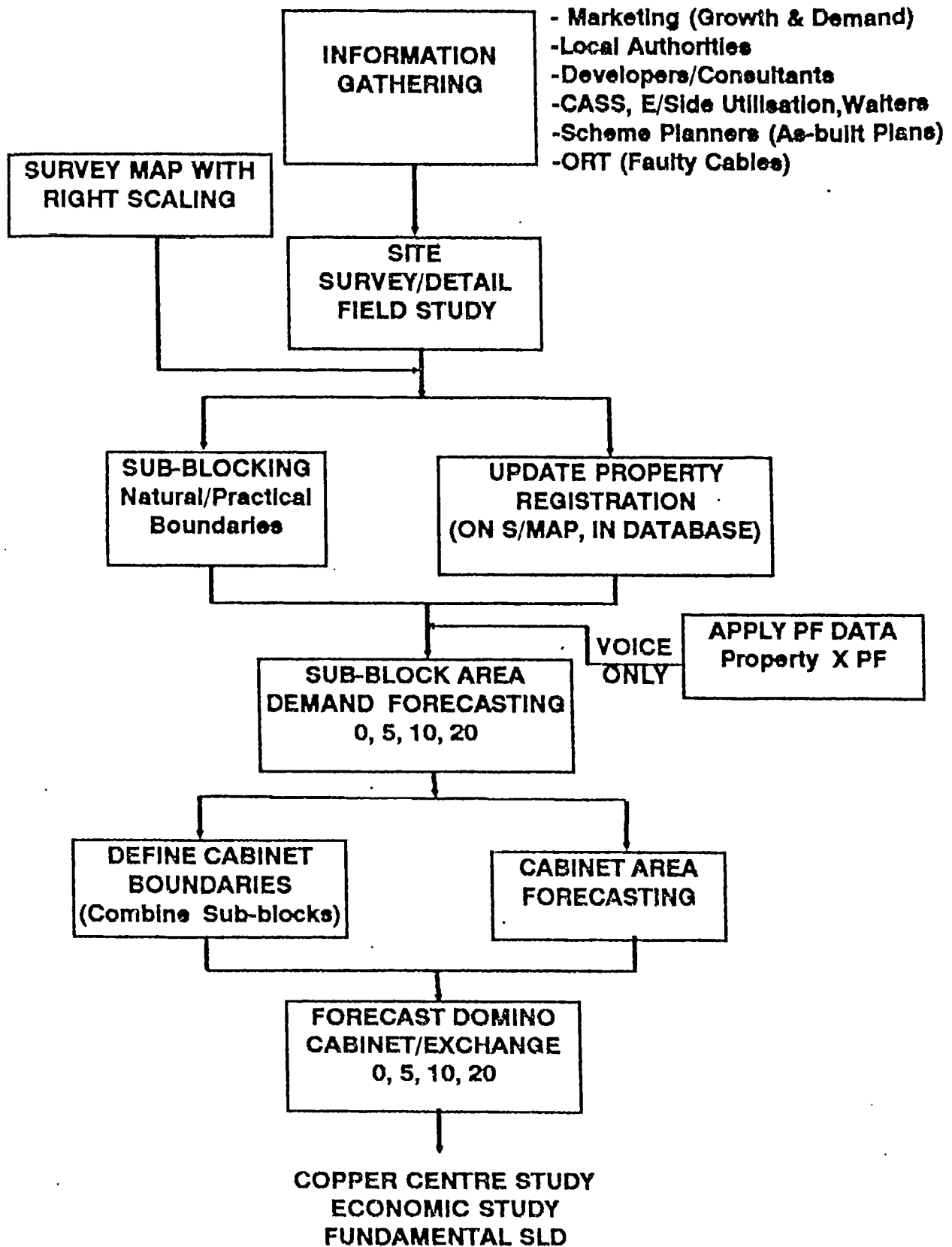
(iii) All unused land is identified and a projection of land usage is carried out based on information obtained from government agencies and developers. If no information is available, the projection is based on the type of land usage of the surrounding areas.

(iv) A detailed list of property units for each blocks is then prepared for various base dates over a 20 year period.

(v) Using the penetration factor table prepared earlier, a calculation is made of the telephone demand, based on the property units in the detailed block surveys. This generates the 'bottom-up' demand forecast.

Source: Company Document 1992

Figure 7.6 - Bottom-Up Forecasting as Practised by Local Network Development of Central Region as from 1992



Source: Central Region Document, 1992

Most of the engineers interviewed in the Central Region were of the opinion that under JTM environment, the emphasis in demand forecasting was on the top-down forecast. Bottom-up forecasting was not adopted to the full extent because the process was too tedious and detailed. Thus, the most significant change to occur with respect to demand forecasting was the introduction of bottom-up forecasting in Central Region, upon corporatisation in 1987, with what is known as fundamental planning.

7.3.2.1.2. Fundamental Planning

Basically, fundamental planning is a schematic plan detailing existing and proposed projects to meet forecast growth for the next 20 years. It is constructed from forecast data and forms the basic framework necessary for the programmed development of local network in a predetermined manner. It reflects the design of the primary cable and duct network which is essential to the evolution of a long-term perspective plan for the efficient and economical development of local network.

During JTM, fundamental planning did not play an important role, even though the concept was recognised. The reason for this deficiency was that the political and social aspects of the service were considered more important than the engineering and investment aspects

(Interviews with some senior engineers of STM, formerly JTM engineers). However, during the turnkey era which started in 1983, the turnkey contractors appointed were involved in this fundamental planning while planning the local network. The organisational structure of the formation and expansion of the Fundamental Planning Unit can be seen in Figures 7.7(a), 7.7(b) and 7.7(c).

Upon corporatisation in 1987, the Fundamental Planning Unit was established in the Central Region, headed by a Manager specifically responsible for the fundamental planning of the region. Since March 1992, fundamental planning has been decentralised, with each area having its own fundamental unit headed by an Assistant Manager (known as Fundamental Engineer) and reporting directly to the Project Manager.

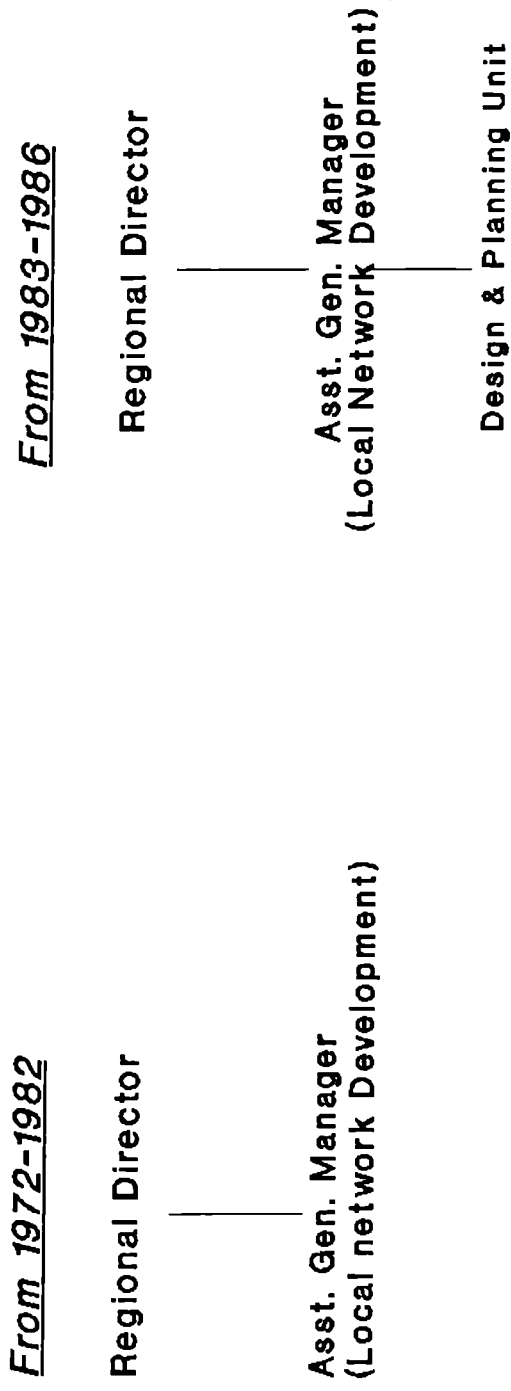
As was said by one engineer who has served under JTM, turnkey, privatisation and post-privatisation:

"In JTM days, we did not have fundamental planning. This plan was part of the detailed planning but it was not implemented as there were no clear guidelines as to what we should do, so we just did what we thought was right".

And she further added:

"Under JTM, most of the planning was done in an ad-hoc manner, i.e. when you saw a demand, then you planned for it, but not in detail as right

Figure 7.7(a) - Formation and Expansion of Fundamental Planning Unit in Central Region from 1972-1992 (Organisational Structure).

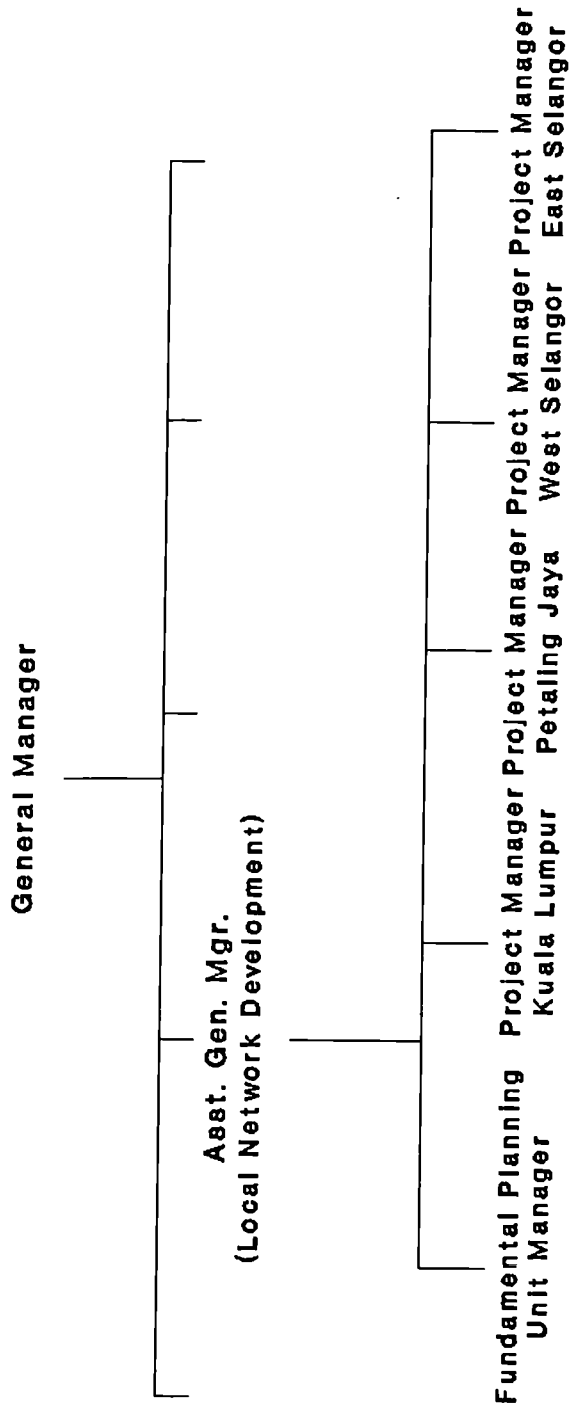


Note: Fundamental Planning Unit was not available during the period from 1972-1982. However, this unit was part of the Design & Planning Unit during the period from 1983-1988.

Source: Interview with the Assistant Manager (LND) at Central Region

Figure 7.7(b) - Formation and Expansion of Fundamental Planning Unit in Central Region from 1972-1992 (Organisational Structure).

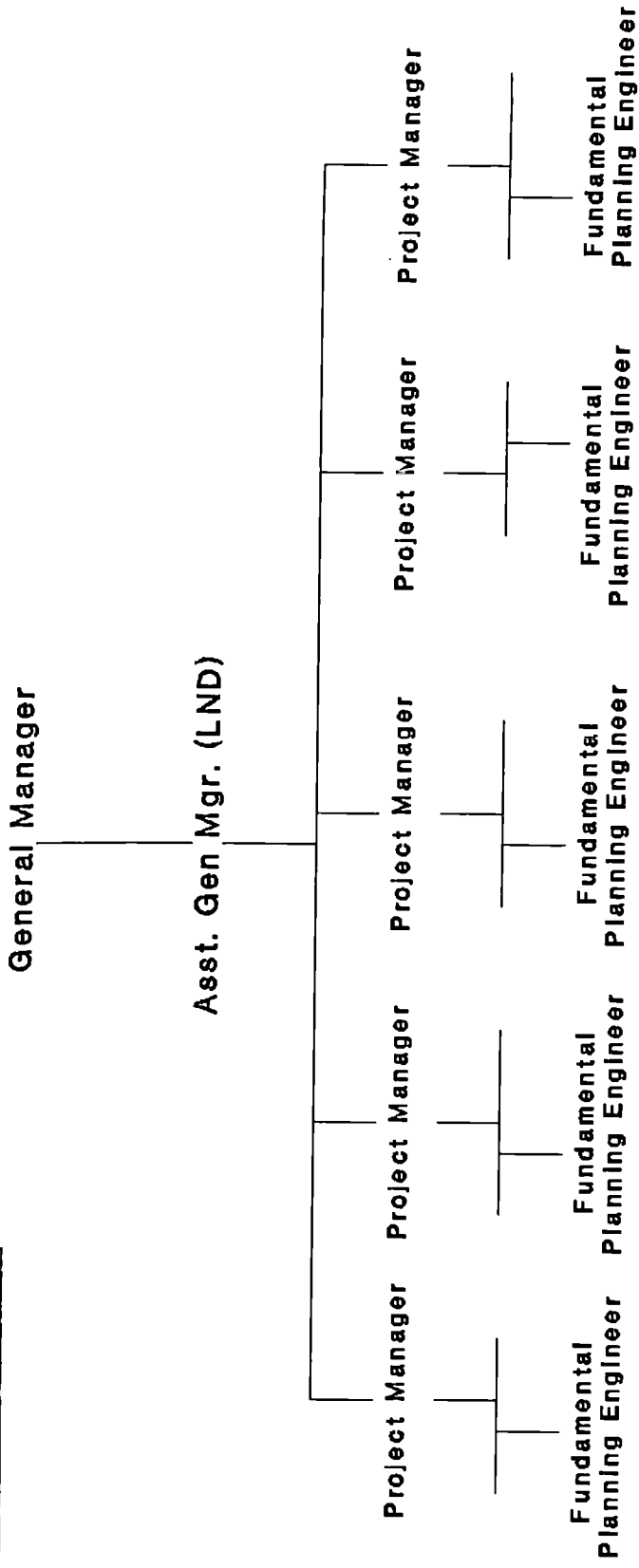
From 1987-1991



Source: Interview with Assistant Manager (LND) at Central Region

Figure 7.7(c) - Formation and Expansion of fundamental Planning Unit in Central Region from 1972-1992 (Organisational Structure).

From 1992-to date



Source: Interview with Asst. Manager (LND) at Central Region

now, since fundamental planning was absent. Furthermore, now we have the master plan in detail, whereas during JTM days, the plan was incorporated with the government".

Another engineer commented:

"The fundamental plan was there but not implemented, i.e. the site was identified but the fundamental planning did not take place, as nobody saw the importance of it - maybe because we concentrated so much on the technical aspect of it and relied on the headquarters group to do the forecast for us; that was based on the top-down forecast".

Yet another engineer commented:

"In JTM days, since there was no fundamental planning, demand forecast was based on projections and trends but now with the introduction of fundamental planning, we have one to five years, 5th year, 10th year and 20th year demand forecasts".

7.3.2.1.3 Feasibility and Financial Studies

One of the most significant elements of the fundamental planning is the feasibility study to be carried out by the Project Manager on the new growth area, i.e. to determine the most effective location of a prospective new exchange. According to most of the engineers interviewed, such studies were not carried out during JTM, or if they were, they were based only on technological, political and service considerations,

whereas currently they are based on commercial and financial, as well as technological considerations, as was seen by the researcher from the working papers on proposed new exchanges submitted to the Management Committee headed by the General Manager in the Central Region.

Analysis of these working papers on the feasibility studies carried out by the Project Engineer (now done by Fundamental Planning Engineer) from 1972 to the present, revealed the following scenario:

During JTM days, the demand forecast was based on top-down figures, obtained on an incremental basis by adding a percentage to the previous year's figure. However, during the turnkey era, the turnkey contractors did both top-down and bottom-up forecasting. This practice was followed by the STM engineers upon corporatisation and is now done more accurately since privatisation. This demand forecast is now prepared by the Fundamental Engineer at the Area level. One engineer said, with respect to the two different systems:

"Under JTM, we would calculate the demand forecast based on the flat growth rate and add to the previous years figures. But now in determining the demand forecast we have to go and visit the site and count the number of buildings in the development schemes, the number of floors and offices and shops, and coordinate with housing developers and the state development office".

With regard to the proposal of a new exchange, under JTM, no alternatives were evaluated from the economic standpoint; the only consideration was of the various points available to serve the area. The question of whether to choose a static or mobile installation, or to increase capacity from an existing nearby exchange was not considered at all. Most engineers expressed the view that money was not a problem during JTM days, and furthermore, clearing waiters was the main objective of the organisation at that time, and this is why proper feasibility studies on the building of new exchanges were not carried out.

This situation continued during the first year of corporatisation, 1987, but as from 1988, the GM instructed the Fundamental Unit to prepare feasibility studies on new exchanges. From 1988-1990, the feasibility study included the various options available and their cost effects. These options might include building a new exchange (static), mobile cabins, Multi-Access Radio System (MARS), using fibre optics, or using copper cables fed from existing exchanges. In analysing each option, detailed costings were prepared by the fundamental engineers (as can be seen in the working papers). Moreover, other costs, such as cost of the land and building, had to be taken into account. But at this stage, each development group (i.e. local network, switching network, longlines and property) do their own

feasibility studies for a particular exchange development and later meet to discuss their proposal with respect to a particular exchange.

Since 1991, when the fundamental unit was decentralised to area level as shown in Figures 7.7(a), 7.7(b) and 7.7(c) on the formation and expansion of the Fundamental Planning Unit in the Central region, the feasibility study for any proposed new exchange must include the expected revenue to be earned, and the capital investment method approach to be used in determining whether the project is feasible or not. So far, most of the project managers (engineers by profession) in Central Region have used pay-back period, but it is hoped that in future the engineers will be using a more sophisticated method such as net present value, internal rate of return, or others. All the projects which were justified on the basis of expected revenue and pay-back period, are not ready or have only just been started, i.e. they have not been cut-over yet. Moreover, actual revenues by exchanges are not being apportioned to other exchanges, and cost per product (e.g. cost per ECP) will only be ready when the CIS is ready for implementation by the end of the 1993.

But as from the year 1993, the HQ group have organised a workshop on integrated semi-urban/rural network planning and development for several exchanges in all the regions where all the four development groups

including marketing sit down together to come out with the proposed new exchange where commercial and financial elements are taken into consideration.

7.3.2.1.4 Discussion on identifying growth centres and viability studies during JTM, Turnkey and STM environments

During JTM days, planning followed a simple approach based on political and service considerations. Data were gathered using a top-down approach. This was usually done by the HQ group with the help of the Traffic Department at the region. Thus, the LND at the regional level relied on the forecast of demand prepared by the above group, since fundamental planning was not done. As was commented by one senior engineer:

"In coming up with a forecast of demand in a particular exchange, the forecast could be based on experience, gut-feeling, projection or data. During JTM days, a lot of forecasts were based on experience and projection but now, under STM environment, we try to base it on data, i.e. actual plans from the developer and actual information from the various authorities".

Another engineer who rose from the rank and file said:

"During JTM, we didn't really have proper demand forecast figures. As a project came along and we became aware of it, we would just

put in so many cable pairs on the basis of experience".

And he added further:

"We, at Local Network, had to do our own forecast using whatever development information we had. At that time, we did not know what was bottom-up or top-down, but we did a forecast. And I think, Switching network also did their own forecast based on the growth of the exchange. But, during JTM time, we did not have much liason between Local Network and Switching, or if any, it was at very high level, at top management level in headquarters. But I think now, with the concept of an integrated approach, where you have Marketing, LND, as well as Switching and the Marketing & Operation at Area level, you will get a better and more reliable forecast. But the main thing is the fundamental planning; that has helped us a lot in terms of accurate forecasts".

During the turnkey era, this was not done by JTM staff, as the planning was all done by the turnkey contractors. Even though JTM engineers were supposed to review the turnkey contractors' plans, in practice it was difficult to do so, since only 14 days was given to them to review the plan, as laid down in the contract signed between JTM and the turnkey contractors. Furthermore, most of the engineers in this section were transferred to other divisions, since most of the functions in this section were taken over by the turnkey contractors. Thus, because of shortage of staff, it was not possible for JTM's engineers thoroughly to go through the plan proposed by the turnkey contractors, even though the

proposals might not be favourable to JTM. Most of the engineers were of the opinion that the turnkey contracts signed between the turnkey contractors and JTM were one-sided. They were formulated in a loose manner which benefitted the turnkey contractors, the 14-day clause referred to above, being an example of this imbalance. According to one senior officer, JTM at that time had to rely on the Government Attorney-General's legal officers to translate the overall turnkey contract. But the problem was that since these legal officers were outside the control of JTM and furthermore not familiar with technical terms used in the contract, as the turnkey system was a recent innovation, they were not able to see the weaknesses in the contracts. According to one member of senior management:

"The Attorney-General's legal officers only corrected the spelling mistakes and did not go through everything in detail, especially parts that were unfavourable to JTM".

Upon privatisation, the turnkey system continued until 1988 when it was replaced by the JKH system. As from 1989, after the RGM and his subordinates had participated in several financial courses, the top management had stressed the importance of financial and accounting criteria and the Financial Instructions had been issued, the engineers had to change their way of planning and forecasting their exchanges and customers, in the interest of greater accuracy in material

(inventory) procurement. With this realisation, fundamental planning was established in the Central Region first, and was subsequently introduced by other regions throughout the country. With the establishment of fundamental planning, the engineers in the LND section not only had to forecast demand using the bottom-up approach but also to identify new growth areas, as discussed in section 7.3.1.2.1. In the early period of privatisation, i.e. in 1989-1990, the working papers were still prepared by the individual section, but viability studies were done by the fundamental engineers, who looked in detail at the cost of the projects in a particular exchange, and studied various options using different technology, and usually recommended the cheapest option.

As from 1993, an integrated approach to planning has been adopted. Working papers are prepared in a workshop where all the three networks (i.e. Network, Switching and Long-lines development group) together with the marketing group sit together. This is quite a breakthrough since the working papers are analysed in detail and different technology explored in order to determine the cheapest way of meeting expected demand. On top of that, accounting and financial data are used in determining the expected revenue (even though this is not an accurate figure since apportionment of revenue to other exchanges have not been considered as yet) to be generated from the new exchange and payback period is used to determine how

long it will take for the capital to be recovered from the project. One fundamental engineer, supporting this integrated network planning approach said:

"I think this integrated approach is good because we have a yardstick to follow. For example, in terms of cost, we are able to determine the cost per cable. And since I'm from the LND unit, and my knowledge about Switching and Long-line Networks is shallow, we sit down and learn from each other and in the end, with more ideas we are able to come out with various options, as can be seen in the working papers that we have prepared out of this workshop. Ultimately, we consider not only the best in terms of technology, but also how to cut cost, which benefits the company".

As another engineer commented:

"With the integrated approach in planning, our planning and Switching and Longlines are able to come out with programmes that actually go hand in hand with each other, and avoid cases where there is switching equipment but not enough lines (ECP) and vice versa. I think this was a major problem during JTM, where it happened very frequently. Now, under STM, with the integrated approach, such problems can be reduced or avoided altogether".

Under the new approach, the feasibility studies done by the fundamental group in the area are presented to management at a monthly meeting attended by the three AGMs and GM. Proposals for new exchanges are discussed in detail and options considered based on financial and commercial considerations. All of the personnel involved

are engineers by profession. One senior engineer commented on the process as follows:

"During JTM days, most reports on new projects were to determine the location of a new exchange rather than to look at the various options available, or the system of engineering detail to be used in order to save cost, which was a secondary factor. Now, when studying the growth centre, the cheapest ways to serve the area are looked at, with the various options available as far as engineering detail is concerned".

Another engineer said:

"With respect to forecast, under both JTM and STM, we have forecast up to 20th year, but under JTM, nobody put much emphasis on it. And it was done at the HQ level. Thus, we didn't actually have a concrete demand forecast plan and usually, it would come at the last stage; you would find that your exchange was almost full and then start doing a study in that area. But now, since the forecast plan up to 20th year is done by us at area level, we will actually foresee or have an accurate idea that a certain area will need more capacity. That means we know very much further ahead, and we will start putting up plans for new exchanges or other alternatives to cope with the demand".

During JTM days, with the service objective paramount, the concept of commercial viability was minimal or non-existent. The main concerns were technological feasibility within the government budgeting system, since most of the top management were engineers and budgeting was solely controlled by them.

During the Turnkey era, viability was still based on waiters, in the sense that a project was considered to be viable as long as there were waiters. With the turnkey contractors' introduction of fundamental planning, a form of project feasibility study was done, but it concentrated mainly on finding growth areas to forecast future demand, as revealed to the researcher by some of the former JTM staff (Uniphone Sendirian Berhad, 1984). To the extent that the concept of viability existed at all, at the top level, it did not filter through to regional and area levels.

However, in the early days of privatisation i.e in 1987/1988, the top management was shocked to find a low utilisation rate of only 42-43% as shown in Table 8.8 of Chapter Eight, due to the low demand in a period of economic slowdown. It should be pointed out, though that the engineers were less concerned on the basis that in telecommunication, it can take several years for a project plant to mature i.e. be fully occupied.

Thus, in the early stage of privatisation, the question of viability became a key issue, and top management wanted only viable projects to be implemented. Corporate Finance was given the task of looking into the question of viability and producing guidelines on the concept. According to the accountants, this was very difficult, due to lack of a proper costing information

system, shortages of staff to deal with the large number of projects involved, and non-involvement of the regional accounting and finance group in the preparation, vetting through and prioritising of projects, which was done by the engineers themselves.

However, the concept of viability was introduced to some extent. HQ organised a 'road-show' during the presentation of the business plan, when HQ technical specialists, corporate finance and corporate planning groups visited all the regions, to scrutinise projects for viability, based on their own expertise and experience. But according to some engineers at the region, the basis used was that the project to be undertaken must have waiters and be able to recover its initial capital within five years.

After listing of the company, viability continued to be an important issue, but with the problems of increasing waiters and competition coming into the picture, a certain flexibility was given to project managers with regard to prioritising of projects. Indeed, for most small projects, viability is based on the intuitive judgement of the engineers, though for new growth areas / new exchanges, feasibility studies must be done before the project can take place.

7.3.2.2 Detail Planning and Prioritising of Projects

7.3.2.2.1 Detail Planning

Detail planning is the process of designing the project in detail once the installation of a new exchange or the expansion of an old one has been approved. Thus, once the fundamental plan has been approved by the regional HQ, it will be passed to the detail planning group. From the detail planning, the group is able to estimate the number of cable pairs needed for a given project (or scheme) based on the forecast demand done by the Fundamental Planning Group.

In any project or scheme, there are three types of planning: the Civil Work plan, the Exchange-side plan (E-side) and the Distribution-side plan (D-side). Civil work is basically the main duct work done for the Exchange side, which specifies the number of ducts and types of manholes and cables required. The distribution-side is concerned with the network going out from the cabinet to the distribution point, designed on the basis of detailed plans received from the developers.

Normally if the group is dealing with a large project which will take place over one to two years, it will be included in the CWP of the Business Plan for the next year. Once the detail planning has been done, the requirements for all the various types of materials are known and the Stores department is informed at least six

months ahead of time, through the SISKIS on-line system, which did not exist during JTM days.

In the case of minor work, especially ad-hoc works, costing between M\$10,000 to M\$50,000, mainly to clear waiters or to tap ready demand, detail planning will be done immediately, irrespective of whether it has been budgeted or not, because in most cases, the allocation is available. If not, the project manager can approve it, as long as it is less than M\$50,000. This is another significant change as this could not be done under JTM and in the early period of privatisation, when a project was defined to be a scheme, rather than an exchange.

7.3.2.2.2 Project Scheduling or Listing and Prioritising of Projects

All planned new projects, together with any projects which have been deferred due to delays or insufficient funds in the the current year, will be listed in a project schedule to be submitted to the detail planning group, so that the costs can be ascertained before any project is included in the next business plan of the area level. Most of the projects which have been identified by the project manager and his team as necessary and viable will be listed for the purpose of obtaining the budget from the top management under the Business Plan. The schedule will also include projects in rural and semi-urban areas, but again, the integrated planning approach

is applied so as to determine the cheapest way of putting up the network, in terms of engineering design and technology to be used and from the forecast demand to estimate the expected revenue and payback period.

After the project list has been included in the business plan, it will be passed for approval to the AGM (LND) and his assistant at Regional HQ. They will analyse the list of projects proposed by the areas based on the bottom-line. They will examine previous performance, the ECP achievement, demand achieved and any current problem facing the projects, such as material shortages and waiters. They will also take into consideration factors like contractors' capability and capacity and material requirements. They will also refer back to the demand forecast to make sure that the ECPs expected to be produced will meet the target of the marketing group. As was commented by the assistant to AGM (LND):

"We only look at the bottom-line and consider the factors discussed above, since there are thousands of schemes of projects. And we rely on the project managers down the line: they should be confident that they can deliver all the projects listed in the Business Plan".

She continued:

"The HQ people used to be very strict during the early period of privatisation i.e. from 1987-1990, because there were ample lines available. But now, with waiters and

competitors coming in, they are not that strict. But we at our end, are also aware of financial and commercial implications, and now we are doing feasibility and financial analysis at the early stage, i.e. when we want to come out with new exchanges. So we have to thrash out issues of viability at an early phase".

Once the AGM (LND), his assistant and the four project managers have reached a consensus, then the proposed business plan on CWP for LND for Central Region is submitted to the secretariat of the GM office. The GM will call a meeting which will usually approve the plan and submit it to the corporate planning division at HQ (see Section 6.1, for the process of the business plan). The change in the budget system and the basis on which budgets are currently approved will be explained in a later section.

Once the GM has received the approved budget business plan for the coming year, he will meet all the AGMs to apportion the lump sum approved by HQ. It is important to mention here that the budget approved by HQ to the region is based on the lump sum or bottom line and not according to individual project and the RGM is given the authority to distribute the budget to the various development group, operation and other cost-centres accordingly. When the AGM (LND) has received his approved budget, he will in turn meet with all his project managers and allocate the budget according to their project lists. Since the amount received will be less

than they originally asked for, the project managers will then consult with the engineers from fundamental planning, detail planning and implementation groups, regarding criteria for prioritising the projects. Usually, priority is given to projects to clear waiters, or where demand is expected to be realised rapidly. According to some senior management staff at HQ, once the business plan is approved, regional prioritisation seems to be based on waiters and physical needs rather than business needs. Table 8.8 of Chapter Eight, on the utilisation rate at national level, suggests that this may indeed be true.

In general, to prioritise the projects at area level, a meeting will be held between the project manager and marketing people, to discuss new information about waiters and new demand anticipated in the area when the proposed exchange is in place. As a result of this meeting, projects will be reprioritised in order to complete urgent projects or reduce waiters. This is usually done by the project managers who have discretion regarding projects up to a given value threshold; larger projects need the approval of AGM (LND) or even the GM himself. Nonetheless, the final say with respect to prioritising most projects, once the business plan is approved, lies with the project manager.

7.3.2.2.3 Material Procurement

Material procurement has always played an important role in the organisation. For LND, items such as cables (either copper or optics), duct, manholes, poles and temporary cabins are the main materials needed to complete a local network project. The total cost of these items is considerable. Before describing and discussing Material procurement in the LND of the Central Region from JTM days to Turnkey and finally to STM, it will be helpful to describe the material procurement system at national level during those three phases.

7.3.2.2.3.1 Material Procurement at National Level

Material procurement at national level, is contracted by a specialist group at HQ. Material procurement for the Local Network was done by the Local Network Development specialist group at HQ during JTM days, but during the Turnkey era, there was not much purchasing done for the Local Network, as this function was taken over by the Turnkey Contractors. However, after the Turnkey System finished in 1988, material procurement was again contracted by LND specialist group at HQ, coordinated by the regional Procurement section.

Depending on the types and amounts of material needed, procurement may be by quotation or tender and contracts may be short or long-term. Once the types of procurement have been decided, quotations and tenders will be invited and the candidates processed. Selection

is made after a meeting held specifically for this purpose.

During JTM days, the procurement process was poorly managed because there was no proper planning and no proper deadline for orders. Because of poor planning with respect to forecast demand, the materials requested were always in excess of requirement, as shown by the high end-of-year stock levels shown in Figure 7.8.

When the company was first privatised, the management were concerned about the stock situation. One project manager recalled:

"When the new top management came in 1988, they were shocked to see the high stock level in the company. It was lying all over the place. Some of it was out of date, and became scrap due to obsolescence and the company was losing a lot of money on this idle stock".

Evidence from Figure 7.8 shows that the total stores and stocks were quite high from 1982-1987, especially when compared to total capital expenditure (or total revenues) of the organisation. Particularly worrying were the Advances made on Material and Supplies at year end, which as shown in Figure 7.8, were between M\$277-M\$483 Million from 1980-1984. Taking these advances together with the stores and stocks, the high figures from 1980-1986 indicate a lack of concern for idle cash. This was related to the low influence of the accounting group

Figure 7.8 - Closing Stocks and Advances for Material Supplies of JTM/STM from 1980-1992

Year	Stores & Stocks at year end (M\$Million)	Advances for Material Supplies at year end (M\$Million)	Total (M\$Million)
1980	68	311	379
1981	73	277	350
1982	141	333	474
1983	212	483	695
1984	597	345	942
1985	496	62	558
1986	430	12	442
1987	216		216
1988	151		151
1989	116		116
1990	94		94
1991	150		150
1992	157		157

Source: Annual Report of JTM (1980-1986) and STM (1987-1992)

since there was no treasury function available during JTM time, and to the strong influence of the engineers, whose life was made easier by avoiding the need for forward planning.

A computerised inventory system called SISKIS was introduced in 1989. With the implementation of this system, a new financial instruction was issued by the Accounting and Finance Group, requiring all project managers to request materials six months ahead of the project start-date. As a result, the project manager has to carry out forward planning and request only the amount needed. This is an important break-through for the company.

According to the GM, Corporate Accounts who served under JTM for 15 years and is now with STM:

"Most of the cost of the projects goes to the buying of the material i.e. telecommunication equipment for building the projects. Thus the overall planning, i.e. fundamental and detail planning, plays an important role, since that will be the deciding factor as to how much stock is required. We do not want a return to the JTM situation, where they ordered so much stock that it became obsolete and affected the cash flow".

He went on to explain that one of the functions of CW01-CW04 statements is to help the engineer to plan material requirements ahead. The SISKIS system avoids

overplanning and requests for too much stock, releasing cash for more profitable uses.

He again continued,

"It was different during JTM days, when the project manager liked to order a lot and keep it in store so that the planning became easier for them. Now, we insist, under SISKIS, they have to order six months ahead of time. As a result of introducing the SISKIS system, you can see that the year-end stock level has reduced tremendously. So now, the engineer has to pay a lot of attention to planning".

Another change that took place with respect to Material Procurement is with respect to the quotation and tender system, where commercial considerations have been taken into account, and accounting and finance personnel are represented on both committees, unlike JTM days. For projects less than M\$200,000 which come under the quotation system, accounting personnel must be included in the committee to ensure account is taken of commercial considerations; while for projects worth more than M\$200,000, under the tender system, two committees will evaluate the purchase of material:- (i) Technical committee which is headed by the technical personnel and (ii) Commercial committee which is headed by the accounting personnel.

It was a significant change for the company, for purchases either for use or for stock, to be based not

only on technical considerations (as under JTM) but also on commercial and financial considerations.

7.3.2.2.3.2 Material Procurement in the Central Region

Once the HQ specialist group and the successful suppliers have signed a contract spelling out the terms of the agreement, including the specifications, prices etc, a copy of the contract will be sent to the regional Procurement Section, where the ordering will be based on this contract.

During JTM days, the ordering of material in LND was done by the detail planning group, which would fill in a material requisition form and submit it to the Regional procurement material section. The system was weak from the commercial point of view, in that requests were made to the regional procurement section as and when required. This was possible because of the high stock levels and advances made for material supplies.

This system changed during 1983-1988, the turnkey period, when all materials had to be provided by the turnkey contractors. According to the turnkey contracts, the contractors could buy from JTM first but if JTM could not provide the necessary materials, they were purchased from outside. This clause enabled the turnkey contractors to draw on the materials stockpiled by JTM.

Under the present (STM) system, once a new project is included in the business plan, the detail planning group must input into the SISKIS system for requisition of material on that particular project, six months in advance. But according to one project manager, in practice, this means planning a year or more ahead in order to meet the six months material requirement under the SISKIS system.

7.3.2.2.4 Discussion on the Detail Planning, Prioritising of Projects and Material Procurement

Overall, there has been little change in the detail planning system, other than during the turnkey era, when the planning was done by the turnkey contractors themselves.

With respect to prioritising of projects, during JTM days, it was based on the service requirement with little emphasis on the profit side. Towards the end of 1970s and early 1980s the objective was to clear waiters at whatever cost. At the top management level, the overall planning was very much driven by the government budgeting system rather than corporate strategy, and the incremental approach was used in deciding the capital expenditure budget. In the turnkey era, the main

consideration was on clearing the waiters, which was why the turnkey system was introduced in the first place.

In contrast, under privatisation, prioritising of projects is done twice - once before the business plan is approved and again after approval of the business plan. Most projects are included on the first list and most will be considered as necessary by the engineers, since as was commented by one senior staff at HQ, *'Engineers are engineers. They love projects, since projects make them busy and give them influence in the organisation'*. But of course, these projects are filtered by the regional HQ on the basis of the capability and availability of manpower of each area, material availability in the country and the *bottom line*, before the list is sent to the regional HQ secretariat and from there to the Corporate Planning in the Headquarters of the company.

As explained earlier, in approving the capital project expenditures of the company, the top management at HQ has its own objectives to meet. During the period of 1987-1990, i.e. before the company was listed in the KLSE, the objectives were based first on SWOT analysis, and then on the financial need to show a good track record i.e. good profit, favourable earnings per share, return on investment etc, in order to meet political objectives. Thus, between 1987-1990, the Capital Expenditure for STM wide was only M\$2.45 billions

(source: taken from Company Business 1992-1996). During this period, accounting influences were high, especially as the 'annual depreciation growth capping' approach, discussed in Section 7.5, was used to determine the yearly capital expenditure introduced by the accountants. And it was during this period that *the project* was defined as a *scheme*, which limited the freedom of the engineers to transfer the budget from one scheme to another.

The scenario changed as from 1991, i.e. after the company was listed, when demand started to increase as a result of rapid economic growth in the country, there was a substantial number of waiters and an influx of competitors into the telecommunication industry. This led to increases in capital expenditure, so as to meet current and future demand and maintain market dominance. Thus in 1991, because of these two factors, the company was quite generous in approving the budget; of M\$2.5 billion proposed by the regions and other divisions, the top management approved M\$2.3 Million. The other reason why the management was able to approve such a substantial amount was due to the success of listing. However, the amount approved for 1991 was not fully utilised. There was an implementation shortfall of almost M\$900 million due to material shortages and other problems. As a result, in 1992, the business plan was approved on the capability of the regions and other divisions to spend their capitation based on the actual amount spent in the

previous year, plus a certain percentage of growth. The initial request for M\$7 billion was reduced to M\$4 billion, and finally, the top management agreed on M\$2.4 billion. Again, however, there was an implementation shortfall of about M\$500 million due to many reasons, the main one being the material shortages (Source: interview with relevent officer of STM).

As from 1993, the business plan is based on business needs, with a two-tier budget, a fixed amount based on the capability of the regions and other divisions to spend, and a flexible budget as a 'top-up' if spending exceeds the fixed budget. It is important to note here that approval of the budget for the respective regions is based on the total amount and per project basis. This gives the power and authority to the RGM to distribute to his various sections. Even the amount given to the various AGMs in the central region is based on the bottom line, and so on, from the AGM (LND) to the various area managers.

After the budget is approved by the HQ group as discussed in section 7.3.2.2.2, the second prioritising of projects is done at the LND in central region, by the project manager. In this respect, there have been some changes from 1987 to the present. During 1987-1990, the project manager's freedom was restricted by the equation of the project with the scheme, since it restricted the transfer of budget from one scheme to another. But as

from 1991, when the term project was expanded to refer to an exchange, the project manager could transfer from one scheme to another without much difficulty, within certain limits.

7.3.2.3 Implementation of Local Network Projects

7.3.2.3.1 Implementation Process

During JTM days, the implementation process was mainly done by the JTM staff with the help of Public Works Department (PWD) staff, as discussed in Section 5.4.1, where it was also explained that, in 1976, the government introduced the JKH system where the work was done by the JKH contractors. But as from 1979, the JKH system was modified and the registered contractors were divided into three classes, as discussed in Section 5.4.1. In the turnkey era, the JKH contractors were replaced by five turnkey contractors (For further details, see Section 5.4.2.). After the Turnkey period, the JKH was reintroduced as from 1988, with the number of contractors increased from 40 to 120. These carried out the implementation: digging trenches, laying ducts, erecting poles, placing the manhole covers and laying or hanging the cable.

Under the present system, once the scheme of a particular project is indented (i.e. the detail planning has been done and other procedures carried out by the detail planning group as described in section 7.3.2.2),

the budget is available and the project can be implemented. Indenting also means that an agreement has been reached between the contractors and STM on that particular project. However, the main contract between the JKH contractors and STM is signed as soon as the contract is awarded, STM being represented by the HQ Specialist Group. Usually the implementation group will need to apply for a permit from the relevant authority (e.g. PWD or city council) before putting in the manhole etc. During JTM days, application for a permit from a PWD or any government agency was easier, since the application was from one government Department to another. Now, the treatment is different, since the government organisations treat STM like any other private company. The detailed plan is studied with the contractor concerned, and materials requested from the regional procurement section.

Once the project is completed, the supervisor-in-charge, along with the engineer or junior executive, will inspect the quality of the work, which will be tested in relation to guidelines provided by the HQ specialist group. If the result is satisfactory, the company will issue a Certificate of Acceptance of Scheme, certified by the Testing Officer (usually the technician) and approved by the implementation engineer. But if the work is not found to be of the quality required or if the project is delayed due to the contractor's fault, then there will be penalty charge against the contractor concerned. This

aspect of the implementation process has remained constant during JTM, Turnkey and STM.

Assetisation of the project takes place once the Acceptance Certificate has been granted. During JTM days, because most engineers did not understand the difference between cash and accrual expenditure, most assetisation figures were based on cash figures. This was mentioned by the Consultant who studied the value of JTM in 1983 with a view to valuation of fixed assets for privatisation. Assetisation was inaccurate; it was incomplete, sometimes done very late (sometimes several years after the lines were installed), there was confusion between cash and accrual concepts, and inconsistent treatment of depreciation, as discussed in Section 5.5.1. These problems arose because there were no proper guidelines, due to the minimal role of the accounting department. It was only when the Department was about to be privatised that the question of valuation of assets was raised.

Upon the receipt of the consultant's report, the top management directed Accounting to produce a better system, and eventually, the Fixed Asset System (better known as FA System) was established in 1985/1986. Thus as from 1986, all the projects installed had to be assetised as soon as possible. The assetisation process starts with the implementation unit, whose personnel submit an FA1 form. From 1986-1988, such form were submitted to the accounts section in the region, but from 1988, to the

accounts section at area level. In 1992, the system was fully computerised, under the new name, FASIS, and a 14-day deadline was set for assetisation of completed projects.

The implementation group must also, via the CASS system, inform Marketing within three days, of availability of the new lines for sale to the customers. This system was not available during JTM days. Thus, according to some engineers, since the commission date was not enforced, the time taken to inform the Traffic section, which was responsible for selling the lines, could be several weeks or even or two months.

With respect to allocation of budget, during JTM days, when it was based on service as an objective, according to most engineers interviewed, for normal projects, there was little problem, even though there was considerable red-tape; the budget was quite generous, since JTM was a revenue-generating Department. But upon privatisation, as mentioned earlier in the chapter, the implementation of the project could be problematic in the event of running over budget since virement was restricted. Transfer of funds from one scheme to another, required approval from the RGM or even at HQ level, which sometimes delayed implementation. But this was resolved in 1989/1990 when the definition of a project was extended to an exchange in the amended Financial Instructions (1989 p. 36), which read as follows:

"Capital budget is controlled from each approved project or from number of unit of assets approved. For the purpose of budget monitoring, the term 'project' for capital works for Local Network is an exchange for an area".

Other changes in the implementation system which had an impact on the accounting influence were the introduction of the deadline for assetisation, the assetisation method itself, and the inputting to the CASS system of the distribution points available on completion of the project.

7.3.2.4 Monitoring and Control of the Projects

Monitoring and Control of the projects under the three environments takes place at both regional level and HQ levels.

7.3.3.4.1 Monitoring and Control at Regional Level

With respect to monitoring of the work done by the implementation group, under the JKH system during both JTM and STM environment, a technician is assigned to a particular project on a full-time basis. He or she is responsible for several projects, depending on their size and duration. In contrast, under the turnkey system, technicians were present, but not on a full time basis. The turnkey contractors were considered consultants to

the organisation, since they did everything from initial planning and detailed design to implementation and delivery, so the technician's role was one of intermittent supervision. Under the JKH system, only the implementation is done by the contractors; most of the work is done by the JTM/STM staff. As was commented by an implementation engineer:

"Our concept is very simple. We treat JKH contractors as our staff, we monitor their work, and we tell them what to do, where to lay the duct, where to lay or hang the cable and the rest. We do the initial planning and detail design, which was different during the turnkey era".

During JTM days, the project monitoring was done manually through filling the BP1 and BP2 forms as shown in Figures 7.9 and 7.10. But the problem existed of the differentiation between the cash and accrued figures, since, as we have seen, the engineers did not understand the distinction or see its importance. This was partly because assetisation was not properly implemented by the engineers, as the design archetype was based on engineering values and beliefs and the influence of accounting was minimal.

In contrast, under STM environment, the progress and quality of the work done by the contractors are closely monitored throughout. The supervisor will monitor each project and at the end of the day, will receive a file on

Figure 7.9 BP1 - Budget Control Form 1 (Project Planning Card)

PROJECT PLANNING CARD

1. DESCRIPTION OF WORK	REGION								
	LOCALITY								
	FILE REF./REGION								
	FILE REF./HQ								
2. JUSTIFICATION & NEED									
3. ESTIMATED EXPENDITURE									
Property A/c	M/Hrs.	Estimated total cost				Year in which funds required			
		Labour \$'000	Mat \$'000	Incidental \$'000	Total \$'000	19..... \$'000	19..... \$'000	19..... \$'000	19..... \$'000
4. PLANNED PROGRESS OF WORK									
LANDS / & BUILDINGS					EQUIPMENT				
Description	Month	Year	Description	Month	Year	Description	Month	Year	Description
Acquisition of Land			Tender exercise			Tender exercise			
Specifications for Bldgs/Road			Issue of Indent/Contract			Issue of Indent/Contract			
Tender exercise			Delivery of materials			Delivery of materials			
Construction to commence			Installation			Installation			
Construction to complete			Testing			Testing			
			Ready for operation			Ready for operation			

Prepared by _____

ACT/SA District Remarks/Recommendation

Date

Forward by _____ Appr Director (HQ/Group)

Regional Director/Controller Date

Date

Approved for inclusion in current Five Year Plan and Works Programme for the year

Noted by _____ Director (Radio/Telephone)

Budget Control Unit Date

Date

**Source: Malaysian Telecommunications
+Instructions on Budgetary Control
Instructions, 1978, p. 23.**

Figure 7.10 - BP2 Budget control (Project Implementation/Progress Card)

1. Description of Project	Project No.:												
	Region :			Area Code :									
	Regional Ref.:			HQ Ref. :									
	Budget Period :												
	Date :												
2. Date Project Planning Card Approved by H.Q.	Annual Works Programme : Year Page Item No.												
Property Code	Man Hours	Estimated Cost - \$'000			Allocation - \$'000			Actual Expenditure - \$'000					
		Labour	Materials	Incidentals	Total	19	19	19	19	19	19	19	Total
* XP/TP/SP/LP		Cash	Costed	Cash	Costed	Cash	Costed	Cash	Costed	Cash	Costed	Cash	Costed
CP													
BP													
Total													
* delete as appropriate													
Forwarded by Director/Controller		Checked by Asst. Director		Checked & Projec Nos. allotted by : HO Budget Control Unit			Approved by Director Radio/Telephone						
Region :		HQ Section		Date			Date			Date			
Date		Date		Date			Date			Date			
4.													
Works Authority No.:													
Description of Work													
Total Amount													
Date Approved													
Date Work Commenced													
Date Work Completed													
Date Completion Report (WP38) Submitted													

5. Pert Chart (showing progress of work)

6. Expenditure - \$'000

Work Authority	19			19			19			Total			
	Labour	Materials	Incidentals	Labour	Materials	Incidentals	Labour	Materials	Incidentals	Labour	Materials	Incidentals	Total
Total													

Source: Malaysian Telecommunications Instructions on Budgetary Control Instructions, 1978, JTM, p.24-25.

the activities accomplished by the contractors. He will update weekly in the CW01 for accrual expenditure and CW02 for cash expenditure and on a monthly basis, prepare a progress report for discussion with AGM (LND) at the monthly meeting, as shown in Figure 7.11 on the monitoring of JKH Contractors' performance. On a quarterly basis, he prepares a progress report for submission to the Secretariat Unit of RGM's office. These report will be compiled and sent to the Corporate Planning at the HQ in the form of diskettes.

At regional level in the case of LND, the AGM (LND) will monitor the overall performance of each area from the monthly reports received from the project manager. The focus is on the achievement of ECP, PKM and DKM in the case of completed projects or physical progress for uncompleted projects. The reports will also show the actual amount of cash spent as well as the accrued amount committed by the engineer in the particular area.

As for the accounting in the Region, under STM environment, from 1987, capital projects were monitored by the regional accounting group, but as from 1992, with the establishment of accounts at the area level, this role has been transferred to the accounting group at that level. The monitoring of projects by the accounts group starts at the project implementation stage, where the following takes place:

Figure 7.11
JKH Project Schedule for 1992&1993
Monthly Report on monitoring of JKH Contractors' Performance.

EXCH REF	IDF PIPC	FILE NO.	NO. CON.	JKN	PROJECT NAME	EXPECTED DATE TO COMPLETE	BUDGET VALUE	FORECAST VALUE	BOQ VALUE	MATERIAL
SY 999	07	2132221	STM		KERTA KECIL SEMENYTH 1992					
SY C	01	2132219	OSM		D/S TAMB KAB 020 TMN. SEMENYTH JAYA SEMENTH					
SY E	03	2132222	TEL		D/S TAMB KAB 006 JLN. SG LALANG SEMENTH					
SY C		2132227	OSM		D/S TAMB KAB 5 KAWASAN INDUSTRI SEMENTH					
SY A	04	2132235	SAM		*KERJA SIAP D/P TAMB KAB 020 TMN. SEMENTH JAYA					
SY C		2132228	OSM		*KERJA SIAP D/P TAMB KAB 020 TMN. SEMENTH JAYA					
SY A		2132235	SAM		*TAMB KAB 004 TAIYO GOLF RESORT SEMENTH					
SY C		2132230	M		*M/W E/S 'C' UTK. KAB 020 JALAN BANGI LAMA SEMENTH					
SY D	0393	2132236	M		D/S TAMB KAB 020 RMH MURAH JALAN BANGI SEMENTH					
SY	0193	2132229	M		D/S TAMB KAB 013 JLN BROGA SEMENTH					
SY A		2132224	SKM		TAMB KEDUA KAB 021 KG RINCHING SEMENYTH					
SY E		2132226	SKM		D/S TAMB KAB 014 TMN DESA SEMENYTH					
SY C		2132231			D/S KAB 022 JALAN SG. LALANG SEMENYTH					
SY L	04	2132225	SKM		CWS UTK KAB 017,018 INDUSTRIAL PARK SEMENYTH					
SY E					D/S TAMB KAB 011 RUMAH MURAH JLN BANGI LAMA SY					
SY A					E/S 'E' UTK KAB 022,016 JLN.SG LALANG SEMENYTH					
SY A					E/S 'E' UTK KAB 004,020,021,006 SEMENYTH					
SY A					D/S KAB 024 TAMAN PERAHI SEMENYTH					
SY A					E/S 'E' KAB 17 INDUSTRIAL PARK SEMENYTH					
SY L					D/S KAB 17 INDUSTRIAL PARK SEMENYTH					
SY L					D/S TAMB KAB 022 TMN SRI TANJUNG SEMENYTH					

Figure 7.11: CONTINUED.

EXCH	IDF	FILE	NO.	JKN	PROJECT NAME	M/HR	VALUE	MILEAGE	VALUE	ECP	PAIR	(PKM)	DUCT	(DKM)	FORECAST	PKG	DATE	CP10	DATE	DELIVERED	TO	AJDIL
REF	PIP	CON.																				
SY	999	99	2132221	STM	KERTA KECIL SEMENYIH 1992																	
SY	07	2132219	OSM		D/S TAMB KAB 020 TMN SEMENYIH JAYA SEMENYIH																	
SY	C	01	2132222	TEL	D/S TAMB KAB 006 JLN SG LALANG SEMENYIH																	
SY	E	03	2132227	OSM	D/S TAMB KAB 5 KAWASAN INDUSTRI SEMENYIH																	
SY	C		2132220	OSM	*KERJA SIAP D/P TAMB KAB 020 TMN SEMENYIH JAYA																	
SY			2132228	OSM	*KERJA SIAP D/P TAMB KAB 020 TMN SEMENYIH JAYA																	
SY	A	04	2132235	SAM	*TAMB KAB 004 TAIYO GOLF RESORT SEMENYIH																	
SY			***729		*M/W E/S 'C' UTK KAB 020 JALAN BANGILAMA SEMENYIH																	
SY	C	0293	2132230	M	D/S TAMB KAB 020 RMH MURAH JALAN BANGI SEMENYIH																	
SY	D	0393	2132236	M	D/S TAMB KAB 013 JLN BROGA SEMENYIH																	
SY		0193	2132229	M	TAMB KEDUA KAB 021 KG RINCHING SEMENYIH																	
SY	A		2132224	SKM	D/S TAMB KAB 014 TMN DESA SEMENYIH																	
SY	E		2132226	SKM	D/S KAB 022 JALAN SG LALANG SEMENYIH																	
SY	A		2132231		CWS UTK KAB 017,018 INDUSTRIAL PARK SEMENYIH																	
SY	C				D/S TAMB KAB 011 RUMAH MURAH JLN BANGI LAMA SY																	
SY	L	04	2132225	SKM	E/S 'E' UTK KAB 022,016 JLN SG LALANG SEMENYIH																	
SY	E				E/S 'E' UTK KAB 004,020,021,006 SEMENYIH																	
SY	E				D/S KAB 024 TAMAN PERAHI SEMENYIH																	
SY	A		2132233		E/S 'E' KAB 17 INDUSTRIAL PARK SEMENYI																	
SY	A		2132234		D/S KAB 17 INDUSTRIAL PARK SEMENYIH																	
SY	L		2132232		D/S TAMB KAB 022 TMN SRI TANJUNG SEMENYIH																	

Source: PRT, Petaling Jaya Area Document, 1993.

(i) The project manager submits the Capital Project Accounting (CPA) set-up forms to Accounts Unit at the area level. A copy of any relevant contract or indent is also enclosed.

(ii) Accounts Unit checks the CPA set-up forms and opens a project file.

(iii) Accounts Unit sends the CPA set-up forms to the regional accounting group for inputting into the CPA system, where the output will be in the form of CW12 and CW34.

(iv) Regional office sends Monthly Capital Project Accounts to the Accounts Unit and Project Managers at area level for control and monitoring purposes.

(v) Project Managers submit quarterly physical progress reports to the Secretariat Unit of RGM's office for consolidation and submission to the corporate planning division for input into the Project Management Control System. The Business Plan for both cash and accrual expenditure is updated and the report, as shown in Figures 7.12(a) and 7.12(b), is printed out and sent to all regions for monitoring.

(Source: Discussion with the Accountant at the Central Region Office).

During JTM days, monitoring of projects by the accounting was done with respect to processing of payment to be made to the JKH Contractors. With respect to other aspects such as the assetisation of completed projects into the FA system, monitoring was not done as this system was only introduced in 1985 and fully implemented upon privatisation. As was explain earlier, in Chapter Five, the accounting role in the region during JTM days

Figure 7.12(a)
LND PJ Business Plan
Accrual Progress (PJ12)

Scheme No.	Indent No.	project name	PROJECT TOTAL ACRU				TOTAL				
			VALUE	ACRU 91	ACRU 92	ACRU 92	ACRU 92	ACRU 92	ACRU 92	TOTAL	
** MAIN_NO. 2019 LOCATON KPU											
230	15000991	E/SIDE 'AD' TO CAB \$6,67,68 KPU									
231	15000891	D/SIDE KAB P51 KPU									
231	15000891	CWS KAB P51 KPU									
233	15002491	E/SIDE (EXTN) 'R' TO CAB P45 OCTOPEN KPU									
234	15003591	D/SIDE CAB P45 OCTOPEN KPU									
235	15003491	E/SIDE (EXTN) 'A' TO CAB 05 KPU									
236	15003291	D/SIDE CAB P70 TMN KUCHAI LAMA KPU									
237	15003391	D/SIDE CAB P69 KPU									
238	15003192	E/S TAMB 'E' UTK KAB P73, TAMAN GEMBIRA, KPU									
239	15026192	CWS UTK KAB P73, TMN GEMBIRA, KPU									
240	15021092	D/S TAMB KAB P5, OCTOPEN, KPU									
241	15023992	E/S (EXTN) 'AA' KAB 58 TMN GEMBIRA, KPU									
242	15024092	D/S TAMB KAB 43 PAKATAN KEMAJUAN FASA 3 PKU									
243	15020792	D/S KAB P67, SIM NAM DEV, HAPPY GARDEN, KPU									
244	15025392	D/S KAB P73 TO RELIEF D/S KAB 32, KPU									
245	15013192	E/S TAMB 'D' UTK KAB P71, SALAK SOUTH, KPU									
246	15020992	D/S KAB P68, SIN NAM DEV, KPU									
247	15020692	D/S (REHAB) KAB 58, 2, 3, 37 TMN GEMBIRA, KPU									
248	15038392	D/S KAB P71, TO, RELIEVE KAB 7, 47, 48, KPU									
249	15013492	E/S TAMB 'AD' UTK KAB P69, P70 KUCHAI JAYA, KPU									
251	15040292	D/S (TAMB) KAB 68 SIN NAM DEV, KPU									
252	15043992	E/S 'AE' UTK KAB P74 P75, P76, 999/70, KPU									
253	15052692	D/S CAB P74 OCTOPEN, KPU									
254	15027092	D/S KAB 66, HAPPY JAYA, KPU									
255	15027192	D/S KAB P76, BREM PARK, FASA 3, KPU									
256	15026992	CWS UTK KAB P76, BREM PARK, FASA 3, KPU									
258	15036892	E/S TAMB 'B' UTK KAB 66, HAPPY JAYA, KPU									
265	15055992	E/S 'AG' KE SDF 999/04 TMN DESA KPU									
266	15053093	D/S KAB P59 SRI PAKAR DEV, KPU									
267	15046993	CWS UTK KAB 3A, JLN RUKUN, KPU									
268	15039192	CWS (TUKAR KE KRONE KAB) UTK KAB 035,044, KPU									
269	15044192	CWS UTK KAB 14A & 15A JLN KIANG LAMA, KPU									
271	15035692	E/S 'AB' KAB P14B & P15A TMN SALAK SOUTH, KPU									
274	15037892	CWS + E/S (EXTN) 'V' 'AG' KAB 050 TMN DESA, KPU									

Figure 7.12(b)
LND PJ Business Plan
Cash Payment Progress
2nd Quarter 1993 (PJ12)

Scheme No.	Indent No.	Sub Indent	Project Name	CONTRACT NO.	INDENT NO.	ACTUAL START	ACTUAL COMPLETED	PROJECT VALUE	TOTAL CASH 91
** MAIN_NO. 2019									
230	AD	A1	LOCATON KPU						
231	E	B1	E/SIDE 'AD' TO CAB \$6,67,68 KPU						
231	E	A1	D/SIDE (EXTN) 'E' KE KAB P51 KPU						
232	E	C2	CWS KAB P51 KPU						
233	R	A1	E/SIDE (EXTN) 'R' TO KAB P45 OCTOPEN KPU						
234	R	B1	D/SIDE CAB P70 TMN KUCHAJ LAMA KPU						
237	AD	B2	D/SIDE CAB P69 KPU						
238	H	A1	E/S TAMB 'E' UTK KAB P73, TAMAN GEMBIRA, KPU						
239	H	C1	CWS UTK KAB P73, TMN GEMBIRA, KPU						
240	A	B3	D/S TAMB KAB P5, OCTOPEN, KPU						
241	AA	A1	E/S (EXTN) 'AA' KAB 38 TMN GEMBIRA, KPU						
242	AB	B2	D/S TAMB KAB 43 PAKATAN KEMAJUAN FASA 3 PKU						
243	AD	B4	D/S KAB P67 SIM NAM DEV, HAPPY GARDEN, KPU						
244	H	B1	D/S KAB P75 TO RELIEF D/S KAB.32, KPU						
245	D	A1	E/S TAMB 'D' UTK KAB P71, SALAK SOUTH, KPU						
246	AD	B5	D/S KAB P68, SIN NAM DEV, KPU						
247	AA	B2	D/S (REHAB) KAB. 58, 23, 37 TMN GEMBIRA, KPU						
248	D	B1	E/S TAMB 'AD' UTK KAB P69, P70 KUCHAJ JAYA, KPU						
249	AD	A2	D/S (TAMB) KAB 68 SIN NAM DEV, KPU						
251	AD	B5	E/S 'AE' UTK KAB P74 P75, P76, 999/70, KPU						
252	AE	A1	D/S CAB P74 OCTOPEN, KPU						
253	A	B3	D/S KAB.66, HAPPY JAYA, KPU						
254	B	B1	D/S KAB P76, BREM PARK, FASA 3, KPU						
255	AE	B1	CWS UTK KAB P76, BREM PARK, FASA 3, KPU						
256	AE	C1	E/S TAMB 'B' UTK KAB 66, HAPPY JAYA, KPU						
258	B	A2	E/S 'AG' KE SDF 999/04, TMN DESA, KPU						
265	AG	A1	D/S KAB P59 SRI PAKAR DEV, KPU						
266	AD	B5	CWS UTK KAB 3A, JLN RUKUN, KPU						
267	SD	C2	CWS (TUKAR, KE KRONE KAB) UTK KAB 035,044 KPU						
268	N	C1	CWS UTK KAB 14A & 15A, JLN KLANG LAMA, KPU						
269	N	C2	E/S 'AB' KAB P14B & P15A, TMN SALAK SOUTH, KPU						
272	AB	A1	CWS + E/S (EXTN) 'V' 'AG' KAB 050 TMN DESA, KPU						
274	V	A3							

Continued : 7.12 (b)

CASH	CASH	CASH	TOTAL	CASH	CASH	CASH	TOTAL	CPA	CPA	Ref no
92	92	92	93	93	93	93	93	Date		

Source: PRT, Petaling Jaya Area Document, 1993.

was purely that of *paymaster*, and its influence was very low.

7.3.2.4.2 Monitoring and Control at HQ Level

During JTM days, monitoring of the project for LND was also carried out by the EPU of Prime Minister's Department, as discussed in Section 6.2.8. But for the numerous local network projects, this system was not successful, as we have seen. The difficulty was exacerbated by the problems faced by the EPU, as an outsider to the organisation, in enforcing the monitoring system. However, as from 1982, only projects worth M\$100,000 and above need approval from the EPU, and submit the quarterly progress report until the project is completed.

Under the turnkey environment, the turnkey contractors had to obtain approval from JTM engineers at every stage, i.e. from demand forecast, fundamental plan and detail scheme plan, subject to the 14-day rule referred to earlier. In this way, JTM monitored the turnkey contractors, and tested completed work for its quality.

Moreover, since the turnkey system was introduced for political reasons, and since it involved substantial amounts of funds, monitoring was also carried out by an inter-ministerial steering committee headed by the

Minister of Post, Telecommunication and Energy. Other members included senior staff of the ministry, top management of JTM, officials from the Ministry of Finance and officials from the Inter-Coordinating Unit (ICU) of PM's Department. This meeting was also attended by the RGM and the contractor concerned. And at the regional level, a project management group consisting of RGM and project managers met on a regular basis with the turnkey contractors to discuss the progress of the work.

Under STM, the projects are monitored using the quarterly CW12 and CW34 reports forwarded to the Corporate Planning and Corporate Finance Division. As we have seen, the project manager submits cash and accrued figures to the secretariat unit at the RGM's office, for compilation and submission to the Corporate Planning and Corporate Finance Division at HQ. As can be seen from Figure 7.12(a) on the 'LND Business Plan for Petaling Jaya, the accrual progress report for the second quarter of 1993 includes all the schemes in one exchange. For each scheme it shows the indent number, the name of the project, the expected value of the project, the total accrued value for 1991, the accrued value for each quarter of 1992, and for 1992 as a whole, the accrued value each quarter of 1993, and for 1993 as a whole, expected and actual implementation and completion dates and date of transfer to FA1 system for assetisation. On the output side, it includes the ECP, PKM and DKM produced. These are the measurements used by HQ group to

monitoring projects carried out by the region, i.e. in term of physical output. As far as the cost is concerned, monitoring is done by Corporate Finance, though accurate costing is difficult at present; it should improve with full implementation of the CIS by the end of 1993. All the information prepared is shown on one line of the page under this report, which uses the Project Management System. This is a comprehensive report produced quarterly by the Corporate Planning group upon receiving the capital projects information from all the regions. The weakness of the system is that it is not on-line, and there is no integration between the various development groups i.e. the local network, switching network, long-lines network and the property management groups, each of which reports separately. Figure 7.12(b) shows the progress report in term of cash expenditure.

7.3.3.4.3. Discussion on the weaknesses of the Monitoring and Control of the present system

During JTM days, monitoring was weak according to the consultant's report, and there was the problem of differentiating between cash and accrued figures.

Up to now, there are no proper project management tools at HQ, which has led to all the project managers in LND of the Central Region coming up with their own tools. The management is very concerned about the situation, especially in view of the low utilisation rate which will

be discussed in the following chapter. But now, according to some senior officers, the poor monitoring system is being overshadowed by a material problem. The CW01 and CW02 are not very effective, as they do not reflect the true work-in progress and what is happening at the site. The problem now is that once the project manager gets the money, the top management wants to know what happens to it, yet under the present monitoring system, the HQ group rely on information which is subject to error and is quite out-dated, since it is not on-line. Certain important information is only inputted into the system later.

Another weaknesses of the present system is that there is still no coordination between the various divisions carrying out projects in the company. In other words, *JTM's ways of doing things* are still there. There is little attention paid to the concept of project management; early in 1993, a workshop was organised by the HQ Technical services group in the various regions on the integrated planning approach, but it is still too early to comment on the new approach.

From the accounting and financial point of view, the present project monitoring system has great difficulty in meeting the requirements of the corporate planning and corporate finance, because the present project monitoring system is not able to interface fully with the SISWANG system. As a result, engineers have to fill in various

forms to provide the information needed by the accounting group, which takes a lot of time which should be spent on real project monitoring.

Thus, in order to overcome all these problems, the company has decided to implement the PROMPT system. By installing this system, the company hopes effectively to manage the CWP expenditure, which will reduce the implementation shortfall and improve utilisation rate. As was commented by one senior manager at HQ:

"Overall, the project monitoring is done on a piece-meal basis. It is more on an individual basis, up to the project managers. But when the company installs the PROMPT system, it will be a procedure which the project manager must carry out".

Another manager at HQ commented:

"With the PROMPT system, which is an on-line system, the HQ is expected to monitor what is happening on the ground; this can be translated very quickly into management information such as how many projects have been done and implemented, how much money has been spent on CWP, and which projects are already in progress. Everything will be monitored because the HQ group will update from time to time".

The PROMPT system is also expected to interface with all other aspects of the financial system such as SISWANG, and is expected to coordinate between the various divisions implementing projects in the company.

7.4 Summary

In this chapter, the dynamics of change with respect to capital investment and project process of LND of Central region were discussed in detail. Out of this analysis, major change was found to have taken place with respect to fundamental planning, feasibility study, including financial analysis and inventory procedures which affect the engineers, and also the overall budgeting system.

But the question still remains, out of these changes made by the company, as described in this chapter, has there been a real assimilation of financial and commercial values among the engineers? Or was it a cosmetic change forced upon them by the top management? The next chapter will analyse the results of the projects implemented by the engineers at LND of the Central region, in terms of forecast demand, forecast ECP and utilisation rate of the ECPs. This may help us to answer the question we have just posed.

CHAPTER EIGHT

Analysis and Discussions of the Principal Findings of the Study with reference to Laughlin Model (1991) and Greenwood and Hinings (1988)

8.1 Introduction

Chapter Seven described and discussed in detail the dynamics of change in the organisation with respect to Capital investment and Project Process of the LND in Central region in JTM days, the Turnkey era and during and after the privatisation. In this Chapter, an analysis is carried out of three important elements of performance:

(i) the demand forecast against actual demand of subscribers in each exchange for each of the four areas in LND of Central Region (from 1988-1992);

(ii) the ECP forecast against actual ECP in each exchange for each of the four areas in LND of Central Region (from 1988-1992);

(iii) the utilisation rate (i.e the actual demand against actual ECP) in each exchange for

each of the four areas in LND of Central Region (from 1987-1992);

In case of elements of performance (i), the overall figures of LND for Central Region are also shown as from 1982-1992 and for (iii), the overall performance on the utilisation rate for JTM/STM from 1975 to 1992 are also shown.

The analysis of these three elements is important since they provide an indication of the extent to which the project engineer and his team in the LND of Central Region have changed from engineering values to commercial and financial values. This is a direct analysis, since these three elements become the end products for the engineers' role in the capital investment and project process. In addition to the above, the analysis of the overall performance of the company and Central region are also discussed in this chapter.

The chapter then discuss the significant changes in the budgeting system for capital projects since privatisation as it shows the influence of both the accounting and engineering groups. The chapter then discusses the principal findings of the study on the three phases of disturbance and finally, on the overall analysis of the movement of organisational tracks using both Laughlin's model, and Greenwood and Hinings (1988) where detail comment is made with respect to the outcome of the study.

8.2 Analysis of LND in Central Region

8.2.1 Analysis with respect to forecast against actual demand; Forecast against actual ECP; and Actual Demand versus Actual ECP (i.e. the utilisation rate) for Local Network Development Group in Central Region.

Analysis of the overall demand forecast against the actual demand by the Fundamental Group in the Central Region, reveals a more than satisfactory standard of forecasting accuracy, suggesting that the engineers in the Central Region have, to some extent at least, assimilated commercial criteria and integrated them into their daily work, in this case through the bottom-up approach.

The overall Telephone demand forecast, compared to actual demand in the Central Region from 1982- 1992 is shown in Table 8.1. Table 8.1 reveals that the accuracy of actual against forecast figures has improved over the years. Since privatisation, with the establishment and expansion of the Fundamental Planning Unit, the engineers are becoming better planners with respect to bottom-up telephone demand forecast.

Table 8.1 - Telephone Demand Forecast compare with actual in Central Region done by Local Network Section

Year	Forecast Demand	Actual Demand	Actual Demand/forecast Demand
1982	313442	208358	64%
1983	405700	219737	54%
1984	417039	275246	66%
1985	459677	285000	62%
1986	480882	327000	68%
1987	493370	408424	83%
1988	449364	452265	101%
1989	497135	507052	102%
1990	594307	584975	98%
1991	677990	629185	93%
1992	784489	715410	91%

Source: 1982-1986 Interview with JTM Personnel and Minutes of Budget Meeting 1982/84 and from 1987-1992 Business Plan Document.

As shown in Table 8.1, during JTM time, from 1982-1986, the percentage of actual against forecast was only between 54-68 percent, whereas after corporatisation and privatisation i.e. from 1987-1993, the percentage of accuracy improved to reach between 83-102 percent. This suggests that fundamental planning is helping the engineers in the Central Region to forecast demand using the bottom-up approach. Table 8.2 shows the forecast against the actual demand for each area from 1988 to 1992. All these demand forecasts are carried out by the

fundamental engineers in each area using the bottom-up approach, which was absent during JTM days.

Table 8.2 - Telephone Demand Forecast against Actual by each Area in Central Region done by Local Network Section from 1988-1992

Year	Area	Forecast Demand	Actual Demand	Actual Demand / forecast Demand
1988	KL	139769	143162	102%
	PJ	135427	134961	100%
	WS	66530	67979	102%
	ES	107638	106163	99%
	Total	449364	452265	101%
1989	KL	154768	156303	101%
	PJ	146712	148990	102%
	WS	73295	79540	109%
	ES	122360	121986	100%
	Total	497135	506819	102%
1990	KL	176874	178761	101%
	PJ	172086	168821	98%
	WS	94242	94231	100%
	ES	151105	143162	95%
	Total	594307	584975	98%
1991	KL	208832	193281	93%
	PJ	195317	178269	91%
	WS	114073	102432	90%
	ES	159768	155203	97%
	Total	677990	629185	93%
1992	KL	251426	221177	88%
	PJ	224462	199437	89%

WS	128912	116357	90%
ES	179689	178439	99%
Total	784489	715410	91%

Source: Business Plan Document (1989-1993)

The actual demand figure is exclusive of waiters, to make possible consistent comparison from 1982-1992. However, Table 8.3(a) shows the percentage of waiters over the number of actual subscribers (known as customers after privatisation of the organisation) during JTM days and in the STM environment. It can be seen that the percentage of waiters against actual subscribers was very high from 1976 - 1983, i.e. during JTM days, when it was between 31-48 percent, whereas under the STM environment, the percentage was much lower, i.e. from between 1-4 percent from 1987-1992 in Central Region and from less than one percent to above four percent in the Areas of the Central Region. And Table 8.3(b) shows that the percentage of waiters over actual subscribers (nationwide) during JTM days was very high between the years 1971-1986, when it was between 10-34 percent. The researcher was not able to obtain the number of waiters from 1988-1992 i.e. during STM. as it was not reported in the annual report as it was quite sensitive to the organisation because of the emergence of the competitors in the telecommunication industry. However, the number of waiters in the Central Region from 1987-1992 was obtained as shown in Table 8.3(a).

Table 8.3(a) - Percentage of Waiters over number of Actual Demand in Central Region during JTM (from 1976-1983) and STM (from 1987-1992)

Year	Number of Actual Subscribers	number of Waiters	% Waiters/ Actual Subscribers
1976	76371	36362	48%
1977	88040	42491	48%
1978	106297	39302	37%
1979	127477	40768	32%
1980	157564	49319	31%
1981	186096	59853	32%
1982	201411	75344	37%
1983	219737	79955	36%
1987	406845	14459	3.6%
1988	452265	4553	1.0%
1989	506819	2308	0.5%
1990	584975	7283	1.2%
1991	629185	25488	4.1%
1992	715410	25094	3.5%

Source: (a) Figures from 1976-1983 taken from Department document - JTM Budget File.

(b) Figures from 1987-1992 taken from Company document - Business Plan

Note: Figures from 1984-1986 are not available.

Table 8.3(b) - Percentage of Numbers of Waiters over Numbers of Actual Subscribers for JTM as a whole from 1971-1986

Year	Number of Actual Subscribers	Number of Waiters	% Waiters / Actual Subscribers
1971	110019	11924	11%
1972	121603	13674	11%
1973	136494	20591	15%
1974	149458	35085	24%
1975	169538	48306	29%
1976	191359	65303	34%
1977	227564	76438	34%
1978	271010	81247	30%
1979	325154	105699	33%
1980	395640	133609	34%
1981	488675	149945	31%
1982	585378	189808	32%
1983	700097	199831	29%
1984	849129	190542	22%
1985	958598	332000	35%
1986	1042827	348000	33%

Source : JTM Annual Report from 1979-1986

Note : As from 1987, the number of waiters are not shown in the Annual Report but according to some officers interview were of the opinion that it has gone down tremendously as from 1988 to 1992 when compare to during JTM days. Further evidence can be seen in Table 8.3(a) in the case of Central Region.

Thus from this analysis, we could deduce that even though there are waiters under STM environment, the percentage of waiters against number of actual subscribers is very low compared to during JTM days as shown in Table 8.3(a).

Further evidence of improved forecasting on commercial lines is revealed in considering the Effective Cable Pairs (ECP). Table 8.4(a) shows that the actual against forecast percentage was between 93-98% from 1988-1992 of the Central Region. Whereas Table 8.4(b) shows the forecast against actual ECP for each area from 1988-1992. All these show that the engineers have improved their forecasting of ECP, as the percentage of accuracy has improved steadily since privatisation and post-privatisation.

Table 8.4(a) - ECP Forecast compare with actual in Central Region done by Local Network Section from 1988-1992

Year	Forecast ECP	Actual ECP	Actual ECP / forecast ECP
1988	1044024	1023502	98%
1989	1133234	1056707	93%
1990	1142626	1121792	98%
1991	1227428	1180154	96%
1992	1330469	1270309	96%

Source: Business Plan Document (1989-1993)

Table 8.4(b) - ECP Forecast against Actual by each Area in Central Region done by Local Network Section from 1988-1992

Year	Area	Forecast ECP	Actual ECP	Actual forecast ECP /
1988	KL	376702	369850	98%
	PJ	246483	243236	99%
	WS	176803	173537	98%
	ES	244036	236879	97%
	Total	1044024	1023502	98%
1989	KL	406152	380719	94%
	PJ	275423	249659	91%
	WS	184773	178415	97%
	ES	266886	247914	93%
	Total	1133234	1056707	93%
1990	KL	407872	397334	97%
	PJ	272957	272830	100%
	WS	184051	189650	103%
	ES	277746	261978	94%
	Total	1142626	1121792	98%
1991	KL	426192	420102	99%

	PJ	307555	286604	93%
	WS	202760	194681	96%
	ES	290921	278767	96%
	Total	1227428	1180154	96%
1992	KL	447192	437912	98%
	PJ	348114	318096	91%
	WS	220626	210699	96%
	ES	314537	303602	97%
	Total	1330469	1270309	96%

Source: Business Plan Document (1989-1993)

However, Table 8.5 shows that the utilisation rate for the Central Region i.e. taking actual demand over actual ECP, was between 42%-56% from 1987 to 1992. In fact, most of the engineers in this region were of the opinion that it is not fair to compare actual demand only against actual ECP, and that by right, waiters should also be added. Even if this is done, actual demand plus waiters against actual ECP, still gives a utilisation rate of only 44%-58%, (as shown in Table 8.6) very little different from the figure before inclusion of waiters. Table 8.7 shows the percentage of actual demand over actual ECP for each area in Central Region from 1987-1992.

**Table 8.5 - Utilisation Rate for Central Region
from 1987-1992**

Year	Actual Demand	Actual ECP	Utilisation rate
1987	406845	960884	42%
1988	452265	1023502	44%
1989	506819	1056707	48%
1990	584975	1121792	52%
1991	629185	1180154	53%
1992	715410	1270309	56%

Source: Company Document - Business Plan 1988-1993.

**Table 8.6 - Utilisation Rate for Central Region
from 1987-1992 (where Actual demand include waiters)**

Year	Actual Demand	Actual ECP	Utilisation Rate
1987	421304	960884	44%
1988	456818	1023502	45%
1989	509127	1056707	48%
1990	592258	1121792	53%
1991	654673	1180154	56%
1992	740504	1270309	58%

Source: Company Document - Business Plan 1988-1993

Table 8.7 - Telephone Demand Actual against ECP Actual by each Area in Central Region done by Local Network Section from 1987-1992

Year	Area	Actual ECP	Actual Demand	Actual Demand / Actual ECP
1987	KL	351742	131076	37%
	PJ	234668	125612	54%
	WS	160383	58470	37%
	ES	214091	91687	43%
	Total	960884	406845	42%
1988	KL	369850	143162	39%
	PJ	243236	134961	56%
	WS	173537	67979	39%
	ES	236879	106163	45%
	Total	1023502	452265	44%
1989	KL	380719	156303	41%
	PJ	249659	148990	60%
	WS	178415	79540	45%
	ES	247914	121986	49%
	Total	1056707	506819	48%
1990	KL	397334	178761	45%
	PJ	272830	168821	62%
	WS	189650	94231	50%
	ES	261978	143162	55%
	Total	1121792	584975	52%
1991	KL	420102	193281	46%
	PJ	286604	178269	62%
	WS	194681	102432	53%
	ES	278767	155203	56%
	Total	1180154	629185	53%

1992	KL	437912	221177	51%
	PJ	318096	199437	63%
	WS	210669	116357	55%
	ES	303602	178439	59%
	Total	1270309	715410	56%

Source: Business Plan Document (1989-1993)

The question was posed to both the Central Region's engineers and the HQ staff who are involved in this work, as to why the utilisation rate was still below 60% from the year the company was privatised until 1992.

The engineers at the region, especially the project manager, argued that it was quite normal to have this sort of rate (there is not much different in the performance when compared with the national utilisation rate during JTM (from 1975- 1986) and STM (from 1987- 1992) which is shown in Table 8.8) since the telecommunication industry cannot be equated to manufacturing, where the rate could be as high as 90%. They claimed it is not possible to compare with another industry, because a telecommunication company deals with network provision where lead time is needed in installing the network and because of the rapid economic development in the country as a whole, and this region in particular.

TABLE 8.8 :- Percentage of Actual Subscribers against Actual Effective Cable Pair (ECP) for JTM/STM as a whole from 1975-1992

Year	Actual Subscribers	Effective Cable Pair	Utilisation Rate (%)
1975	169538	286100	59%
1976	194359	346800	56%
1977	227564	468594	49%
1978	271010	621518	44%
1979	325154	868012	38%
1980	395640	1084635	37%
1981	488675	1119170	44%
1982	585378	1380425	42%
1983	700097	1766982	40%
1984	849129	1967964	43%
1985	958598	2076455	46%
1986	1042827	2529270	41%
1987	1131719	2685000	42%
1988	1247687	2915000	43%
1989	1388183	2967000	47%
1990	1585744	3220000	49%
1991	1816860	3405000	53%
1992	2091578	3835000	55%

Source : (1)Taken and calculated from Annual Reports of JTM from 1975-1986.

(2) Annual Report of STM from 1987-1992.

One engineer commented that the network has to be optimised at the beginning to avoid having to duct the ground too often as demand increases. Another engineer suggested that it is necessary to analyse from the

specific locality point of view. In a long-established, very saturated and stable area, utilisation rate could be as high as 80%, but in a new area, then it may only be 20%-30% in the first few years. Another officer at the region commented:

"With respect to the utilisation rate, you must assume that the actual ECP is at 80% since for every 10 ECP available, one is reserved for testing and the other one is reserved for spare in case all the ECP are utilised".

The RGM, justifying the low utilisation, said that the way utilisation is calculated is very misleading. He suggested that utilisation should be looked at in the longer term, since the network was installed looking ahead to expected utilisation some years later, as the country develops. He pointed out that the Malaysian market is not as saturated as those of developed countries like U.K. and Europe.

However, some of the HQ group interviewed by the researcher were of the opinion that the utilisation rate has not been satisfactory. One manager who is an engineer monitoring the region's progress on the project commented that:

"Utilisation of around 50% is quite low, when you compare with other countries like South Korea, Japan or Singapore who are able to utilise around 75%. If they can do it, why can't we? And they (the region) started to

argue that there is not enough capacity in the place where waiters are present".

A senior officer in the Corporate Planning Division argued that the problem arises from the fact that in planning the network, the region was concerned with actual numbers, rather than business needs, as the market requires. He gave an example where for the 1992 business plan proposal, the initial proposals from all the regions and other divisions totalled M\$7 billion. He continued:

"Can you imagine what would happen to us? So we cannot take these figures to top management. We have only M\$4 billion in terms of revenue, so if we were to accept that figure of M\$7 billion, we would need to borrow from overseas financial consortium, because we cannot get it from the local financial consortiums. If we do that, it will be a problem because of the high cost involved in terms of interest and that will eat into our bottom line. So we have to consolidate this figure to a reasonable figure. So after deliberation and rationalising with the regions, we agreed initially on M\$4 billion, and later on M\$2.2 billion".

But why is this happening? According to another AGM at HQ office, there could be two reasons:-

(i) Engineers love projects and they just install anywhere they like. More projects will show that they are busy and engineers still have influence, since the captain of the ship is the engineer, and furthermore, their performance is based on the number of ECPs produced, not on the number of ECPs utilised. It is not

the responsibility of the project engineers, but rather the marketing group at the area level, to sell these ECPS.

(ii) Another reason could be that engineers did not plan well or if they have planned well, it could be due to the marketing group being unable to sell those lines. If there are still some waiters, it could be that the lines are installed in the wrong area.

Referring back to the Table 8.2 on the demand forecast against actual and Table 8.4 on the ECP forecast against actual in the Central Region, the demand forecast against actual by the engineer is very satisfactory, due to the introduction of fundamental planning as explained previously. The same goes for the ECP forecast against actual. So the reason for the low utilisation rate shown in the Table 8.5 could be engineers' motivation to have more projects and produce more ECPS, as that is how performance is judged.

If that is the case, then the assimilation of financial and commercial values by the engineers in this region can be said to be limited, largely confined to fundamental planning. In other respects they are not driven by financial values but more by the inherited engineering values and performance based on physical output, since under privatisation, rewards are not fixed as in JTM but rather more based on performance - in the

case of project engineers, judged by physical values rather than financial values.

8.2.2 Analysis of overall performance of the Department from 1982 up to 1986 and of the privatised company, STM from 1987 to 1992.

As can be seen from the analysis of the overall performance of the Department from 1982 to 1986 and of the privatised company from 1987 to 1991 in Table 8.9, over the years the company has performed well, compared to when it was a government Department. There are many contributing factors which led to this result, one being that it was privatised at the right time, in the sense that the economy was booming. Moreover, the increased economic growth of the country led to increase in demand for both residential and business lines, as shown in Table 8.10. However, the research suggests that the improved performance could also be attributed to the emergence of the Accounting and Finance group in the organisation as participants in the decision-making process under the new company environment, which led to them becoming visible and becoming the eyes of the organisation.

From Table 8.9, we can see that the Operating Income increased from M\$771 million in 1972 to M\$1644 million in 1987 (i.e. the first year of privatisation) and doubled to M\$3,414 million in 1992. Profit before Tax increased

Table 8.9 - Financial Performance of JTM and STM
From 1982 -1992 (in M\$ Million)

Type of Performance	1982	1983	1984	1985	1986	
Operating income	771	970	1232	1430	1558	
Profit before tax	260	199	281	302	160	
Total shareholders' funds	1813	1696	1941	2288	2503	
Total Assets	4244	4872	5724	6976	8161	
Type of Performance	1987	1988	1989	1990	1991	1992
Operating income	1644	1882	2141	2574	3004	3414
Profit before tax	5	180	366	564	1079	1276
Total shareholders' funds	2158	2331	2698	5539	6466	7280
Total assets	7986	7843	7613	8295	9422	10479
Total Loans	4862	4645	4111	1674	1333	1178

Source: Annual Report of JTM (1982-1986) and STM (1988-1992)

Table 8.10 - Number of Business and Residential and Total Customers

Year	Business Telephone	Residential Telephone	Total Telephone
1982	218230	367157	585387
1983	248794	451303	700097
1984	285701	5634428	849129
1985	309051	649547	958598
1986	319248	732579	1042827
1987	332997	798722	1131719
1988	363549	884138	1247687
1989	397848	990335	1388138
1990	449790	1135954	1585744
1991	518109	1298751	1816860
1992	587098	1504480	2091578

Source: Annual Report of JTM (1982-1986) and STM (1987-1992).

from M\$260 million in 1982 to M\$1,276 million in 1992. We could argue that both the engineers (on both the operations and marketing sides) and the accountants played a role in achieving this favourable financial performance.

From Table 8.11, as a result of the increase in the operating income and profit before tax over the years, the return on shareholders' funds increased from 0.2% in 1987 to 12.7% in 1992; return on total assets has also increased from 0.1% in 1987 to 8.8% in 1992; dividend rate after issue of shares to the public in early part of 1990 increased from 5% in 1990 to 15% in 1992; and earnings per share before tax increased from 0.3 cent in 1987 to 64.7 cent in 1992. Again this could be attributable to the two factors mentioned above.

With the Finance and Accounting group becoming more visible and playing an influential role in the organisation, the debt/equity ratio reduced from 1.1 in 1982 to 2.3 in 1987 and again to 0.2 in 1992 as shown in Table 8.12. This further reduced the cost of interest on loans from M\$106 million in 1982 to M\$336 million in 1987 and to M\$25 million in 1992 (Annual Report of JTM, 1982 and STM, 1987 and 1992).

Table 8.12 - Debt Equity Ratio of JTM and STM from 1982-1992

Year	Debt Equity Ratio	Year	Debt Equity Ratio
1982	1.1	1987	2.3
1983	1.5	1988	2.0
1984	1.8	1989	1.5
1985	1.8	1990	0.3
1986	2.0	1991	0.2
		1992	0.2

Source: Annual Report of JTM (1982-1986) and STM (1987-1992).

Table 8.13 - Revenues from Total Telephone (both Residential and Business) and Total Services

Year	Total Telephone (M\$)	Total Services (M\$)
1982	598798	771677
1983	739631	970894
1984	958509	1232865
1985	1136348	1430390
1986	1279145	1558699
1987	1437326	1644000
1988	1748000	1882000
1989	1979200	2141200
1990	2332100	2574300
1991	2751100	3004600
1992	3085500	3414800

Source: Annual Report of JTM (1982-1986) and STM (1987-1992)

Table 8.11 - Financial Performance in Percentage of STM from 1987-1992

Types of Ratios	1987	1988	1989	1990	1991	1992
Return on Shareholders Funds	0.2%	7.7%	13.6%	10.9%	16.7%	12.7%
Return on Total Asset	0.1%	2.3%	4.8%	6.8%	11.5%	8.8%
Dividend Rate	-	-	-	5.0%	12.5%	15.0%
Earnings per Share (before Tax)	0.3c	12c	24c	36c	55c	65c

Note: c - cents

Source: Annual Report of STM (1990 and 1992).

The reorganisation of the company combined with a marketing and customer services approach in late 1988 resulted in an increase in the number of customers, number of new services and revenues from all the services as shown in Tables 8.10, 8.13 and 8.14. This indirectly indicates a satisfactory job performed by the Marketing divisions at Headquarters and the regions. Table 8.10 shows the growth of the residential and business telephone customers from 585,387 (i.e. 367,157 residential telephone customers and 218,230 business telephone customers) in 1982 to 2,091,578 (i.e. 1,504,480 residential telephone customers and 587,098 business telephone customers) in 1992. This has resulted in an increase of revenues for both residential and business telephones from M\$599 million in 1982 to M\$1,437 million in 1987 and a further increase to M\$3,086 million in 1992, when revenues from total services also increased from M\$772 million in 1982 to M\$1,644 million in 1987 and a further increase to M\$3,415 million in 1992, as shown in Table 8.13.

With respect to financial performance by type of services, business telephone services showed an increase in revenues from 50.2% in 1987 to 54.5% in 1992 as shown in Table 8.14. With respect to the overall performance on the movement of share prices from the day it was listed in KLSE, from Table 8.15, shows that the performance has been highly satisfactory, with the year end prices increasing from M\$7.00 in 1990 to M\$9.75 in 1991 and to

Table 8.14 - Financial Performance (in term of Percentage of Operating Revenue)

Types of Services	1987	1988	1989	1990	1991	1992
Business Telephone	50.2	50.7	53.4	58.4	57.2	54.5
Residential Telephone	34.1	32.3	31.3	28.4	28.4	29.1
Mobile Services	1.8	3.3	4.1	4.8	5.9	6.8
Telex	5.4	3.8	2.7	2.3	1.7	1.3
Leased Services	3.9	2.8	2.6	3.4	3.6	3.9
Data Services	0.1	0.3	0.4	0.4	0.4	0.4
Other Services	5.5	6.8	5.5	2.3	2.8	4.0

Source: Annual Report of STM (1990 and 1992).

Table 8.15 - Share Price of STM (Lowest and Highest in the year 1990-1993)

Year	Lowest Price	Highest Price	Price at Year End
1990	M\$5.90	M\$7.20	M\$7.00
1991	M\$6.80	M\$12.10	M\$9.75
1992	M\$9.55	M\$15.00	M\$14.50
1993*	M\$14.00	M\$14.40	

Note:(1) * - up to 8th January 1993.

(2) STM share was first listed on 7th November 1990 at M\$6.50. It was issued at a premium of M\$4.50 a share.

Source: New Straits Times (Malaysia), 1st January 1991, 1992 and 1993.

M\$15.00 in 1992. The good performance of the movement of the share prices presumably reflects the overall performance of the company since privatisation.

8.2.3 Analysis of the Regions' Performance as Profit Centres

As was mentioned earlier, the profit centres that operate in the company are the regions, i.e. Central Region, Northern Region, Southern Region, Eastern Region, Sarawak Region, and Sabah Region, and the International Division at Headquarters.

As far as monitoring the performance of these regions is concerned, the regions need to submit monthly performance reports, not only on financial results but also on customer growth, productivity and quality of service as shown in Table 8.16 for Central Region as an example. This system of monthly reporting is a new approach to the region, as it did not take place during JTM days. The regions' overall operations/performance from 1987-1992 is shown in Table 8.17(a) - for Central and Northern Regions; Table 8.17(b) - for Southern and Eastern Regions; and Table 8.17(c) - for Sarawak and Sabah Regions.

For Business Direct Exchange Lines (DELS) i.e. for business telephone lines and subscribers, all the regions show an increase over the period mentioned: for Central

Table B-16 - Monthly Report of Central Region presented to Management Committee and Board of Directors

	MONTH UNDER REVIEW			YEAR TO DATE			YEAR 1989			1988 ACTUAL (\$)
	ACTUAL (1)	BUDGET (2)	PREVIOUS YEAR ACTUAL (3)	ACTUAL (4)	BUDGET (5)	PREVIOUS YEAR ACTUAL (6)	FORECAST (7)	BUDGET (8)		
1.0 FINANCIAL RESULTS (\$'000)										
1.1 Sales	62,637	64,829	54,760	358,345	381,708	323,965	756,669	756,669	683,012	
1.2 Operating Expenditure	16,215	13,756	10,128	66,007	80,808	64,180	145,261	155,261	136,055	
1.3 Operating Profit	46,422	51,173	44,632	293,338	300,900	259,785	601,408	601,408	546,957	
2.0 CUSTOMER GROWTH										
2.1 Telephones DE/LA	5,052	39,545	2,689	27,107	237,269	18,155	53,249	53,249	43,832	
2.1.1 Business	1,367	1,246	897	7,464	7,475	3,891	14,950	14,950	11,437	
2.1.1 Residential	3,685	38,299	1,792	19,643	229,794	14,264	38,288	38,288	32,395	
2.2 ATUR	363	324	209	2,122	1,945	1,123	3,890	3,890	2,699	
2.3 TELKX	(18)	(33)	(70)	(187)	(200)	(353)	(400)	(400)	(631)	
2.4 MAYPAC	5	4	9	28	23	20	45	45	78	
2.5 LEASED CCT	227	43	165	481	258	758	516	516	1,240	
3.0 PRODUCTIVITY										
3.1 Operating Expenditure/Call/Rev.	0.36	0.34	0.32	0.27	0.34	0.34	0.30	0.32	0.30	
3.2 Employee/1000 DE/LA	14.3	14.3	16.2	14.3	14.3	16.2	13.6	13.6	15.2	
3.3 Telephone DE/LA/Employee	70.2	70.2	61.6	70.2	70.0	61.6	73.5	73.5	65.7	
3.4 Sales/Employee (\$)	9,167	9,502	8,014	52,590	55,862	47,411	110,737	110,737	99,246	
3.5 Faults/DE/LA	0.07	0.07	0.09	0.40	0.40	0.53	0.76	0.77	1.04	
4.0 QUALITY OF SERVICE										
4.1 Complaints Received	34,009	35,263	44,289	204,023	211,575	241,260	423,150	423,150	494,585	
4.1.1 Faults	32,321	31,944	42,234	193,217	191,662	227,255	383,324	383,324	468,261	
4.1.2 Metering	514	1,245	580	3,174	7,468	3,982	14,935	14,935	7,702	
4.1.3 T.O.S after payment	1,052	1,245	1,468	7,280	7,468	8,986	14,935	14,935	18,582	
4.1.4 Rentals & Misc.	82	830	7	352	4,978	37	9,956	9,956	40	
4.2 Telephone Fault Restoration										
4.2.1 Within 24 hours (X)	90.1	93.0	90.1	90.6	93.0	87.0	93.0	93.0	89.0	
4.2.2 Within 48 hours (X)	98.0	97.0	97.4	97.6	97.0	96.1	97.0	97.0	96.9	
4.2.3 Within 4 days (X)	99.9	100.0	99.7	99.8	100.0	99.4	100.0	100.0	99.6	
4.3 Operator Services										
4.3.1 Calls answered in 10sec(X) +	80.5	100.0	68.5	83.6	100.0	70.3	100.0	100.0	92.1	
4.3.2 T/A Trunk Call-101	85.5	100.0	87.0	85.5	100.0	82.5	100.0	100.0	94.9	
4.3.3 Directory Enquiry-103	95.5	95.0	86.5	90.2	95.0	79.0	95.0	95.0	93.8	

Notes: * 1989 budget was based on 1988 Business Plan Review.
 ** Calls revenue based on telephone, telex and Atur calls revenues.
 Financial figures based on Laporan Bahagian Kewangan korporat.

Table 8.17(a) - Regional Operations / Performance
of JTM and STM from 1987-1992

<u>Operation/performance</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
CENTRAL REGION						
Business DELs	131737	143174	158649	181348	215493	246256
Residential DELs	276687	309082	348403	401671	449068	610533
ATUR Subscribers	5714	8413	11812	14318	18008	20577
DELs per 100 Pop.	13.7	14.8	16.2	18.2	18.4	21.4
No. of Employees	7105	6882	6738	6594	6609	6350
DELs per Employees	58	66	75	88	101	119
NORTHERN REGION						
Business DELs	71214	76659	83528	94135	105650	118228
Residential DELs	207314	227052	248661	286901	329295	379552
ATUR Subscribers	2690	4865	7424	10323	12270	13723
DELs per 100 Pop.	5.9	6.4	7.0	7.9	8.9	11.0
No. of Employees	6402	6366	6272	6160	6175	6385
DELs per Employees	44	48	53	62	80	78

Note: DELs - Direct Exchange Lines.

Source: Annual Report of STM 1988-1992.

Table 8.17(b) - Regional Operations / Performance
of JTM and STM from 1987-1992

<u>Operation/Performance</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
SOUTHERN REGION						
Business DELs	48138	52930	59694	68409	79327	92723
Residential DELs	152110	172598	198599	229731	273163	328802
ATUR Subscribers	3401	5096	7210	10607	14559	18590
DELs per 100 Pop.	6.3	6.9	7.7	8.8	10.3	12.6
No. of Employees	5226	5150	5064	4999	5034	5059
DELs per Employee	38	44	51	60	70	83
EASTERN REGION						
Business DELs	23107	25475	27776	31405	35955	40296
Residential DELs	69574	66626	75012	85887	100389	121281
ATUR Subscribers	1044	1826	3298	4904	6058	7257
DELs per 100 Pop.	3.0	3.2	3.5	3.9	4.3	5.3
No. of Employees	3196	3128	3095	3073	3086	3145
DELs per Employee	26	29	33	38	44	51

Note: DELs - Direct Exchange Lines

Source: Annual Report of STM (1988-1992).

Table 8.17(c) - Regional Operations / Performance
of JTM and STM from 1987-1992

<u>Operation/Performance</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
SARAWAK REGIONS						
Business DELs	30767	34351	37454	40984	45224	50187
Residential DELs	55258	57385	63735	72581	82099	93458
ATUR Subscribers	2321	3435	4821	6873	9770	11506
DELs per 100 Pop.	5.5	5.8	6.2	6.8	7.0	8.5
No. of Employees	2350	2314	2289	2272	2266	2328
DELs per Employees	37	40	44	50	56	62
SABAH REGIONS						
Business DELs	28124	30960	30747	33509	36460	39408
Residential DELs	47779	51395	55952	59183	64737	70854
ATUR Subscribers	2241	3667	4854	7591	10252	11896
DELs per 100 Pop.	5.8	6.0	6.1	6.3	6.4	6.0
No. of Employees	1354	1346	1335	1449	1682	1783
DELs per Employees	56	61	65	64	60	62

Note: DELs - Direct Exchange Lines

Source: Annual Report of STM (1988-1992).

Region, from 131,737 DELs in 1987 to 246,256 DELs in 1992; for Northern Region, from 71,214 DELs in 1987 to 118,228 DELs in 1992; for Southern Region, from 48,138 DELs in 1987 to 92,723 DELs in 1992; for Eastern Region, from 23,107 DELs in 1987 to 40,296 DELs in 1992; for Sarawak Region, from 30,767 DELs in 1987 to 50,187 DELs in 1992; and for Sabah Region, from 28,124 DELs to 39,408 DELs in 1992. Numbers of Residential DELs and ATUR (Mobile Telephone) subscribers, also increased over the same period as shown in Tables 8.17(a), 8.17(b) and 8.17(c). With respect to the DELs per 100 population per region, all the regions show overall increase over the period, and with respect to the DELs per employee, all the regions except Sabah show an overall increase over the period.

Overall, the Central Region performed better than the other regions, having the advantage of being based in the capital city (i.e. Kuala Lumpur) and the state of Selangor, which have experienced high economic growth, and have a high population growth and a greater proportion of middle class groups.

Overall performance of the regions, shown in Tables 8.17(a), 8.17(b) and 8.17(c) has been outstanding over the period from the first year of privatisation. One reason for this is probably the commercial and financial considerations taking place in managing the regions, as the overall objective of the company shifted from a

service motive to economic driven motives. At the same time, the accounting and finance group became more visible in the organisation, including the regions, where the accounting group expanded rapidly, as mentioned earlier.

8.3 Significant Changes in the Budgeting System for Capital Projects since Privatisation

When the new management came in 1987/1988, the question of viability of projects became a key issue, especially when the top management saw that ECP utilisation rate was only 42%-43% as shown in Table 8.8. They decided that proper feasibility studies should be done in order to assess the viability of projects. So, in 1988, a directive was issued on this viability concept. One measure taken in this respect was to have projects defined in terms of schemes, of which there might be more than 50,000 all over the country. This method of definition was imposed by top management, in the interest of tight control by the accountants. In respect of Capital Works Expenditure, only Corporate Finance at headquarters were involved. The accounts & finance section at the regional level were only involved in the preparation of the operating expenditure budget for the business plan. They were not involved in making sure that only viable projects were included in the project listing under the business plan.

The AGM (Accounts & Finance) of the Central Region in an interview on 5th December 1991) said that in a management seminar, the question had been raised why the accountants at region level were not in the picture, vetting throughout the project evaluations and sitting with the engineers to get first hand knowledge, before final vetting by HQ. The answer given was that this was due to the historical structure of the company, whereby the secretariat (at Regional HQ headed by an engineer with a manager rank) was responsible for compiling all the data and information on the capital works programme and submitting it to HQ.

The AGM went on to explain that for accounting to play the role it would like to play, a redefinition of their role would be needed. He also drew attention to the problem of manpower. However, he emphasised that Accounts and Finance Group monitor projects after the business plan has been approved, control the budget and make sure that the project has been assetised i.e. from the financial side of it.

The researcher found, during a visit to the organisation from May- July 1993, that Corporate Finance at HQ did not have the manpower to carry out that kind of viability study on all the projects and also found it difficult to penetrate into the engineering work

territory. Another obstacle is related to the weak costing system inherited from JTM.

On the subject of project viability, the GM Corporate Accounts, when interviewed in 1991 discussed the difficulty of determining the appropriate basis for assessment, since no projects or asset generates revenue by itself, but only when joined together with the main network, so it is very difficult to assign revenue to a particular project or asset. Whether to use full costing or marginal costing has still to be settled. He went on to say that this difficulty is characteristic of the telephone industry and is shared by other companies.

When the GM (Corporate Accounts) was interviewed again in June 1993, the position was much the same:

"When it comes to analysing the individual project, I think it is very difficult; no one asset can generate income without being connecting to others. This concept of 'viability by project' until now we have not come up with a formula to use full costing or marginal costing".

A costing unit was only established in 1991, after top management were made aware of the importance of having a proper costing information system, especially in view of the problem of project viability and competitors coming into the picture.

As was commented by one senior accountant,

"We have to look at the competitors. We have to put ourselves in order. How are we going to meet the competitors, if there are any? Do we have any bargaining power in terms of cost, price and tariff? Because we have to give feedback to the regulator (the new JTM) for revision of the tariff in relation to the licence given. Thus we really need to concentrate on a proper costing information system. That is why we formed this unit in early 1991 and also have appointed a consultant from U.K. to study and implement this system in our organisation".

Because proper implementation of project viability could not be established, the amount to be spent on the capital works programme expenditure cannot be determined using this approach during this period. Thus the 'depreciation growth capping' concept was introduced as an alternative, whereby the management decided to use a maximum of 10% of the growth on annual depreciation and work backwards to determine the additional capital expenditure. This idea was proposed by the Corporate Finance Group after they had done some calculating to determine the *bottom line* of the company in 1988-1990. As can be seen from Table 8.18, there was little capital expenditure during this period. This was partly as a result of the capping approach, and partly due to the need during this period to show a good profit and loss statement and balance sheet prior to listing of the

company on the KLSE, which resulted in less than the 10% of the capping approach being spent during this period.

Table 8.18 - Capital Works Expenditure (Actual) for STM as a whole and for Central Region from 1987-1992

YEAR	STM AS A WHOLE (M\$ Million)	CENTRAL REGION (M\$ Million)
1987	680.4	180.7
1988	718.9	145.4
1989	392.1	90.6
1990	900.0	148.3
1991	1700	357.6
1992	2100	311.9

Source: Company Document- Business Plan 1990-1992 and interview with the Regional Accountant.

Thus it can be seen that the capping approach introduced by the Corporate Finance became the main focus in determining the amount of capital expenditure to be allowed in any one year during the early period of privatisation. This is important, since there were no guidelines for setting a limit on capital expenditure. The engineers in the region listed projects based on their experience. As the GM of Central Region pointed out, it is the engineers who take all the criticism when services are slow or lines busy, so they would naturally try to protect themselves by listing as many projects as possible.

Thus, the move to the capping approach, shows to some extent, at least, the influence of accounting values on the policy for determination of capital expenditure to be spent in any given year. This was an important event, since the company is a capital-based industry and its capital expenditure figures are quite substantial. Moreover, capital expenditure affects the engineers' core activities in the organisation.

But this capping approach ceased at the end of 1990. As from 1991, the management decided that approval would be based on the capability of the region to carry out the projects - usually determined on the basis of the actual amount spent by each region in the previous year.

Since 1991, it can be seen that the management has been more relaxed in terms of the rules, guidelines and instructions of the business plan. One reason is the fact that the company has been listed in KLSE; shares have been sold to the public, to employees and even to foreign investors. Many engineers commented that during the first three years of privatisation, the company was very cost-conscious, cutting here and there (evidence of which can be seen in the drastic cuts in capital expenditure during these years) so as to show a favourable financial position in preparation for the listing. This was influenced by the government, which owned 100% during the stage of corporatisation, i.e. before listing.

During these three years, the headquarters group in charge of the business plan would go to all the regions and review each project, scheme by scheme, to question the viability of the project, and would slash any they felt to be non-urgent, or not viable. As one of engineers in the central region said:

"They would go through each project submitted by us one by one, in detail until midnight and would slash any that they felt was not urgent or viable".

During this period, projects were equated to schemes, just as under JTM, which created difficulties for the engineers in managing the project, because one particular exchange might involve 20-50 schemes. When the project was defined as a scheme, it was necessary to obtain the approval of the RGM or even people at the headquarters, to transfer allocation from one scheme to another, which sometime delayed implementation of the project. But of course, from the headquarters point of view, virement was not to be encouraged, as the engineers were supposed to budget as tightly as possible. In other words, they wanted to make the engineers become good planners.

But all this changed in 1991 when projects were defined in terms of exchanges. This change was made after complaints were made by engineers during various meetings and seminars. The change is important for the project

manager and his team, since it is more flexible in the sense that budget virement between one scheme and another is possible. Approval need be given only by the project manager or his assistant, if the scheme is within the area concerned.

Another development came in 1992, when the waiters started to increase, even though the percentage was very small compared to the situation during JTM days, as shown in Table 8.3(a). Despite the relatively small figures, this is a sensitive issue, which has been raised in Parliament.

Because of this problem, as from 1991, the company has been more flexible in its budget procedures. Some flexibility was established by defining projects by exchange instead of scheme, but virement could only take place from one scheme to another within the same exchange. Since 1991, however, virement can also take place between exchanges in the same area or even from one area to another, if the two project managers agree and obtain the consent of their superior (e.g. AGM (LND) in the case of Local Network Development).

As from 1992, flexibility has been taken still further, as the management has approved two types of budget. One is the fixed budget and the other is the flexible budget. The fixed budget is the amount that is certain to be allowed to be spent, which is based on the

previous year's total amount spent, while the flexible budget is an additional amount approved for use if the fixed budget is used up, especially for unforeseen and urgent projects. Most engineers were of the opinion that the flexible budget was introduced by the top management so as to cut the red tape in budget approval, especially in dealing with the problem of waiters, and also because of the fast-growing economy of the country, which results in new projects being approved by the authority concerned at short notice.

Thus we can see that even though the engineers were not able to spend in 1990 and 1991, when there was quite a substantial implementation shortfall, eventually, in order to solve this problem, the company has reached an accommodation with the engineers by introducing the two-tier budget system. The main reason why this is taking place is the concern about waiters and competitors. If there are too many waiters, and the public complain, then the government will be displeased. This would give a good ground for competitors to lobby for licences to be issued to them to compete, on the basis that it would overcome the waiter problem.

As was commented by a senior engineer in Central Region:

"Actually, the top management at headquarters also know the real problem. They cannot just

simply cut off because we can back up the figures (i.e. the capital expenditure figures) that we have proposed to them under the Business Plan. And if they (i.e. the HQ people), out of the blue, cut off, and then actually we need that amount, they will have a problem later, because the customers will complain. So who is supposed to be responsible? If they asked us, "why don't you provide the lines ?", we would answer, "No budget", so we would pass the problem back to them. But now, with the introduction of the flexible budget, they are making us (i.e. the project people and the region) answerable, responsible and accountable".

At this point it would be helpful to summarise the main points emerging from analysis of the company's performance. Evidence has been presented of several improvements since privatisation, which appear to be at least in part attributable to the introduction of commercial considerations and increased concern for prudent financial management, as follows:

(a) Accuracy of overall demand forecasting has greatly improved.

(b) The number of waiters as a percentage of subscribers has been reduced.

(c) ECP forecasting has improved.

(d) There has been a general improvement in the performance of STM as compared to JTM.

(e) The company's debt/equity ratio has improved, interest expenses reduced, and the company's risk profile reduced.

(f) Since privatisation, the regions have achieved outstanding performance as profit-centres. It seems very possible that this is related to the introduction of more commercial considerations and the rapid expansion of the accounting and financial group at the regional level.

(g) The increased importance attached to financial needs as the criteria governing the business plan was reflected in the new approach to the capital budget, including the depreciation capping approach of 1988-1990 and enforcement of the 1989 Financial Instructions.

(h) The company has achieved better inventory and asset management.

(i) The company has invested heavily in a new costing information system and computerised project monitoring systems (i.e. the PROMPT System).

However, we have also seen evidence of developments which cast doubt on the extent to which these changes indicate a real move away from engineering influence:

(a) The utilisation rate is still unsatisfactorily low, giving rise to questions as to whether the engineers' love of projects and traditional engineering performance criteria may to some extent be in conflict with considerations of commercial viability.

(b) Since 1991, with the success of listing on KLSE and the continued pressure to decrease the waiting list further, there has been a relaxation of business plan rules and guidelines, including a flexible budget and

greater flexibility for virement, suggesting an accomodation between management and engineers.

Having summarised the implications of an analysis of the company's performance, we are now in a position to evaluate the overall effect on the organisation of the three phases of disturbance, drawing not only on this analysis of performance, but also on the evidence presented in previous chapters. Accordingly, the next section presents a detailed discussion of the organisation's response to external disturbance from the 1970s to the present.

8.4 Discussion of the Principal Findings of the Study on the three phases of disturbances

The political ideology and long term strategy of the country influenced the development of the telecommunication industry, as was shown in Chapters Four and Five. This influence led to disturbances to the Department, categorised as first, second and third phases of disturbance.

This study looked at the processes of change of a telecommunication organisation over a period of time, from the early 1970's to date, where in accordance with Laughlin's model (1991), three phases of disturbances were identified. The processes of change were identified

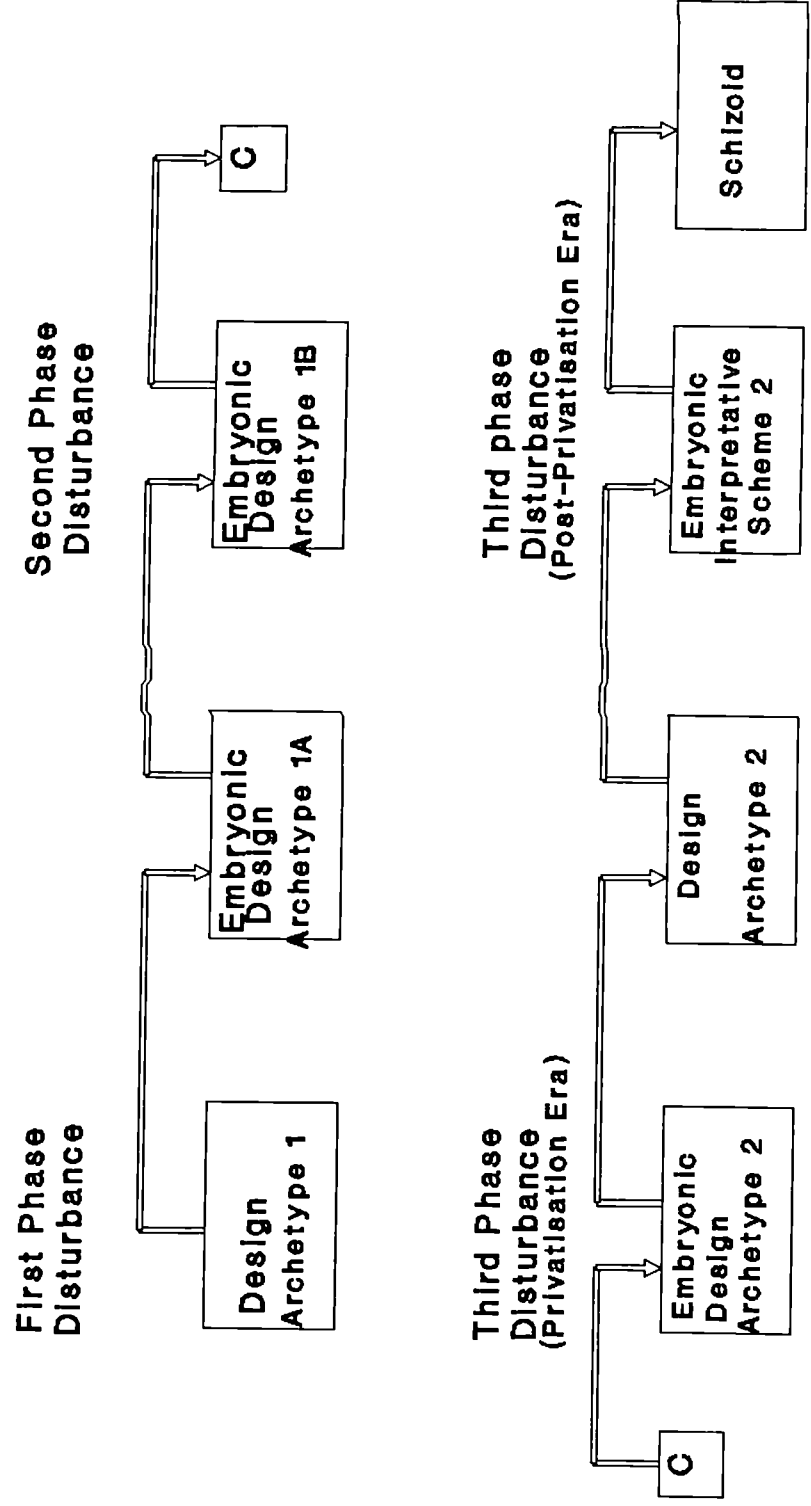
by tracing the process of movement of organisational tracks (Greenwood and Hinnings, 1988) and using Laughlin's model of organisational change (1991). Out of the third phase disturbance, i.e. privatisation of the company, major changes took place with respect to the organisation concerned, with accounting as one of the main catalysts, discussed in Chapters Five, Six and Seven.

Before we present the final outcome of the findings, we shall, in the following subsections, discuss the three phases of disturbance that took place, with the help of Figures 8.1(a) and 8.1(b).

8.4.1 Period of First Phase Disturbance

As was discussed in Section 5.4.1, the first phase of disturbance was the result of political, economic and technological factors, which led to some of the Department's business being given, in the 1970s, to the newly established private telecommunication firms, especially the Bumiputra firms, in order to achieve NEP. This marked the liberalisation of the telecommunication industry. We saw earlier how, before liberalisation took place, JTM was a government Department with a monopoly in the telecommunication industry in the country. The Department managed and controlled everything: the supply of telecommunication equipment, the running of the

Figure 8.1 (a) - Movement of Organisational Structure using both Laughlin Model (1991) and Greenwood and Hinings (1988).



Note : C - Continue

Figure 8.1(b) - Movement of organisational tracks using both Laughlin Model (1991) and Greenwood & Hinnings (1988).

Definitions and Clarification of the term used:

(1) Interpretative Scheme 1

The values and beliefs are driven by the engineering system with little impact of the values and beliefs of the accounting system.

(2) Interpretative Scheme 2

The values and beliefs are driven by the accounting system with some (little) consideration in the values and beliefs of the engineering system.

(3) Design Archetype 1

Strong elements of the engineering system present in the design archetype which make it become influential and produce a key link between the interpretative scheme 1 and the sub-system.

(4) Design Archetype 2

Strong elements of the accounting system present in the design archetype which make it become influential and produce a key link between the interpretative scheme 2 and the sub-system.

(5) Embryonic Design Archetype 1A

Minor disturbance (i.e. the first phase of disturbance) affects the design archetype which affects slightly the strength of the engineering system in the original design archetype (i.e. design archetype 1).

(6) Embryonic Design Archetype 1B

Another minor disturbance (i.e. the second phase of disturbance) affects the design archetype which gradually (slightly) reduces the strength of the engineering system in the embryonic design archetype 1A.

(7) Embryonic Design Archetype 2

Major disturbance (i.e. the third phase of disturbance - privatisation era from 1987-1990) affect the design archetype and a new design archetype emerges where accounting system as a new element is becoming apparent.

(8) Embryonic Interpretative Scheme 2

The values and beliefs in the first level of the interpretative scheme are starting to produce slight changes in line with the financial system which is a strong element in the new design archetype (i.e. design archetype 2)

(9) Schizoid

Tension between the 'Interpretative Scheme 1' (with the first level of the values and beliefs along engineering system lines) and 'Embryonic Interpretative Scheme 2' (with the first level of the embryonic values and beliefs along financial system lines) as a result of rebuttal taking place among the engineers.

(10) The Engineering System

The engineering system is defined as a system as a whole and includes not only the engineering technical system but also their strong influence and ideas in the organisation as a whole. This is present as a strong elements in the design archetype 1 and forms as a key link between the interpretative scheme 1 and the sub-system of the organisation, resulting in the emergence of an engineering culture. The engineering system does not include the engineering technology, which is a separate issue altogether, but engineering technology may further influence the engineering system.

(11) The Accounting System

The accounting system is defined as a system as a whole but includes not only the accounting, financial, and commercial system but also their influence and ideas in the organisation as a whole. This is prevailing throughout the organisation in the 'design archetype 2' and can form a key link between the 'interpretative scheme 2' and the sub-system of the organisation and can result in emergence of elements of an accounting culture.

Note: The second and third levels of the Interpretative Scheme which are the 'metarule' and 'mission', remain intact throughout the three phases of disturbances as far as engineers' values are concerned.

networks, and the supply of telecommunication services. However, as a result of the disturbance in the 1970s and 1980s, this monopoly was reduced.

During this liberalisation period, the Department's objective was basically service and technologically-oriented. Accounting's role and influence was limited; cost, profit and financial viability were less important. Thus, referring to Laughlin's model, during this period the subsystem was affected, since some business opportunities were lost (in revenue terms) because of the first phase disturbance. However, during this period the 'design archetype' and 'interpretative scheme' were not affected. The values and beliefs in the interpretative scheme of the organisation were still based on the engineering system which was part of the design archetype, since the company is technically-based and service was its prime objective. Accounting did not form an important part of the design archetype.

Thus, overall, the first phase disturbance at the initial stage only affected the subsystem of the organisation, and produced no major change. During this period, the policy of liberalisation introduced by the Ministry of Telecommunications, Post and Electricity was supported by the top management of the Department, who had vested interests in the sense that they eventually opened new, private telecommunication firms upon retiring or resigning from the Department. The other reason was

the minimal influence of the accounting group existing in the Department at that time, as discussed in Chapter Five, where it was shown that when problems arose, instead of being solved through the application of commercial/financial considerations, they were shifted to the private telecommunication firms, which made these problematic areas profitable (see Section 5.4.1.).

However, as was also discussed in Section 5.4.1 towards the middle and the end stage of low level disturbance, as shown in Figure 8.1(a), certain major events took place in the organisation which affected the design archetype. The Department was affected by major events, the NEP and the shift to industrialisation, as discussed in Chapter Two and Section 5.4.1. One important point that needs mentioning again is that out of liberalisation and NEP, there emerged an increased number of telecommunication firms, notably *bumiputras* who were former top management staff of JTM and some of which were well connected to the top level government leaders (Kennedy, 1990). With these developments, as shown in Figure 8.1(a), this first phase disturbance at the later stage, coupled with the second phase disturbance, threatened the 'design archetype' which changed from 'design archetype 1' to the 'embryonic design archetype 1A' position (see Figure 8.1(a)). The engineering system, which constituted a strong element of the design archetype, had been threatened, but accounting at this stage did not form an important element in the design

archetype as it still played the minor role of *paymaster* and *custodial* role.

8.4.2 Period of Second Phase Disturbance

The second phase disturbance came in the early part of 1980 when turnkey projects were introduced by the government, as discussed in Section 5.4.2. Because of this phase of disturbance, the engineering system was affected, when the engineers' core and prestige functions, planning and engineering (i.e. the implementation of the projects) were taken over by turnkey contractor firms.

The decision to introduce the turnkey projects was made by the Ministry and central planning authorities outside the Department, and supported by the relevant Minister himself (NST, October 15, 1983). Even though the engineers and top management of the Department were not happy with the decision, they had no power or authority to stop the turnkey projects from being implemented.

Due to this second phase disturbance, the engineering system was threatened and its influence started to decline in the organisation, and in the industry as a whole. The engineers' main function changed from planning and implementing the projects, to monitoring the projects implemented by the turnkey

contractors. As one former senior engineer of JTM who is now working with STM commented,

"During the turnkey projects period, the engineers in JTM were doing supervisory work, since the planning and engineering parts were given to the turnkey contractors. This is where the engineers' influence started to decline, as their major basic job had been taken over by outsiders".

According to other staff interviewed, the worst part about the turnkey projects was that they resulted in the reduction of promotion prospects for JTM staff, since the scope of work had been reduced tremendously.

As discussed in Chapter Five, as a result of this policy, some of the experienced staff left the Department to join the turnkey contractors. This marked the decline of the engineering influence in the organisation. In fact, according to Kennedy (1990, p. 176), because of these turnkey projects:

"there was an upward shift of authority over decision making for the telecommunication system, from the engineers who ran JTM to officials within the Ministry and above who were appointed rather than career civil servants; and the growing accumulation of power by private entrepreneurs in the telecommunication industry".

This statement provides further evidence that the engineering system, which was a strong element in the

design archetype in the organisation, started to decline when the engineers' role was transferred to the turnkey contractor firms. This threatened the design archetype further, as shown in Figure 8.1(a); it moved from 'embryonic design archetype 1A' to 'embryonic design archetype 1B' position in the movement of organisational track.

One reason for the major jobs being given to the turnkey contractor firms was the insignificant presence of the accounting system in the organisation. Even though the accounting role had begun to change as from 1971, when the government decided to make JTM a self-accounting Department, running along commercial principles, the accounting department was viewed as an alien entity by the functionally-oriented engineers in the organisation. The basic objectives still remained service-oriented with the clearing of the waiting list the main priority.

However, the accounting department's role changed slightly from 1971, when the department was able to process and make payment directly from the Department instead of sending the payment vouchers to the Accountant-General's Office.

The other change that occurred was when the Department was directed by the government to make at least 8% return on capital. So for the first time, the Department needed to forecast expected revenues, even

though this was done in a very uncoordinated manner, since it was not tied to the preparation of budgets because of lack of coordination between the accounting and the technical groups, as discussed in Section 5.5.1. Thus the accounting department did not make much impact, even though the Department was in theory required to run as a commercial entity as a condition of the loan granted by the World Bank. In fact, in the preparation of budget, accountants were mostly not involved. The task was given to the lower level officers, as they were permanent staff of JTM and so trusted more than the accountants and bookkeepers who were on secondment from the Accountant-General's Office. Evidence and detailed explanation was given in Section 6.2. In fact, the budget was under the control of a group of engineers who were in the secretariat office (a think-tank committee) reporting directly to the Director-General of JTM.

During JTM days, according to the Report on Privatisation on JTM (1984, page 26),

"JTM's accounting and control systems (had) three basic problems:

(a) lack of adequate systems of internal control and recording of transactions,

(b) failure to maintain the existing systems by conducting regular control procedures,

(c) the use of accounting concepts not in accordance with Generally Accepted Accounting Principles".

The main problem during JTM days as far as accounting and finance are concerned was the domination of the engineering system, in the sense that engineers were the main actors in the organisation. The decision-making processes were in the hands of the engineers, which led to choices (including those involving accounting and financial matters) being based on the engineers' views, beliefs and understanding. Cost, profit, capitalisation of assets on completed projects and project viability, meant little or nothing. The accounting personnel were not able to influence the top to change these attitudes, as most of the top management were engineers by profession and had the same values as their subordinates. But accounting did make an initial impact when the report on the finding of the net worth of JTM made by the consultant in 1983/1984 showed that one of the weaknesses in the system was related to assetisation, as discussed in section 7.3.3.3 and section 5.5.1. This led to 'design archetype 1' being threatened as the accounting system began to make an impact in the design archetype, as shown in Figure 8.1(a) where out of second phase of disturbance, the organisation track moved from 'embryonic design archetype 1A' to 'embryonic design archetype 1B'.

8.4.3 Period of Third Phase Disturbance

8.4.3.1 Privatisation Era - from 1987 to 1990

In the early 1980s, as discussed in Chapter Three, the introduction of the government's privatisation policy led to JTM being the first government Department to be privatised. As discussed in Chapters Three and Five, the rationale for making JTM the first government-Department candidate to privatise involved many factors, including the relative inefficiency of the Department, as shown by its high waiting lists, and its failure to become self-sufficient after 1972, despite being made a self-accounting Department, supposedly operating on commercial principles. Most capital expenditure was still financed by the federal government. The failure to become self-sufficient was due to the Department's adherence to the servicing approach, and to giving insufficient emphasis to commercial and marketing values.

The privatisation of the company started with the change in the objective from a service and technological to a profit-driven orientation. With the change in objective, the top management and board of directors were appointed, all of whom, with the exception of the Managing Director, came from outside. After nine months, the Managing Director was forced to resign and was replaced by a new person from the private sector as explained in Section 5.4.3. During these nine months, the company strategy and organisational structure mirrored the old one. However, after the new Managing Director was appointed, major changes took place step by step, as was

discussed in Section 5.4.3. The outcome of the third phase of disturbance was a gradual but significant increase in influence of accounting, where the design archetype moved from 'embryonic design archetype 1B' to 'embryonic design archetype 2' during the first two years of privatisation i.e. from 1987-1988. This is a period when the Accounts and Finance group was expanded to include four additional units. The establishment of the management accounts unit (for the purpose of monthly reporting, which was not done properly during JTM days), financing/treasury unit and the transferring of the budget units away from the Corporate Secretariat signified the real beginning of the accounting system becoming part of the design archetype of the organisation. This is where monthly management reporting and the business plan were introduced, as has been discussed in section 5.5.2, Chapter Five and section 7.3 of Chapter Seven.

The move from 'embryonic design archetype 2' to 'design archetype 2' position occurred when financial needs became the criteria used for the business plan in the organisation before the listing of the company, i.e. during 1988-1990. This resulted in a decrease in capital expenditure, and use of the 'annual depreciation capping approach' to determine capital expenditure for a particular year. Other factors include the enforcement of the Financial Instructions introduced 1989, and the introduction of forward planning on the material procurement through the SISKIS system. From the

organisational structure point of view, the accounting and finance group expanded further with the splitting of the accounts and finance group into Corporate Accounts and Corporate Finance, each with its own General Manager reporting to the Finance Director. Along with that, the company's organisational structure was restructured along commercial and market lines. These changes resulted in the accounting system becoming a stronger element in the design archetype.

With regard to the LND at the central Region, the third phase of disturbance brought a further expansion in the role and status of accounting. Whereas accounting at this level has previously been done by low-grade clerical staff reporting to engineers, the new structure created proper accounting units at area level, and an upgrading of accounting posts, reflecting the management's attempt to strengthen commercial values throughout the organisation.

8.4.3.2 Post-Privatisation Era - from 1991 to date

Corporate Finance & Accounts further expanded with the creation of the Costing Unit in 1991 after a consultant had been appointed to design a costing information system. This probing into detailed costing and accounting of the project management system would directly affect the engineers. The importance of this

unit was further felt when the post of head of this unit was upgraded to AGM in 1992.

Corporate Accounts made a forward move when the area accounting group was established in 1991 and the post of the head of this group was upgraded from Accounts Assistant to Junior Executive in 1992. With this establishment, the group can monitor the financial side of the project at area level, where most projects are located.

With the CIS ready to be implemented by the end of 1993 on product costing and transfer pricing, the importance of the project accountant and the accounting group at the area level emerges. The post of project accountant will be filled by the end of 1993.

Furthermore, the PROMPT (project monitoring and philosophical tools) system is expected to be ready for implementation by the end of 1993. As explained earlier, this project was established due to the absence of a proper project monitoring system. PROMPT is intended to overcome monitoring problems and will link all five development groups which will help with the integrated planning approach which was introduced in 1992/1993.

Thus, referring to Figure 8.1(a), we can see that the track has moved from 'design archetype 2' to 'embryonic interpretative scheme 2' i.e. the company is

in the early stage of changing to the new interpretative scheme along accounting and financial values and beliefs, especially with the enhanced presence of elements of the accounting system in the design archetype due to the third phase of disturbance during the privatisation era. At the position of 'embryonic interpretative scheme 2', the company is in a position to try to change the third layer of the interpretative scheme, the values and beliefs of the engineers, in line with the accounting system. Evidence on the initial position of the 'embryonic interpretative scheme' can be seen from the expansion and influence of the accounting and finance group as discussed in section 5.5.2 and chapter six; and section 7.3 where it appears that the engineers in LND in Central Region have assimilated some commercial values with respect to the fundamental planning, which has helped them improve forecasting of demand for exchange lines and ECP, as shown in Tables 8.1 and 8.4(a) and discussed in Section 7.3.3.

However, Table 8.5 shows that the utilisation rate for the Central Region i.e. taking actual demand over actual ECP, was between 42%-56% from 1987 to 1992. Even if waiters are also added, actual demand plus waiters against actual ECP, still gives a utilisation rate of only 44%-58%, very little different from the figure before inclusion of waiters (see Table 8.6). Looking at Table 8.8 on the utilisation rate for the company as a whole, the utilisation is about the same, between 37%-59%

from 1975-1986 (i.e. during JTM days and between 42%-55% from 1987-1992 (i.e. during STM era).

Referring to Figure 8.1(a), as the accounting system is increasing its impact in the design archetype and appears to be in the process of changing the values and beliefs of the engineers, i.e. at the stage of 'embryonic interpretative scheme 2' position, engineers at HQ level are rebutting this total colonisation change in the third layer of the interpretative scheme. Thus the track moves from 'embryonic interpretative scheme 2' to 'schizoid', with tension between the third layer of the 'interpretative scheme 1' (engineering values and beliefs) and the third layer of 'embryonic interpretative scheme 2' (financial values and beliefs).

At the regional level also, analysis of the utilisation rate in the LND of the Central Region suggests that it is at 'schizoid' position, as the low utilisation rate is evidence that the engineers have not fully assimilated financial values and beliefs. The assimilation of financial and commercial values by the engineers in this region appears to be limited, largely confined to fundamental planning. In other respects they are not driven by financial values but more by the inherited engineering values and performance based on physical output, since under privatisation, rewards are not fixed as in JTM but rather more based on performance

- in the case of project engineers, judged by physical values rather than financial values.

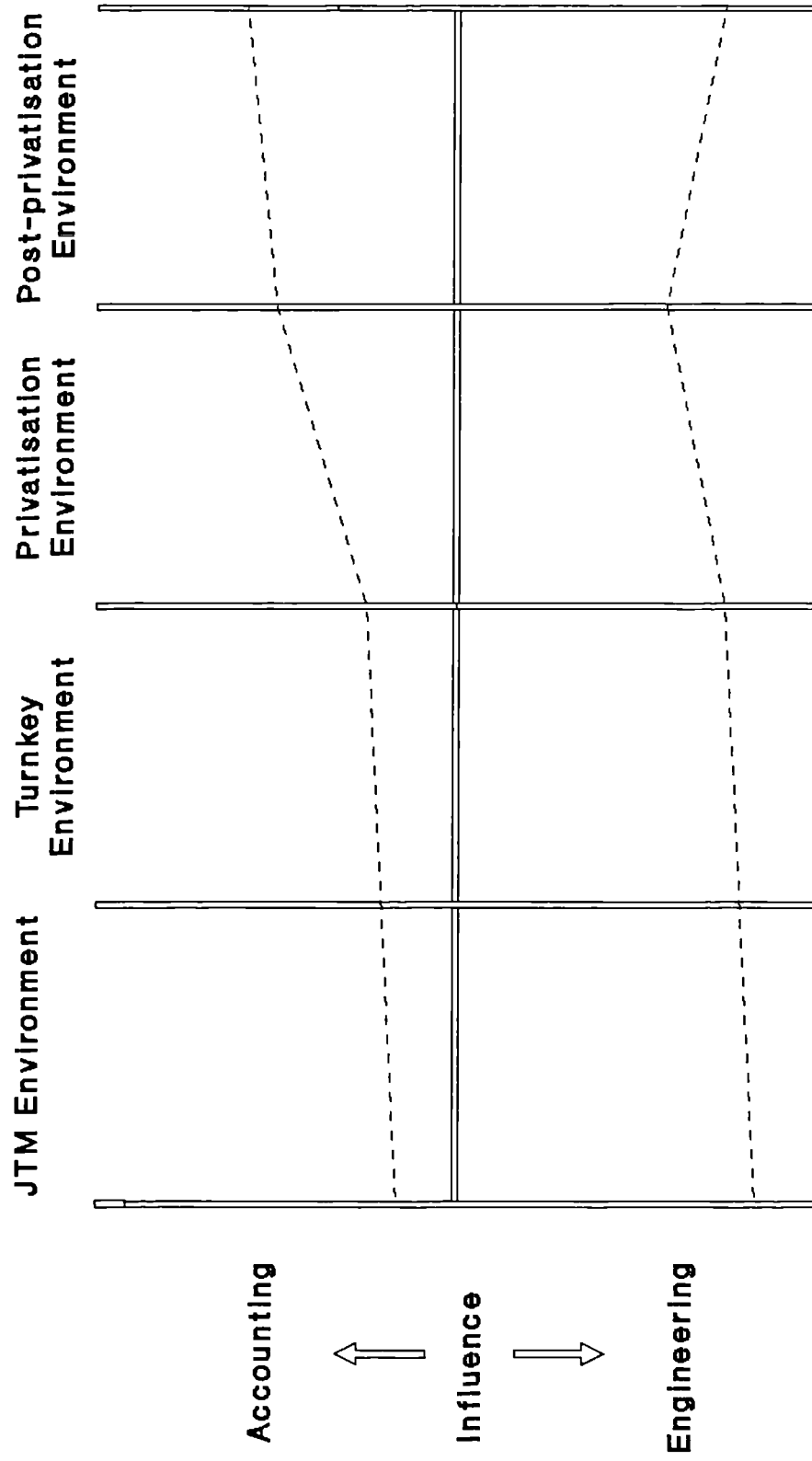
But why is this taking place? In the next section, analysis is made with respect to the overall analysis of movement of organisational tracks using Laughlin Model (1991) and Greenwood & Hinnings (1988) where overall it is in the 'schizoid' stage as explained above.

8.4.4 Overall analysis of movement of organisational tracks using both Laughlin Model (1991) and Greenwood & Hinnings (1988)

The overall pattern of influence of the accounting and engineering systems through the three phases of disturbance and into the post-privatisation era is shown graphically in Figure 8.2. From this it can be seen that, while accounting influence has increased noticeably since privatisation, engineering influence has remained relatively steady throughout; although there was a slight decline in the corporatisation era, in recent years there has been some sign of a re-emergence of engineering influence.

One of the reasons for engineers' rebuttal resulting in a 'schizoid' position, referring to the Laughlin model (1991) and Greenwood & Hinnings (1988), is inheritance capability.

Figure 8.2 - Movement of Organisational Tracks from JTM to STM from 1972 to date



This inheritance capability is due to the service objective and structure of the organisation under JTM. The role of the project engineer during JTM days was basically to write up the specification, which depended on demand. The demand forecast was given by the Traffic personnel, based on a top-down approach. This was the only role played by the engineers with respect to the commercial aspect of the projects. They concentrated on the design specification, open tender and evaluation of the tender from the technical point of view. The commercial aspect was only minimally attended by the accountant. Because of the absence of commercial guidelines and the dominance of the engineering system as a whole in the organisation, the engineers would get what they wanted. Even though the criterion '*buy the cheapest*' was the guideline used by the treasury, because there were only two foreign suppliers for certain telecommunication equipment available at that time, still the engineers were able to get what they wanted which was what was the best technically.

Even in terms of implementation and payment of the materials purchased, proper monitoring and reporting system was absent, as explained earlier in section 7.3.3.. This was so because the organisation was very much driven by engineering values; most of the top management were engineers, the funds were controlled by engineers and marketing just provided the forecast inputs.

Thus, because the structure, procedures and system are still based on the JTM framework and also because of the former senior engineers of JTM who now hold senior positions, especially in the specialist group at the HQ level, inherited values prevail to a large extent, even after the listing of the company i.e. as from 1991.

But there was a change as from the privatisation era i.e. the period of 1987-1990, when the key objective of the government was to get the company floated. So this was a period of cost cutting, showing a good profit and a good track record in preparation for the listing of the company. As shown above, the accounting system increased in strength and the design archetype move from 'embryonic design archetype 1B' to 'design archetype 2' position as shown in Figure 8.1(a). There was strict centralised control by the management, which was a hindrance to the engineers.

One senior engineer, with respect to the period of 1987-1990, commented:

"The flotation objectives were very good objectives, very clear, straight forward objectives and the moment we were privatised, the environment changed from the government culture to the business culture. Nobody knew what culture was. What was corporate culture in terms of values, beliefs, opinion, attitude, practices and so on, nobody knew. So, if people didn't know, they were just followers, so that

is one aspect of the impact of commercial values. The power of engineers was not seen at that time; when the commercial people came in, the engineers got a shock, when all these profits or track records must be achieved to impress the company or the government etc. Their freedom was curtailed, controlled and it worked. It shows a very good progress".

But even after the listing, the accounting and finance group expanded further as mentioned in Sections 5.5.2 and 8.4.3.2.1 where the corporate finance expanded by the creation of the Costing Unit, to probe into detailed costing, which would directly affect the project engineers. Further to that was the expansion of the accounting group at the area level, as described in Section 5.5.2. These expansions, the appointment of project accountants and the PROMPT system, will lead to a proper costing and transfer pricing system. These developments imply that the top management is very serious about improving the project management and monitoring system. Relating to the movement of tracks, as shown in Figure 8.1(a), it can be said that the position of the track moved further from 'design archetype 2' to 'embryonic interpretative scheme 2' position. But referring to the LND in Central Region, there is a tension taking place where the engineers are rebutting as will be discussed later in this section. This is a stage where the position moved again from 'embryonic interpretative scheme 2' to 'schizoid' position.

But after the listing, with advancements in telecommunication technology, the engineers are becoming more and more confident, because technology is an important factor for the telecommunication industry, and the people who have this knowledge can control the organisation to a certain extent. Thus, even though the corporate planning and corporate finance check the projects, they are hesistant to restrict projects unduly, as they fear that failure to clear waiters and implement technological advance will adverse affect the business operation.

According to one senior engineer,

"During the coming era, i.e. as from 1991, there is much talk about the telecommunication technology and how it is affecting other markets overseas, how people are changing to digital numbers. This has resulted in the engineers realising that they are the true workers of the company. They put up things like infrastructure, they operate infrastructure, they run the infrastructure, wheras others are just minding the business. And with the increase in customer demand, especially business customers, for different kinds of telecommunication equipment, there is an increase in the dependence on the engineers, especially now with the waiting list. More traffic resulted in a lot of congestion, faulty installations, billing is not well done in the sense that technology recording the calls bills is operated by the engineers. These are important features now because the expectations of public are high. This is a very sensitive area, especially now the telecommunication system has become a necessity and part and parcel of the business and residential community".

Thus, overall, out of the inheritance capability, the JTM engineers become the technocrats who are the engineering *lords* now. With regards to planning, the engineers are commercially oriented as a result of the constraints imposed on them and the introduction of fundamental planning, as evidence has shown. But as engineers, they would still want to plan their projects because projects are good for them. So, with respect to financial aspects of decision-making based on projects, there are no strict guidelines. The engineers always start with the engineering sites and then the personnel from the corporate finance and corporate planning review the plan made by the engineers, or plans may be based on preapproved contracts. Thus, no real investment appraisal is required. Even though there is a financial committee in the case of big projects, but for some projects, because of their technological advance, the accountants are out of their depth and have little to say; sometimes accountants may be scarced of being blamed as stumbling-blocks to technological advance. So with respect to whether the engineers have changed from a financial point of view, the change is only gradual. Nevertheless, there has certainly been a change in management because the expectations of the shareholders and government with regard to performance, have led to the company's terms of reference being translated into financial terms.

But the problem is that total investment, earnings per share, and profit after tax are not easy to translate into engineering terms. Even though there is a change in that the engineers are aware that they are working in a commercial environment, there is no real consciousness that whatever the engineers do can directly relate to some returns or must have some commercial value. The impact of commercial values is only felt '*before*', in the sense that guidelines are set and '*after*', in the sense that top management or corporate planning / corporate finance are not happy with the market forecast. The lack of impact on engineering operations themselves is due to inherited values.

On a macro basis, i.e. on a corporate basis, the commercial progress and achievements have been tremendous before and after floatation as shown from sections 8.2.2 and 8.2.3. The company is commercially run, projects are well placed, investment is well directed, and the system is placed where the customers are. But on the micro basis, there are still some projects which do not reflect the commercial aspiration, either due to technological advancement, or because of waiters or competitors, or due to inherited values and the engineers' love of projects, as in the case of normal projects in the LND, Central region, where low utilisation rates have resulted in almost all the exchanges in the four areas.

Thus even though the values that the engineers need to have, have been made clear by the top management, there has still to be a continuous effort by the management to instill these commercial values. In the case of LND of Central Region, we can see that commercial values have been improved with respect to the fundamental planning, which has made the engineers good forecasters as far as customer demand and ECP forecasts are concerned, but not with respect to the utilisation rate as shown in the four areas in the LND of the Central Region where it was between 42%-56% from 1987-1992.

The reasons as to why this was taking place from 1987-1992 was due to several factors. The first relates to the engineers' understanding of commercial values. Engineers are still engineers. They may know the language terms of financial requirement. But if they are not using it everyday, they will not understand it. They don't see it as their first priority. Their first priority is with respect to writing technical specifications and implementing projects. Thus with respect to whether the engineers have changed along financial lines, the answer is not to the full extent of values and beliefs of the interpretative scheme of Laughlin model, because of the nature of their work, which is still based on specialist functions.

The second question is whether the engineers are motivated to change, to make financial values their own.

The reward system is not based on the revenues from projects, but rather on the completion of the projects and on physical output i.e. ECP output in the case of LND and also to a certain extent, of the company overall. From the above we could see there are not much tangible evidence on the part of the engineers of a change to financial values.

The third factor relates to whether the company has a system which will actually facilitate the engineers' use of these financial values in their daily work. At present, the company does not have such a system, because every division has different target to meet and accountability. Thus the current system does not actually permit this.

Even though, there are many accountants within corporate accounts and corporate finance, they are not the 'captain of the ship', because it is a technical company. Corporate accounts and corporate finance and corporate planning can set a target of commercial values, but up to now it has never been fully accepted by the engineers. They need to be supported or the inputs must come from the accountants. In this respect, the appointment of the project accountant by the end of the year may make a difference.

The controls on the financial and accounting side installed by the company since privatisation have

resulted in good overall performance, but if the company had introduced such measures much earlier and stressed financial consideration more deeply, the profit the company is making would have been much more. But it will change when the new layers of managers come in, as the new system is implanted and with the introduction of the concept of transfer pricing which, it is hoped, will increase the assimilation of commercial values and beliefs among the engineers.

8.5 Summary

In this chapter, an analysis has been presented of the three elements, i.e. forecast demand, forecast ECP and utilisation rate, which affect directly the engineers of LND of the Central Region. The analysis covered the period from 1988-1992 for forecast demand and forecast ECP and from 1987-1992 for the utilisation rate. From these analyses, it was found that colonisation change did not take place in accordance with Laughlin's model. The assimilation of commercial values only took place with respect to fundamental planning, and was not enough to permeate the aspects of the engineers' work. There is strong evidence that inheritance values remain among the engineers at LND in Central Region.

However, the accounting and finance group emerged visible throughout the organisation both vertically and horizontally, with elements of the accounting system

increasingly prevailing in the design archetype. As a result, the company is in a 'schizoid' position, where there is a tension between the engineering and accounting systems, especially since engineering values are making a comeback as a result of technological advancement, the importance of clearing waiters, and competitors entering the telecommunication industry.

The next chapter will summarise the outcome of this study and consider whether in future the company may come out of this 'schizoid' position and successfully move to a new interpretative scheme, in which total colonisation will have taken place.

CHAPTER NINE

Conclusion

9.1 Introduction

This chapter begins by summarizing and highlighting what has been found in this study about the outcome of the third phase of disturbance (of the three discussed in detail in Chapter Eight) in the organisation under study. We then discuss the analytical framework used and its relation to the model. The findings of the study are viewed in relation to previous research in this field, and similarities and differences highlighted. The chapter ends by considering the future outlook for the company and making recommendations for future research.

9.2 The Outcome of Third Phase Disturbance

Evidence was presented in the preceding chapters of several important issues arising from change in JTM/STM.

The first is the emergence of the finance and accounting group as visible in the organisation, and its extended role in implementing new planning and budgeting procedures, accountability and performance appraisal, in line with the move to a more commercially-oriented organisational mission. In this sense, accounting seems

to have become part of the design archetype, and the increased emphasis on prudent financial management appears to have been a contributory factor in the company's success since privatisation.

Focusing on the capital investment process in LND at Central Region, however, it was found that the new procedures have, as yet, not been sufficient to instill commercial values in the individual engineers. We saw in the previous chapter that during the earlier phases of disturbance, accounting and engineering influences appeared to be moving in different directions, with the former increasing as the latter declined. Post-privatisation, however, both internal parties (engineers and accountants) have increased in influence. While the accounting role continues to expand, particularly in view of the changes (PROMPT, CIS) scheduled by the end of 1993, at the same time, the physical base of performance appraisal, weaknesses in project monitoring at micro-level, inherited values and the sensitive issues of waiters and competitors, have enabled a resurgence of engineering influence. This tension between accounting and engineering has left the company in a 'schizoid' position.

In this situation, external parties (investors, creditors and customers) lose. Although the company performance has improved, it has not yet been optimised in the sense that there is still considerable

underutilisation of ECPs; if the company's performance was more efficient from that point of view, investors would obtain a higher return, while customers could reap the benefit of improved performance in lower basic charges.

Thus, it appears that increased influence of both accounting and engineering groups has been achieved by the placing of a 'barrier' against external pressures.

9.3 Discussion on the findings of the study in relation to the analytical framework used by the researcher, i.e. Laughlin's model (1991).

Referring to the analytical framework used in this study, i.e. Laughlin's Model (1991), at the highest level of abstraction of the interpretative scheme, which is the meta rules, there is no change arising from the transformation of the Department to a public listed company, since the organisation's aim was, and still is, to provide telecommunication services to the public at large in Malaysia. In contrast, at the medium level of abstraction of the interpretative scheme, which is the mission and purpose, it could be argued that overall the mission has changed from service to economic driven motives. The mission has changed because under JTM, the mission or objective was to provide telecommunication services with the aim of clearing the waiting-list; under that scenario, JTM, as a government Department, was the

only Department responsible for providing telephone services to the public at large. However, upon privatisation of the Department, the newly privatised company was issued a licence by the Ministry which gave it the exclusive right to operate the basic telecommunication network for a period of 20 years. There was also a clause which stated that the regulator could change the terms of STM's licence or issue licences to other companies. This clause had an impact on STM, since if the company could not provide the standard of service expected by the regulator, then the exclusive rights could be withdrawn and other companies could be awarded licences and compete with STM.

Thus, it could be argued that making a profit for the newly privatised company is both a constraint and an objective. It is an objective, in the sense that the company needs to make a profit so as to satisfy the shareholders of the company. On the other hand, it is a constraint, because the company has to perform and provide at reasonable rates to the public at large. If it does not, the exclusive right may be taken away.

But referring to Laughlin's model, from the viewpoint of the engineers at LND, the mission has not changed, since their beliefs are still engineering-based. Thus, to a certain extent, the basic principle remains the same, which is to provide the best telecommunication

service possible with the resources and manpower available.

At the lower level of abstraction of the interpretative scheme, which is values and beliefs, the company is in an embryonic position, with the accounting system becoming a stronger element in the design archetype, as a result of the developments discussed in sections 5.2.2. and 7.3.

But with the technological advancement and other factors discussed in section 8.4.4 and shown in Figure 8.2, the influence of the engineering system is reemerging, resulting in a 'schizoid' position. So, using Greenwood and Hinings (1988) movement of organisational tracks, the change in the organisation resulting from the disturbance has not followed a linear track, but has moved from one track to another with the change in the design archetype and interpretative scheme of the Laughlin model. Thus, overall, even though there were different phases of disturbance, the study shows that there has been some degree of 'insulation' from external pressure, coming in this case, from the people at the LND area in Central region. This resulted in a delay in cultural change to the engineers which would affect the third level of the interpretative scheme, i.e. moving from 'embryonic interpretative scheme 2' to 'interpretative scheme 2' referring to Figure 8.1(a).

This would indicate that studies on organisational change should look more from the process point of view. There are interconnections or interrelations between the first, second and third phases (for both periods, i.e. the privatisation and post-privatisation eras), in that the outcome of the third phase of disturbance was related to or influenced by the first and second phases of disturbance. A good example is with respect to the fundamental planning, where the project engineers learned from the consultants hired by the turnkey contractors during the second phase of disturbance, i.e. the turnkey era, which resulted in JTM/STM engineers implementing fundamental planning after the turnkey period was over. This resulted, as we have seen, in the improvement of the engineers' forecasting of demand and ECP for the four areas of the central region.

Referring to Figure 8.1(a), the question arises whether the company will move from the 'schizoid' position to a completely new position, i.e. 'interpretative scheme 2' where eventually culture and mission will change in line with commercial and financial criteria. This will be a difficult task. But the top management is making every effort to ensure that it will finally move out of this 'schizoid' position, by means, at macro level, of a change in the company mission aiming specifically at the individual divisions, and the introduction of the PROMPT system. At the micro level, the implementation of the CIS including product costing

and transfer pricing, and the appointment of the project accountant at regional levels, will help the engineers with the management of projects according to financial criteria.

9.4 Discussion of the findings of the study in relation to previous research

Overall, the study has concentrated on studying accounting from the organisational point of view. This comes in response to a call made by Hopwood (1978), who pointed out that little has been done to study accounting in practice, i.e. in the context in which it operates. This is especially so in a developing country like Malaysia where, as mentioned in Chapter One, no study of this nature has previously been done (to the best of the researcher's knowledge).

With respect to accountability by managers, this study found that managers in the organisation are more accountable than before, i.e. during JTM's days. This can be seen from the broadening range of matters for which they are accountable, now that the regions have been made profit centres, rather than cost centres as they were before. In the course of this change, monthly reporting has been introduced, whereby the regions/divisions are responsible and accountable not only in terms of financial performance, but also with respect to non-financial information such as customer growth,

productivity and quality of service, as shown in Chapter Five.

This, however, was not possible during JTM days as the study found that total accountability could not be practised under a government environment, since minimal management accounting was being practised. This led to only partial success with respect to the PPBS practised by all the government Departments, including JTM, in the early 1970s. This is consistent with Pendlebury's (1989), assertion that

"Lack of measurable outputs has also led to the demise of such suggested public sector budgeting reforms such as planning, programming budgeting system (PPBS) and zero-base budgeting".

As a result, the budgeting system was simply a matter of applying funds received from the Federal Treasury, and control of funds was concentrated largely on spending within the correct expenditure codes, detailed authorization being required to transfer funds from one expenditure code to another. There was comparatively little emphasis on other aspects such as variance analysis and costing. This is in line with Pendlebury's (1989) criticism that management accounting in the public sector is restricted to budget preparation and budgetary control, where the emphasis is on inputs only.

The study analysed the movement of organisational tracks resulting from the three phases of disturbance that affected the company. In analysing these movements and in identifying the changes that took place, Greenwood and Hinnings (1988) and Laughlin's models (1991) were used by the researcher to provide the analytical framework. As can be seen from figure 8.1, the three phases of disturbance identified in this study indicate that in practice, organisational change is a dynamic process, rather than static and input-determined.

The study also found that as a result of this change, accounting and finance emerged as a visible group in the organisation and its influence was enhanced. This finding is consistent with Broadbent's (1992) second approach of the matrix, i.e. technical contextual accounting, where accounting became a powerful promoter of change and attained recognition of its importance in the organisational context, becoming a strong element in the design archetype in the organisation. Thus, the researcher's findings support those of the second approach of Broadbent (1992), especially with respect to studies of the public sector in developing countries.

This study provides further evidence to support Hopwood's assertion (1990) that *"used strategically, accounting can help to make organisations what they were*

not". It was found that accounting played a significant role in the transformation of a Department to a public limited company, i.e. it became visible throughout the organisation. Hopwood (1990) expressed the significance of accounting visibility as follow:

"enabling such a conceptual visibility to be created, accounting can play a powerful role in organisational and social affairs. It can influence perceptions, change language, and infuse dialogue, thereby permeating the ways in which priorities, concerns and worries, and new possibilities for action are expressed". (pp. 9)

In this study, it was seen that with the emergence of accounting throughout the organisation, came new commercial and accounting vocabulary, such as 'viability' (to a certain extent), 'accruals versus cash basis', 'customers' as opposed to 'subscribers', 'pay-back period', and 'detailed analysis of projects'. This is also in line with studies done by Dent (1991) and Ogden (1991) on two different organisations, which as a result of external disturbances, moved to commercial criteria in running the organisation.

As was discussed in Chapter Eight, as a result of the third phase of disturbance, the business plan, which was part of the accounting system, emerged as an integral part of the company's communication system and formed part of the *design archetype*. As Laughlin's model shows,

the *design archetype* represents an important element in the model, since it links the other two elements, i.e. the sub-systems and the interpretative schemes (Broadbent, 1992). This is so since the accounting system is part of the design archetype. And as in the case study done by Dent (1991), it became increasingly significant element. Laughlin (1991), discussing Dent's (1991) study, notes that

"accounting as a formal communication and language system was used to both enable change and then to take over as the central elements of the interpretive schemes of the organisation" (Laughlin 1991 p. 228).

However, the finding of the present study differed somewhat on this point. Even though the business plan (which is part of the accounting system) became a more important element in the design archetype, it did not change the interpretative scheme. Second order change did not take place, as the metarule and mission did not change and although change at the initial stage started to happen at the cultural (i.e. value and belief) level, it was rebutted by the engineers, which led to tension between the engineering system and the accounting system, creating the 'schizoid' position.

Other researchers have identified similar situations. For example, in Broadbent's (1992) study, second order change did not take place, as the metarules

and mission and beliefs remained the same, but changes occurred at the cultural level, where fragmentation also took place.

This study is also in conformity with the view expressed by Carnall (1990) in his book, "Managing Change in Organisations", that organisation change occurs in five stages:- denial (why change?); defence (stall for a while); discarding (adjusting to the change); adaptation (implementation); and internalisation (accepting that the new way is normal). The discussion presented in Chapters Five and Seven shows that the changes that took place in the company moved through the first four stages mentioned by Carnall, while the fifth stage is still in an embryonic position.

The findings of this study recall to some extent a study conducted on Britain's Railways by Lawrenson (1992) in which, the engineers were found to be very effective in resisting change but later absorbed the rules of accounting within their own functions and were, as a result, able to defend their own values. In this study, the researcher found that the engineers were able to defend their own values (i.e. the engineering system) in terms of the technological advancement needed in their work and the inheritance values which form part of their core function of the business, though at the same time they have improved some of the commercial elements in their work, especially the fundamental planning work, in

the case of project engineers in the LND of the Central region.

9.5 Lessons learned in using Laughlin Model as a analytical framework for study:

(1) The model is a skeletal framework and, as such, one needs to provide the flesh for the model. In so doing, the study was able to enrich the basis for future empirical research. In the case of this study, the researcher was able to fill out the model by analysing the dynamics of change taking place with respect to accounting from an organisational point of in view and in particular, with respect to the dynamic changes taking place in the budgeting system (later known as business plan), among the engineers and accountants at the Local Network Development of the Central Region.

(2) The researcher also needed to use Greenwood and Hinings (1988) model in analysing the movement of organisational tracks of the organisation, since change needs to be studied from a process point of view, rather than a static point of view. It was found by analysing the dynamics of change, that even though the main disturbance or jolt came from the privatisation of the organisation, there were other earlier disturbances which effected the organisation, which had to be considered when studying change from the process point of view. These earlier disturbances affected the movement of the

organisational tracks leading to the present position, i.e. the 'schizoid' position. These other disturbances or jolts can be listed as follows:

(i) Industrialisation policy - the shift in the government policy from agriculture-based to industrial-based.

(ii) The New Economic Policy (NEP) - NEP is a two-pronged strategy comprising the eradication of poverty, irrespective of ethnology and restructuring society so that economic activities are not identified with specific ethnic groups in the country. This policy, was seen to affect the organisation through the government policy on employment, liberalisation and the introduction of JKH contractors and turnkey projects.

(iii) External social pressures - Changing demands and expectations of both residential and corporate customers, as a result of economic growth and industrialisation.

(iv) Long-term policy - the government policy of making the country industrialised by the year 2020, and making Kuala Lumpur the financial centre.

(v) The emergence of competitors in the industry, especially after privatisation as well as the possibility of the government issuing a licence to another company, as a second network for basic services.

The first three factors directly contributed to the process of change taking place from the early days and became part of the disturbance or jolt to the organisation, leading eventually to privatising of the organisation under study but the fourth and fifth factors relate to change since privatisation. These disturbances

have been classified in this study as the first, second and third phases of disturbance, as a result of which the movement of organisational tracks is analysed. This emphasises the importance, when using this model, of taking a process-determined rather than input-determined approach.

(3) As a skeletal model, the Laughlin model provides no clear guidelines or criteria by which to classify elements as being in the design archetype or otherwise, or to determine their strength. It is therefore left to the researcher to set or infer criteria as seems appropriate in the circumstances. Similarly, while mapping the movement of organisational tracks, it is difficult to determine what is or is not significant change. Moreover, at times, it is difficult to identify the type of change, while that change is still in process. Because of this, in this study the types of change at various phases of disturbance have not been identified, as the study was concerned primarily with whether or not second order change (i.e. colonisation change) has taken place as a result of the third phase of disturbance, i.e. privatisation of the organisation. With respect to mapping out the movement of organisational tracks, definition of the terms used at various positions, as shown in Figure 8.1(b) have been developed and clarified by the researcher, to assist clear understanding and facilitate following the movement of the organisational tracks.

(4) The use of Laughlin's model was not without its difficulties. Since change needed to be examined over a longer period than was covered by the researcher's attachment to the organisation, the problem inevitably arose of how to reconstruct the past. Documentation was sometimes missing and staff turnover meant that personnel who recalled the JTM era were not always available. These difficulties were all the greater because the researcher was not a member of the organisation's staff in the position of a participant observer, and because the telecommunications industry is a politically sensitive area. As was shown in Chapter One, the researcher was able to draw on his professional experience and contacts to overcome these difficulties. However, it is felt that the problems encountered are likely to be experienced by other researchers attempting to use the model, particularly in developing countries where record-keeping may not be as accurate as in developed countries, or where political and social circumstances may have contributed to loss or discontinuity of documented data.

(5) The researcher found during the conduct of the case study that it is extremely difficult to look at an organisation as a whole, and particularly to follow the movement of tracks within the whole organisation. It is therefore necessary to focus on a clearly delimited area of activity which can be observed closely over a period of time. In the present study, this was achieved by

narrowing the focus to the capital budget processes in the LND at Central Region. At this level, detailed data could more easily be collected and the movement of tracks more clearly identified, than across the whole organisation.

9.6 Conclusion

From the above study, one could conclude that in the course of privatisation from a government Department to a privatised company, using Laughlin's model (1991) as an analytical framework, 'colonisation change' did not take place. This is shown in this research by tracing the movement of organisational tracks from 1972 to date, concentrating mainly on the third phase of the disturbances.

With respect to the illustration of the capital budgeting and project process as a detailed example of the dynamics of change taking place, it was found that the influence of the engineering system which predominated in the organisation from its inception in 1957 to 1986, when decisions were based on that system, changed gradually in stages arising out of the first, second and third phases (privatisation era) of the disturbances, as shown in figure 8.1(a). This led to the engineering system becoming less influential. In its place, the accounting system emerged as from the third

phase, where the design archetype eventually moved to the 'design archetype 2' position. Out of this change, from the engineering to the accounting system, the accounting and finance group emerged as visible in the organisation.

During the third phase (post-privatisation era), accounting further increased its influence and moved from 'design archetype 2' to 'embryonic interpretative scheme 2' position with the approval given to the PROMPT System and the establishment of the CIS with product costing and transfer pricing. But, on the other hand, the weaknesses in the project monitoring system and the method of performance measurement applied to project managers have led to the engineers behaving as they did during JTM days, due to inherited values brought with them from JTM to STM and also because of the rapid development of telecommunication technology, which has led to the influence of engineers reemerging in the organisation. This has resulted in the movement of tracks from 'embryonic interpretative scheme 2' to the 'schizoid' position, with tension between the engineering system and the accounting system.

With both groups increasing their influence, they have gained at the expense of third parties, the investors and customers. The first are losing because the company should be making more money, even though it is performing well. Thus, the long term investors should be getting more return than they do at present. As far as

the customer is concerned, by performing better or by reducing costs, the company should be able to pass some of these benefits to customers by reducing the basic rates that they charge. Thus the increase in the influence of both groups has been achieved through successful creation of a 'barrier' around themselves to protect against external pressures.

But with the technological advancement and other factors discussed in section 8.4.4 and Figure 8.2, the influence of engineering is reemerging, resulting in a 'schizoid' position. So, using Greenwood and Hinings (1988) movement of organisational tracks, the change in organisation out of the disturbance does not follow a linear track but moves from one track to another with the change in the design archetype and interpretative scheme of the Laughlin model. Thus, overall, even though there were different phases of disturbance, the study shows that there has been some degree of 'insulation' from external pressure, in this case, coming from the people at the LND area in Central region. This insulation delayed the cultural change on the engineers, which would affect the third level of the interpretative scheme, i.e. movement from 'embryonic interpretative scheme 2' to 'interpretative scheme 2' referring to Figure 8.1(a).

This indicates that studies on organisational change should look more from the process point of view. There are interconnections or interrelations between the first,

second and third phases (for both periods, i.e. the privatisation and post-privatisation eras); the outcome of the third phase of disturbance was related to or influenced by the first and second phases of disturbances. A good example is with respect to the fundamental planning, where the project engineers learned from the consultant hired by the turnkey contractors during the second phase of disturbance, i.e. the turnkey era. This resulted in JTM/STM engineers implementing such planning after the turnkey period was over.

To move out of the 'schizoid' position to a completely new position, i.e. the 'interpretative scheme 2', where eventually culture and mission will change according to commercial and financial criteria, will be a difficult task. But on the other hand, the top management is trying to ensure that it will finally move out of this 'schizoid' position. At macro level, there will be a change in the company's mission, specifically aiming at the individual divisions and the introduction of the PROMPT system. And at the micro level, the implementation of the CIS incorporating product costing and transfer pricing, and the appointment of the project accountants at regional level, will help the engineers with the management of projects along financial lines.

Another possibility is that the company could move out of the 'schizoid' position into second order change (as defined by Gray et al 1993) with the implementation

of the PROMPT system, product costing and transfer pricing. This would mean that the engineers would accept to a certain extent commercial values, resulting in a change taking place, but the original position would be unaltered, i.e. the 'genetic code' would still remain the same, as Gray et al (1993) suggested in his discussion of the third order change. Or alternatively, it may lead to a partial colonisation taking place by the accounting group and at the same time a partial recolonisation taking place by the engineers group, particularly with new groups of engineers periodically coming into the organisation from outside.

9.7 Recommendations for Further Research

It was found in the study, based on Laughlin's model, that colonization did not take place out of the organisational change process but instead the company is in a 'schizoid' position. The next question therefore arises, as to whether the company and in particular, the LND of Central Region will move to a new position, i.e. the 'interpretative scheme 2', where eventually culture and mission will change according to commercial and financial criteria as top management is certainly trying to ensure this with the implementation of the new company's mission and the PROMPT system at the macro level, and the implementation of CIS incorporating product costing and transfer pricing and the appointment

of project accountants at regional level. Alternatively, will this lead to the fragmentation of the culture elements of the 'interpretative scheme' which Broadbent (1992) found in her study, or partial colonisation taking place in line with commercial values and beliefs, and partial recolonisation on an engineering basis? This would be an interesting topic for future research.

Moreover, it is felt that further research is necessary in order to understand clearly the changes in the different layers that are taking place in the elements of the 'interpretative scheme' and the hierarchical relationship between metarules, mission and beliefs, and cultures which form the interpretative scheme (Laughlin 1991). In doing so, we can uncover and examine the layers of these elements within the interpretative scheme. This is related to Foucault's (1972) *Archeology of Knowledge* which Hopwood (1987) used to research the *Archeology of Accounting System*. It is therefore recommended that this be the subject of further research, especially on this organisation itself.

APPENDICES

Appendix 1 : Interview Guidelines - Structured Questions

Part A - This part of the interview schedule is aimed at identifying the characteristics of the respondent.

Question 1

(i) How long have you been involved in the Capital Works Programme?

(ii) What is the nature of your involvement in the Capital Works Programme?

(iii) How do you compare the involvement under the present environment with during JTMs days?

(iv) Is there much difference between your involvement before and after, especially from the financial point of view? Can you provide hard evidence on this issue?

Question 2

(i) Can you describe your responsibilities in the preparation and implementation of the Capital Works Programme under the present system, as compared to the system during JTMs days?

(ii) Is there much difference between the two systems with respect to (i)? Can you provide hard evidence on this issue?

PART B

This part of the schedule is aimed at analysing change with respect to the planning stage of the Capital Budgeting Process.

Question 3

(i) In planning the individual projects in your area, how are the initial proposals put forward under the business plan?

(ii) How about during JTM days? Is there much difference under the two environments? Can you provide hard evidence on this?

Question 4

(i) How do you go about gathering data or information with respect to planning projects under the present environment?

(ii) How about during JTM days? Is there much difference, and can you provide hard evidence of this?

Question 5

(i) How do you go about preparing/designing the projects of the Capital Works Programme?

(ii) How about during JTM days? Is there much difference between the two systems and can you provide evidence of this?

Question 6 - relates to presentation of proposals to the management

(i) How do you go about presenting the proposed capital projects to the management under the present environment?

(ii) How about during JTM days? Is there much difference between the two systems and can you provide evidence of this?

(iii) During the capital budget examination, do you (the engineers) still use "cut-off", the term that was used during JTM days or "rationalisation" as is used by the HQ group?

Question 7 - relates to the analysis, choice and decision on capital projects

(i) What criteria are used by the management in analysing the capital works programme proposed by the regions (i.e. the engineers) ? Is it based on service, technological and financial or other considerations? Which are the main criteria used in analysing the projects?

(ii) How about during JTM days? Is there much difference between the two systems and can you provide evidence of this?

(iii) In selecting from among the projects proposed by the engineers (which I was told could number more than 1000), what criteria are used to approve the projects?

(iv) Are the criteria used different from those used under JTM, and can you provide evidence of this?

Question 8 - Relates to the material management related to capital projects

(i) How was the purchasing done under JTM as compared to now?

(ii) Is there a big difference between the two, especially with respect to the financial criteria being used?

(iii) What sort of reports are used in managing the requisition / procurement of materials for the company? How does this differ from JTM days? Does the report contain more financial information than before?

Question 9 - relates to the control and monitoring of the capital projects

(i) How do you go about controlling / monitoring your spending so that you will not go over the capital budget under the present environment, as compared to the system during JTMs days?

(ii) Is there much difference between the two systems with respect to (i)? Can you provide hard evidence?

Part C - Questions on other aspects of the engineers' work.

Question 10

It was suggested by the Accountants that the engineers understanding of the accrual versus

cash method of accounting was very weak during JTM days -

(i) How far is this statement true?

(ii) If so, why was this ?

(iii) How about now, under STM environment? Do you see it as an important thing, especially under the present environment?

(iv) Do you understand why the adoption of this concept is important, especially when it comes to capitalisation of finished projects? Are you aware that this concept affects the depreciation and profit figures? Has the understanding changed now, compared with JTM days?

Question 11 - Relates to receiving the (financial) statements/reports

In managing your capital works programme,

(i) How many statements do you receive now, as compared to during JTMs days?

(ii) To what extent have financial terms been adopted where they had not previously been used?

(iii) Do you receive information which was previously set out in technical engineering terms but is now in accounting terms? If so, can you give examples?

(iv) How often do you receive these various financial statements, when compared to before?

(v) Who prepares most of the reports now, and who prepared them under JTM?

Question 12 - Relates to the usage of the reports/ statement (financial or otherwise) by the engineers

(i) In preparing your capital budget proposal, as I notice in the capital budget plan 1990-1995, you need to fill in various information

and need to come out with estimated cost. Did this procedure take place during JTMs days?

(ii) With respect to preparing the proposals and filling in the various forms, other than utilising your technical-engineering type of specification, do you use the previous financial/management reports received, in analysing / recommending the capital works programme? To what extent do you use these financial/mangement reports now, as compared to before?.

(iii) Which of the reports you receive now different, and in what way? Do the reports contain more financial information than previously? If so, how much more ?

(iv) How much financial information do you have to put in your report now ? Does the financial information that you receive help you in writing your own reports?

(v) Other than for helping you in your capital budget proposals, do the financial /management reports you receive help you in your daily work?

Question 13 - Relates to Performance Evaluation

Question (i)

What is a budget? Is it different from before? Does the budget affect you in any way, compared to before?

Question (ii)

What are the general effects on the individual engineer of the budgeting system through performance evaluation plan, i.e. do you think the budgeting system as a target has any effect on the project managers in the organisation, compared to before, under JTM?

Question (iii)

What kind of reports do you get now, for capital budgeting system, related to

performance evaluation? What kind did you get previously? What are/were their financial contents (if any) ?

Question (iv)

Do you make use of the financial report in evaluating your own subordinates? Do you use the same method as is imposed on you to evaluate the performance of the employees you have control over, or do you evaluate your staff performance differently from the way the top management level evaluate you?.

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